REGIONAL ANALYSIS OF NEW EU MEMBER STATES IN THE CONTEXT OF COHESION POLICY

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Introduction

The regional analysis focuses on the new member states of the European Union, i.e. the central and eastern European countries which entered the Union in 2004 (Czech Republic, Slovakia, Poland, Hungary, Lithuania, Latvia, Estonia and Slovenia) and 2007 (Bulgaria and Romania). The listed states are analysed at the level of NUTS 2 (cohesion regions). The main reason why this level has been chosen is the availability of statistical data [7]. The authors also want to point out that there are some limitations to the information relevance of the presented data as the NUTS 2 units are in most countries created artificially and they do not represent natural functional regions. Moreover, four of the countries (Lithuania, Latvia, Estonia and Slovenia) are not divided at this level at all.[2] In spite of this fact, the conclusions of the study can be considered valuable and providing sufficient information on the economic level of the regions.

There are the following 53 regions at NUTS 2 level in the ten examined states:

- Bulgaria (6) – Severozapaden, Severen Centralen, Severoiztočen, Jugoiztočen, Jugozapaden, Južen Centralen;
- Czech Republic (8) – Praha, Střední Čechy, Jihozápad, Severozápad, Severovýchod, Jihovýchod, Střední Morava, Moravskoslezsko;
- Estonia (1);
- Lithuania (1);
- Latvia (1);
- Hungary (7) – Közép-Magyarország, Közép-Dunántúl, Nyugat-Dunántúl, Dél-Dunántúl, Észak-Magyarország, Észak-Alföld, Dél-Alföld;
- Poland (16) – Lódzkie, Mazowieckie, Malopolskie, Slaskie, Lubelskie, Podkarpackie, Swietokrzyskie, Podlaskie, Wielkopolskie, Zachodniopomorskie, Lubuskie, Dolnoslaskie, Opolskie, Kujawsko-Pomorskie, Warminsko-Mazurskie, Pomorskie;
- Romania (8) – Nord-Vest, Centru, Nord-Est, Sud-Est, Sud-Muntenia, Bucuresti-Ilfov, Sud-Vest Oltenia, Vest;
- Slovenia (1);
- Slovakia (4) – Bratislavský kraj, Západné Slovensko, Stredné Slovensko, Východné Slovensko.

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[2] Since 1/1/2008 Slovenia has been divided into two NUTS 2 units.

Objectives and Methodology

In the first part of this article the authors present brief summary of cohesion policy. This summary serves as the ground for analysis of NUTS 2 regions and also as the basis for formulation of conclusions.

The objective of the *socioeconomic analysis* was to assess the economic level of the regions and to use the analysis results to form their typology. Ten various indicators were chosen for the socioeconomic analysis. As the year 2005 is the last one for which all statistical data is available, it was chosen as the key year. The values of this year were taken into account for the indicators which do not show any significant fluctuations (employment). For the indicators where using values of one year only could mean significant distortion, the average value of the years 2003-2005 was used for the analysis. If the average of the entire EU (EU27) was available, the data of the examined regions were compared with this value. Similarly, if the information was available for the original fifteen states (EU15), the analysed data were compared with the average of these developed member states. Further, the average of all the examined countries was calculated for each indicator, marked CE10 in the text below, which allowed for a considerable increase of the information relevance of the study conclusions. For the cartographic representation of the regional differentiation of the indicators, intervals based on the average and the standard deviations were used. The statistical data were obtained from the regional statistical database Eurostat.

The final part of the paper presents the *regional synthesis of the development potential* of the chosen countries CE10. The main objective of the synthesis is to provide general information on the development potential of the countries in question, or rather their regions. The methodological procedure is based on the evaluation of the following components of socioeconomic development: economic components (GDP per inhabitant and labour productivity), components concerning sectors (proportions of the employed in agriculture, research and development, and knowledge-intensive services), components concerning innovation (expenditures on research and development), social components (unemployment rate and disposable household income), and demographic components (natural population growth and migration). The regions were evaluated with 1-5 points for each of the components (the more, the better) according to their position in the intervals set on the basis of the average and the standard deviation (the procedure within individual components consisting of more indicators was analogical). As the next step, the aggregation of the partial evaluation results was carried out by calculating the arithmetic average of the points gained for the five listed components – i.e. the resulting evaluation could range between 1.0 and 5.0.

Implementation of Cohesion Policy in the Examined Countries

The economic and social cohesion policy, or the EU cohesion policy (sometimes also the regional or structural policy), is one of community policies which are implemented by individual member states, whereas their coordination and harmonization is a responsibility of the appropriate Union institutions. The main strategic objective of this policy is the minimization of economic and social disparities between regions. Furthermore, the cohesion policy is influenced by the existing basic development trends, mainly the accelerating structural changes in national economies (conditioned also by the globalization and the economic and institutional integration), the growing

significance of the mobilization of internal (regional) resources of economic development and the continuous shift of the regional policy focus from central institutions of public administration to regional institutions of public administration, especially self-government. Considering the amount of the allotted means, the cohesion policy represents the most significant EU policy in the new programming period 2007-2013 – the total amount is EUR 347 billion.

The cohesion policy is financed from structural funds, i.e. the European Regional Development Fund (ERDF) and the European Social Fund (ESF), together with the Cohesion Fund (CF). The practical implementation of the regional policy is carried out using development programmes (operational programmes) which include several fields and last for several years, thus exceeding the length of election terms. Three objectives have been set for the period of 2007–2013 [2]:

- The Convergence Objective – especially NUTS 2 regions whose gross domestic product per inhabitant is lower than 75 % of the average GDP per inhabitant of EU25 are eligible to draw on the support under this objective.
- The Regional Competitiveness and Employment Objective – all the regions which do not fall under the Convergence Objective are eligible to draw on the support under this objective.
- The European Territorial Cooperation Objective – this objective serves all the regions in the total area of the EU.

From the point of view of the allotted financial means the Convergence Objective is the most significant (weight 81.54 %), followed by the Regional Competitiveness and Employment Objective (weight 15.95 %). [2] In the countries analysed in this paper all NUTS 2 regions fall under the Convergence Objective except Praha, Bratislavský kraj and Hungarian Közép- Magyarország.

An operational programme is a basic strategic document of a financial and technical character and it serves the purpose of drawing on the means from structural funds. It focuses either on a thematic field (e.g. entrepreneurship, employment, transport etc.) or a specific cohesion region (i.e. a NUTS 2 region). [11] Each operational programme is financed from the EU contributions and contributions from the country in question. Operational programmes can be divided into three basic groups depending on the objective in which they are included:

- the operational programmes under the Convergence Objective (financed from the ERDF, ESF and CF),
- the operational programmes under the Regional Competitiveness and Employment Objective (financed from the ERDF a ESF), and
- the operational programmes under the European Territorial Cooperation Objective (financed from the ERDF).

The table 1 shows the financial allocation to the examined countries with respect to individual objectives of the Economic and Social Cohesion Policy. Calculating the allocated means per inhabitant, we find out that most means of the examined countries (and of all EU states) were obtained by the Czech Republic.

Table 1: Financial Allocation 2007–2013 (in million EUR, common prices)

Country / Objective	Convergence	Regional Competitiveness and Employment	European Territorial Cooperation	Total	per inha-bitant
CR	25 883	419	389	26 692	2 599
Slovakia	10 912	449	227	11 588	2 149
Hungary	22 890	2031	386	25 307	2 513
Poland	66 553	-	731	67 284	1 764
Slovenia	4 101	-	104	4 205	2 095
Lithuania	6 775	-	109	6 885	2 029
Latvia	4 531	-	90	4 620	2 019
Estonia	3 404	-	52	3 456	2 572
Bulgaria	6 674	-	179	6 853	890
Romania	19 213	-	455	19 668	911

Source: European Commission [6], Eurostat – Population [8], authors' calculations

The ten European Union states analysed draw approximately 51 % of the total budget of the Economic and Social Cohesion Policy. The share of the Convergence Objective budget these states obtain is even higher - 60 % of its means. As far as the Regional Competitiveness and Employment Objective is concerned, they draw 5 % of the budget; and in the European Territorial Cooperation Objective their share is 31 %. Table 2 presents the figures relevant to the operational programmes under the Convergence Objective in individual countries and the financial percentage of the programmes out of the total contribution from EU.

Table 2: Operational programmes in the framework of the Convergence Objective in individual countries

Country / OP	Thematic OP (ERDF, CF)		Regional OP (ERDF)		OP financed from ESF	
	number of OP	% of contribution	number of OP	% of contribution	number of OP	% of contribution
CR	6	66.07	7	17.45	2	13.73
Slovakia	6	61.44	1	12.47	2	12.94
Hungary	5	51.47	6	17.01	2	14.34
Poland	4	57.90	16	24.61	1	14.43
Slovenia	2	79.56	-	-	1	17.97
Lithuania	2	83.48	-	-	1	13.58
Latvia	2	86.15	-	-	1	11.92
Estonia	2	85.52	-	-	1	11.33
Bulgaria	5	80.08	-	-	2	17.30
Romania	5	78.96	-	-	2	18.73

Note: % of contribution expresses the share of the type of operational programmes in the total contribution to the state from the EU (see table 1). The amount remaining to 100 % represents the contribution to the member state within the framework of the European Territorial Cooperation Objective.

Source: European Commission [5] [6], authors' calculations

The examined countries can be divided into three basic groups. The first group is the Visegrad Four states. These states are divided into statistical units NUTS 2 and special regional operational programmes are created for each of these regions. The only exception is Slovakia, which has only created one regional operational programme for all convergence regions (i.e. the entire SR except Bratislavský kraj). There are also developed regions which fall within the Regional Competitiveness and Employment Objective in the V4 states – except Poland – and these are supported from special operational programmes. The second group consists of Slovenia, Lithuania, Latvia and Estonia, which entered the EU in 2004 as well as the V4 states, but in contrast to the V4 states these are not divided into statistical units NUTS 2 and the entire areas of these states fall under the Convergence Objective only. It follows that these states do not create regional operational programmes or operational programmes for the Regional Competitiveness and Employment Objective. The last group includes Bulgaria and Romania – the states which entered the EU as late as in 2007. These countries are divided into NUTS 2 units but they do not create special regional programmes for them. There is no developed region in Bulgaria or Romania to be included in the Regional Competitiveness and Employment Objective. The financial support to these states calculated per inhabitant is considerably lower than in the remaining eight states.

Within the framework of the Convergence Objective most states have independent programmes focusing on the development of transport and the environment and the largest part of the financial means is allotted to these activities. However, these fields are also the priorities of the entire EU [4] and also a special fund (the Cohesion Fund) was established for their financing. Other frequently supported fields are the entrepreneurship and innovations and the information and communication technologies (incl. public administration computerization). The Czech Republic is the only one that has an independent operational programme focusing on research and development and also the Integrated Operational Programme. Slovakia has a special programme to support health care. The health care in the CR can be supported in the framework of a priority in the Integrated Operational Programme. The Czech regional operational programmes focus on three basic areas which are the regional transport infrastructure, tourism, and the development of cities, towns and the country. Investments in health care and social services can be financed from them only exceptionally. The regional operational programmes in the other states have a larger scale. Besides the transport infrastructure, the development of cities and tourism, they often support the entrepreneurship, innovations, social services, health care and the environment.

The EU cohesion policy is probably the most accepted practical example of the existing solidarity among the member states and in correspondence with its proved flexibility and the quite well developed control mechanisms it has its solid place in the system of EU policies. [3] Concerning the complicated issue of the evaluation of the specific contribution the development programmes bring, it is necessary to say that even the most renowned economic centres do not possess generalized methodological procedures which would clearly define the contributions of the public programmes to the economic development of individual countries and their regions.

Socioeconomic Analysis of NUTS 2 Regions

The following 10 indicators were chosen so that the study was as complex as possible:

- natural population growth;
- migration;
- regional gross domestic product;
- labour productivity;
- disposable household income;
- unemployment rate;
- employment in agriculture;
- employment in knowledge-intensive services;
- employment in research and development;
- expenditures on research and development.

Natural Population Growth

This basic demographic indicator is calculated from the number of newborns and the number of the deceased per 1000 inhabitants. The countries of central and eastern Europe are characteristic for a decreasing death rate and also a very low birth rate. This is reflected in the values of the natural population growth. The average values of the primary indicators at level of EU27 or EU15 are not available for analysis.

The highest values of this indicator are achieved in Polish regions. Eight (!) regions out of the first ten regions, which also represent all the regions with positive values of natural population growth, are Polish. The first is Východné Slovensko, however, Polis Pomorie reaches the same values of 4.63. The other non-Polish region in the first ten is Romanian Nord-Est with the value of 1.77 in seventh place.

Table 3: Natural population growth (per 1000 inhabitants, the average value of the years 2003-2005)

region NUTS 2		natural population growth
SK04	Východné Slovensko	4.63
PL63	Pomorskie	4.63
PL41	Wielkopolskie	3.63
PL21	Malopolskie	3.53
PL32	Podkarpackie	2.47
PL62	Warminsko-Mazurskie	2.40
RO21	Nord-Est	1.77
PL61	Kujawsko-Pomorskie	1.00
PL42	Zachodniopomorskie	0.80
PL43	Lubuskie	0.73

Source: Eurostat – Regional statistics [9], authors' calculations

The lowest natural population growth was found out in Romanian Sud-Muntenia (-12.87), Latvia (-11.47), Lithuania (-11.43), Bulgarian Severozapadem (-10.30). 43 NUTS 2 regions, among which there are all the eight Czech regions, achieved a negative growth in the average of 2003–2005. On the other hand, it is necessary to note that the Czech regions are above the average of CE10, which is -3.57 (altogether, 29 units are above average).

Migration

To a great extent migration values provide evidence on the attractiveness of the region in question. If the region can gain population by migration, we can assume that it has vacancies and therefore a potential for further development. The indicator is calculated from the interannual differences of the population of NUTS 2 units after the natural population growth is taken into account. Like in the case of the natural population growth indicator, the values of EU15 and EU27 are not available.

Table 4: Migration (per 1000 inhabitants, the average value of the years 2003–2005)

region NUTS 2		migration
HU10	Közép-Magyarország	13.38
BG41	Jugozapaden	12.00
CZ02	Střední Čechy	10.11
RO31	Sud-Muntenia	8.19
CZ01	Praha	7.56
RO32	Bucuresti-Ilfov	6.24
LV00	Lotyšsko	6.18
LT00	Litva	5.71
PL12	Mazowieckie	5.32
RO41	Sud-Vest Oltenia	5.08

Source: Eurostat – Regional statistics [9], authors' calculations

Positive migration balance in the examined period was achieved by 30 regions, the CE10 average is 2.09 inhabitants per 1000 inhabitants (21 out of the regions are above the average). The first ten is headed by Hungarian Közép-Magyarország, Bulgarian Jugozapaden and Czech Střední Čechy, all of them with a value exceeding 10.00. Furthermore, there are three Romanian NUTS 2, Czech Praha region, Latvia and Lithuania, and Polish Mazowieckie.

The ten regions with the worst balance are headed by Moravskoslezsko (-1.89), by the way the only Czech region with a negative migration balance, followed by five Polish regions (from -1.93 to -3.54), two Bulgarian regions (-2.17 and -6.50), Východné Slovensko (-2.57) and Romanian Nord-Est (-2.78).

Regional Gross Domestic Product

The gross domestic product is the key indicator of the structural (regional) policy and undoubtedly the most significant indicator of the economic level of a region. For analysis the regional GDP was used in the purchasing power parity per inhabitant, expressed as a percentage of the EU27 average (EU27 = 100 %). Especially the value of 75 % is important for the new member states.

The dominant position is taken by three regions – the most developed capitals - Praha, Bratislava (Bratislavský kraj) and Budapest (Közép-Magyarország), which exceed the value of EU27, Praha and Bratislavský kraj also exceed the value of EU15 (113.2 %). The mentioned 75 % are also exceeded by Slovenia and Polish Mazowieckie. The first ten are completed by three Czech regions (Střední Čechy, Jihozápad and Jihovýchod), Romanian Bucuresti-Ilfov and Hungarian Nyugat-Dunántúl. The remaining Czech regions are in 11th, 12th, 13th and 15th places.

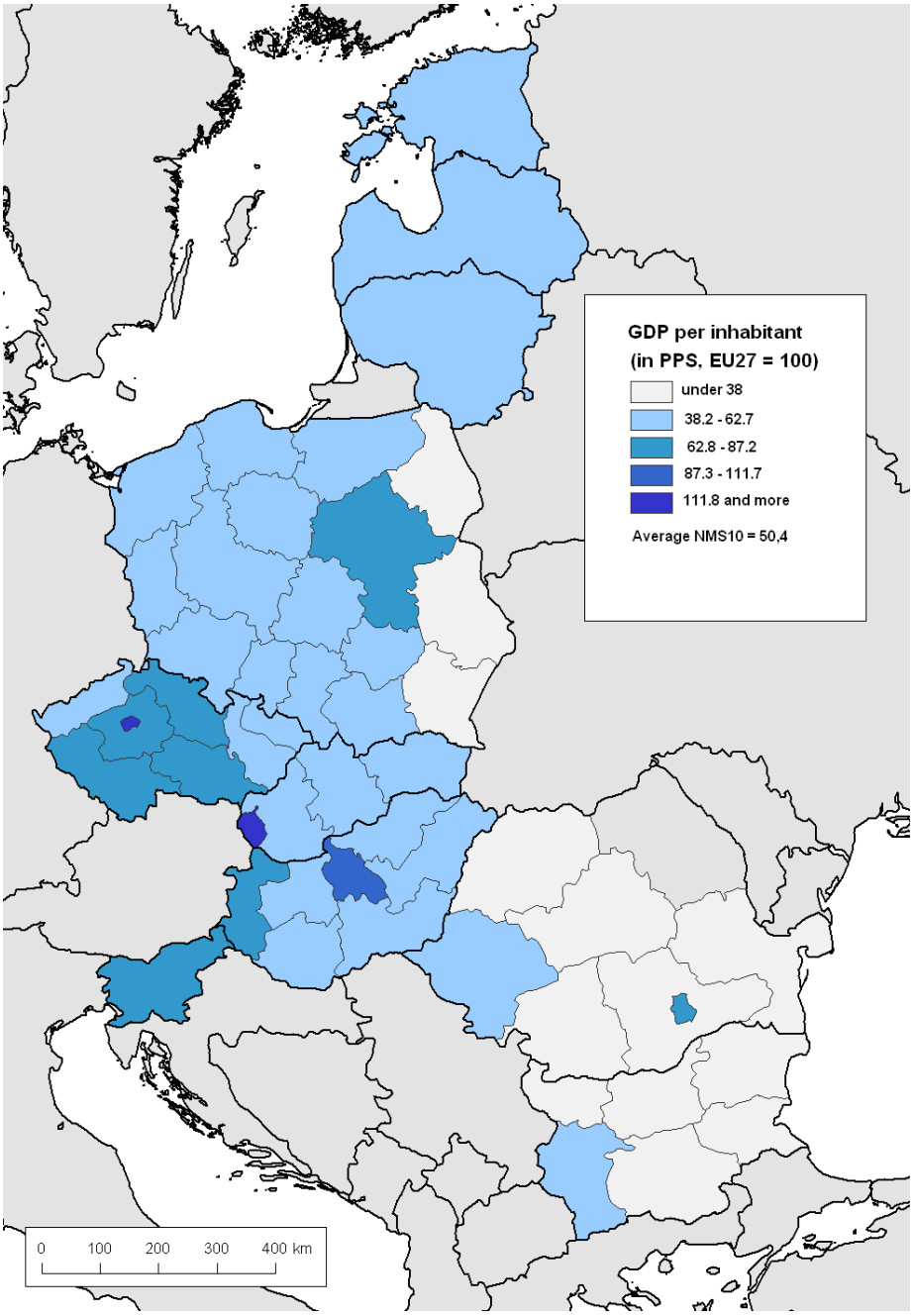
Table 5: Regional gross domestic product (% of the EU27 average in the PPP per inhabitant, the average value of the years 2003-2005)

region NUTS 2		regional GDP
CZ01	Praha	156.5
SK01	Bratislavský kraj	134.1
HU10	Közép-Magyarország	101.7
SI00	Slovinsko	84.8
PL12	Mazowieckie	78.2
CZ02	Střední Čechy	70.5
CZ03	Jihozápad	68.9
CZ06	Jihovýchod	67.4
RO32	Bucuresti-Ilfov	66.7
HU22	Nyugat-Dunántúl	66.3

Source: Eurostat – Regional statistics [9], authors' calculations

The CE10 average is, by coincidence, close to 50 %, precisely 50.4 %. Most regions (32) are below this value. The worst economic efficiency is to be found in Romanian and Bulgarian regions (there are five of each within the worst ten). Their regional GDP reaches only 32.4–23.5 % of the EU27 average.

Figure 1: Regional Gross Domestic Product



Source: created by authors on the basis of Eurostat – Regional statistics [9]

Labour Productivity

One of the ways to measure labour productivity at regional level is to recalculate the regional GDP to the employed persons in the region. [7] This calculation uses absolute values of GDP in EUR, the indicator itself is expressed in thousands EUR. Although the data for the EU27 (50.78 thousand EUR) and EU15 (59.79 thousand EUR) average are available, they are of an informative character only as they are too far from the average values of central and eastern Europe.

The highest labour productivity is achieved by Praha (35.26 thousand EUR), Hungarian Közép-Magyarország (30.05 thousand EUR), Slovenia and Bratislavský kraj. The ten most productive regions are joined by two Hungarian and four Polish regions. The 11th to the 14th places are occupied by Czech regions in the order of Jihovýchod, Střední Čechy, Moravskoslezsko and Jihozápad. The CE10 average is 14.00 thousand EUR. 25 regions in total are above this value, all the eight Czech regions being among them.

Table 6: Labour productivity (GDP/ employment in thousands EUR, the average value of the years 2003–2005)

region NUTS 2		labour productivity
CZ01	Praha	35.26
HU10	Közép-Magyarország	30.05
SI00	Slovinsko	28.78
SK01	Bratislavský kraj	28.63
PL12	Mazowieckie	23.01
HU22	Nyugat-Dunántúl	19.85
HU21	Közép-Dunántúl	18.35
PL22	Slaskie	17.90
PL63	Pomorskie	17.50
PL51	Dolnoslaskie	17.44

Source: Eurostat – Regional statistics [9], authors' calculations

Fourteen NUTS 2 regions reach lower labour productivity than 10 thousand EUR. With one exception only, they are all Romanian (all Romanian regions except Bucuresti-Ilfov, which is slightly below the CE10 average) and Bulgarian (all of them).

Disposable Household Income

Eurostat statistics differentiate between two kinds of income – the primary and the disposable income. The disposable income was chosen for the analysis as it more suitably expresses the real purchasing power of the population. The disposable income includes all incomes after taxation and deduction of insurance fees, further it includes accepted social transfers. [1] The average values of the indicator for EU27 or EU15 are not available, nor are the values of Bulgarian regions.

The highest disposable income is obtained by the inhabitants of Slovenia – 7,874 EUR, which is an amount higher by 20 % than in the region in second place, Hungarian Közép-Magyarország. Praha (5,955 EUR) and Bratislavský kraj (5,583 EUR) follow. The fifth highest value is achieved by Polish Mazowieckie with practically the same value as Střední Čechy in sixth place. In the first ten, there are also Czech Jihozápad and

Jihovýchod regions. The 15th place is occupied by the 'worst' of the Czech NUTS 2 - Severozápad (3,891 EUR). 26 regions in total are above the CE10 (or rather CE9) average, which is 3,458 EUR per inhabitant.

Table 7: Disposable household income (in EUR per inhabitant, the average value of the years 2003-2005)

region NUTS 2		household income
SI00	Slovinsko	7874
HU10	Közép-Magyarország	6405
CZ01	Praha	5955
SK01	Bratislavský kraj	5583
PL12	Mazowieckie	4685
CZ02	Střední Čechy	4671
CZ03	Jihozápad	4294
HU22	Nyugat-Dunántúl	4272
CZ06	Jihovýchod	4191
HU21	Közép-Dunántúl	4157

Source: Eurostat – Regional statistics [9], authors' calculations

The order of the regions inhabitants of which disposed with incomes lower than 3,000 EUR is headed by Latvia (2,919 EUR), followed by Romanian Bucuresti-Ilfov (2,849 EUR) and Polish Podkarpackie (2,822 EUR). The last seven places are occupied by Romanian regions, where the disposable income ranges between 2,050 EUR and 1,401 EUR per inhabitant.

Unemployment Rate

The International Labour Organization (and the Eurostat methodology [7]) defines an unemployed worker as someone who is older than 15, actively seeking work and able to start a job immediately or within 14 days. The unemployment rate is generally the most available indicator, as it is followed closely by all member states. Its static values, and their changes, are interesting not only for research but they are also important for the implementation of an economic policy.

Table 8: Unemployment rate (in %, the average value of the years 2003–2005)

region NUTS 2		unemployment rate
CZ01	Praha	3.9
HU10	Közép-Magyarország	4.5
HU22	Nyugat-Dunántúl	5.0
CZ02	Střední Čechy	5.3
CZ03	Jihozápad	5.4
HU21	Közép-Dunántúl	5.5
RO21	Nord-Est	6.1
RO11	Nord-Vest	6.1
CZ05	Severovýchod	6.3
SI00	Slovinsko	6.5

Source: Eurostat – Regional statistics [9], authors' calculations

The ten regions with the lowest unemployment rate are dominated by Praha (3.9 %) and Hungarian Közép-Magyarország (4.5 %) and Nyugat-Dunántúl (5.0 %). Further, there are three Czech regions (Střední Čechy, Jihozápad, Severovýchod), Hungarian Közép-Dunántúl, two Romanian regions (Nord-Est and Nord-Vest) and Slovenia. All of them reach values below 6.5 %. The CE10 average is 9.1 % and it is the same as the EU27 average; 21 units have a lower unemployment rate, out of which 18 are also below the EU15 average, which is 8.2 %.

In the group of the regions below average there are three Czech regions - Střední Morava, Severozápad and Moravskoslezsko. The worst situation is in eight Polish (19.5–24.6 %) and two Slovakian regions - Stredné Slovensko (20.7 %) and Východné Slovensko (23.0 %).

Employment in Agriculture

Employment in agriculture expresses the percentage of people employed in agriculture vis-à-vis the total employment. The regions with high employment rate in agriculture are considered to be less developed. It means the lower percentage of employment in agriculture, the more developed region.

Among the ten regions with the lowest employment in agriculture the exact half is occupied by Czech regions (Praha, Severozápad, Moravskoslezsko, Severovýchod and Střední Čechy), then there are two Hungarian regions (Közép-Magyarország, Észak-Magyarország), and one region from Slovakia, Romania and Bulgaria. The employment in agriculture in EU15 countries is 3.68 %; 6 regions out of the examined ones are above the European average and the remaining 47 regions are below the average. The list is dominated by Praha (0.63 %), Bratislavský kraj (1.31 %), Közép-Magyarország (1.34 %) and Romanian Bucuresti-Ilfov (1.59 %). The employment in agriculture in EU27 countries is 6.09 %; lower employment in agriculture is in 20 of the examined regions, higher in 33. The CE10 average is 16.02 %; 36 regions are above average, 17 are below average.

Table 9: Employment in agriculture (as a percentage of total employment, 2005)

region NUTS 2		employment in agriculture
CZ01	Praha	0.63
SK01	Bratislavský kraj	1.31
HU10	Közép-Magyarország	1.34
RO32	Bucuresti-Ilfov	1.59
CZ04	Severozápad	2.69
CZ08	Moravskoslezsko	3.08
HU31	Észak-Magyarország	3.92
CZ05	Severovýchod	3.99
BG41	Jugozapaden	4.03
CZ02	Střední Čechy	4.09

Source: Eurostat – Regional statistics [9], authors' calculations

The 10 regions with the highest proportion of employment in agriculture to the total employment include 5 Polish regions (Malopolskie, Podkarpackie, Swietokrzyskie,

Podlaskie, Lubelskie) and 5 Romanian regions (Nord-Vest, Sud-Est, Sud-Muntenia, Nord-Est, Sud-Vest Oltenia). In these regions the percentage of employment in agriculture ranges between 23.10 % and 49.01 %.

Employment in Knowledge-Intensive Services

The indicator of the employment in knowledge-intensive services expresses the proportion of employment in these fields to the total employment. The NACE (rev. 1.1) [10] fields which are among the knowledge-intensive services are fields with codes 61, 62, 64, 65, 66, 67, 70, 71, 72, 73, 74, 80, 85 and 92. These are for example water, air and space transport; telecommunications; financial services; activities concerning real estates and computer technology; machinery, equipment and product renting; research and development; education; health and social care; veterinary activities; and recreation, cultural and sporting activities.

The highest number of regions among the 10 regions with the largest proportion of employment in knowledge-intensive services is held by Hungarian regions (3). Like in the previous point, the first places belong to regions Praha (41.96 %), Bratislavský kraj (39.49 %) and Közép-Magyarország (37.28 %), followed by Polish Slaskie, Estonia, Hungarian Dél-Dunántúl, Bulgarian Jugozapaden, Romanian Bucuresti-Ilfov, Hungarian Észak-Alföld and Latvia. The indicator values for EU27 or EU15 are not available for analysis. The CE10 average is 22.49 %; it is exceeded by 29 regions; 24 regions are below average.

Table 10: Employment in knowledge-intensive services (as a percentage of total employment, 2005)

region NUTS 2		employment
CZ01	Praha	41.96
SK01	Bratislavský kraj	39.49
HU10	Közép-Magyarország	37.28
PL12	Slaskie	30.16
EE00	Estonsko	28.96
HU23	Dél-Dunántúl	28.22
BG41	Jugozapaden	27.83
RO32	Bucuresti-Ilfov	27.42
HU32	Észak-Alföld	26.50
LV00	Lotyšsko	25.81

Source: Eurostat – Regional statistics [9]

The 10 regions with the lowest employment in knowledge-intensive services include one Polish region (Swietokrzyskie), 2 Bulgarian (Jugoiztočen, Južen Centralen) and 7 Romanian regions (i.e. all Romanian NUTS 2 regions except Bucuresti-Ilfov). The values achieved in the above-mentioned regions range between 10.12 % and 19.92 %, and in Romania they do not go over 14.07 %.

Employment in Research and Development

The indicator expresses the percentage of the employees in research and development vis-à-vis the total employment. Such employees include both researchers themselves and other employees (technical and economic staff and others) of research institutions.

The NUTS 2 regions with the highest proportion of employment in research and development are 3 Hungarian, 2 Czech and 2 Polish regions. The largest proportion is in Praha (4.02 %), Bratislavský kraj (3.32 %), Közép-Magyarország (2.24 %), Romanian Bucuresti-Ilfov (2.17 %) and Polish Mazowieckie (1.77 %). These five regions are above the average of EU15 countries (1.57 %); also region Jihovýchod (1.49 %) is above the EU27 average (1.43 %). 18 regions in total are above the CE10 average (0.88 %), 35 regions are below the average.

Table 11: Employment in research and development (as a percentage of total employment, the average value of the years 2003–2005)

region NUTS 2		employment in R&D
CZ 01	Praha	4.02
SK01	Bratislavský kraj	3.32
HU10	Közép-Magyarország	2.24
RO32	Bucuresti-Ilfov	2.17
PL12	Mazowieckie	1.77
CZ06	Jihovýchod	1.49
BG41	Jugozapaden	1.42
PL21	Malopolskie	1.35
EE00	Estonsko	1.30
HU33	Dél-Alföld	1.17
HU23	Dél-Dunántúl	1.17

Source: Eurostat – Regional statistics [9], authors' calculations

The lowest proportion of employment in research and development is in 11 regions, their values ranging from 0.17 to 0.28 %. These are 6 Romanian regions (Centru, Sud-Muntenia, Sud-Vest Oltenia, Nord-Vest, Nord-Est, Sud-Est), 3 Bulgarian (Jugoiztočen, Južen Centralen, Severozapaden), one region in the CR (Severozápad) and one in Poland (Swietokrzyskie).

Expenditures on Research and Development

This indicator expresses the total annual expenditures on research and development as a percentage of the gross domestic product (GERD). The expenditures include expenditures of the government, businesses, higher education institutions and private non-profit organizations. The aim of Lisbon Strategy is that the value of this indicator reaches 3 % (1 % public sector, 2 % private sector) before 2010 in all countries. However, this aim probably will not be met.

Out of the ten regions with the highest expenditures on R&D four are Czech (Střední Čechy, Praha, Jihovýchod and Severovýchod). Regions Střední Čechy (2.59 %) and Praha (2.04 %) reach values higher than the EU15 (1.91 %) and EU27 (1.84 %) average. The first ten also include Slovenia, Hungarian Közép-Magyarország, Romanian Bucuresti-Ilfov, Polish Mazowieckie, Bulgarian Jugozapaden and Bratislavský kraj. 14 regions are above the CE10 average (0.75 %), 39 regions are below the average.

Table 12: Expenditures on research and development (as a percentage of the GDP, the average value of the years 2003-2005)

region NUTS 2		expenditures on R&D
CZ 02	Střední Čechy	2.59
CZ 01	Praha	2.04
SI 00	Slovinsko	1.39
HU10	Közép-Magyarország	1.34
RO32	Bucuresti-Ilfov	1.14
PL12	Mazowieckie	1.14
CZ06	Jihovýchod	1.14
BG41	Jugozapaden	1.02
SK01	Bratislavský kraj	1.00
CZ05	Severovýchod	0.98

Source: Eurostat – Regional statistics [9], authors' calculations

The other side of the ranking (R&D expenditures below 0.20 %) is occupied by some Polish regions (Zachodniopomorskie, Lubuskie, Opolskie, Swietokrzyskie), Bulgarian (Južen Centralen, Severen Centralen, Jugoiztočen, Severozapaden) and Romanian (Centru, Sud-Est, Nord-Vest, Nord-Est, Sud-Vest Oltenia) regions. Their proportion of expenditures to GDP is between 0.07 % and 0.18 %, which puts them deep below the CE10 average.

Regional Synthesis of the Development Potential

The results of the synthesis, presented in the following table and figure, document the existing differences or disparities among the individual regions at the level of socioeconomic development.

Table 13: Regional Synthesis of the Development Potential

region NUTS 2		assessment
CZ01	Praha	4.8
HU10	Közép-Magyarország	4.6
SI00	Slovenija	4.6
SK01	Bratislavský kraj	4.6
CZ02	Strední Cechy	4.4
CZ06	Jihovýchod	4.2
PL12	Mazowieckie	4.0
CZ05	Severovýchod	3.8
CZ03	Jihozápad	3.6
RO32	Bucuresti-Ilfov	3.6
BG41	Jugozapaden	3.2
CZ07	Strední Morava	3.2
EE00	Estonia	3.2
HU21	Közép-Dunántúl	3.0
HU22	Nyugat-Dunántúl	3.0
HU32	Észak-Alföld	3.0
HU33	Dél-Alföld	3.0

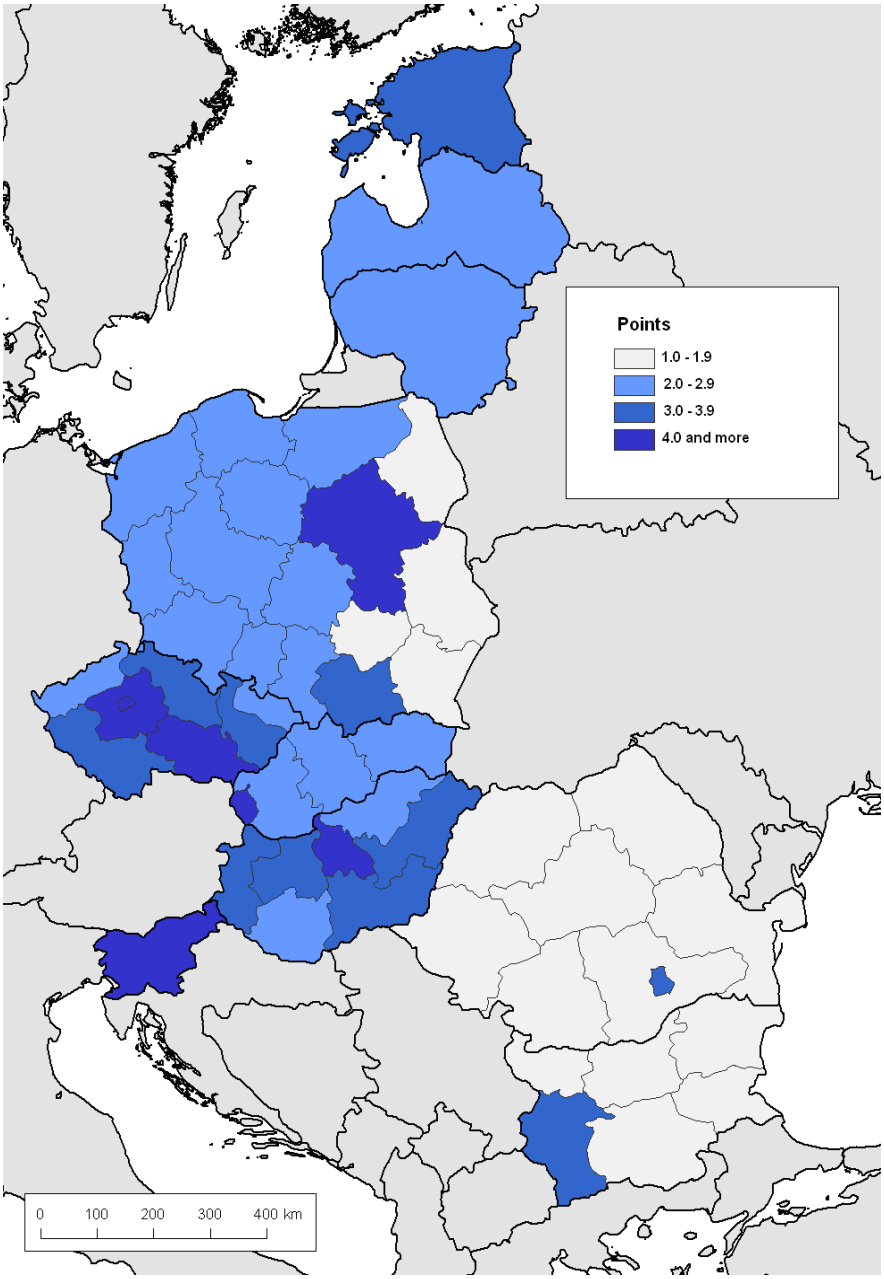
region NUTS 2		assessment
PL21	Malopolskie	3.0
CZ08	Moravskoslezsko	2.8
HU23	Dél-Dunántúl	2.8
LT00	Lithuania	2.8
LV00	Latvia	2.6
PL41	Wielkopolskie	2.6
CZ04	Severozápad	2.4
PL22	Slaskie	2.4
PL51	Dolnoslaskie	2.4
PL63	Pomorskie	2.4
SK02	Západné Slovensko	2.4
PL11	Lódzkie	2.2
PL52	Opolskie	2.2
SK04	Východné Slovensko	2.2
HU31	Észak-Magyarország	2.0
PL42	Zachodniopomorskie	2.0
PL43	Lubuskie	2.0
PL61	Kujawsko-Pomorskie	2.0
PL62	Warminsko-Mazurskie	2.0
SK03	Stredné Slovensko	2.0
PL31	Lubelskie	1.8
BG33	Severoiztochen	1.6
BG34	Jugoiztočen	1.6
PL32	Podkarpackie	1.6
PL34	Podlaskie	1.6
RO11	Nord-Vest	1.6
RO12	Centru	1.6
RO22	Sud-Est	1.6
RO31	Sud-Muntenia	1.6
BG31	Severozapaden	1.4
PL33	Swietokrzyskie	1.4
RO21	Nord-Est	1.4
RO41	Sud-Vest Oltenia	1.4
RO42	Vest	1.4
BG32	Severen Centralen	1.2
BG42	Južen Centralen	1.2

Source: Eurostat – Regional statistics [9], authors' calculations

The 'best' group with the largest development potential includes the regions of V4 capitals, the first being Praha, followed by Slovenia and two Czech regions. The next group mainly includes the most developed non-metropolitan regions of Hungary and the Czech Republic (together with one Polish region), Estonia - the most developed Baltic country, and metropolitan regions of the countries which are the least developed economically - Romania and Bulgaria. The third group, with the highest number of members, consists of the remaining Czech and Hungarian regions together with the

crucial majority of Polish and Slovakian regions, and with Latvia and Lithuania. The 'worst' group contains all non-metropolitan Romanian and Bulgarian regions and four Polish regions at the eastern border.

Figure 2: Regional Synthesis of the Development Potential



Source: created by authors on the basis of Eurostat – Regional statistics [9]

From a more detailed perspective we can conclude that the development potential of individual regions naturally corresponds with the level of their total economic development. The obtained results indicate that the more developed countries have entered or are entering the integration stage of economic development, characterized by the diffusion of the positive effects from the most developed regions (including the regions of the economically more advanced neighbouring "western" countries), which strengthens the natural tendencies towards the convergence of the economic standard. However, this is a largely generalized conclusion, verification of which would demand much more detailed analyses (including a reflection on the influence of inertia in socioeconomic development and developmental specifics of the individual countries – e.g. Slovakia with the extreme position of the capital) which is beyond the scope of this study.

Conclusion

The above-mentioned facts logically play an important role in the choice of the optimal strategy for the regional policy, determined predominantly in CE10 countries by the EU Economic and Social Cohesion policy (cohesion policy). The basic issue is mainly the perception of the future structure of CE10 cohesion policies from the point of view of the balance between the Convergence Objective and the Competitiveness Objective (e.g. in the Czech Republic we can assume that the criteria for inclusion in the Convergence Objective will not be met by another one or two NUTS 2 regions). Therefore, there are the following key questions to consider:

- taking account of expert analyses so that higher efficiency of public resources allocation is achieved while their complementarity with the effects of market mechanisms is respected (especially by means of effective combinations of the indirect and direct support of economic development);
- optimization of the factual content of partial objectives under the cohesion policy main objective aimed at convergence, based on the complex assessment of territorial business environment quality factors and on the emphasis on the activation of new, or rather inefficiently used endogenous sources of development;
- stimulation of the creation and transfer of innovations by means of the development of education at the level of system and the support for the cooperation of the entrepreneurial and the public sectors in relation to the cohesion policy main objective focused on competitiveness;
- support for the processes of territorial integration providing higher synergy of the cohesion policy partial objectives (inducing the creation of the mechanism of its incorporation in the project selection process using relevant criteria) in relation to the cohesion policy main objective focused on territorial cooperation;
- strengthening the significance of life quality components, especially in the framework of the cohesion policy main objective aimed at competitiveness.

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REGIONAL ANALYSIS OF NEW EU MEMBER STATES IN THE CONTEXT OF COHESION POLICY

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Abstract: The paper concentrates on the new European Union member states, i.e. the states of central and eastern Europe which entered the Union in 2004 (Czech Republic, Slovakia, Poland, Hungary, Lithuania, Latvia, Estonia and Slovenia) and 2007 (Bulgaria and Romania). The basis of the paper is the evaluation of the cohesion policy in the countries in question, which are then analysed at the level of NUTS 2 regions (cohesion regions). The aim of the socioeconomic analysis is to assess the economic level of the regions and to use the results to form their typology. Ten characteristic indicators were chosen so that the study was as complex as possible. For each indicator in the examined countries the average was calculated, which allowed for a considerable increase of the information relevance of the study conclusions. For the cartographic representation of the regional differentiation intervals based on this average and the standard deviation were used. The final part of the study presents a concluding synthesis together with the

above-mentioned typology of the regions. The results are interpreted in the context of the optimal strategy selection for the regional policy determined by the EU cohesion policy.

Key words: region, regional disparities, socioeconomic development, cohesion policy, new member states,

Abstrakt

Příspěvek je zaměřen na nové členské země Evropské unie, a to státy střední a východní Evropy, které vstoupily do unie v roce 2004 (Česko, Slovensko, Polsko, Maďarsko, Litva, Lotyšsko, Estonsko a Slovinsko) a v roce 2007 (Bulharsko a Rumunsko). Východiskem příspěvku je hodnocení kohezní politiky v daných zemích, které jsou následně analyzovány na regionální úrovni NUTS 2 (regiony soudržnosti). Cílem realizované socioekonomické analýzy je zhodnotit ekonomickou úroveň regionů a na jejím základě následně sestavit jejich určitou typologii. Bylo vybráno deset ukazatelů charakterizujících regiony tak, aby studie byla pokud možno komplexní. Pro všechny zahrnuté ukazatele je pak vypočítán průměr pro hodnocené země, který umožnil významně zvýšit vypovídací schopnost závěrů celé studie. Pro kartografické znázornění regionální diferenciace je využito intervalů založených právě na průměru a směrodatné odchylce. Studie je uzavřena závěrečnou syntézou zahrnující zmíněnou typologii regionů. Zjištěné výsledky jsou interpretovány v kontextu výběru optimální strategie regionální politiky, determinované kohezní politikou EU.

Klíčová slova

Region, regionální disparity, socioekonomický rozvoj, kohezní politika, nové členské státy

JEL Classification: 018, R11, R58