

Cohesion Policy and Sustainable Regional Development. The Case of the Slovak Republic

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Abstract

The paper addressed issue of regional convergence of Slovak NUTS II regions in the context of the enlargement and sustainable regional development. The concept of multidimensional sustainability based on capital theory, consisting of production, human, social and natural capital is introduced as major methodological approach.

Based on this, Slovak NUTS II regions were compared using selected indicators of four above mentioned types of capital. Results demonstrates that regional disparities measured as multidimensional variables can be considered as vital contribution to real convergence among EU regions and that the principle of sustainable development has potential significantly influence transformation to the knowledge based society and the formation of adequate partnerships in the regions.

Key words: *regional sustainability, cohesion policy*

JEL Classification: Q01

1. Regional Disparities and EU Cohesion Policy

1.1. Objectives and Principles

At the European Council meetings in Lisbon and Gothenburg, national and EU representatives made a political commitment to strengthening the competitiveness of the European Union through targeted policy instruments. Major policy to address these issues is EU Cohesion policy with objectives to support activities for the reduction of regional disparities and acting as a catalyst for the economic, social and territorial development of the Union. Thus Cohesion policy

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has a claim to be one of the most effective instruments for achieving the ambitious goals of Lisbon and Gothenburg and for encouraging the spirit of initiative in the regions. In order to address given target principles of Cohesion policy are build on three key pillars:

- Financial help is provided to poorest regions and those confronted with severe structural problems such as unemployment, social exclusion and inappropriate infrastructure.
- Cohesion policy is based on solidarity, and partnership principles.
- Implementation of Cohesion policy in Member states fully correspondent to the general Community rules related to competitiveness, growth, environmental protection and sustainable development and gender inequalities (article 12 Regulation 1260/1999).

Overall priorities of Community Cohesion Policy are targeted on several economic and spatial problems related to least developed EU regions, urban development, diversification of rural economies, cross-border, trans-national and interregional co-operation and post-industrial economic restructuring. These are actualised and modified into the Objectives of six years programme period together with structural funds.

In present program period (2000 – 2006) cohesion priorities are formulated into the 3 Objectives (EC, 2003) with allocated of EUR 213 billion, representing one third of the Community budget.

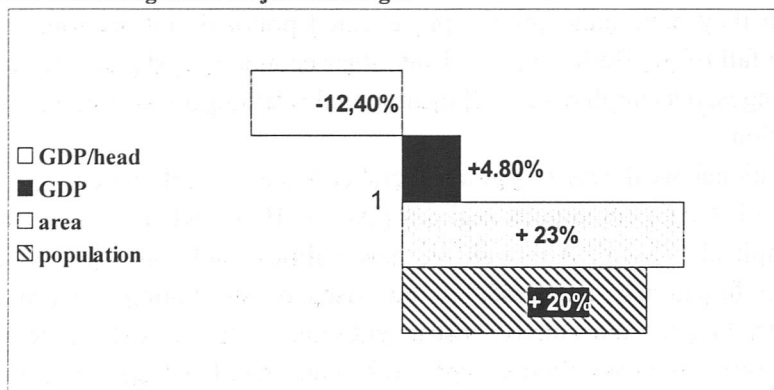
1.2. The challenge of Cohesion policy after the enlargement

The transition process from a command and control economy to a market economy and democratic society addressed the issue of numerous differences at regional level in EU Candidates. Among the major observations are the high disparity of economic development and low competitiveness of the regions leading to a dramatic rise of unemployment and economic and social divergence in a number of „low income regions“. The economic and social disparities after enlargement represents an unprecedented challenges. The development „gap“ between rich and poor regions will double (See Figure 1). At EU level, current 48 regions with GDP of less than 75 % of the EU 15 average will enlarge to 67 regions,¹ with 20 % increase of population leaving in poor regions. Objective 1 regions will fall from present 60 – 75 % of the EU 15 average GDP to 30 – 40 % of the average and number of Member states eligible for Cohesion Fund will increase from 4 to 14.

¹ All new region NUTS II except Prague and Bratislava.

Figure 1

EU 15 to EU 25. Enlargement Major Challenges



Source: (COM (2003) 34Final).

1.3. Trends in Social and Economic Cohesion of EU Regions

Recent figures confirm that economic disparities between the present Member States still persist but they have been diminished substantially in the program period 1994 – 1999. The overall EU GDP has risen in 5 % and unemployment decrease in 0.3 % (EC, 2003). The main change concerns the cohesion countries, which have moved considerably closer to the Community average in terms of per capita GDP, with Ireland as the clearest example with per capita GDP rising from 64 % of the Community average in 1988 to 118 % in 2001 (Portugal: 59.2 – 69 %, Spain: 72.5 – 84.1 %, Greece: 58.3 – 64.7 %).

Reduction of regional disparities at the level of NUTS II is to much lesser extent, e. g. in Objective 1 regions of EU 15 increase of GDP per head in PPS in duration 1989 – 1999 was from 68 to 70 only. Indeed, they have grown within several regions (EC, 2003).² Similar development can be associated with other socio-economic parameters such employment, competitiveness and others.

Such development is in line with ongoing academic and policy discussion (Baláz, 2004; Buček, 2002; Zajac, 1999; EC, 2003)³ about appropriateness of growth theory of neo-classical economics as universal tool for regional convergence.

On contrary, low institutional maturity and concentration to economic performance, with no or limited concern to sustainable development theory and complexity requirements of regional development (demography, environment,

² For example GDP per head (in PPS) for the period 1995 – 2000 in Objective 1 region has decline: Berlin-ost 111 – 96, Sicilia: 66 – 65, Alentejo: 59 – 54 and others.

³ For example GDP per head (in PPS) for the period 1995 – 2000 in Objective 1 region has decline: Berlin-ost 111 – 96, Sicilia: 66-65, Alentejo: 59 – 54 and others.

knowledge society, etc.) are identified as major barriers for real convergence of EU regions. These factors are more actual for regions from Candidate countries. Although they have undergone unprecedented political and economic changes since the fall of the Berlin Wall in 1989, their economic systems still face structural changes, decentralisation and institutional relations are still in the first stage of evolution.

Institutional weakness of „new“ Member States, is originated in command and control (CAC) communist regimes (1948 – 1989), where direct democracy was completely absent. Although the new political and economic systems are becoming functional, democracy is not based on the bottom up process but, rather introduced as a normative instrument required by EU enlargement.⁴ Thus, participatory democracy (bottom up) can be considered as learning tools helping regional partners to become aware of their own assumptions and preferences as well as those of others (Funtowicz, Martinez-Alier, Munda and Ravetz, 1999).

By these means, application of a participatory procedure in would contribute to the „domestication“ of democracy into society life and social learning, awareness building and the institutional reform needed to establish such a practice as tradition.

Above mentioned situation (see also Figure 1) provides clear evidence that time available for transition could provide space for improvement in economic performance of candidates but was not sufficient enough for the adaptation to the EU governance (Bíziková, Potluka and Zajíčková, 2004).

Among others, lesson learned from pre-accession financial assistance can be mentioned as alarming evidence of ongoing situation. Generally, ISPA, Community pre-accession instrument for sustainable development communicated a clear message about the serious gaps in adaptive potential of candidates. While transport part has been mostly successfully utilised allocation to the environment was subject of massive inefficiency in most of Candidate countries⁵ for which several countries were also criticised by Commission Progress reports. Such situation is alarming due to the serious concern about the readiness and capacity of candidates to be able to participate on Community Structural policy programs without which, balancing regional disparities and implementation of sustainable development after enlargement are not considered as realistic.

⁴ Illustrative example could be problematic decentralisation and implementation of EU Regional policy.

⁵ For example in Slovak Republic by the end of 2002 transport allocation up the end of 2003 was overspent (108 %), for the same period in environmental sector 75 % of funds were allocated but not contracted (Klúvanková-Oravská, 2004). Such discrepancy can not be satisfactory explained by complexity of environmental projects only, but rather by maturity of strategic planning in the transport sector compared to the rest of the society.

1.4. Regional Disparities in the Slovak Republic

The Slovak Republic is characterised by an asymmetric population distribution as a result of its mountainous character, its underdeveloped infrastructure and historically determined low population migration. Prior 1989, politicians tried to solve such inequalities through centralised cross regional transfers, allocating large industrial energy-demanding facilities to each region without proper concern for the accessibility of resources and labour mobility. Although such enterprises become dominant economic agents in the regions, providing more than 70 % of its income and employment without sufficient support from the centre they were not capable to exist and it resulted into the creation of artificial production structures based on fordist – type monopolies (Baláž, 2004). Nevertheless this strategy, resulted in the deep economic collapse that occurred immediately after the failure of the common market of the former Soviet Union and its satellites.

Fourteen years later, regional development is still affected by such forces resulting in inflexibility, a lack of innovation, poor economic growth, environmental damage and unsustainable development. The issue of economic regional disparities in Slovak regions has been analysed in numerous studies (Buček, 2002; Kárász, 2003; Gašpariková, Buček and Rehák, 2003; Nemcová, 2003), etc.. According to the classification adopted by the National Plan for Regional Development (2003), 42.9 % of the population resides in problematic regions and 52 % of businesses are concentrated in 8 regional centres. This formed pre-condition for the development of new post-fordist type structure of Slovak regions based on growth poles and peripheries (Baláž, 2004), with Bratislava as the main growth centre⁶ and rapid regional divergence on the west-east axis. Significant differences can also be observed at the NUTS III and IV levels. For example, in Western Slovakia NUTS II region, the Trnava County GDP is 11 % higher (51 % of the EU 15) than the GDP of Nitra County GDP (40 % of the EU 15). A similar trend can also be observed in other macroeconomic indicators.⁷ The main determinants for the west-east regional disparities are the asymmetric distribution of human capacities and geographical barriers, because most of the country is mountainous and the transport infrastructure is still not adequately developed. The latter makes the Bratislava region attractive for foreign investment,

⁶ In 2000, the GDP of Bratislava was twice the national GDP and three times higher than the GDP produced by the poorest county – Prešov.

⁷ Unemployment in 2000 ranged from 18 % (Trnava) to 24 % (Košice), while in Bratislava County only 8.4 %. In the same year, Bratislava County created 56.7 labour opportunities for every 100 individuals in contrast to most of the counties (33 – 40 out of 100) and Prešov County (only 29.8 out of 100) [13]. At NUTS IV level, the city of Bratislava, as the strongest economic section of the county, distorts the real economic performance of the county as a whole.

export and a qualified labour force, which results in the increased potential for innovations and the expansion of small and medium enterprises (SME). Bratislava's dominant position is also assisted by the fact that 92 % of governmental and financial institutions are located there. In addition, it is near Vienna, Budapest and southern Moravia, which forms an historical triangle of business activities and conditions for the dynamic acceleration of the economic sector and international trade. As a result, 25 % of university graduates and 45 % of total expenditures in research and development are allocated within the Bratislava region. Such asymmetric allocation of educational and research capacities are responsible for the lack of innovative activities in regional development, low productivity in the northern and eastern regions and poor labour force mobility.

2. Sustainable Regional Development

2.1. Multidimensionality of Sustainable Development

The need to introduce new concept of economic and environmental cohesion has been firstly addressed at the International Conference on the Human and Environment in Stockholm in 1972.⁸ It resulted in the establishment of the United Nations Environmental Program. The concept of sustainability has gained increasing attention among policy makers and researchers since the publication of the report „Our Common Future“ (so called Brundtland report) in 1987 by World Commission on the Environment. In this document, development is sustainable when it „meets the needs of the present without compromising the ability of future generations“. Earth Summit in Rio de Janeiro in 1992 have introduced import concept of multidimensionality of sustainable development⁹ and thus reflecting policy and academic discussion in the field.

Central to the concept of economic sustainability is capital theory approach.¹⁰ According to constant capital rule, the development can be called sustainable, if it ensures constant capital stocks or at least constant capital services over time Constanza and Daly (1992), Hartwick (1977), Pearce (1988), etc. (Figge and Hahn, 2004). The question of substitution between different kind of capital is addressed by two concepts of sustainability (Pearce et al., 1989; Neumayer, 1999, see Figge and Hahn, 2004). Weak sustainability implies that all forms of capital

⁸ The issue of sustainable development has been first introduced into the society agenda in 1967 when E. J. Mishan published *The Cost of Economic Growth*.

⁹ Based on various concepts such as „social sustainability, economic or cultural sustainability etc.“.

¹⁰ This comprises man made capital (production), human capital (knowledge, skills), social capital (institutional relations) and natural capital (natural resources and the environment).

are substitutable, so that any loss in one kind of capital can in theory be substituted by a surplus of other type of capital (Pearce and Atkinson, 1993, and other, see Figge and Hahn, 2004).¹¹ On contrary the concept of strong sustainability denies the degree of substitution of natural capital by manufactured and it calls for the critical level of safe minimum standards of natural capital in order to avoid irreversible changes (Constanza and Daly, 1992; Daly, 1995; Farmers and Randall, 1998, etc., see Figge and Hahn, 2004).¹²

2.2. Measuring Sustainability

Up to know several concepts and sets of indicators have been presented in order to reflect how far the actual economic systems are from both concepts of sustainability. Among them the concept of Material intensity of Products and Services (MIPS) developed by Wuppertal Institute in Germany measures material use of product from cradle to grave (numerator) and services of benefits resulting from the use (denominator). Calculations are made in kilograms or tons. For example indicator can measure material intensity of transport for different traffic modes. MIPS asserts,¹³ that the material use in the industrialised countries has to be reduced by factor 10 for achieving sustainability. However, material use is an input-measure of economic activities and cannot give information about different environmental impacts resulting from this activity. Thus indicator is limited to the use at macro/economic level to measure technological progress towards sustainability (Schmidt-Bleek, 1994, see Rennings and Wiggering, 1997). Another approach uses damage costs calculations (Pearce and Atkinson, 1993, see Rennings and Wiggering, 1997). It attempts to quantify the external effects of environmental pollution. The methodology is based on the welfare theory (rational behaviour of consumers) and cost benefit analyses (monetary valuation of costs and benefits). This sustainability indicator is based on the assumption that, an economy should save more than combined depreciation on natural and human-made capital. Estimations for savings and depreciations of both capitals were made for 22 countries. According to this estimates, sustainable are developed countries. Developing countries of Africa, Asia, etc. fail the test. The main reason was high saving rate rather than sustainable practices. Lesson learned is that such indicator is lacking qualitative aspect e.g. critical elements of natural

¹¹ Example is cost of environmental deterioration, e.g. forest damage, can be compensated by benefits from manufactured capital, e.g. income.

¹² Example is the concept of critical loads (depositions of pollutants) and levels (concentration of pollution deposition). Critical loads and levels are derived from laboratory experiments and scientific knowledge, chemical substances, synergy effects and exposure to leaving organisms.

¹³ Calculated also for Poland (Sleszynski et al., 1999).

capital. Recently, a model for Sustainability Assessment by Fuzzy Evaluation (SAFE) (Andriantiatsaholiniaina, Kouikoglou and Philips, 2004) has been developed, which uses fuzzy logic reasoning and basic indicators of environmental integrity, economic efficiency, and social welfare. Measurement of sustainable development at corporate level has also been elaborated in numerous studies (Figge and Hahn, 2004) but is not subject of this paper.

At the same time we can observe rising interest to move from global sustainability analyses towards empirical mostly policy relevant research at the regional and urban level (Nijkamp and Vreeker, 2000). Overall methodologies for the assessment of regional sustainability are rare and the research undertaken at regional level is into the large extend case study driven. Illustrative example of overall methodology for sustainability assessment has been developed for example by (Nukamp and Vreeker, 2000). It is based on four steps procedure starting from identification of measurable sustainability indicators, estimation of their impact (regional impact matrix), with the help of flag ship model, design and specification of threshold values and finally evaluation of sustainable strategies. As of sectoral studies, numerous examples can be mentioned e. g. land use studies for example by Schultz and Sckonfoft (1996), Finco and Nijkamp (1997), sector studies like sustainable agriculture in Greek islands Nijkamp, Ouwersloot (1998), Douven (1996) or sustainable fishery by Charles (1997), regional solid waste in Ghana by Beinart (1997) and others. Specific part is formed by ecological footprint studies (e. g. Wackernagel and Rees, 1996; Martinez, 2002 and others) which take into the consideration spillover effects from and to other areas (external sustainability). Based on recent experience we can conclude that sustainability at regional level is context and site specific.

2.3. Regional Sustainability and Regional Disparities

Ecosystems and the effects of environmental pollution are blind to political and administrative boundaries and it has been stressed that the open transboundary nature of the regions is of particular importance for achieving sustainable development (Lafferty and Narodoslawsky, 2003). At the same time assessment of sustainable development at regional level is determined by certain homogeneity and administrative and political control over the area what makes difficulties with the development of consistent regional sustainability policies. At the Community level regional sustainability has been reflected into the overall principles as regional governance (subsidiary principle) as well as into the horizontal policies such Regional policy of the EU. In the Slovak Republic sectoral approach still dominates. While sustainable development has been adequately address in

environmental policy (Romančíková, 2004), in other sectoral policies it plays rather formal role. At horizontal level, the concept of sustainable development has been incorporated as key principle in the development of National Development Plan (NDP) of the Slovak Republic.¹⁴ However, there has not been adequate effort made to address SD principle in the objectives and programme documents of Regional policy at EU as well as national level. Regional disparities are presently measured in economic and social dimension only, environmental aspects are not covered. Thus, diverting from the definition of sustainable development is inconsistent with present practice and real convergence among EU regions is subject to deformation.

3. Regional Sustainable Development of Slovak NUTS II Regions

In our paper we understand regional sustainability as complex concept of multidimensional sustainability consisting of production capital, human capital, social capital and natural capital. Production capital is understood as assets produced by human activities in terms of income (GDP, household income etc.) and creation of favourable trade and economic conditions (investment, employment etc.). Human capital is human potential (availability and quality of labour force, research, education, etc.). Social capital represents institutional setting and potential for its evolution (partnerships, rules, etc.). Natural capital represents stock of natural resources and the quality of the environment (pollution, natural areas, etc.). Production capital was measured by GDP per head as % of EU 15 average in PPS, unemployment rate and expenditures on recreation as % share of household net expenditures. While first two are standard indicators of economic performance, the later was selected in order to demonstrate purchasing power as variable of regions. Share of university educated as % of economic active population, gross domestic expenditure on research and development (GERD) and criminality are conventional indicators for the measurement of human potential. Social capital as defined by our study represents certain novelty originated in institutional and co-evolutionary view. It is based on the assumption that knowledge is social category and is achieved through collective learning process. Indicators to measure such defined social capital are not part of standard regional statistic in the Slovak Republic thus we decided to select % share of small enterprises and licences purchased. For the measurement of social capital in formal

¹⁴ Strategic objective of NDP SR is to ensure GDP growth, while maintaining long-term sustainable development, enabling the Slovak Republic to achieve more than 50 % of the average per capita GDP of the EU countries by the 2006 (Ministry of Civil Construction and Regional Development, 2003).

partnerships we decided for pre-accession instrument ISPA, which can provide sufficient response to the institutional changes at multilevel governance and decentralisation. As of natural capital standard indicators: forestation (ha/capita) in contrast with urbanisation and pollution (air quality) were selected.

Ambitious of our study is not to provide comprehensive assessment of regional sustainability but concentrate on the comparative analyses of sustainability indicators in order to demonstrate link between various capitals, their relation to the measurement of regional disparities and impact of multidimensional sustainability variables at NUTS II level. Selection of indicators is limited by the availability of regional statistics, majority are calculated in relative terms for the year 2002¹⁵ and presented in Table 1.

Table 1

Indicators of Sustainable Regional Development in Slovak NUTS II Regions

Type of capital	BSK	WEST	CENTRE	EAST	SR
<i>Production capital</i>					
GDP per head (PPS) % of EU 15 average ¹	101.0	44.0	40.0	37.0	48.0
Unemployment rate % (2002)	5.2	15.5	19.1	23.6	17.4
Recreation and culture % net household expenditures	9.7	7.4	6.8	6.75	7.4
<i>Human capital</i>					
University educated as % of economic active population	24.0	8.9	10.2	9.5	11.3
GERD ² as % of total	41.7	30.0	15.6	12.0	100
Violence per head	28	63	52	54	50
<i>Social capital</i>					
SME % of total	30.8	27.2	20.0	22.0	100
Licences purchased per n. of organisations	2.38	2.2	1.45	1.4	2.1
ISPA enviro number (99-02)	0	3	7	1	12
<i>Natural capital</i>					
Forest area per head (ha)	12	17.3	61	45	37
Urbanisation %	83.7	51.8	52.6	53.3	56.0
Air quality: SO ₂ per km ²	6.8	11.2	1.6	8.4	2.6

¹ Data on 2000.

² GERD – Gross domestic expenditure on research and development;

BSK – Bratislava NUTS II region;

WEST – West Slovak NUTS II region;

CENTRE – Central Slovakia NUTS II region;

EAST – Eastern Slovak NUTS II region;

SR – the Slovak Republic.

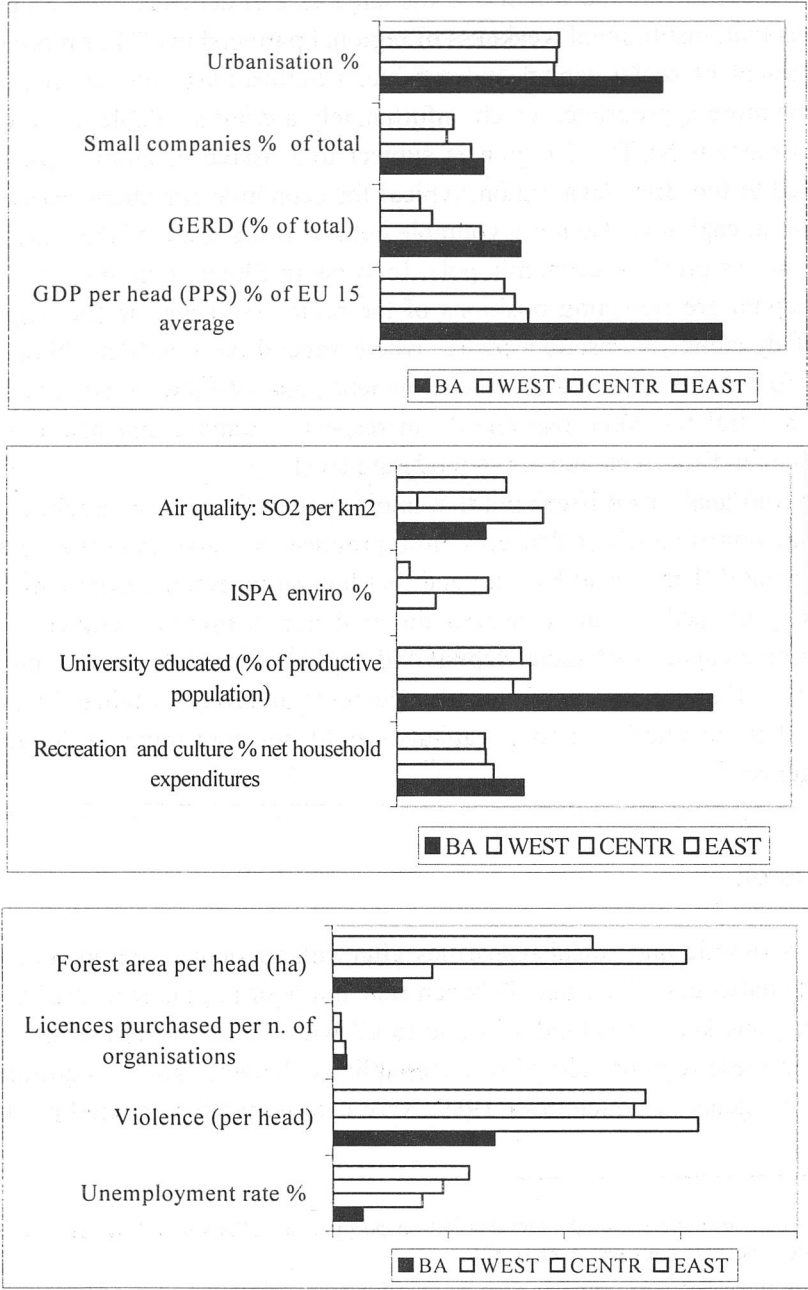
Source: Statistical Office of the Slovak Republic, 2002.

¹⁵ Except GDP which is 2000 and ISPA representing time period 1999-02, ISPA as well as licences.

Measurement of multidimensional sustainability indicators have proven existence of regional divergence between poles (e. g. Bratislava and Košice) and periphery. Interregional comparison can be seen in Table 1 with interpretation in Figure 2.

Figure 2

Regional Sustainable Development (RSD) Indicators across NUTS II Regions



It is not surprising that while in Bratislava NUTS II region, economic, human capital (e. g. GDP, GERD, unemployment, education, violence) are very positive (in relation to national average), stocks of natural capital (forestation, air quality) are being dramatically exhausted and urbanisation is expanded. Measurement of social capital is into certain aspect biased by low quality of available data. Particularly ISPA is variable which into the large extend depends more on political decisions than institutional weakness of regional partnerships.¹⁶ For more precise measurement of social capital, measure such innovations, internet connections would be more appropriate, which unfortunately are not available at the level of regions. Eastern NUTS II region is subject to massive economic divergence, compared to the Bratislava region, typical for economic periphery. At the same time natural capital is also not favourable but this is the result of dynamisation of Košice city as growing economic pole. In Western Slovak region economic and social capital are reflecting positions of the region – located in the neighbourhood of dynamic polarisation centre, where several acceleration effects are in place. From sustainable regional development point of view, most balanced region is Central Slovakia, particularly in respect to natural and human capital, production and social capital are in moderate level.

From our analyses it is evident that interregional divergence has shown several contrasting trends, first that economic progress is made upon the decline of natural capital (Bratislava, Košice) and that human potential accumulated is not adequately utilised. It can be seen as the evidence of low institutional maturity and adaptive capacity of social capital and applies for both economic poles and periphery.¹⁷ Finally, our study support arguments of strong sustainability, as it is evident that substitution among capitals would not contribute to the regional convergence.

Conclusion

The economic and social disparities after enlargement represents an unprecedented challenges. The „gap“ between rich and poor regions will double, number of regions lacking behind will rise to 67 with 20 % increase of population leaving in these regions. The Slovak Republic is characterised by significant regional divergence's, which prior 1989, were determined by artificial production

¹⁶ This can be supported by the fact that in transport part of ISPA where Bratislava region was not excluded success factor was over 100 %.

¹⁷ Innovations in trade, services such as multifunctional agriculture are not progressing although natural capital and present economic situation are significantly positive.

structures. Recent trends determined new type of regional development based on growth poles and peripheries, with Bratislava as the main growth centre and rapid regional divergence on the west-east axis.

Reduction of disparities within EU at the level of NUTS II is to much lesser extent, indeed, they have grown within several regions. Low institutional maturity, absence of sustainable development principles can be identified as major barriers for real convergence of EU regions. These factors are more actual for regions from Candidate countries, as their democracy is fragile and rather than bottom up process introduced as a normative instrument required by EU enlargement. Principles of sustainable regional development and governance has been declared as a priority of EU principles and policies as well as key planning documents at national level. However the issue has not been adequately addressed and real convergence among EU regions is in question. Thus our understanding of regional sustainability builds on the concept of multidimensional sustainability consisting of production capital, human capital, social capital and natural capital. Results of our comparative analyses indicates that most balanced region is Central Slovakia. Bratislava region is asymmetric in favour of production and human capital, however with strong impact on the utilisation of natural capital. Trends in Western Slovakia are reflecting acceleration effects of the neighbourhood with growth pole. Finally Eastern NUTS II region is subject to both economic divergence typical for economic periphery at the same time natural capital is being overused due to the activities of Košice city as growing economic pole. Study also indicated low internal adaptive capacity of Slovak regions necessary for the introduction of innovation measures although natural and economic potential is present.

It can be concluded that regional disparities measured as multidimensional variable can be considered as vital contribution to real convergence among EU regions and to the increase of efficiency in the implementation of EU structural policy. We believe that transposition of sustainable principles into the real practice of „new EU regional policy“ has the potential to influence shift to the knowledge based society and the formation of adequate partnerships in the regions. Limitations of the this study are originated in lack of diversified regional statistics, particularly in respect to the measurement of social capital. Ambitious of our study was to concentrate on the comparative analyses of sustainability indicators in Slovak NUTS II regions as variables for the complex measurement of regional disparities For comprehensive assessment of regional sustainability, time factor as well as threshold values as numerical normative value determined upon statistical variables or expert judgement should be identified separately for each indicator.

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