

# INVESTIGATION OF THE INTERDEPENDENCE BETWEEN THE NATIONAL AND REGIONAL LEVEL GROWTH THROUGH THE CASES OF HUNGARY AND SLOVAK REPUBLIC

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## **Abstract**

*The growth potential and the economic attractivity are strongly correlated with the business environment, the state regulation (tax system, social system, incentives, etc), which can not be neglected by any of the territorial units (state, region, settlement, etc). These effects and the characteristics of the labour market, the accessibility, and the market circumstances can be crucial in terms of investors' settling and the selection of the location.*

*Significant differences are indicated between Hungary and Slovakia, and among their regions based on the real GDP growth rates in favour of the latter. Consequently Slovakia has overtaken Hungary by GDP per capita (PPP) measured on national level. Considering the continuity of the position change it is likely to remain for longer interval. Naturally the prominence, i.e. outstanding performance of the capital regions (Bratislava and Budapest in Central Hungary) modifies the picture, since the core areas give the significant part of expansion, growth in both countries. The rest, the rural and peripheral regions are showing fewer disparities. Even from this viewpoint the Slovak regions can benefit better from the more favourable macroeconomic environment than the Hungarians.*

*The paper intends to draw the attention to in the past years significantly growing territorial inequalities within the European Union (EU) with special regard to the East-Central-European countries and the dangerous consequences. The disparities are presented by the GDP per capita (PPP, in Euro) figures, and the national and regional levels among the possible administrative-political levels are applied.*

*Adapting the Williamson hypothesis Hungary and Slovakia are tested in the analysis, which says stochastic connection and interaction exists between the national and regional level growth.*

## **Introduction**

Although both Hungary and Slovakia are belonging to the so-called 'Transition Economies' group and possessing similar socio-economic characteristics, they have showed different growth patterns in the recent years. Mainly events and decisions of internal and economic policies have caused the deviations.

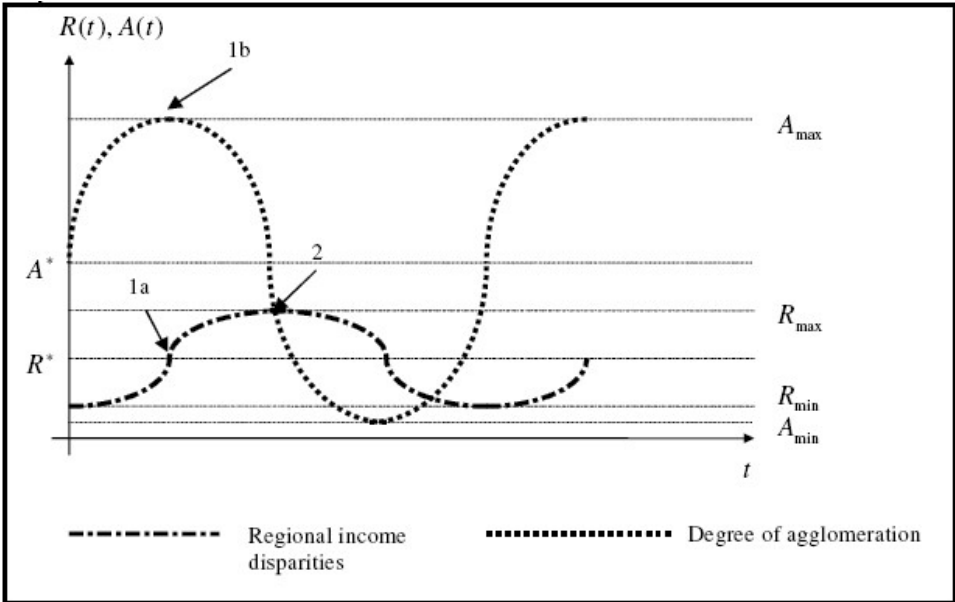
In this paper we undertake to introduce briefly the theoretical bases of the theme, thereafter present the differences in the macro level growths, finally the changes in the regional structure are demonstrated.

Based on the empirical evidences of the analysis of the two countries some concluding remarks are made.

**Theoretical background**

The interaction between the national level growth and the regional disparities has been investigated since the mid 60'es. The very early attempts were made by J. G. Williamson based on the Kuznets hypothesis. [13] He assumed interregional income divergence in the early phases of rapid economic development with subsequent convergence as the economy matures. [6] Accordingly the relation can be visualized with an inverse U curve. The calculations concerned the developed countries, especially the US, using panel and cross-section data as well.

D. Meyer and J. Lackenbauer came to a similar conclusion with the “trade off” model. They point out a so called catching-up process, the period of national growth, which is accompanied by a rise in regional disparities and agglomeration. [9] The Central and Eastern European countries (CEECs) are said to be in this phase of the function (before the Points 1a and 1b in Figure 1). Later the national economies start to diverge which contributes to lower level of disparities and agglomerations. So it can be adapted as a cycle, the cycle of equity-efficiency. According to D. Meyer and J. Lackenbauer the regional policy should concentrate the funds on growth poles and agglomerations in the first half of the period. The gains from the first step can be large enough to compensate the lagging behind regions in the second half of the interval.



Reference: Meyer & Lackenbauer (2006)

**Figure 1:** The evolution of agglomeration and regional disparities over time

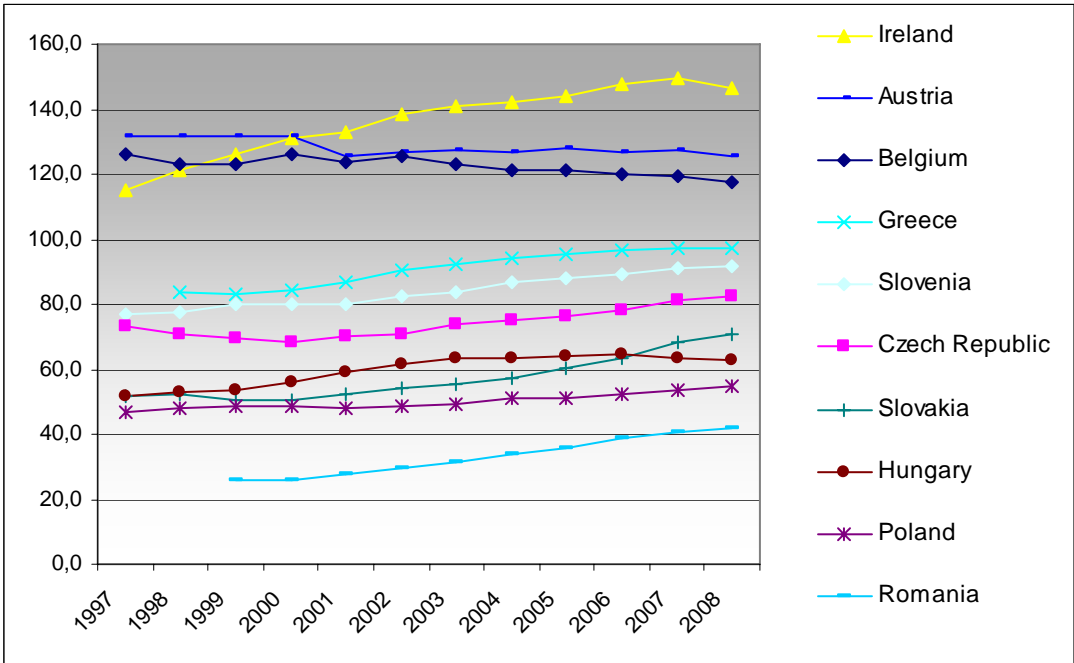
A number of researchers intended to find evidence to the previous theories from the EU. S. Davies and M. Hallett; C. Garnier analysed the former Cohesion Countries (Iberian States, Ireland and Greece) and recorded the increasing level of disparities. [2, 5] G.

Petrakos, G. Gorzelak, and I. Illés examined the new member states and rejected the neo-classic proposition of convergence. [7, 12]

**The Hungarian macroeconomic position**

After the change in the political system of Hungary, the next 8-10 years time was about the closing up process to the European Union, at the same time, any necessary changes did not occur regarding many fields of the Hungarian economic and social life. There was not any convulsion to such an extent that would have required the rebuilding from the base, so the former syndicate endured further on. Among others, due to this fact the former eminent started to lag behind the countries in East Central Europe. After the millennium in the increasingly growing competition it is forced to loose significant position. Defective decisions in field of economic policy resulted that the country became file-closer among altering economies.

Lagging behind regarding the economic growth, high centralisation in public finance and huge governmental deficit, rising governmental debt, continual disorientation of the welfare system, high taxation, divided and disenchanted society, the lack of confidence, uncertain and increasingly departing position of the euro acceptance also indicates that Hungary has to face very serious problems. [10]

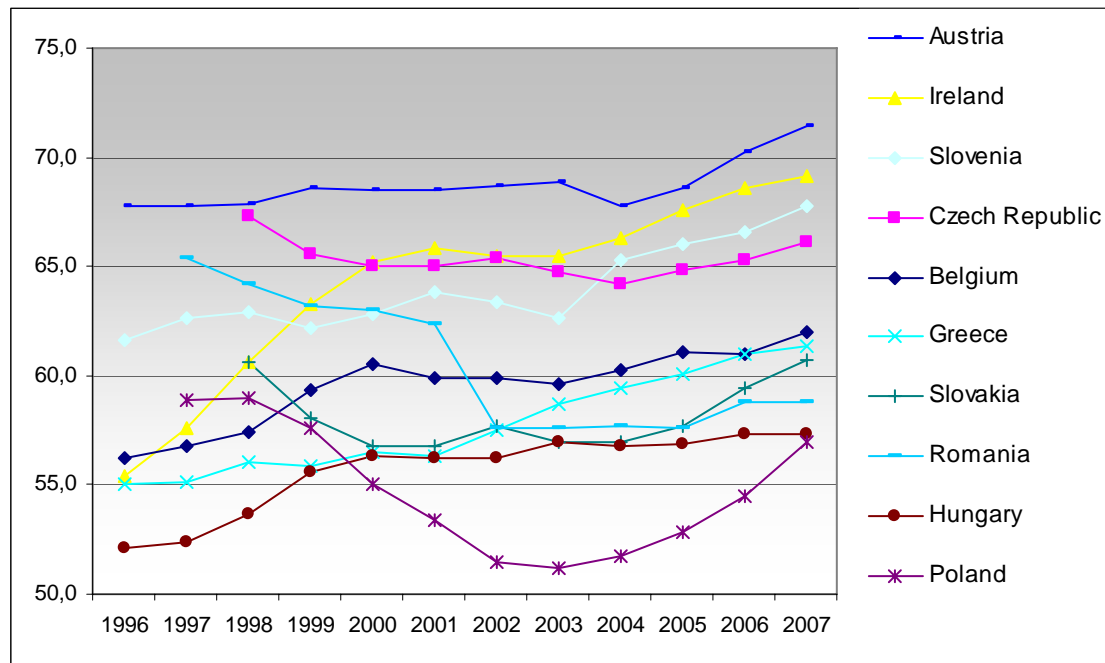


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**Figure 2:** GDP per capita in certain countries of the European Union (PPS, EU27=100%)

The development vocation – that seemed right sometime – was missed, mainly because of the lack of the institutional reforms, the untenable position of the public administration, the level of the political culture, the excessive political exposure of the

economy and also the failures of the economic policies. With the most significant macroeconomic indicators the loser Hungarian position is traceable – the appearance is ranking, that e. g. in the past few years Estonia and also Slovakia preceded us in point of the GDP per capita.

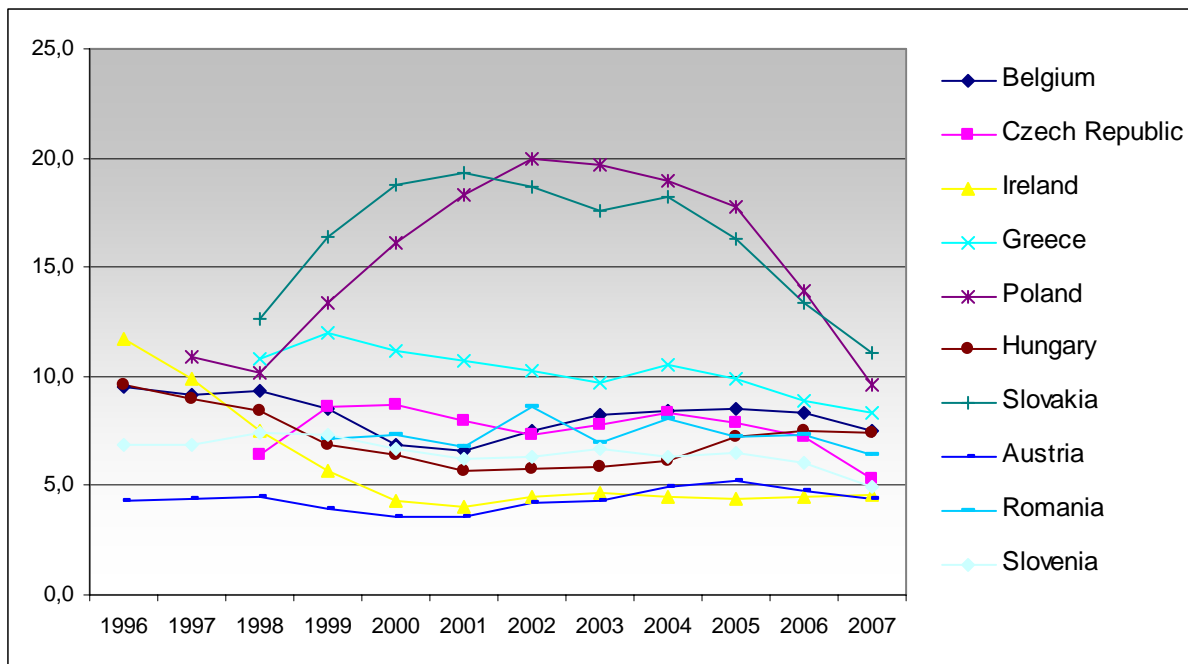


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**Figure 3:** Employment rate in certain countries of the European Union

Hungary has not stepped into the tax competition that was running in the region; therefore certain taxes are higher in our country than in the case of our neighbours. The burden of the Hungarian tax system is too high and the real tax base is very tight. 1,7 million people bear the 80 percent of the common charges, while 10 million participate in its gains [1]. This fact has a disadvantageous influence on the employment rate, as the growth of the social expenditure is higher than the neighbouring countries. According to the employment rate, only Malta and Poland has worse data than Hungary in the European Union, and probably, at the sight of the processes, this ranking will not stay lasting either (Figure 2).

The indicator of the unemployment shows slightly more favourable image, but regarding the tendencies the appearance has negative contrast with the other indicated countries.



Reference: own editing by Eurostat data

**Figure 4:** Unemployment rate in certain countries of the European Union

### **Hungary and Slovakia: comparison at macro level**

Comparisons with Slovakia the image of Hungary shows disadvantageous position, since except the unemployment rate, we have worse values taking every indicator into consideration and the tendencies foresee our lagging behind more and more.

In Slovakia remarkable results were achieved with the complex reforms from 2002, the radical change of the tax system (one tax rate), the considerable reduction of the social expenditures and the changes of the retirement system. With these measures the economic development went in for faster path, therefore the euro was implemented in 2009.

It is a very important part of the reform, that in case of an average family with two wage-earners, the income coming from the labour (even the minimal income) could not be smaller than the income coming from several kind of aid. With these steps the state shows the honour and importance of the labour and employment, and could achieve the reduction of the social expenditures. These measures had positive results: between 2002 and 2007 the number of the employment grew with nearly 270 thousand people, the growth of the export almost duplicated between 2002 and 2006, and the unemployment rate decreased from 18,7% (2002) to 11,1% (2007).

The development chances and the local attractiveness mainly depend on the business environment, the state regulators (tax system, administrative burden, stimulation, social system, etc.) that cannot be eluded by any territory, region, subregion or settlement. This kind of public roles has an influence on the self-governments, the investors, the economical and social actors. These effects beside the character of the labour force, the availability and market possibilities could have crucial importance in

case of location, the establishment of the investors and foreign capital. In this relation Slovakia probably could develop much more advantageous terms for the economical development in the past few years than Hungary. This supposition is supported by the unprecedented GDP growth in Europe, the improving data of the budget and the decreasing unemployment rate.

The reform packet resulted the “Slovakian wonder” can be valued positively in the economical point of view even despites its drawbacks, in case of several territories this background could led to the economic prosperity. For Hungary certain elements of the reform (tax reform, decrease of the state expenditures, decrease of the bureaucracy, honour of the labour, creation of better terms for business, etc.) would be necessary to follow. With these improvements not even in case of the growth of taxes, burdens and state bureaucracy could we be the first in the list of the European Union (Table 1).

**Table 1:** Certain macroeconomic data in case of several countries of the European Union

Country	Employment rate (2006, %)	GDP per capita (2006, PPS EU27=100)	Productivity of labour force per employee (2006, EU27=100)	Indirect tax burden of the labour force (in proportion of the total income)	Administrative expenditures of the GDP (2005, %)
Czech Republic	65.3	79.3	71.2	41.3	3,3
Denmark	77.4	126.6	108.4	37.3	1,9
Germany	67.5 <sup>(p)</sup>	113.6	106.4	38.7	3,7
Estonia	68.1	67.9	63.7	33.1	
Ireland	68.6	142.8	132.1	25.6	2,4
Greece	61.0	88.4 <sup>(f)</sup>	106.6 <sup>(f)</sup>	38.0	6,8
Spain	64.8	102.4	100.3	30.1	4,6
Luxemburg	63.6	278.6	183.3	29.5	
<b>Hungary</b>	<b>57.3</b>	<b>65.3</b>	<b>74.8</b>	<b>40.5</b>	<b>6,8</b>
Netherlands	74.3	132.1	114.4	30.7	3,7
Austria	70.2	128.7	122.0	40.9	4,6
Poland	54.5	52.9	61.5 <sup>(e)</sup>	35.5	5,0
Romania	58.8	37.6 <sup>(f)</sup>	38.3 <sup>(f)</sup>	26.7	
Slovenia	66.6	88.8	84.7	38.5	4,1
<b>Slovakia</b>	<b>59.4</b>	<b>62.7</b>	<b>70.4</b>	<b>33.7</b>	<b>4,6</b>
Finland	69.3	116.3	111.5	42.0	1,5
Sweden	73.1	120.3	110.1	46.4	1,5
United Kingdom	71.5	119.1	110.6	25.5	1,5

*p: potential value, f: predicted value*

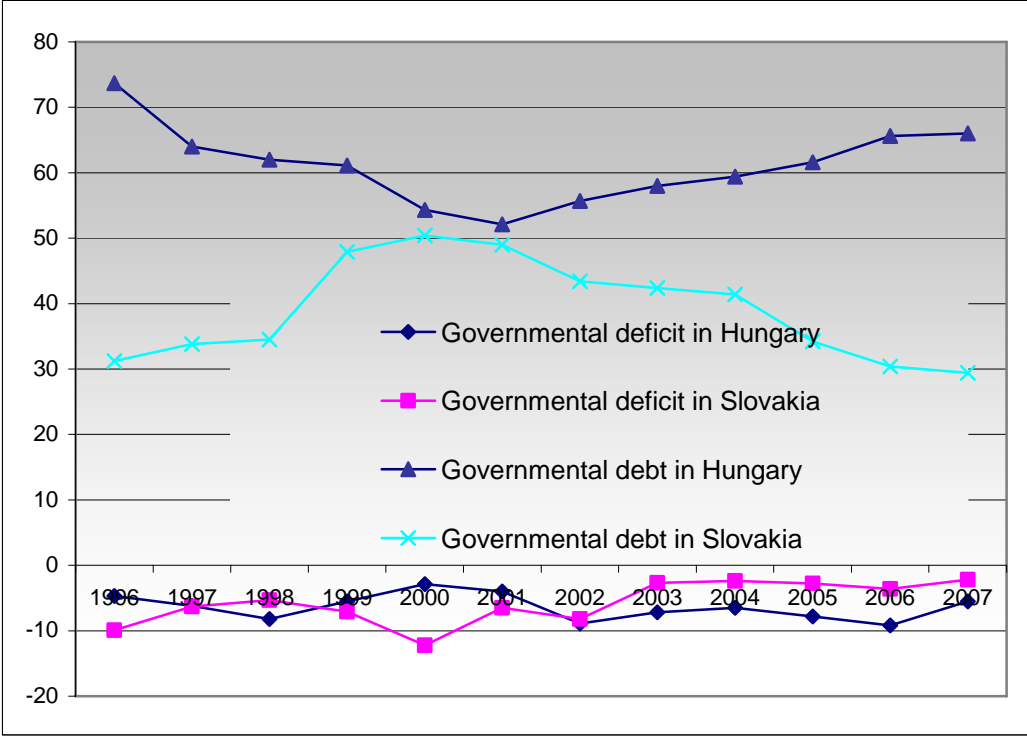
Reference: epp.eurostat.ec.europa.eu/portal bur. expenditures: European Competitiveness Report 2006 EC

It is noticeable, that the GDP per capita takes 65 percent of the EU average; the productivity per employment is nearly 75 percent, while – also because of the

extremely low level employment rate – the indirect tax burden of the labour force is one of the highest in the integration. The tax burden is much lower in such a wealthy country as Luxembourg, Ireland or the Netherlands. Besides, there is an indicator from which we are the leaders of the list (with Greece): this is the ratio of the administrative expenditures compared to the GDP. Unfortunately we cannot be proud of this doubtful honour.

One of the basic problems of the Hungarian economic and social life belongs to the efficiency of the budget, mainly to the high governmental deficit. In spite of the high rate of incomes there is permanent unbalance that is due to the untenably high-level expenditures.

The growth of the public expenditures compared to the GDP was around 60 percent in the beginning of the nineties. After a more advantageous period, from the millennium it started to increase again; up to these days the budget centralisation became steady around 50% of the GDP that is extremely high (even compared to the former socialistic countries). [10]



Reference: own editing by Eurostat data

**Figure 5:** Governmental debt and governmental deficit

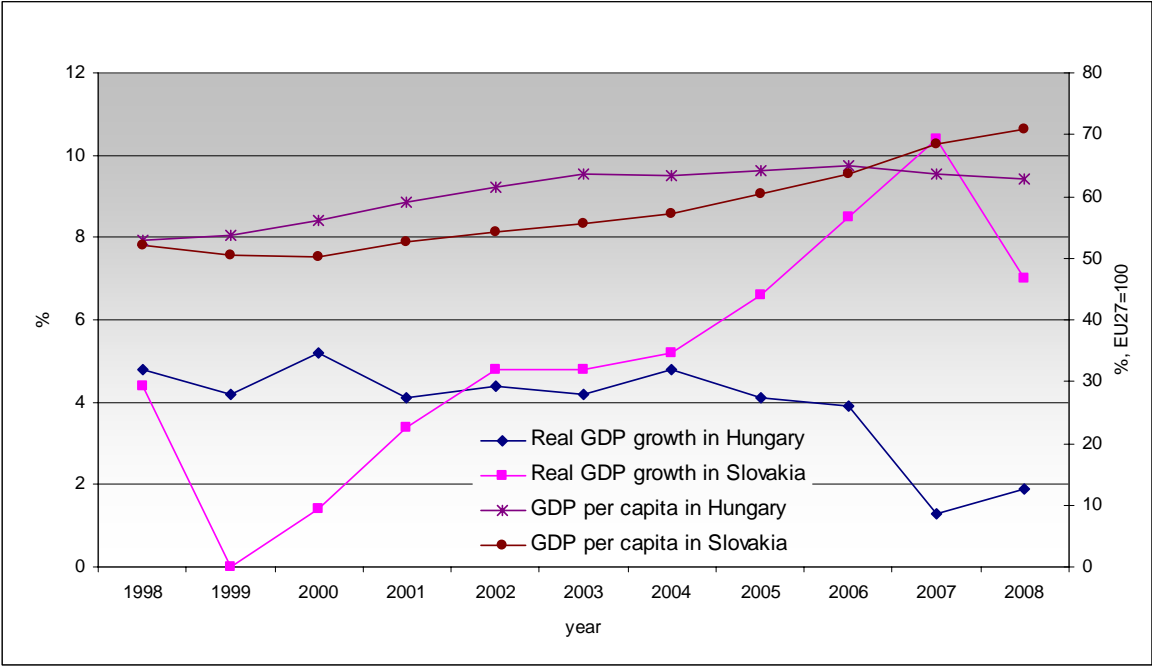
All these are incidental to the high government deficit and the governmental debt that is higher than the Maastricht convergence criteria prescribes (Figure 4).

These data also indicates that real reforms, changes in the field of the budget and the bureaucracy would be necessary in Hungary. But probably real development process (in economical and social aspect) is unthinkable without social consensus, the divided Hungarian society claim the considered, efficient activities and their agreement in the most important questions. Unfortunately this is hardly sensible in the Hungarian public

life, so it can occur, that our country will lose further positions in the international competition.

Among other facilities, due to the attractiveness of the Slovakian economy for the capital and investors, the country could be proud of extremely extended economical growth, and plays a significant role regarding the automotive manufacturing and car assembly process as the production of the telecommunication tools in the regional and European economy. According to the data of the GDP growth, there are huge differences between Hungary and Slovakia. Therefore up today Slovakia has preceded Hungary taking the GDP per capita by purchasing power parity into consideration, and regarding the differences between the tendencies in the GDP growth, this position could stay for a longer time period.

Certainly, the rise of the capital cities, Bratislava and Budapest could modify the image, since the growth is mainly due to the capitals, the region of the capital cities in case of both countries. In the country-side, minor differences exist, but the more advantageous macro economical terms (tax system, administrative system and attractive terms for investors) indicates the advantage of Slovakia (Figure 5).



Reference: own editing by Eurostat data

**Figure 6:** GDP growth and the tendencies of GDP per capita in Slovakia and Hungary (as a percentage of EU27 average, PPS, data of 2008 are predicted)

According to Lengyel and Rechnitzer the opened economy, the high level of the income per capita with growing tendency, the high employment rate and the population that can realize benefit from the advantages are among the basic aspects of the regional competitiveness. [8] To continue this idea the competitiveness means acquiring and retaining position in the market, increasing market share and profitability and being commercially successful – the more effective economical

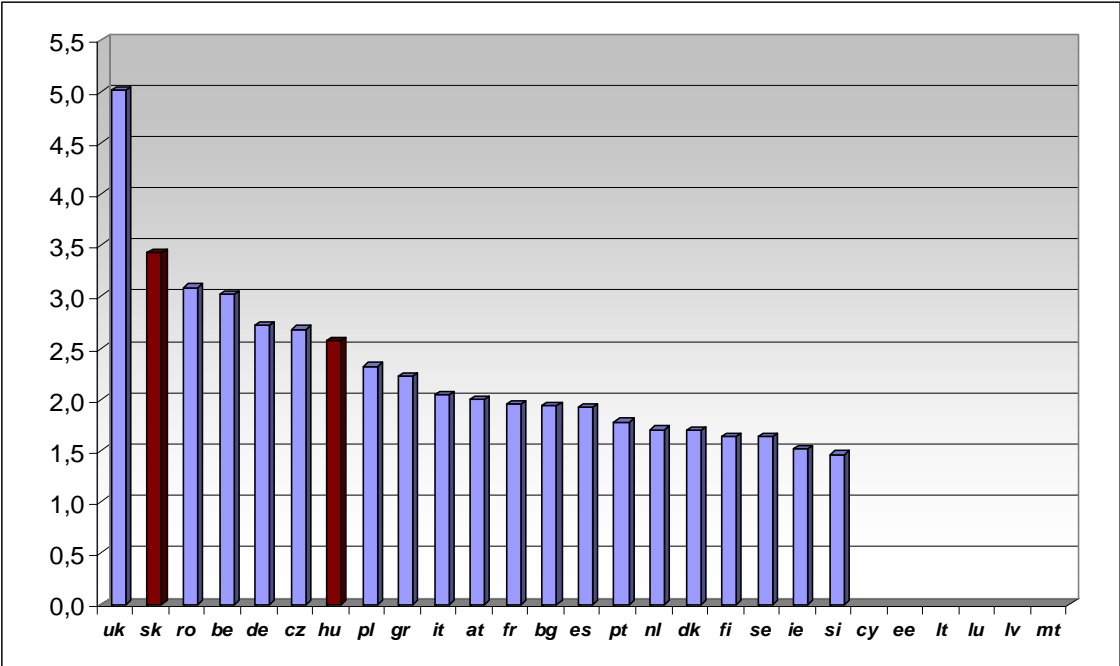
achievement in the global competition can be measured by the high level of the income and employment rate.

In case of Slovakia there are also drawbacks (unemployment, disadvantageous structure of the labour market, insufficiency of the transport infrastructure, low level of research and development), but the most important factors indicate more advantageous image and results from several competitiveness analysis prove the same (e.g. WEF, IMD) that our northern neighbour is in a better position.

**Hungary and Slovakia: comparison at regional level**

In this session the regional disparities are measured in order to introduce the effect of transition on the spatial structure. Hungary comprises seven; Slovakia contains four regions at mezzo level according to the EU NUTS 2. The GDP per capita has been used for analysing the regions’ position.

Firstly the simple maximum/minimum ration based on the GDP per capita (PPP) is calculated for comparing and locating Hungary and Slovakia among the EU members. The rank shows that the two selected countries are in the upper third, which proves the considerable inequalities. Especially Slovakia has a significantly unbalanced economic spatial structure, but the other so-called transition economies perform in a similar way. Thus it can be stated that the macro level convergence of the newly joined countries resulted growing spatial polarization. [11]

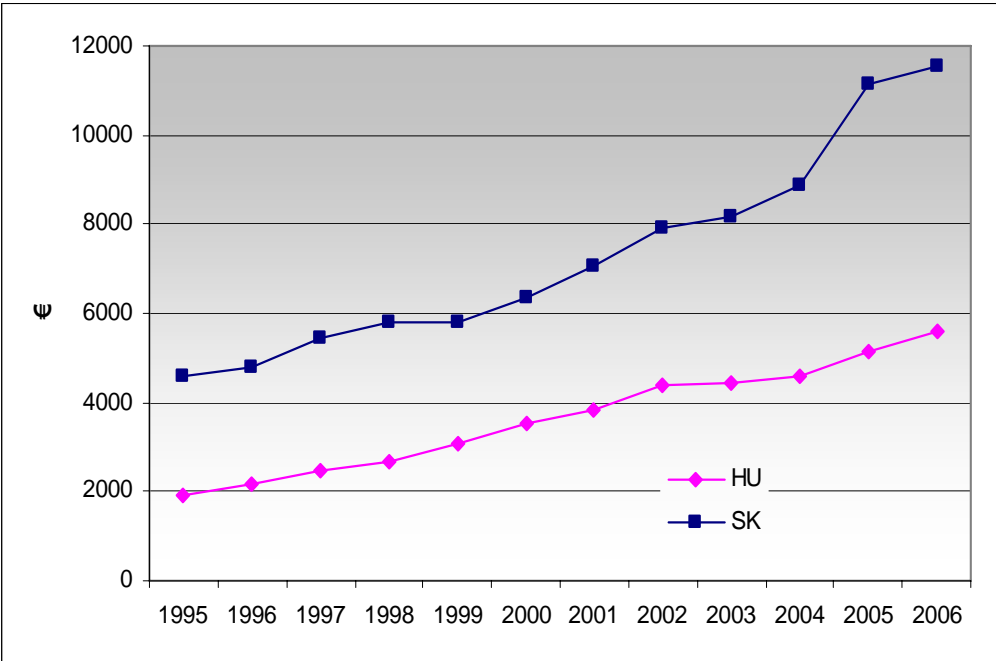


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**Figure 7:** Ratio of Maximum/Minimum GDP per capita figures of NUTS 2 regions by countries of EU 27 (2006)

For a more detailed picture we have measured the standard deviations of Hungarian and Slovakian regions by GDP per capita. The year by year data give the opportunity of a temporal analysis.

The functions reflected the above mention statement, i.e. Slovakia has major polarization than Hungary. In both countries the rate of growth of standard deviation has changed from time to time. Around the period of millennium and the EU accession the rise of values accelerated. The growth in standard deviation is mainly due to the increasing value of GDP per capita, with special regard in the core regions. In every case the capital region (Bratislava and Budapest) represents an outlier with its outstanding degree of development. If the core region is left out, a more homogenous and balanced structure appears.



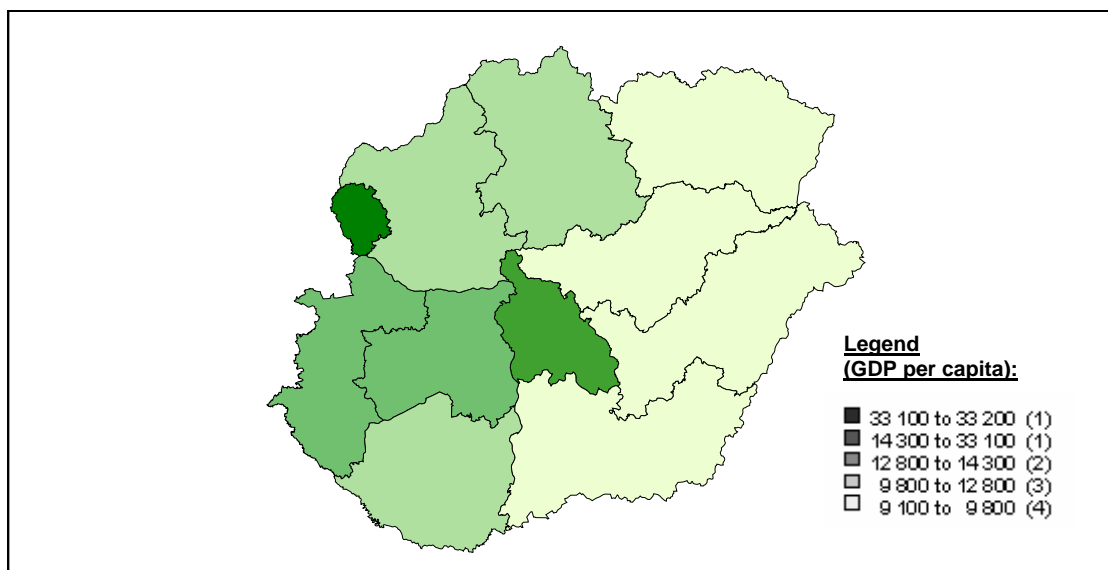
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**Figure 8:** Change of standard deviation of GDP per capita of Hungarian and Slovak regions

Finally to analyse the spatial structure a regional thematic map visualizes the regional disparities based on GDP per capita.

In both countries the rise of regional inequalities has accompanied the formation of west-east dualism. During the transition the regions with central and western location have benefited more from the changed geopolitical circumstances. In Slovakia the spatial structure shows a west-east inclination, accordingly the more western is a region, the more developed it is and vice versa.

The Hungarian case differs a bit from the Slovakian because of the centrally located Budapest’s region. The country however can be divided into three parts by the degree of development. These are as follows: Central Hungary, the western regions of Transdanubia, and the eastern regions of Great Plain and Northern Hungary.



Reference: own editing by Eurostat data

**Figure 9:** Thematic map on regional GDP per capita (€, 2006)

### Expectations and Conclusions

The answer of the question about our future expectations is not so simple, hopefully. Setting out from the macroeconomic indicators of the two countries, we can say, that Slovakia is in a better position with more dynamical growth (prior to the crisis). At the same time, we have to place trust in the process, that Hungary – keep the positive examples in view e.g. the measures of Slovakia – will also succeed the reforms and strengthen its position among the surrounding countries. It is better to be optimistic and follow the idea of “never too late”. When Hungary will start with the real reforms, the Hungarian economics and society could step to a sustainable growing path.

Based on the outcomes of this research we have made the following remarks:

- Due to the state reform Slovakia has created a balanced budget and a transparent legislation and tax system. This kind of complex reform did not occur in Hungary yet.
- Thus Slovakia could keep its attractivity on the European and global market, which maintained the interest of investors and the FDI inflows towards the country. The new and significant investments have bettered the labour market conditions in Slovakia in the last years. The expanding labour market and consumption may be the new driver of growth in the country. In spite of this, Hungary has loose ground in the competition for investments and export-markets.
- The introduction of Euro in Slovakia has had two main effects (among others). It has moderated the negative impact of the global financial crisis, but decreased the competitiveness of SK in the field of manufacturing (automotive industry) due to the rising labour costs.

- Both Hungary and Slovakia inherited a balanced spatial structure from the Socialist time, which has been dramatically changed during the transition according to the concept of Williamson.
- The extent of regional disparities has grown significantly in both countries due to the extreme growth potentials of the core regions, and especially around Millennium and the EU accession period.
- Slovakia has major inequalities by regional GDP per capita.
- The winner regions are: the capital cities and their catchment area and the Western regions; the losers: the Eastern peripheral regions.
- The real threat for the countries is that the emerged west-east dualism or rather ‘gap’ steadily remains.

## References

- [1] CSABA L: Versenyképesség – hitek és balhitek. Debreceni Szemle, 2008. Vol. XVI. No. 2, pp. 162-173.
- [2] DAVIES, S.-HALLET, M.: Interactions between National and Regional Development Hamburgisches Welt-Wirtschafts-Archiv Discussion Paper 207, Hamburg 2002 p. 26
- [3] EUROPEAN COMMISSION: European Competitiveness Report. Enterprise & Industry DG, Brussels, 2006.
- [4] EUROSTAT database:  
(online: <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>)
- [5] GARNIER, C.: Regional Patterns and Strategies in the Context of National Growth Promotion: An Illustration (in EastWest Institute Regional Policy Goes East) p. 32-42,
- [6] HENDRIK, F.: Spatial inequalities and regional Development; Springer, p. 255
- [7] ILLÉS, I.: Közép- és Kelet-Európa az ezredfordulón; Dialóg Campus Kiadó, Budapest-Pécs, 2002. p. 362
- [8] LENGYEL, I.-RECHNITZER, J.: A városok versenyképességéről. In: Horváth Gy. – Rechnitzer J. (edited): Magyarország területi szerkezete és folyamatai az ezredfordulón. MTA RKK, Pécs. 2000, pp. 130-152.
- [9] MEYER, D.-LACKENBAUER, J.: Regional Policies and the Equity –Efficiency Trade-Off: Towards a Sequenced Timing of Cohesion Policy; Acta Oeconomica, 2006, 56 (3) p. 249-277.
- [10] MURAKÖZY, L: Magyarország felemelkedése és hanyatlása. Közgazdasági Szemle, Vol. LV., February 2008. pp. 149-168.

[11] NAGY, Z.-KUTTOR, D.: Analysis of the territorial disparities in the Visegrad Four Countries -Measurement and visualisation of territorial processes at regional level in Central Europe- in: Regions: The Dilemmas of Integration and Competition, RSA, 2008

[12] PETRAKOS, George: Patterns of Regional Inequality in Transition Economies; European Planning Studies, Vol. 9, No. 3, 2001 p. 359-383

[13] WILLIAMSON, Jeffrey G: Regional Inequality and the Process of National Development: a Description of the Patterns. Economic Development and Cultural Change, 1965.