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## **REGIONAL GROWTH AND STRUCTURAL SHIFTS IN HUNGARY AND SLOVAKIA**

The paper presents how economic structural changes effect a region's economic growth. To show this effect is not that easy since changes of economic structure take time, and the result of changes appear shifted in time in the examined regions. Researchers examining reasons of income disparities among countries pay attention to the question how differences of GDP levels and growth rates can be explained by the economic structures.

В статье показано, как экономические структурные изменения влияют на экономический рост объекта. Представить этот эффект очень трудно, так как изменения экономической структуры занимают время, и результат изменений кажется перемещенным вовремя в исследованных областях. Исследователи, исследующие причины различий дохода среди стран, обращают внимание на то, как различия уровней ВВП и темпов роста могут быть объяснены экономическими структурами.

**INTRODUCTION.** Several studies [1] confirm that throughout the last decade the accession countries witnessed increasing regional disparities. In its latest report on economic and social cohesion, the European Commission (2004) finds that economic growth in the CEECs has not been regionally balanced. Growing empirical evidence [1] points to one type of winner and to two types of losers among the accession countries' regions: in this admittedly simplified dichotomy, the metropolitan and urban areas (namely the capital city regions) belong to the former group, the rural and old (declining) industrial areas as well as those in the Eastern peripheries belong to the latter group. According to Lócsei [5] on national and international level is confirmed that since the industrial revolution economic state of development and macroeconomic structure – from the point of view of production and employment – is a strong connection. By statically (cross-sectional) and dynamical (time series) can set out that by economic development the share of agriculture is decreasing in employment also in economic value added, and the share of industry and services is increasing. Regions' economy can be structured traditionally into three sectors. In the primer sector (agriculture, hunting, forestry and fishing) basically the lands as capital goods have determining role; in the secondary sector (industry and manufacture) are stressed processing and transformation as long as the tertiary sector (services) has human resources a function. In this study we try to find out whether development differences are caused by regional position or economic structure. All indicators are calculated on NUTS2 level. Main indicators are regional GDP and employment in the examined regions in Slovakia and Hungary and all sources of indicators are Eurostat electronic and printed database.

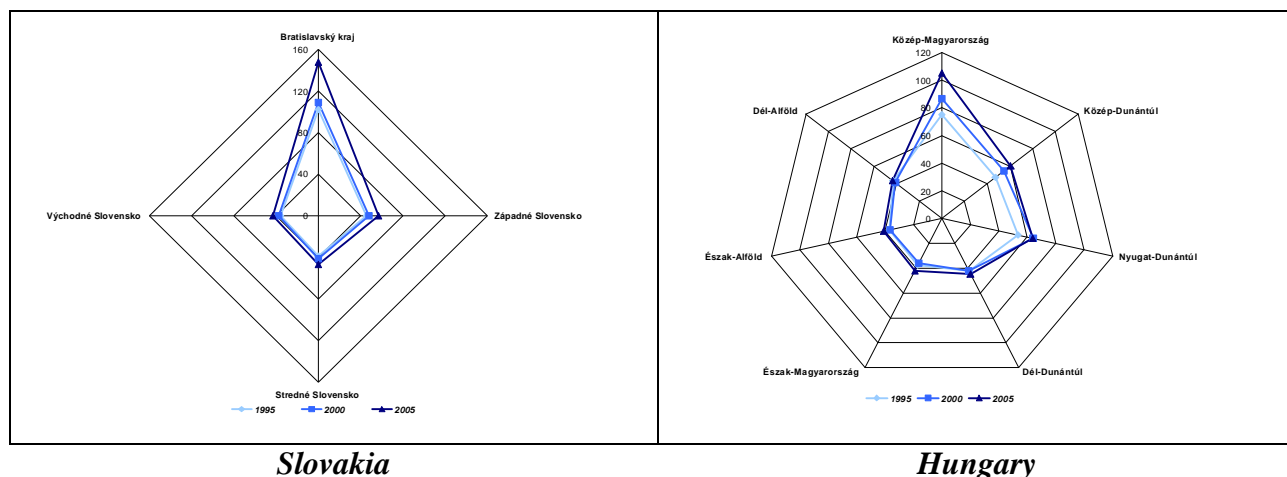


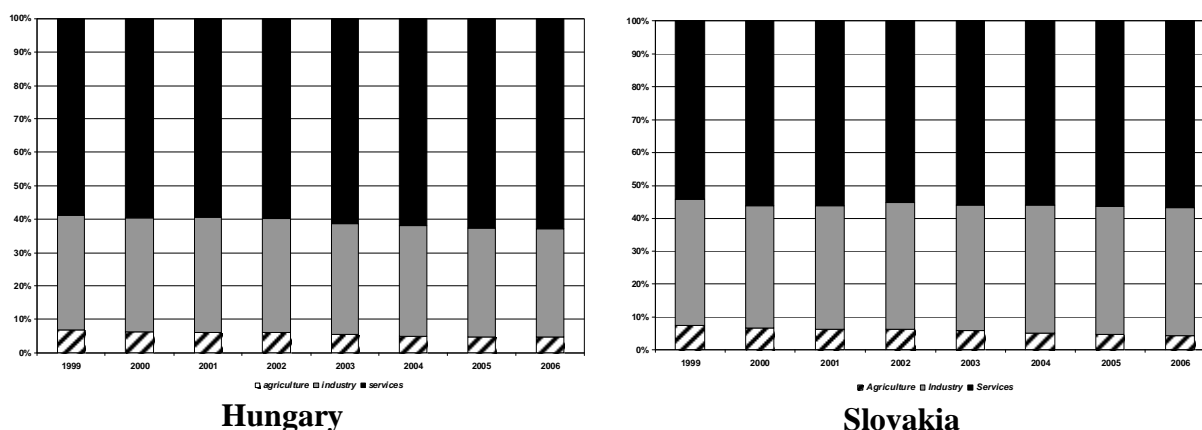
Figure 1 - Regional GDP performance in EU percentage (1995, 2000, 2005)  
Source: Own compilation on Eurostat database

Slovakia and Hungary is taken by EU as regions lagging deeply behind of the EU GDP average. The Slovak economy as a whole is, at present, improving (mainly in macro-economic indicators) but the economies of four NUTS II regions differ a lot. The greatest difference (in negative sense) one can find between the Slovakia-East region and Slovakia as such.

Table 1 - regions' ranking by regional real GDP growth between 2001 and 2005 (changes to previous year, %). Source: own compilation on Eurostat database

N <sup>o</sup>	2000	2001	2002	2003	2004	2005
1	Közép-Dunántúl - +9,1	Észak-Alföld - +8,5	Közép-Magyarország - +8,0	Közép-Dunántúl - +9,5	Észak-Magyarország - +8,3	Bratislavský kraj - +15,0
2	Közép-Magyarország - +6,0	Východné Slovensko - +6,1	Stredné Slovensko - +5,7	Nyugat-Dunántúl - +9,4	Dél-Alföld - +7,7	Közép-Magyarország - +8,2
3	Nyugat-Dunántúl - +5,6	Közép-Magyarország - +5,5	Bratislavský kraj - +5,6	Západné Slovensko - +8,3	Západné Slovensko - +7,6	Západné Slovensko - +6,9
4	Észak-Alföld - +5,2	Észak-Magyarország - +5,0	Západné Slovensko - +4,2	Észak-Alföld - +5,8	Közép-Dunántúl - +7,1	Východné Slovensko - +3,5
5	Bratislavský kraj - +3,1	Stredné Slovensko - +4,9	Východné Slovensko - +3,7	Észak-Magyarország - +4,7	Észak-Alföld - +5,0	Közép-Dunántúl - +3,0
6	Észak-Magyarország - +2,8	Dél-Dunántúl - +4,3	Nyugat-Dunántúl - +3,2	Stredné Slovensko - +3,3	Dél-Dunántúl - +4,7	Észak-Magyarország - +1,7
7	Dél-Alföld - +2,6	Dél-Alföld - +2,5	Észak-Magyarország - +2,7	Bratislavský kraj - +3,0	Bratislavský kraj - +4,5	Dél-Dunántúl - +1,1
8	Stredné Slovensko - +1,6	Közép-Dunántúl - +2,1	Dél-Alföld - +2,3	Východné Slovensko - +2,9	Közép-Magyarország - +4,0	Dél-Alföld - +1,0
9	Dél-Dunántúl - +1,1	Západné Slovensko - +2,0	Dél-Dunántúl - +2,2	Dél-Alföld - +2,4	Východné Slovensko - +3,8	Észak-Alföld - +0,3
10	Východné Slovensko - +1,1	Bratislavský kraj - +1,6	Észak-Alföld - +1,4	Közép-Magyarország - +2,1	Stredné Slovensko - +3,6	Stredné Slovensko - (-0,7)
11	Západné Slovensko - +0,2	Nyugat-Dunántúl - +2,8	Közép-Dunántúl - +1,9	Dél-Dunántúl - +1,8	Nyugat-Dunántúl - +0,9	Nyugat-Dunántúl - (-1,1)

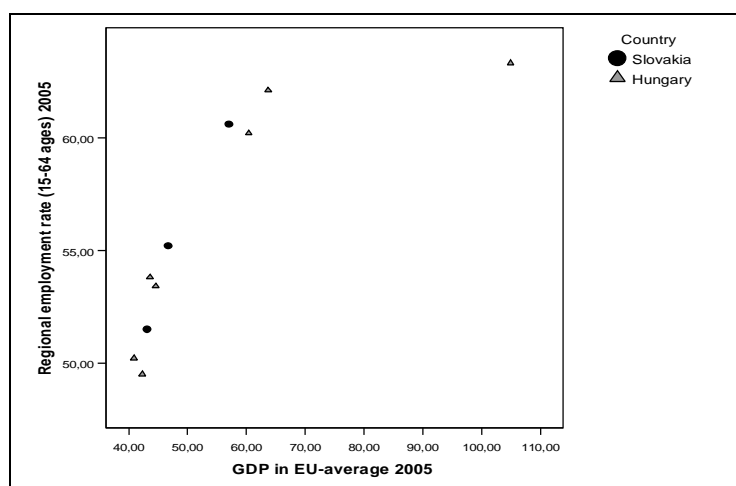
In the Hungarian counties in Pest and Fejér has increased the number of employees while the biggest losers are Borsod-Abaúj-Zemplén and Baranya in this decade. In the 90s the most dramatically job loss occurred in the material branches in Northern Hungary and Southern Great Plain where until now is to feel some backwardness [4].



2. Figure - National employment rates in the examined two countries, 1999-2006 (%)

Source: Own compilation on Eurostat database

In the first case breakdown of heavy industry and mining meant difficulties which were mainly caused by the government by financing for too long this industry and forcing the necessary structural changes in the regional economy. In Southern Great Plain a crisis of agriculture has been a bar of development as this area is one of the most important agricultural centres in Hungary [3].



3. Figure - Regional employment rates compared to GDP performance in Hungary and Slovakia (2005) Source: Own compilation on Eurostat database

All Hungarian regions perform above 40% in GDP in EU-average but with a significant lower rate of employment in agriculture. It means that the domestic value added comes in Hungary not from agriculture. Industrial employment is in both countries' regions between 18% and 38%. It is shown that this branches (mining and quarrying; electricity, gas and water supply) gives the second largest part of regional employments. Disproportion of Hungarian employment structure analysis shows that in Central Hungary works the most people in services as finances, merchandise, tourism and public administration. Other point of view presents that the capital city and the biggest cities have the better employment potential thanks to larger companies. The small cities and other settlements have a high rate of micro and small enterprises which have a

lower employment potential. Connection between employment rate and regional economic performance correlate in case of Hungary only in agriculture but negative. So when agricultural employment declines economic performance should get even larger as industrial and service sector value added gets higher. The Slovakian 4 regions' analysis has shown that the secondary sector have strong connection to regional economic performance.

**METHODOLOGY AND DATA.** In case of economic structure analysis to the different approaches belong different method backgrounds. In most cases simply and complex quantitative methods are applied. In regional researches we can use two ways to solve measurement problems. One could be the way of simplification so selecting one or only a few indicators and analysing them. The other possibility is to choose a wider view and analyse many indicators at a whole [8].

Shift-share analysis is a method of decomposing regional income or employment growth patterns into expected (share) and differential (shift) components. The description of the economy provided by shift-share can be used in research that explores the reasons for change. It is strictly a descriptive technique. By itself, it cannot be used to elicit the determinants economic trends. Shift-share analysis decomposes regional growth into separate and unique factors influencing the prosperity of spatially distinct areas. Most shift-share models are mathematical identities expressing economic upswings (or downturns) as a function of three broad factors: the national growth effect, the industrial mix effect, and the competitive effect. Between any two time periods, the observed change in growth is assumed to be the sum of these three effects or components (1. National growth effect; 2. Industrial mix effect; 3. Competitive effect).

Applicability of shift-share method [2]: analysis of structure of branches; merchandise and market analysis; migration analysis; analysis of regional growth (neoclassic point of view); forecasting (economic growth, population); regional specialisation; demographic analysis.

**RESULTS.** Three Hungarian regions (Southern Great Plain, Southern Transdanubia, Western Transdanubia) – have absolute disadvantage position while the unfavourable structural effects are strengthened by the worse employment potentials. It is very interesting that only the Hungarian central region shows lower employment decline among the 11 regions.

In two Slovak regions (Východné Slovensko, Stredné Slovensko) all structural and local effects are positive, so here the local processes has increased the favourable national sectoral structure. The Eastern periphery (the counties of Szabolcs-Szatmár-Bereg and Hajdú-Bihar) suffers from a regional crisis in the manufacturing and agricultural industries which had been producing for the Soviet market: three Eastern Hungarian industrial counties account for around 35 per cent of the country's total unqualified and unemployed workers. The employment power of the weak service sector is still far too low to absorb those who lost their jobs due to the systemic change.

Table 2 - Role of local and structural effects in the employment rate changes in Hungarian and Romanian regions (2000-2006). Source: Own compilation

	structural > local	local > structural
Positive structural and positive local factor, lower employment decline as the national average	Východné Slovensko (SK) Stredné Slovensko (SK)	
Positive structural and negative local factor, lower employment decline as the national average		Central Hungary (HU)
Negative structural and positive local factor, lower employment decline as the national average		Northern Great Plain (HU) Central Transdanubia (HU)
Negative structural and negative local factor, lower employment decline as the national average		
Positive structural and positive local factor, higher employment decline as the national average		
Positive structural and negative local factor, higher employment decline as the national average		Západné Slovensko (SK) Bratislavský kraj (SK)
Negative structural and positive local factor, higher employment decline as the national average	Northern Hungary (HU)	
Negative structural and negative local factor, higher employment decline as the national average	Southern Great Plain (HU) Southern Transdanubia (HU) Western Transdanubia (HU)	

**CONCLUSIONS.** We appointed as aims of work to analyse how economic structural changes could effect a region's economic growth and development. We have chosen two countries' regions to examine like Hungary and Slovakia. All Hungarian region differ a lot to Slovakian regions' economic performance, but by looking at the dynamically indicators we can recognize an accelerating economic growth in the last 7 years in our neighbourhood. To analyse the effects of structural changes we have a lot of methods where I took shift-share analysis because of its applicability on regional database according to international literature. My calculations proved that in some regions a structural effect but in other ones the local influence affects more economic performance or employment situations. Dynamic effect of structural influence has two components. One we can see when in a region's economy some dynamic braches share grows against less dynamic branches. But it can happen that – using special local endowments – in the region located enterprises are altogether more profitable than their branches in national average. In the first case the advantageous economic structure while in the other case the locally dynamic structure's advantages occur (Nemes Nagy, 1987).

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