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Public Administration and Economic Analysis of the Region along Slovakia's Southern Border

Partial Comparison with Neighbouring Counties in Hungary

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Abstract: The paper analyses the economic situation of the districts located along the Southern border of Slovakia, which have sizeable Hungarian-speaking populations. Unemployment ratios, industrial pay levels and corporate profitability figures make up the backbone of the analysis. Our research reveals that, as a whole, the Southern districts fall short of the national average in terms of all economic and demographic indicators. In our research focusing on Slovakia, we have demonstrated the disadvantaged economic situation of the Southern part of the country, where its Hungarian population is concentrated, noting that this may further weaken its ability to retain their population. We used the same methodology for our analysis of the Northern Hungarian counties bordering on Slovakia. In both countries, there are discrepancies between Western and Eastern regions.

Keywords: Southern Slovakia, Northern Hungary, regional differences, unemployment, labour productivity

1. Introduction

This paper looks at the partial economic indicators of the Northern regions of the former Kingdom of Hungary, which were severed by the Treaty of Trianon of 1920 and now constitute a part of Slovakia, and therein focuses on the areas with sizeable Hungarian populations. The paper first examines the Southern administrative entities of Slovakia and then proceeds to consider the Hungarian counties bordering on Slovakia for comparison purposes.

The term Southern Slovakia is widely used colloquially. However, its precise geographical extent is not defined, nor has it ever constituted a single unit of public administration. There are two approaches to define its geographical area; one of these characterises them as districts along Slovakia's Southern border, or districts with a large Hungarian minority. Its geographical area is normally defined as the totality of certain districts. The number of districts analysed may vary in different research papers.

In general, the countries of East-Central Europe are characterised by significant regional divergences and a contrast between capital and countryside (Durech et al., 2014). Throughout the entirety of East-Central Europe, this is most problematic in Slovakia. This is partly attributable to objective reasons. Whereas the capital cities in other countries of the region are generally located within the central region of the country, Bratislava is positioned near the Southwestern border of Slovakia, which further widens the gaps within the country and intensifies the contrast between its Western and Eastern regions. Regional divergence is exacerbated by the preference of foreign investors towards the Western parts of the country (Drahokoupil, 2008).

Another issue is that, in its thirty years of independence, Slovakia has been unable to construct a motorway to link the Western and Eastern parts of the country, therefore citizens and businesses must seek out alternative solutions, such as using the expressway network in Hungary, which runs almost parallel to the border.

Regional disparities are manifest in the maturity levels of small and medium-size businesses (Lazíková et al., 2018), and are also reflected in the results of higher education institutions (Lešková & Šipikal, 2019). As a result of all of the above, areas in the periphery in Slovakia are in an even worse position than in the neighbouring countries and their convergence is slow; in fact, some are even falling further behind. With the exception of the Western (Bratislava) region, almost all (NUTS3) regions of Slovakia are at a 75% or lower development level of the European Union; this is particularly true in case of border regions, including several regions along Slovakia's Southern borders.

2. Literature review

Generally speaking, Southern Slovakia is an underdeveloped part of the country. The number of investments is small, unemployment is high, infrastructure is underdeveloped, the area receives less foreign capital than the Northern parts of the country and government subsidies to the Southern regions are insufficient. While these claims may have gradually become commonplace, they are true and verified by the regional economic data. We believe that, for a claim to be academically sound, it must be supported by in-depth investigations. However, the underdevelopment of border regions is not highly visible; this is due to the fact that Slovakia has not created any independent NUTS3 or LAU1 administrative entities and, as a result, the statistical indicators do not properly capture disadvantaged status.

The concept of Southern Slovakia has been a subject of study mainly since the early 2000s. Since then, numerous publications, books, papers and analyses have attempted to describe its real economic and social situation. Among the most important publications,

special mention must be made of a volume edited by Gyula Horváth and published in 2004, entitled *Southern Slovakia*. This work offers a comprehensive overview of all the geographical areas of the region. There are several sections on economic subjects, including the chapter on Slovakia's macro-regions (pp. 83–198), the Labour market section (pp. 259–268), the Agriculture and forestry chapter (pp. 301–322), the Industrial spaces and businesses chapter (pp. 326–347) and the Economic services chapter (pp. 353–380). Edited by József Fazekas and Péter Hunčík, a similar work was published in 2004 entitled *Hungarians in Slovakia (1989–2004). Summary Report. From Change of System to the European Union*, Vol. I. The book contains one chapter on economic subjects (The performance capacity of the Southern region, pp. 295–344). Another notable book published on the subject is *Regions and Economy* by Gábor Lelkes; the work was published as the fifth book in the Hungarians in Slovakia series in 2005. Similarly noteworthy are two publications of the EÖKIK Foundation, both edited by Tamás Réti and bearing the identical titles of *Converging Regions in the Carpathian Basin. The Economic Conversion of Southern Slovakia, Transylvania and Vojvodina*. In the first part, published in 2004, there are four chapters dealing with Southern Slovakia: The contribution of ethnic Hungarians to economic transformation in Slovakia (Ádám, 2004, pp. 267–302), Foreign venture capital and industrial parks in Southern Slovakia (Morvay, 2004, pp. 303–330), The economic transformation of the Eastern Slovakia region (Reiter et al., 2004, pp. 331–362), and a study of the shipyard at Komárno (Tuba, 2004, pp. 363–372). In the second part published in 2005, two papers concern themselves with Southern Slovakia: The Development of the Southern Slovakia Region in the Light of Local Initiatives and Cross-Border Cooperation (Ádám, 2005, pp. 21–58), and Agriculture and Agricultural Society in Southern Slovakia and the Dolna Nitra Region on the Cusp of the 3rd Millennium (Lelkes, 2005, pp. 59–98).

In addition to the books, there has been a relatively high number of papers focusing on the economic conditions prevailing in the region and analysing census data (Lelkes, 2008a; Horbulák, 2015; Horbulák, 2017; Horbulák, 2019a; Horbulák, 2019b); apart from examining political events, these also consider certain economic indicators.

It should be noted that Southern Slovakia and its economic and social situation first became a subject of discussion in the early 1970s. Géza Mihály wrote on the subject in 1975; recently, however, an entire monograph on what is referred to as the Husák Era (1969–1989) has recently been published (Horbulák, 2020).

Bánki (2021) is another important work amongst researches published in the 2010s and the 2020s. The author has shown that the areas of Slovakia inhabited by Hungarians are significantly disadvantaged compared to other regions of the country in terms of economic development and infrastructural characteristics. The paper pointed out the partial overlap between political representation and economic progress. The economic capacities and opportunities of small and medium-size businesses operating in Slovakia also vary considerably and are more favourable for entities operating in central regions (cf. Laziková et. al, 2018 for further details). Kollai (2019) emphasises that, given their economic maturity, the central regions are capable of diverting considerable resources from the less developed regions, intensifying any impoverishment effects. Similarly to

Hungary, Slovakia is a 'perfect example' of the inequalities between centre and hinterland, as well as city and countryside.

3. Defining the term Southern Slovakia

Before proceeding with the analysis, we must define what we consider Southern Slovakia and how this area can be demarcated. This question demands an answer as the region has never existed as an independent geographical unit and has never had its own public administration of any level (Mezei & Hardi, 2003).

In general public perception, Southern Slovakia is normally defined according to two viewpoints. The first, the geographical approach, defines it as the areas of Slovakia bordering on Hungary. The second, ethnicity-based approach defines Southern Slovakia as land populated by the Hungarian minority in large numbers. Both approaches have the weakness of not identifying a precise area. Let us consider what territories the sources described above used in their analyses.

The public administration divisions, as amended from time to time, serves as the point of departure of the first approach. Public administration in (Czech)Slovakia has always been three-tiered. Below the national level is the level of regions. Including the period of Czechoslovakia, the country has most frequently consisted of six units at this level of public administration, three of which were established in the socialist period and eight in 1996. The lower level of public administration is that of the districts. These have also existed throughout, and their total number has varied between 33 and 98. There are currently 72 districts, although this includes the four districts of Košice city and the further five districts of Bratislava. The lowest level of public administration is the municipality. Currently there are 2,927 units at this level in Slovakia, including 17 in the capital and 22 in Košice.

Practically all the papers base their discussion of the situation of Southern Slovakia on the administrative categories for identifying the geographical extent of Southern Slovakia. In 1996, at the time of its last administrative division of Slovakia, the country was divided into 8 regions and therein 79 districts. Although the districts have ceased to serve as administrative units, they have remained statistical units. Hungarian public opinion in Upper Hungary sees the following districts as Southern, or Hungarian districts: Senec, Dunajská Streda, Galanta, Šaľa, Komárno, Nové Zámky, Nitra, Levice, Veľký Krtíš, Lučenec, Rimavská Sobota, Revúca, Rožňava, Košice area, Trebišov and Michalovce and also, in certain instances, the cities of Bratislava and Košice.

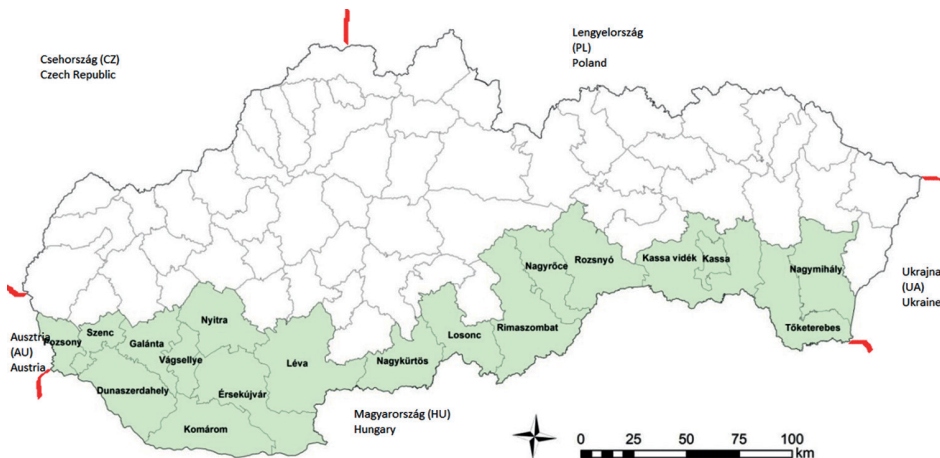


Figure 1.
 Districts of Southern Slovakia after 1996

Source: Compiled by the authors.

There were some, infrequent, analyses of Southern Slovakia and the districts of Slovakia even prior to the change of regime. The public administration structure created in 1960 included three regions and 33 districts. A minor modification in 1969 meant that Bratislava became an independent region and four regions were created by further division. The works published in this period (Mihály, 1975) also adopt the district level as their point of departure, even though the number of districts may vary; Mihály (1975, p. 254) bases his analysis on the Dunajská Streda, Galánta, Komárno, Levice, Nové Zámky, Veľký Krtíš, Lučenec, Rožňava, Košice area and Trebišov districts. Zsolt Horbulák (2020) adds to these the Bratislava area and Nitra districts.

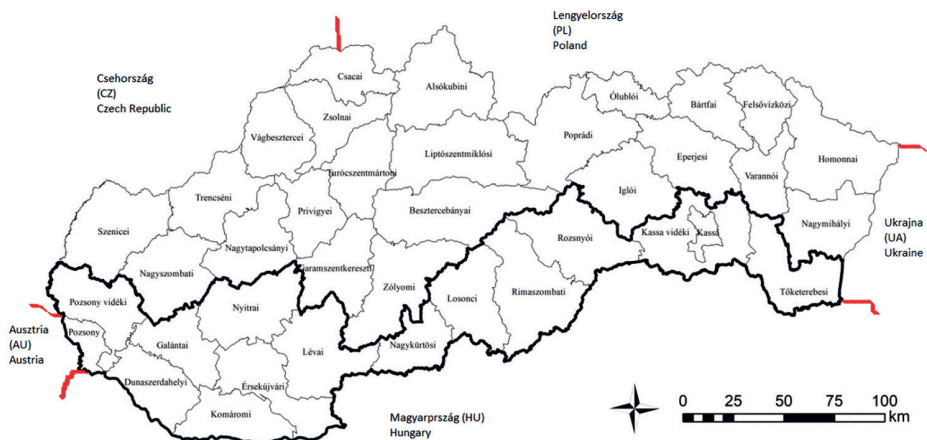


Figure 2.
Districts of Southern Slovakia between 1969 and 1995

Source: Compiled by the authors.

Other approaches beyond those above may also be used for defining Southern Slovakia. One of these is an examination of historical regions. From west to east, these include the following: Žitný ostrov, Matúšova zem, Podzoborie, the now barely known Törzsökerdő, the land between the Žitava and Hron Rivers, Poiplie or Nógrád, Gömör and Medzibodrožie. The advantage of this categorisation is that everyone is familiar with it, the names of these territories are present in public discourse, it is partly built on the traditional system of counties of the Kingdom of Hungary, which looks back on a history of hundreds of years, and in an ideal political environment, it could serve as the foundation for public administration entities based on natural foundations. Again, it has the disadvantage that any analysis would demand intense investigation and the collection of municipality-level data.

A third option could be to use the border drawn by the First Vienna Award in the autumn of 1938. This has the advantage of clearly demarcating an area that is indeed predominantly one of Hungarian majority populations, as well as the disadvantage of similarly demanding the use and processing of municipality-level data.

A further approach would be based on ethnic criteria: Southern Slovakia is where large numbers of Hungarians live. It would consider municipalities with a significant proportion of Hungarians, with rates of 15, 20 or perhaps 50%. It has the disadvantage that collecting the data would be rather difficult, as they vary from census to census. The 1991 census recorded an absolute majority of Hungarians in 432 municipalities (Gyurgyík, 1994, p. 88), while the 2001 census only identified 410 such municipalities (Gyurgyík, 2006, p. 119). At the 2021 census, Slovakia had 2,927 independent and annexed municipalities. In 155 of these, Hungarians represented more than 75% and they were the absolute majority (above 50%) in 336 settlements, while Hungarians accounted for at least 15% in 478 municipalities (cf. <https://www.scitanie.sk/>).

A further solution that may be worthy of mentioning would be to define a territory along the border by selecting a fixed distance (of 10, 30 or 50 km, etc.) from the border to draw the area of the analysis. This methodology disregards the location of the municipalities and makes both data collection and data processing cumbersome.

Let us examine Southern Slovakia from a nationality perspective as well. Table 1 shows the number of ethnic Hungarians living in the Southern districts of Slovakia. The table clearly shows that the absolute number and proportion of Hungarians has been steadily decreasing since the change of regime. Naturally, the fact that ethnic relations were not considered at all when the districts were established is an additional contributing factor.

Table 1.
Total Hungarian population and ratios at the time of the last two censuses in districts 'considered Hungarian'

	Area size (km ²)	1991		2021	
		Absolute	%	Absolute	%
Bratislava	367.7	20,312	4.6	11,297	2.38
Senec	359.9	12,214	24.5	8,715	9.01
Dunajská Streda	1,074.6	95,310	87.2	85,586	68.65
Galanta	641.7	38,295	41.3	29,582	31.10
Komárno	1,100.1	78,859	72.2	62,166	61.58
Nové Zámky	1,347.1	63,747	41.5	44,066	31.89
Nitra	870.7	13,113	8.2	7,798	4.13
Šaľa	355.9	21,754	40.2	14,385	27.94
Levice	1,551.1	38,169	31.6	23,372	21.16
Veľký Krtíš	848.2	14,384	30.7	9,004	21.44
Lučenec	825.6	22,513	30.9	16,580	23.54
Rimavská Sobota	1,471.1	36,404	44.9	31,891	39.53
Revúca	730.3	10,256	25.5	7,355	19.02
Rožňava	1,173.3	21,434	35.3	13,559	22.85
Košice	237.1	10,760	4.6	5,636	2.46
Košice District	1,541.3	16,240	16.4	10,397	8.10
Trebišov	1,073.5	33,191	33.0	25,034	24.14
Michalovce	1,019.3	13,754	13.1	11,471	10.44
Total	16,588.5	560,709	26.3	417,894	21.09

Source: Gyurgyik, 2001, p. 46; 1991 census figures are provided based on the public administration status as of 1996; www.statistics.sk

Figures 1 and 2 clearly show that the district boundaries are highly disadvantageous for the Hungarian population. Southern districts are often long-stretching administrative units oriented in a north–south direction, as a result of which Hungarians are in an absolute majority in only two districts, namely Dunajská Streda and Komárno. This is true for both public administration divisions in force before 1996 and after 1996. In the other districts, the proportion of Hungarians varies widely, but in the capital and Košice, it is negligible in relative terms although still high in absolute numbers. Therefore, overall, the Hungarians of Upper Hungary are distinctly in the minority in the surveyed 13 districts (1969–1995) and 16 districts (1996 to the present) and the two cities. Each of these districts forms a single statistical unit even though each has an absolute Hungarian majority in the south and an absolute Slovak majority in the north.

The following numbers summarise the districts of Southern Slovakia based on the current public administration divisions:

Slovakia has a total area of 49,034 km², while its Southern districts, including the cities of Bratislava and Košice, cover an area of 16,588.5 km², equal to 33.83% of the territory of the country. More than 98% of Hungarians in Slovakia live in this area.

As regards the size of these districts, the average size of a district (not including the cities in the 16 districts) is 998.46 km², whereas the size of an average district in Slovakia is 681.06 km²; accordingly, the average Southern district is approximately one-and-a-half times larger in size. Including Bratislava and Košice in the Southern districts results in an average size of 921.58 km² for these districts, which is still higher than the national average.

4. Economic analysis of Southern Slovakia

This paper assumes that Southern Slovakia is constituted of 16 districts and, on several occasions, we have also included the cities of Bratislava and Košice. In certain instances these cities were omitted as they would have caused distortion. Geographically, these two cities are part of the Southern region, but their economic strength gives them national significance. To obtain genuinely accurate data, we must omit these two cities from our analysis. It should be noted, however, that these cities have a fundamental impact on the socio-economic situation in the region as they greatly contribute to employment, with tens of thousands of people living in Southern Slovakia finding work there.

Given that the territory as a whole has never constituted a single administrative unit, there is no statistical unit to use for analysing this territory in its entirety. A complex analysis of its situation is further complicated by the fact that its borders are not delimited; various analyses examine different sizes of territory and consider different districts as constituent parts of Southern Slovakia, even though there are no major differences between them. The analysis is further complicated by the frequent administrative changes in Czechoslovakia and, since 1993, in Slovakia.

In the last two decades, an increasing number of analyses have examined the economic and social situation in the region (Lelkes, 2008a; Horbulák, 2015; Horbulák, 2017; Horbulák, 2019). These surveys have covered many subjects, including changes in the number of welfare benefit recipients, the length of motorways and Class I roads and their comparison to the national figures, the registered offices of large corporations in the Southern part of the country, the number and proportion of primary school leavers, the number and proportion of graduates, the number and proportion of persons with word processing skills, the number and proportion of world wide web users and, of course, many demographic indicators, etc. All of these papers highlight the fact that the area as a whole and the inhabitants living there are, generally speaking, more disadvantaged than the national average.

4.1. Employment in Southern Slovakia

Unemployment ratio is one of the main macroeconomic indicators. It is monitored not only by experts but also by practically all members of society. Following the change of regime, there were hardly any families whose members were not affected by unemployment for longer or shorter periods. An examination of the employment situation can reveal key social and socio-political problems. The Statistical Office of Slovakia measures these figures at the district level as well, with data available for analysis going back to 1997. Measuring them at the district level greatly contributes to the ability to assess regional disparities by examining the data. The figures below show the employment situation in the districts on the Southern border, starting from the west and moving towards the east.

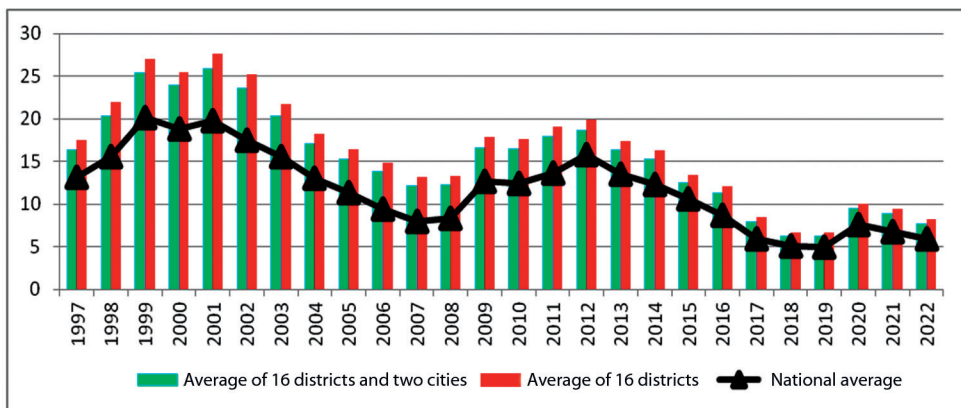


Figure 3.

Aggregate unemployment ratio in Southern Slovakia (%)

Source: www.upsvar.sk, Slovakia's Central Office of Labour, Social Affairs and Family

The red column in the diagram shows the aggregate figures for the 16 districts listed in Table 1, while in the green column, Bratislava and Košice have been added to the districts. The available time series, which now goes back approximately a quarter of a century, shows that Southern Slovakia as a whole has always had much worse employment indicators than the national average. To complicate the picture, this is true not only when considering the average across the 16 districts but also when the much better figures of Bratislava and Košice are included (16 + 2) in the average of the Southern districts. While the average of the Southern districts changes in sync with the national average, the unemployment ratio is consistently 5–3% higher in this region. This applies to boom periods as well, but the divergence increases in periods of crisis. The true depth of the problem is revealed by the fact that unemployment in Slovakia has been high in regional comparison for a very long time, far exceeding the unemployment ratios of all its neighbours. Today, the employment situation is much improved; in fact, the new phenomenon of labour shortage has emerged in recent years. In spite of such

improvements, the Southern districts continue to lag behind. While the absolute figures indicate an improvement, aggregate unemployment in the south is nearly one-and-a-half times the national average. The districts in the worst situation (the Gömör area, Rimavská Sobota and Revúca districts) still face an immense gap, as their unemployment rates are three times higher than the national average. This is demonstrated in Figure 4.

An in-depth examination of the problem reveals, however, that there are also huge regional disparities within Southern Slovakia itself. Southern Slovakia can be divided into four different sub-regions, each of which are comprised of four districts. These are the following:

- since the Senec, Dunajská Streda, Galanta and Šaľa districts are impacted by the effects of the capital city, we refer to them as metropolitan area districts; thousands commute to Bratislava every day from these districts, whose employment situation is predominantly shaped by their proximity to the capital; in terms of Slovakian public administration, this area is the Southern part of Trnava county
- we have allocated to the set of Western districts the Komárno, Nové Zámky, Nitra and Levice districts; this may be the least homogenous group as many Komárno and Nové Zámky citizens commute to Bratislava, Nitra is gradually becoming a major regional industrial centre, while the Levice district is showing many of the same signs as Gömör; in terms of Slovakian public administration, this area is the Southern part of Nitra county
- in the case of the Central Slovakian region, we have given it the well-known historical name of Nógrád–Gömör districts; these include the Velký Krtíš, Lučenec, Rimavská Sobota and Rimavská Sobota districts and, in terms of Slovakian public administration, the area mostly covers the Southern part of Banská Bystrica county
- in the Eastern districts, we have included the Rožňava, Košice area, Michalovce and Trebišov districts; in terms of Slovakian public administration, this area covers more or less the Southern part of Košice county

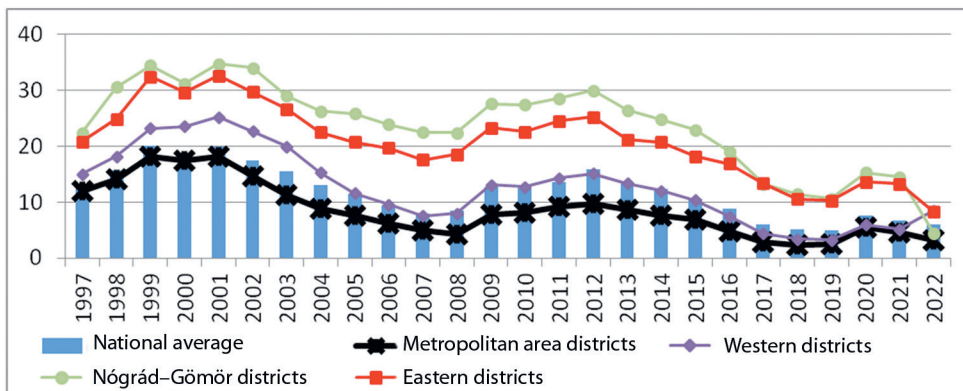


Figure 4.

Regional unemployment ratios in Southern Slovakia (%)

Source: www.upsvar.sk, Slovakia's Central Office of Labour, Social Affairs and Family

Figure 4 shows unemployment in various parts of Southern Slovakia over the course of a quarter of a century. Positive trends to highlight include the significant improvement in the employment situation compared to 25 years ago, the greater homogeneity of the area and the fall of unemployment in all sub-regions.

Fluctuating around the national average in the 1990s, the unemployment ratio of the metropolitan area began improving around the Millennium; it is now below the national unemployment ratio and is not significantly impeded even during crises.

The true winner across the entire area is the region between the Hron and Garam rivers. This area was one of the most backward regions for about fifteen years after the change of regime. Its situation began improving during the economic expansion achieved in the first decade of the 2000s, when its unemployment ratio levelled with the national average. After ten years, the trend continued, and since 2016 these districts have had unemployment ratios that are lower than the national rates.

The generally poor situation of the Nógrád–Gömör area has become entrenched. Although unemployment is falling in absolute terms, a general lagging behind is one of the key features of the region, at rates that are abnormally high even in nationwide comparison. In Slovakian academic jargon, this area is referred to as the ‘valley of hunger’.

Unemployment in the Southeastern districts of Slovakia may be high but they still rank better than the Nógrád–Gömör region.

4.2. Pay levels in Southern Slovakia

The area as a whole shows weaker indicators in several other respects as well, due to its lower development status. Wage levels are closely correlated with unemployment, as employers here are under less pressure. A further hindrance to an increase in wages is the fact that there are 3% more citizens with primary qualifications and 2.2% fewer graduates (Horbulák, 2017). The following figure shows pay levels in the different districts and the two cities at the start of the pandemic.

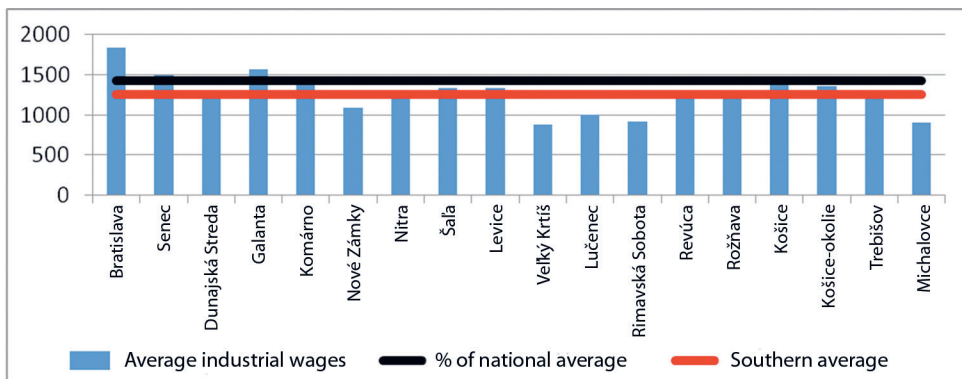


Figure 5.
Industrial pay in Southern districts in 2021 (€)

Source: Ročenka priemyslu SR 2022

An analysis of industrial wages also shows that Southern Slovakia is significantly lagging behind. It also clearly demonstrates that regional disparities are high. The geographical divisions used in employment surveys (metropolitan area, west, Nógrád–Gömör, east) are an appropriate starting point here, as proximity to the capital does not have an impact on local wage levels, which are determined instead by the companies operating in the district.

It is clear that Bratislava is the centre of Slovakia, not only politically but also economically. The city is home to a large number of companies, and not only head offices and service provider firms, but manufacturing companies as well.

In the Southern region, the capital city is followed by the Galanta district. This is due to the fact that electronics manufacturer Samsung is located in Galanta; in terms of sales revenue, this company ranked as the 13th largest firm in Slovakia in 2021. Šaľa is the location of the registered office of chemicals company Duslo (39th in rankings). Nitra was capable of exceeding the Southern Slovakian average due to its position as regional seat. Amongst others, electronics manufacturer Foxconn (18th place), wholesaler Med–Art (62th) and car manufacturer Jaguar Landrover (83th) are based in the city. Košice, the second most populous city of the country, plays a prominent role in the Eastern region of the country. The most important company to be mentioned here is US Steel (4th place). The Košice area district owes its above-average position to the Kechnec industrial park, where, for example, car parts manufacturer Magna PT (99th place) is situated.

Wages are lowest where unemployment rates are the highest, i.e. in the Nógrád–Gömör region.

A look at longer-term trends may show some encouraging signs. Figure 6 shows that, in nearly a decade, wages in the Gömör region have converged to a certain extent; it is also true, however, that Matúšova zem (Galanta district) stood out more. There was a faint improvement between 2013 and 2021, with the aggregate increase in wages in the 16 districts and two cities exceeding the national wage increase dynamic by 5%.

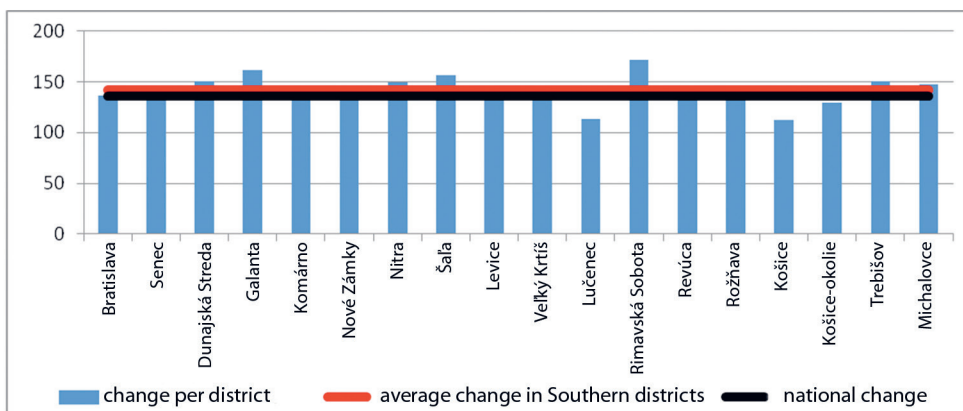


Figure 6.

Changes in average wages in the industrial sector between 2013 and 2021 (%)

Source: Ročenka priemyslu SR 2013, Ročenka priemyslu SR 2022, self-performed calculations

The third selected indicator also concerns the economy: per capita labour productivity. This indicator is one of the measures of corporate productivity. This has been analysed on the level of districts. The indicator highlights disparities between districts and regions even more clearly. Apart from reflecting the relative number of companies or employees, it also refers to the quality of these companies. The results are shown in Figure 7. The huge advantage of the capital is clear: companies located in Bratislava are twice as productive as an average company in Slovakia; in terms of Southern Slovakia, the ratio is 1 to 2.7.

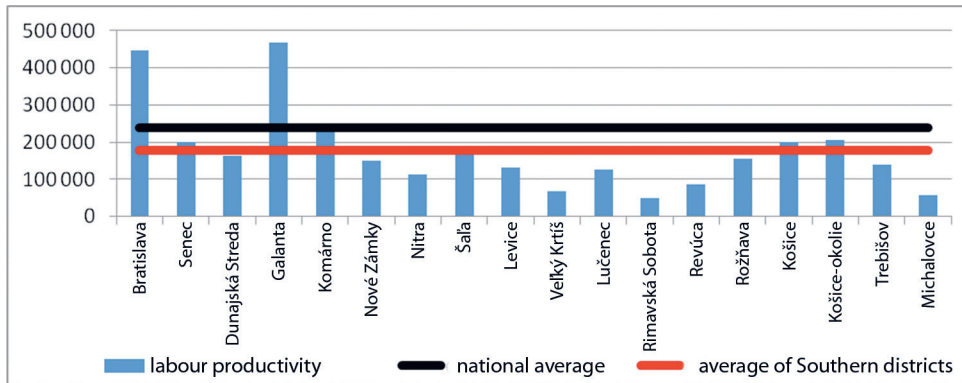


Figure 7.
Labour productivity in the Southern districts in 2021 (€)

Source: Ročenka priemyslu SR 2022

Beyond our comparison of the capital and the countryside, let us take a look at conditions within Southern Slovakia. The Galanta district performs particularly well within Southern Slovakia; fundamentally, this is also due to the fact that the company Samsung operates in this area. The productivity indicator is 3.8 times higher in the district than in Nové Zámky, which is also a developed district, while its productivity advantage over the Rimavská Sobota district is at a factor of 5.85. Interestingly, the Košice area district performs better in terms of this indicator than Košice city itself. Admittedly, there are disparities by a factor of over three within Košice. The district most probably owes these good indicators to the Kechnec industrial park mentioned in the previous section.

It is also true that there are large variations within this indicator as well. A company of national significance is also characterised by particularly high productivity. This explains the huge disparities between the five districts of Bratislava. Volkswagen, which is located in District II, is the reason why labour productivity reached EUR 693,081 in 2021, whereas the figure was only EUR 188,285 in the suburban District III. Discrepancies of this nature are common across other districts of Slovakia as well. The disparities presented above apply here as well (Ročenka priemyslu SR 2022).

5. Comparative analysis: An economic analysis of Hungarian counties along the border with Slovakia

Due to the differences between the data sources, it was impossible to directly compare the conditions in Slovakia and Hungary. One issue is that Hungary does not collect district-level data in this manner for all the variables examined and, for this reason, we selected for our comparison county-level data for the Hungarian counties bordering Slovakia.¹ We used the following data in an attempt to compare Southern Slovakia with the Hungarian border regions:

- GDP versus national average (2000–2021)
- per capita county GDP at purchasing power parity (2021)
- gross average earnings of those in full-time employment (2019–2023 Q2)
- quarterly changes in wage dynamics (2019–2023 Q2)
- unemployment ratio (2013–2022)

We analyse the counties following the logic presented in the sections on Southern Slovakia; we focused on the border counties. Counties examined:

- Győr-Moson-Sopron County
- Komárom-Esztergom County
- Pest County
- Nógrád County
- Borsod-Abaúj-Zemplén County

Although Heves County does not border directly on Slovakia, we have included it in our survey due to the significance of their economic links.

Figure 8 shows that only one county, namely Győr-Moson-Sopron exceeds the national GDP per capita figure in all years in the time series examined. Komárom-Esztergom County shows a level of development approximating the national average, although it remained below the average throughout most of the time series. Surrounding the capital Budapest, Pest County shows a level of development that is well below the counties in the west and shows a declining trend, despite the major population relocation from Budapest to the county, particularly in the metropolitan area. This gap has been continuously present since the global economic crisis of 2008. This is attributable to the fact that Pest County previously constituted the Central Hungary region together with Budapest, which had a development level in excess of 75% of the EU average measured in GDP per capital and, as a result, it was considered a convergent region and received less in subsidies. The only winner identifiable in the 20-year data series is Borsod-Abaúj-Zemplén County, although its growth has not been linear, with significant increase in county GDP only materialising as early as in 2013. Conversely, Nógrád County has been on a downward trend since the early 2000s and the region is consistently falling behind.

¹ Beyond the differences in geographical demarcation, an additional obstacle to comparison is the fact that the countries under review use different statistical methodologies, making it impossible for us to select wholly consistent indicators for our analysis. By professional consensus, we selected the Hungarian indicators that best approximate the Slovakian figures. The authors therefore acknowledge this fact as a limitation on their research.

This is particularly surprising as the county is located in close proximity to the capital and yet it is the poorest region of the country. This is due to the brain-drain effect of the capital, as is the case in Pest County. Heves County has been unable to realise substantive economic development gains.

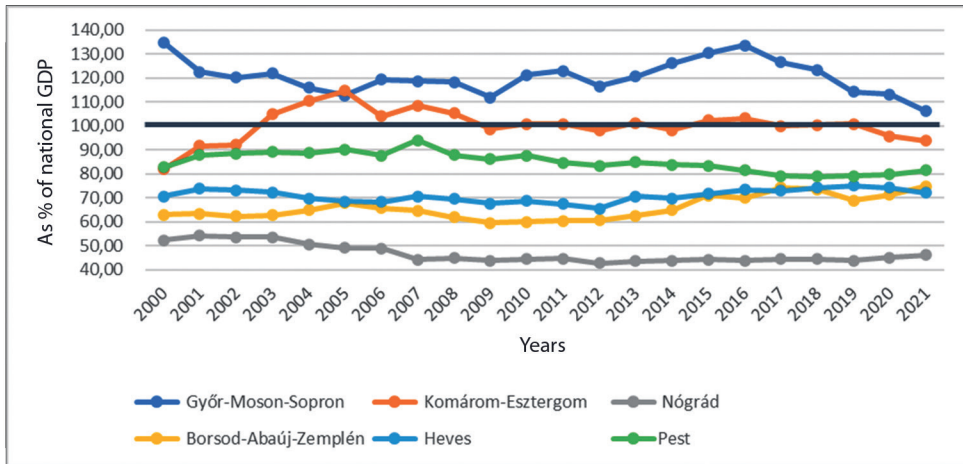


Figure 8.

Relative development of counties under review, as a percentage of national per capita GDP in 2000–2021 (%)

Source: Central Statistical Office 2023

We now proceed to compare the levels of development in Southern Slovakian and Hungarian regions in terms of purchasing power parity using 2021 data. Slovakia is presented at the NUTS2 level and Hungary at NUTS3.

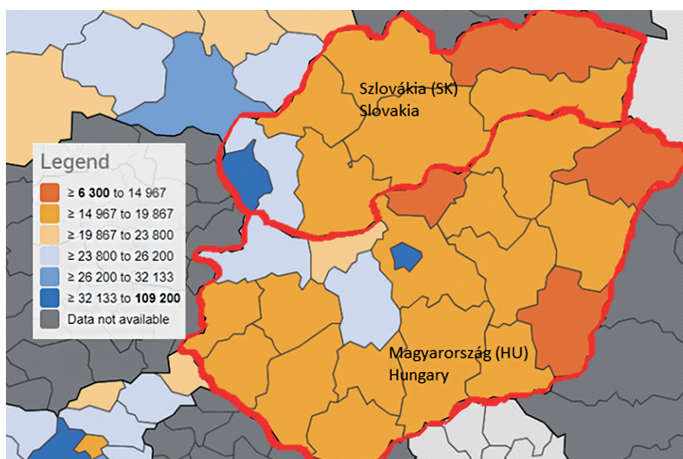


Figure 9.

GDP per capita in Hungary's and Slovakia's NUT3 regions in 2023 (GDP per capita)

Source: Eurostat 2023

Figure 9 shows that the Southern Slovakian and Northern Hungarian regions included in the comparison have similar development features in that both show a west–east orientation, with development levels that are higher in the West in both countries. In Hungary, the factor determining the level of development is the proximity to Austria. Considering automotive industry investments, the level of development is comparable to the neighbouring Slovakian districts on the Northern banks of the Danube River. Komárom-Esztergom County surpasses its Southern Slovakian neighbour also due to automotive industry investments. Pest County and Borsod-Abaúj-Zemplén County boast development levels similar to their immediate neighbour regions, with only Nógrád County falling considerably behind. As in Slovakia, the most highly-developed region in Hungary is the capital city and its immediate environs.

Table 2.
Average earnings of full-time employees, 2019–2022 (in HUF and EUR)

Gross average earnings of full-time employees (HUF per person per month)	Győr-Moson-Sopron	Komárom-Esztergom	Pest	Nógrád	Borsod-Abaúj-Zemplén	Heves	National average
2019	376,559	355,026	325,816	268,194	282,741	328,075	367,800
2020	406,309	388,965	359,497	292,959	306,170	354,831	403,600
2021	449,352	423,676	388,874	322,396	340,115	388,368	438,800
2022	520,389	494,160	449,488	388,030	400,595	457,453	515,766
Gross average earnings of full-time employees (EUR per person per month)	Győr-Moson-Sopron	Komárom-Esztergom	Pest	Nógrád	Borsod-Abaúj-Zemplén	Heves	National average
2019	1,139	1,074	986	811	855	993	1,113
2020	1,113	1,065	985	802	839	972	1,105
2021	1,218	1,148	1,054	874	922	1,052	1,189
2022	1,300	1,235	1,123	969	1,001	1,143	1,289

Source: Central Statistical Office 2023

This region is also characterised by a dynamic increase in wages, as is the case in Southern Slovakia. Measured in terms of a base ratio, wages increased by an average of 40% between 2019 and 2022. Pay increased most steeply in Nógrád and least steeply in Győr-Moson-Sopron (due to an already high base), and also in Pest County. Pay data

also provides good evidence that Nógrád is underdeveloped; this data also shows that only Győr-Moson-Sopron County exceeds the national average. The higher rate of wage increases is a sign of attrition at even higher rates in the particular region; this in turn drives pay levels upwards in an attempt to stop workforce attrition.

We have converted the HUF figures into EUR at the official exchange rate quoted by the Hungarian Central Bank; we note, however, that the figures are not directly comparable, as the Hungarian data are sector-neutral, whereas the Slovakian figures capture the pay data of employees in industry. Expressed in euros, wages rose by 16% nationally; this is due to the significant weakening of the forint by 2022.²

Table 3.
Unemployment ratio between 2013 and 2022 (%)

%	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Győr-Moson-Sopron	3.79	2.66	3.24	1.34	2.40	1.24	1.13	1.41	1.57	2.47
Komárom-Esztergom	5.57	5.18	5.63	2.35	2.50	1.65	1.09	1.41	1.20	1.44
Pest	7.88	6.37	4.24	2.34	2.15	2.20	1.74	3.36	2.46	2.65
Nógrád	11.01	6.89	8.59	8.74	7.77	5.14	5.96	8.63	8.63	7.95
Borsod-Abaúj-Zemplén	9.96	10.45	7.04	6.35	5.46	5.16	3.52	5.04	7.09	7.31
Heves	11.47	8.25	5.87	4.38	3.85	2.51	2.76	3.30	3.67	3.78
Country total	8.84	6.95	6.01	4.32	3.68	3.47	3.19	4.05	3.70	3.86

Source: Central Statistical Office 2023

The data reveal that unemployment has been falling consistently since 2013 in all Hungarian counties, although an increase can be observed in 2022 in some of the counties; there is only one exception, Nógrád. The fall in unemployment is connected to the overall business cycle trends between 2013 and 2019, which were halted by the pandemic and the subsequent energy crisis and effects of the war in 2022.

Summary

Although Southern Slovakia does not constitute a single public administration entity, nor has it done so at any point in its past, its area is habitually demarcated by combining certain districts. An analysis of the aggregate figures of this area shows that its development level is below the national average of Slovakia. Its unemployment ratio is higher and its industrial wages are lower. It also lags behind in terms of corporate productivity. The economy of the Southern region is not uniform, but rather characterised by

² The EUR/HUF exchange rate, which was at 330 in 2019, stood at 400 in 2022.

significant differences from west to the east. Underdevelopment and deprivation is evidenced by all partial indicators of the Eastern areas of the Southern Slovakian districts under review. The most deprived part of the region has long been the Gömör area. The weak economic results of Southern Slovakia and its Southeastern area may further weaken its ability to retain its population, which may have a deleterious effect on Hungarian-speaking populations living in the Southern and Southeastern districts. In our earlier studies of this subject, we have demonstrated that the willingness to have children is lower in Southern Slovakian areas with concentrated Hungarian populations (cf. e.g. Lentner & Horbulák, 2022), which is attributable to weaker economic characteristics, including population-sustaining power.

When combining the examination of Southern Slovakian districts with research into the (neighbouring) Hungarian counties across the border, we find a region with heterogeneous development showing divergences along a west-to-east orientation. In Southern Slovakia, the Western region is more highly developed due to the fact that it is where the capital is located, it is industrialised and has favourable conditions; in Hungary, the capital is located in the central part of the country, and its counties in the West are more developed due to foreign capital inflow. The central area, which in Hungary may be identified as Nógrád County, is the least developed region; this is also clearly visible in, and carried over into the Southern Slovakian area (districts) bordering on the Hungarian Nógrád County. This shows that underdevelopment reaches across borders. There is a correlation in the fact that the areas on both sides of the border lag behind their national averages in terms of development; after all, the border areas (Nógrád County and the Gömör region) have similar economic characteristics on both sides.³

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References

- Ádám, J. I. (2004). A határon túli magyarok részvétele a gazdasági átalakulásban – Szlovákia [The contribution of ethnic Hungarians to economic transformation in Slovakia]. In T. Réti (Ed.), *Közeledő régió a Kárpát-medencében. Dél-Szlovákia, Erdély és a Vajdaság gazdasági átalakulása* [Converging Regions in the Carpathian Basin. The Economic Conversion of Southern Slovakia, Transylvania and Vojvodina] (pp. 267–302). EÖKIK.

³ An additional underdeveloped area of Southern Slovakia is located on the border with Ukraine; however, we are unable to compare its data with figures from Borsod County due to the current lack of statistical data. This subject will be the basis for our further research in the future.

- Ádám, J. I. (2005). A dél-szlovákiai régió fejlődése a helyi kezdeményezések és a határon átnyúló együttműködések tükrében [The Development of the Southern Slovakia Region in Light of Local Initiatives and Cross-Border Cooperation]. In T. Réti (Ed.), *Közeledő régió a Kárpát-medencében. Dél-Szlovákia, Erdély és a Vajdaság gazdasági átalakulása* [Converging Regions in the Carpathian Basin. The Economic Conversion of Southern Slovakia, Transylvania and Vojvodina] (pp. 21–58). EÖKIK.
- Bánki, B. (2022). Dél-Szlovákia, az elhanyagolt régió? Szlovákia magyarlakta területeinek gazdasági teljesítménye a politika árnyékában [Southern Slovakia: A Neglected Region? The Economic Performance of Slovak Territories Inhabited by Hungarians in a Political Context]. Online: https://bgazrt.hu/wp-content/uploads/2022/04/4.Banki_.pdf
- Drahokoupil, J. (2008). The Investment-Promotion Machines: The Politics of Foreign Direct Investment Promotion in Central and Eastern Europe. *Europe-Asia Studies*, 60(2), 197–225. Online: <https://doi.org/10.1080/09668130701820085>
- Durech, R., Minea, A., Mustea, L. & Slusna, L. (2014). Regional Evidence on Okun's Law in Czech Republic and Slovakia. *Economic Modelling*, 42, 57–65. Online: <https://doi.org/10.1016/j.econmod.2014.05.039>
- Fazekas, J. & Hunčík, P. (Eds.) (2006). *Magyarok Szlovákiában I. Összefoglaló jelentés (1989–2004)* [Hungarians in Slovakia. Vol. I. Summary Report]. Forum Minority Research Institute, Lilium Aurum Publishing.
- Gyurgyík, L. (1994). Magyar mérleg. [Hungarian Review]. Kalligram.
- Gyurgyík, L. (2006). *Census 2001*. Kalligram.
- Horbulák, Zs. (2015). Dél-Szlovákia gazdasági és szociális helyzete néhány mutató tükrében [The Economic and Social Situation of Southern Slovakia in Light of Certain Indicators]. *Fórum Társadalomtudományi Szemle*, 17(3), 43–56.
- Horbulák, Zs. (2017). Dél-Szlovákia gazdasági és szociális helyzete néhány mutató tükrében (2. rész) [The Economic and Social Situation of Southern Slovakia in Light of Certain Indicators. Part 2]. *Fórum Társadalomtudományi Szemle*, 19(4), 71–78.
- Horbulák, Zs. (2019a). Dél-Szlovákia gazdasági és szociális helyzete néhány mutató tükrében (3. rész) [The Economic and Social Situation of Southern Slovakia in Light of Certain Indicators. Part 3]. *Fórum Társadalomtudományi Szemle*, 21(3), 91–100.
- Horbulák, Zs. (2019b). Munkanélküliség Szlovákia déli régióiban [Unemployment in the Southern Regions of Slovakia]. *Polgári Szemle*, 15(4–6), 296–310.
- Horbulák, Zs. (2020). Dél-Szlovákia gazdasága a normalizációs időszakban (1969–1989) [The Economy of Southern Slovakia in the Period of Normalisation]. János Selye University.
- Horváth, Gy. (Ed.) (2004). *Dél-Szlovákia* [Southern Slovakia]. Dialóg Campus.
- Kollai, I. (2019). Elszegényítő központi régiók? [Impoverishing Central Regions?] *Közgazdasági Szemle*, 66(11), 1125–1237. Online: <https://doi.org/10.18414/KSZ.2019.11.1125>
- Lentner, Cs. & Horbulák, Zs. (2022). A családpolitika egyes jogi és történelmi szegmensei Szlovákiában [Certain Legal and Historical Segments of Family Policy in Slovakia]. *Glossa Iuridica*, 9(1–2), 43–64.
- Lazíková, L., Bandlerová A., Roháčiková, O., Schwarcz, P. & Rumanovská, L. (2018). Regional Disparities of Small and Medium Enterprises in Slovakia. *Acta Polytechnica Hungarica*, 15(8), 227–246.
- Lelkes, G. (2005). Dél-Szlovákia és az Alsó-Nyitra régió agráriuma és agrártársadalma a 3. évezred küszöbén [Agriculture and Agricultural Society in Southern Slovakia and the Dolna Nitra Region on the Cusp of the 3rd Millennium]. In T. Réti (Ed.), *Közeledő régió a Kárpát-medencében. Dél-Szlovákia, Erdély és a Vajdaság gazdasági átalakulása* [Converging Regions in the Carpathian Basin. The Economic Conversion of Southern Slovakia, Transylvania and Vojvodina] (pp. 59–98). EÖKIK.
- Lelkes, G. (2008a). A szlovákiai regionális fejlesztéspolitika s annak középtávú dél-szlovákiai határ menti vetülete az uniós támogatáspolitikai tükrében [Regional Development Policy in Slovakia and its Medium-term Dimensions along the Southern Slovakian Border in the Context of EU Aid Policy]. *Tér és Társadalom*, 22(3), 151–182.
- Lelkes, G. (2008b). Régiók és gazdaság [Regions and Economy]. *Magyarok Szlovákiában* [Hungarians in Slovakia]. Vol. V. Forum Minority Research Institute.

- Lešková, A. & Šipikal, M. (2019). Higher Education Institutions Performance in Convergence Regions after the EU Enlargement – Case of Slovakia. *Ekonomický časopis*, 67(7), 743–760.
- Mezei, I. & Hardi, T. (2003). A szlovák közigazgatás és területfejlesztés aszimmetriái [Asymmetries in Slovakian Public Administration and Regional Development]. *Tér és Társadalom*, 17(4), 127–155.
- Mihály, G. (1975). Hospodársky rozvoj južného Slovenska [Economic Development of Southern Slovakia]. In J. Zvara, B. Balázs, S. Csanda, F. Mózsai & G. Mihály (Eds.), *V spoločnej vlasti* [In a Common Homeland] (pp. 253–318). Pravda.
- Morvay, K. (2004). Külföldi tőkebefektetések és az ipari parkok Dél-Szlovákiában [Foreign Capital Investments and Industrial Parks in Southern Slovakia]. In T. Réti (Ed.), *Közeledő régió a Kárpát-medencében. Dél-Szlovákia, Erdély és a Vajdaság gazdasági átalakulása* [Converging Regions in the Carpathian Basin. The Economic Conversion of Southern Slovakia, Transylvania and Vojvodina] (pp. 303–330). EÖKIK.
- Reiter, F., Semsey, I. & Tóth, A. (2004). Kelet-Szlovákia régió gazdasági átalakulása [The Economic Transformation of the Eastern Slovakia Region]. In T. Réti (Ed.), *Közeledő régió a Kárpát-medencében. Dél-Szlovákia, Erdély és a Vajdaság gazdasági átalakulása* [Converging Regions in the Carpathian Basin. The Economic Conversion of Southern Slovakia, Transylvania and Vojvodina] (pp. 331–362). EÖKIK.
- Tuba, L. (2004). A komáromi hajógyárról [The Shipyard at Komárno]. In T. Réti (Ed.), *Közeledő régió a Kárpát-medencében. Dél-Szlovákia, Erdély és a Vajdaság gazdasági átalakulása* [Converging Regions in the Carpathian Basin. The Economic Conversion of Southern Slovakia, Transylvania and Vojvodina] (pp. 363–372). EÖKIK.