

## THE TRADE-OFF BETWEEN NATIONAL GROWTH AND INTERREGIONAL INEQUALITY: THREE DECADES OF REGIONAL DEVELOPMENT IN SLOVAKIA

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### The trade-off between national growth and interregional inequality: Three decades of regional development in Slovakia

The article deals with regional development in Slovakia during the last 30 years. In the overview part, we elaborate on the theoretical framework and contextual conditions of regional development in the transformation and integration period. In the empirical part, we discuss the trade-off theory of national growth and regional inequality in the context of the Kuznets-Williamson inverted U hypothesis (if growth is maintained, inequalities increase in the initial stage and decrease in the advanced stage of economic development). The aim of this paper is to uncover the trend and scale of regional inequalities. The results of our work confirm that Slovakia has entered the second stage of regional development, in which regional inequality decreases, but at the cost of falling behind the EU27 and decline in economic performance of Bratislava.

**Key words:** regional development, trade-off theory, national growth, regional inequality, economic aggregate, Slovakia

### INTRODUCTION

Basic characteristics of regional development of Slovakia were understandably not ‘born’ 30 years ago in 1993. It was the period of the Austro-Hungarian compromise in 1867, when the construction of railways infrastructure and industrialisation began on the territory of Slovakia. However, we extend the original idea proposed by Novotný et al. (2016) on evolutionary trajectories of post-socialist countries, which were hit by specific forms of transformations called „tsunamis“ during the last 70 years. Our view of evolutionary trajectories goes back to the period after the end of the First World War in 1918. The first “tsunami” is associated with the dissolution of the Austro-Hungarian monarchy, on whose territory the former Czechoslovakia, Austria and Hungary were formed. The second ‘tsunami’ hit Central European (CE) countries after the Second World War, when the centralist regime of the planned economy was established. The third “tsunami” struck after 1989, causing a return to the natural (evolutionary) trajectory based on market principles. The generally accepted conclusion is that the regional development of Slovakia in the period after 1993 took place in the background of four new processes of systemic settings:

- the emergence of an independent state, including the creation of local and regional self-government,
- economic and generally societal transformation towards the democratisation of society and the market economy,
- the transition from the industrial to the post-industrial stage of social development and the impact of globalisation processes,

– economic (European) integration, which is related to the gradual deepening of integration efforts within the European Union (EU).

Each of the mentioned processes left a certain legacy in the formation of the regional development of Slovakia. Although the first two named processes were characterised by the creative destruction of existing internal resources when new institutional arrangements and economic sectors and networks emerged from the ruins of the old, the second two qualitatively new processes were imported from the external environment through foreign direct investments (FDI) and the EU regional policy. The knowledge of transition theory, varieties of capitalism, global production networks, and new economic geography will be interwoven in the work. Since the structure and content of the paper reflect the focus of the special thematic issue entitled: *Czechia and Slovakia: the last 30 years from a geographical point of view*, our research is predominantly an overview and descriptive in nature, complemented by correlational analysis. Through extended empirical research, we are trying to answer the research question of whether the regions of Slovakia have entered a new stage of regional development. The objective of the article is to evaluate the relationship between national growth and regional inequality using the method of regional convergence.

The article is divided as follows. In the first part, we will describe the institutional context in the period of societal transformation and its evolutionary character and systemic settings that created the conditions for the arrival of foreign investors in the context of specific varieties of market economies. In the following section, we discuss the trade-off theory of national growth and regional inequality in the context of the Kuznets-Williamson inverted U hypothesis. Finally, we present the results of empirical research and discuss the opportunities and threats of the new stage of regional development.

## THEORETICAL BACKGROUND AND CONCEPTUAL EXPLANATION

### Criticism of transition theory and the evolution of economic transformation

At the end of 1989, the centrally planned economic system collapsed, and the CE post-socialist countries became the object of further economic and social experiments. In the economic discussions, the main attention was focused on practical issues related to macroeconomic stabilisation, price and trade liberalisation, and privatisation according to the recommendations of the Washington consensus. However, the implementation of a universal structural policy ‘one size fits all’ in post-socialist countries overlooks the problem of absent or not properly working market institutions (Stiglitz 2002, p. 34). (Social) change understood in the sense of a straightforward transition “from plan to market” has been criticised for four serious limitations: contextuality, complexity, plurality, and evolutionary character (Rusnák and Korec 2013).

Contextuality means the various starting conditions of CE countries compared to other regions of the world (Stark and Bruszt 1998). Since socialism tried to implement regional convergence by planning, and equal allocation of state investment, after its fall, the diversity of contextual conditions reached (super)natural dimensions. In the case of Slovakia, several geographical differences came to the surface: macrogeographic location (Paulov 1992), settlement hierarchy (Slavík 2000), inherited industrial specialisation (Smith 1996), spatial dynamics of interre-

gional and international migration (Bezák 2005), ethnic diversity (Majo 2018), change in demographic behaviour (Bleha and Ďurček 2019) and religiosity (Zachar Podolínska et al. 2019). Transition theory focusses only on the outcome in an abstract space and is not on processes in a specific place.

Secondly, transition theory has avoided the complexity of ongoing changes. According to Altvater (1998, p. 595) the transition, from “here” to “there” is not binary logic, but a complex transformation of social, political, and economic forms, including changes in individual habits, social culture, and the social relation to nature. The transition theory focused on the macroeconomic dimension and underestimated the institutional dimension (Kolodko 1999). Since formal institutions were absent (protection and regulation of property rights) or worked inefficiently (judicial system), a network of informal institutions emerged, such as life strategies (Smith et al. 2008 and Rochovská et al. 2016) or corruption (Williams and Baláž 1999).

Thirdly, plurality expresses the fact that there were different paths of extrication in post-socialist countries. For example, the unification of Germany, the division of Czechoslovakia, the disintegration of the former Yugoslavia and the Soviet Union, and the different visions, interests, and goals of political elites and economic actors to select appropriate privatisation strategies were not considered (Stark 1992). Privatisation strategies attracted the most attention. In Slovakia, the dynamics of transformation were slowed down by coupon privatisation and the non-privatised banking sector, which made the capital market risky (Baláž et al. 2007). In the end, even the proponents of rapid transition themselves confirmed that privatisation was vital but unpopular. According to Åslund (2018, p. 860), it was more important that it was accepted politically than that it was economically efficient.

Fourthly, based on the previous arguments, we argue that transition theory built on neoliberal politics fails to respect the evolutionary nature of social and institutional change. Since evolutionary thinking emphasises the process and not the goal, according to the evolutionary-institutionalist perspective, the process of post-socialist transformation is understood in two senses: gradualist and path-dependent (Murrell 1992, Stark 1992 and Roland 2000). A gradualist approach introduces reforms in small and gradual steps, provides feedback and the possibility of correction, and at the same time relieves us of some uncertainties. On the contrary, there is high uncertainty when pursuing rapid and radical changes of total reconstruction, strategies can lead to unexpected events that cannot be reversed by small corrections.

According to Stark (1992), path dependence refers to institutions that have their own limits and opportunities. Limits are related to the institutional legacies of state socialism, which remain deeply embedded in post-socialist transformation. New institutional arrangements resulted from the destruction of most of the formal institutional framework on the one side, but the surviving many of the informal institutions, the ideological interests of social groups, and political elites with bargaining power slow down institutional change on the other side. The stereotypical social and organisational behaviour of individual actors inherited from the period of bureaucratic and planned socialism was also transferred to the management of democratic institutions and privatised enterprises.

A decade after the neoliberal transition, the catching-up with WE countries has not only not finished, but not started yet. According to Sokol (2001), CE countries

became a super-periphery of the WE. Economic hardship, political instability, social polarisation, ethnic, religious fragmentation, and growing regional disparities seem to interlock with each other in the web of a 'vicious circle' scenario, when the way back to state socialism is impossible, while prosperous liberal capitalism seems to be beyond reach (Sokol 2001, p. 652). At the state level, it was necessary to define a new development policy compatible with the objectives of regional policy and EU cohesion policy.

Economic integration, globalization, and specific varieties of capitalism

Böhle (2000) criticises the concept of path dependence in the context of post-socialist transformation because it neglects the economic integration of national economies into the global economy. Deepening European economic integration, the CE countries were supposed to follow one of two ideal types of market economy: the liberal market economy model, where deregulation and competition market mechanisms typical of the USA prevail, and the coordinated market economy model, in which society relies much more on informal (social network) and coordination market mechanisms developed in Germany (Hall and Soskice 2001). Despite the seemingly common neoliberal policy of post-socialist countries, the results of the post-socialist transformation differed from place to place. The countries of the Vyšehrad Group (V4) were located somewhere in the middle of ideal types of market economy. Böhle and Greskovits (2007) called this type of liberal capitalism embedded liberalism, in which the emphasis on the social protection system is driven by industry upgrading. Therefore, it was not surprising that neoliberal policies applied in different contexts produced different varieties of neoliberalism. In CE countries, the transition path reconstruction scenario prevailed (Birch and Mykhnenko 2009).

In the stage of economic integration, the trajectories of the regional economies of the CE countries are shaped not only by the legacies of socialist economies but especially by the industry policy of the state, strategy action of various stakeholders which tries to shape a competitive environment through an appropriate regulatory framework – path shaping (Nielsen et al. 1995). Thus, foreign investors pursue very different strategies, because of different manufacturing traditions, labour skills, low-cost workforce, government investment incentives or low taxes (Pavlínek, 2002 and 2016). Several authors (Nölke and Vliegenthart 2009, Myant and Drahokoupil 2011 and Pavlínek 2018) claim that FDI-led industrial development strategies increased external dependence and control of CE countries on foreign capital to such an extent that they led to the emergence of a dependent market economy of CE, as of a specific variety of global capitalism. Pavlínek (2018) claims that CE countries have established themselves as economies of the integrated periphery, which are characterised by an assembly industry with low added value, low production costs, geographical proximity to large and rich markets, EU membership and others. But the integrated peripheries in the context of their advantages for the global economy are only temporary. If the foreign investors find cheaper and more profitable places (spatiotemporal fixes), state investment support comes to an end (institutional fixes), transportation technologies and logistical systems became out of date (technological fixes), and new production systems required expensive implementation, the regionally integrated production system is shifted to new integrated peripheral regions (Pavlínek 2020).

According to Baláž et al. (2007) a local variety of capitalism has developed in Slovakia, which is characterised by a dual economy. There is a huge difference between the export-orientated and manufacturing branches of multinational companies that are effectively embedded within global production networks and the poorly integrated domestic medium-sized and small enterprises within these networks. Massive state support for the automotive industry through various investment incentives is concentrated in the western part of the country and in metropolitan regions, causing a deepening of inequality in the economic performance of the regions. So, finding new investment models of development is important for two reasons:

- former strategy of FDI and export-based industries is losing competitiveness compared to new potential integrated peripheries,
- FDI-driven economic policy appears to be successful at the national level, stimulated agglomerative forces at the expense of dispersive ones, which resulted in deepening regional inequality at the regional level.

The trade-off between national growth and regional inequality: Short overview

Kuznets (1955) and Williamson (1965) found that income inequality increases in the initial stage of economic development because the benefits from the transfer of labour from agriculture to industry flowed only to a small number of the population living in cities. However, in the advanced stage of industrial development while maintaining industry productivity, income inequality decreases because the benefits of growing urbanisation and industrialisation were felt by former low-income rural groups of the population. This relationship between growth and inequality, as part of wider theoretical debate of efficiency-equity trade-off, takes the form of an inverted U-curve.

The trade-off is made in that sense that national growth needs a certain degree of regional inequality. Because there is no growth without inequalities. And how do inequalities emerge? Inequalities must be considered together with the tendency towards spatial agglomeration. As transport costs fell throughout the 20th century, there were suitable conditions for the emergence of agglomeration. If labour mobility is high, there is a tendency to agglomeration because (skilled) workers consider the differences in wages between regions (Ottaviano and Thisse 2002 and Puga 2002). Alongside these agglomeration forces, there are dispersal ones. Baldwin et al. (2001) suggest that if cost of trading ideas decreases, then interregional knowledge spillovers and industrialisation can act simultaneously as pro-growth and pro-dispersion. As trade costs (on goods) fell, because of deepening integration, (foreign) capital offshoring manufacturing production to lower-cost peripheral locations (Sturgeon et al. 2008). However, within a country, market proximity and market size may affect the location of foreign investment (Petrakos and Topaloglou 2008). Investments in production, which necessarily benefit from agglomeration economies, are concentrated in industrial and metropolitan regions. Finally, as congestion diseconomies appeared and competition became high, some economic activities had dispersed.

Inequalities are the result of domination of agglomeration forces over dispersal ones. This means that there is a situation where one (core) region grows at the expense of the other one (periphery). Thus, agglomerated growth is more efficient than dispersed growth. A stylised fact is that there is a positive correlation between

agglomeration and growth (Baldwin et al. 2003) and a causal relationship between agglomeration and regional inequality (Gardiner et al. 2011).

These findings are subject to continued testing and empirical research in the context of the EU. Puga (1999) suggests that income inequalities between the integrating countries increase in the early stages, while leading to regional convergence both in terms of real wages and of production structures in the later stages as consequence of combination of minimal interregional migration (in EU is lower than US) with dispersion of economic activities towards poles of growth in new member countries of EU. As a result, income inequalities across countries fall, but between regions within countries raise (Puga 2002 and Ezcurra et al. 2007). Petrakos et al. (2005) found evidence of the simultaneous impact of procyclical behaviour of inequality in the short term, increasing in periods of expansion and decreasing in periods of slow growth and convergence of economic development in the long term with more equal allocation of activities and resources over space.

From above, agglomeration promotes growth only up to a certain level of economic development. According to this logic, agglomeration fosters growth in the early stages of development, while its strength fades in an advanced stage of economic development. As the global economy tends to continue to grow and developing countries are catching-up with developed ones, the trade-off between national growth and interregional inequality will become irrelevant (Brühlhart and Sbergami 2009).

On the contrary, it is reasonable to assume that the emergence of innovation, as source of inequality, does not exhaust, so its dynamics will depend on the level of economic development regions and their willingness to adapt to the sectoral shifts and technological changes. This insight is empirically confirmed for developed countries that have achieved a high degree of technological and knowledge spillovers with a high share non-tradeable service (construction, real estate) – Cerina and Mureddu (2014) and Cutrini (2019).

Due to low trade costs, intermediate values of transport costs and relative different levels of labour mobility, regions of CE countries belong to various convergence clubs (Chapman and Meliciani 2018, Cutrini 2019 and Szakálné Kanó and Lengyel 2021). According to Iammarino et al. (2019), each of these convergence clubs of regions in Europe should pursue its own development challenges and opportunities considering place-based policy. Neszmélyi et al. (2016) investigated the relationship between economic performance and regional differences in the V4 countries in the period 2000 – 2014. Their results were consistent with the hypothesis of an inverted U curve. The reaching point, when regional differences decrease with increasing economic performance, was recorded in Czechia in 2005 – 2006, in Hungary in 2010 – 2012, and in Slovakia only in 2013. This hypothesis was not confirmed in Poland.

Based on previous theoretical statements and empirical findings, we formulate the research problems as follows:

- In the early stage of regional development (economic transformation), national growth led to deepening of regional inequality;
- In the later stage of regional development, with the deepening of economic integration, the benefits resulting from the national growth embodied in developed regions will to less developed regions;

– The economic size of the capital city Bratislava defines the scale of regional inequality.

## METHODOLOGY AND DATA

We follow up and expand the original empirical work by Korec and Ondoš (2006 and 2008). To ensure the continuity of the research, we left the methodological issues unchanged. The only change concerns spatial units. For practical reasons, we replaced the basic territorial units (approximate functional urban regions – AFUR) with statistical districts, which are used to identify less developed regions. The Bratislava and Košice districts merged into two statistical units. When analysing time series, we were confronted with a rather serious inaccuracy in the reporting of data for statistical districts. During the relatively short history of the Statistical Office of the Slovak Republic (SOSR), several reporting changes were made (change from OKEČ to NACE classification, differentiation of records from the point of view of company and workplace methods, a change in the method of data collection and data reporting). It was the last-mentioned aspect that caused the discrepancy in time series for such an important statistic as employment. The biggest discrepancy in the time series between 2008 (SOSR 1997 – 2007) and 2009 (SOSR 2023a) can be seen in the districts of the Bratislava region. Employment data in the Pezinok district between 2008 and 2009 are especially dramatic, when SOSR records an increase from 9,151 to 17,230 employees. Based on the comparison of historical and current time series, the development of employment in the Pezinok district was underestimated until 2008. We solved this discrepancy by aggregating three districts in the hinterland of Bratislava: Malacky, Pezinok, and Senec into one unit, the hinterland of Bratislava. So, as a result, we work with the number of 70 districts.

We expressed the performance of the economy by the regional economic aggregate (EA) per capita, which was first described in the work of Hampl (2005). It is calculated as the product of regional employment (absolute value) and the average nominal monthly wage of the district. The number of inhabitants represents the population weight, which is part of the calculation in the denominator. The existence of a continuous time series between 1997 and 2021 allows us to quantify the degree of regional convergence according to the methodology presented in the work of Blažek and Csank (2007). To assess the relationship between national growth and regional inequalities, we used the sigma convergence method (measured by coefficient of variation). A decrease in variability within 70 districts over time is referred to as convergence. An increase in variability leads to a divergence. To quantify national growth, we chose the year 1997 as a reference value. We constructed a scatter plot chart between growth and inequality in 1997 – 2021. Then, we determined the presence of beta convergence using the Pearson correlation coefficient, which measures dependence, or the closeness of the relationship between the annual regional growth and the initial level of this growth. The correlation was made for each year. Beta convergence expresses a situation where less developed regions grow at a faster rate than developed regions. Beta divergence is a situation in which less developed regions grow at a slower rate than developed regions. Finally, we quantify the contribution of individual districts to creating regional inequality using the Pearson's correlation coefficient. Two sets of data were entered into this calculation. Individual district EA shares and the value of the coefficient of variation computed from all EA shares in the period 1997 – 2021 (sigma conver-

gence). We have shown the resulting values of the Pearson correlation coefficient in the maps. All values above 0.3 and below -0.3 were statistically significant.

## RESULTS

In the 1990s, Slovak human/economic geography lagged in research on the transformation of the regional structure and regional development in comparison to the theoretical-methodological knowledge of Anglo-Saxon geographic schools. Therefore, this was the reason why we should use an interdisciplinary approach and share knowledge from other transition countries. Korec and Ondoš (2009) state that research on the regional structure of Slovakia in the context of post-socialist development was inspired by three external sources:

- Albertov school of social geography at Charles University in Prague,
- Regional economics and policy at the University of Economics in Bratislava,
- Spatial sociology at the Institute for Sociology of the Slovak Academy of Sciences.

These schools addressed four basic research topics: factors, processes and mechanisms conditioning regional development (1), measuring regional differences (2), the level of socioeconomic development of regions, and attempts at regional typification (3) and identification of peripheral, marginalised, and lagging regions (4). Although all papers used various methodological approaches or analysed different social dimensions according to partial or integral indicators, in the end, they concluded that regional differences in Slovakia acquired a relatively stable spatial pattern, dividing Slovakia into ‘two worlds’, delimited in two ways: rich southwest – poor northeast, region of the especially Bratislava region and the rest of Slovakia (influence of horizontal geographical location) (1) and dynamically developing regions with metropolitan functions (8 capital regions) and lagging non-metropolitan regions (influence of vertical geographical location) (2).

In Fig. 1, we see shares of districts in EA in 1997 and 2021 and the strengthening of the dominant position of the Bratislava districts from a share of 3.3% of EA in 1997 to 6.3% of EA in 2021. We draw attention to the fact that since 2016, the share of Bratislava in the total EA of Slovakia has been decreasing (7.7% of EA). This fact is important to know when interpreting the development of regional differences after 2016.

The results presented in Tab 1, Tab 2., and Fig. 2 show two stages of regional development according to the evolution of regional inequalities (sigma convergence). The first stage is divided into three phases: economic transformation (1997 – 2008), economic crisis (2009 – 2011) and economic integration (2012 – 2016). The results of our research are in line with previous works (Baláž 2007, Hurbánek 2008, Klamár 2016 and Michálek et al. 2018). A statistically significant positive correlation between annual growth and initial level in 2000 – 2001 and 2003 – 2004 indicates prevailing beta divergence. At the same time (1997 – 2008), the value of the variation coefficient increased. It was during the period when neoliberal reforms were implemented in Slovakia, which limited the social spending of the state, introduced a flat 19% tax, reformed the banking sector, and allowed the entry of foreign investors (Smith and Rochovská 2006 and Korec et al. 2016). The expected growth of regional inequality, after an episodic decline in 2000, reached its first maximum in 2009. Our research confirmed that the first stage of the Kuznets-Williamson hypothesis is valid in Slovakia.



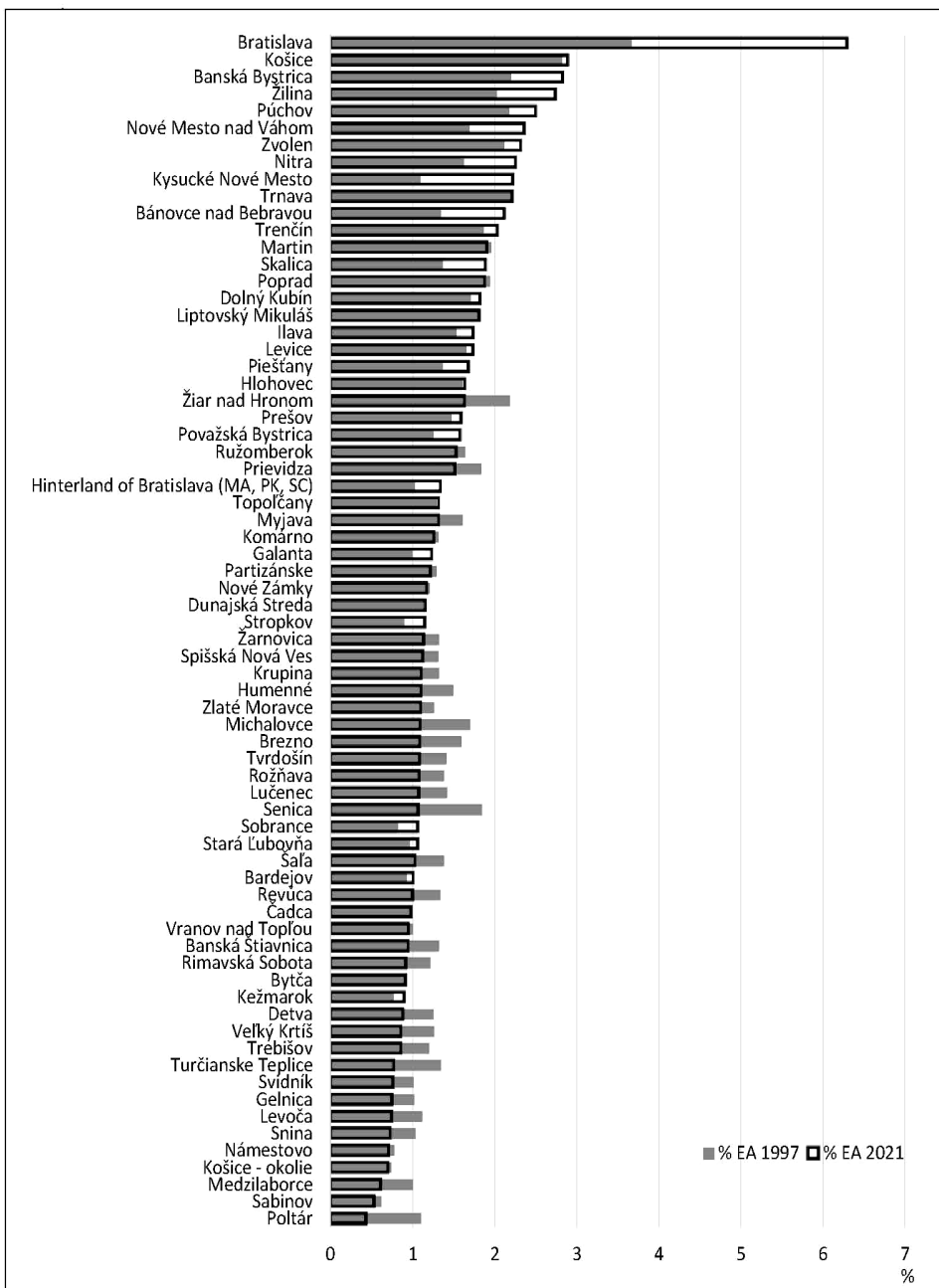


Fig. 1. Share of districts in EA (1997 and 2021)  
 Source: SOSR (1997 – 2007) on request, SOSR (2023a and 2023b).

**Tab. 1. Regional convergence of Slovakia**

Annual growth	$\beta$ -convergence	p value
1998/1997	0.18	0.127
1999/1998	0.17	0.153
2000/1999	<b>-0.30</b>	0.010
2001/2000	<b>0.32</b>	0.006
2002/2001	0.01	0.903
2003/2002	0.15	0.197
2004/2003	<b>0.30</b>	0.011
2005/2004	0.07	0.570
2006/2005	0.11	0.364
2007/2006	0.16	0.183
2008/2007	0.04	0.759
2009/2008	0.09	0.471
2010/2009	-0.17	0.152
2011/2010	<b>-0.21</b>	0.070
2012/2011	0.04	0.746
2013/2012	0.11	0.376
2014/2013	<b>0.22</b>	0.060
2015/2014	-0.07	0.580
2016/2015	0.03	0.796
2017/2016	-0.15	0.212
2018/2017	-0.16	0.186
2019/2018	<b>-0.20</b>	0.088
2020/2019	-0.17	0.141
2021/2020	-0.18	0.141

Source: SOSR (1997 – 2007) on request, SOSR (2023a and 2023b).

**Tab. 2. Correlation between growth and inequality in Slovakia**

	Pearson correlation coefficient	p-value
Regional inequality 1997 – 2008 (+) vs National growth 1997 – 2008 (+)	0.93	0.00
Regional inequality 2011 – 2016 (+) vs National growth 2011 – 2016 (+)	0.87	0.00
Regional inequality 2016 – 2021 (-) vs National growth 2016 – 2021 (+)	-0.99	0.00
Regional inequality (1997 – 2008) vs Share of Bratislava in EA (1997 – 2008)	0.99	0.00
Regional inequality (2012 – 2016) vs Share of Bratislava in EA (2012 – 2016)	1.00	0.00
Regional inequality (2016 – 2021) vs Share of Bratislava in EA (2016 – 2021)	-0.99	0.00
Regional inequality 2004 – 2008 (+) vs Slovak economy compared to EU27 2004 – 2008 (+)	0.91	0.00
Regional inequality 2011 – 2016 (+) vs Slovak economy compared to EU27 2011 – 2016 (+)	-0.25	0.34
Regional inequality 2016 – 2021 (-) vs Slovak economy comp. to EU27 2016 – 2021 (-)	0.57	0.24

Source: SOSR (1997 – 2007) on request, SOSR (2023a and 2023b) and Eurostat (2023).

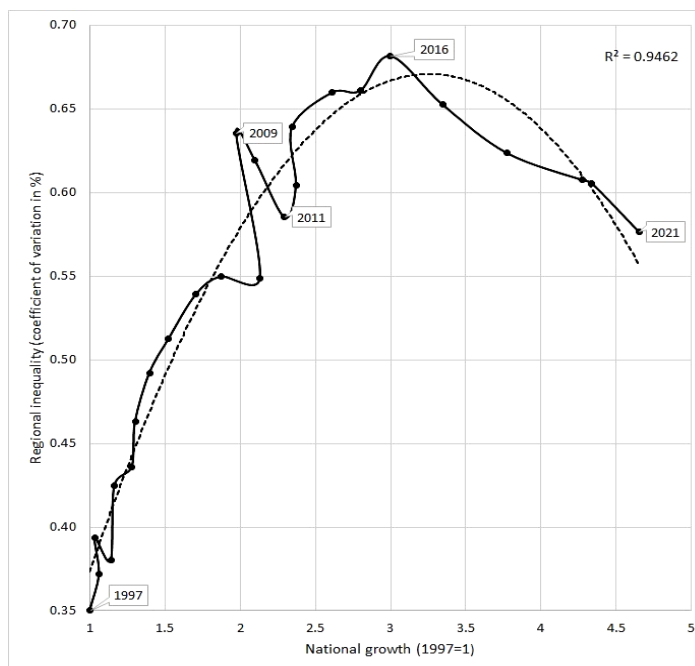


Fig. 2. National growth and regional inequality

Source: SOSR (1997 – 2007) on request, SOSR (2023a and 2023b).

We observed opposite tendencies during the economic crisis. The tendency toward beta convergence proved to be statistically significant in 2010 – 2011. Blažek and Netrdová (2012) call the tendency of convergence in times of crisis ‘convergence in misery’. They state that the decline in regional growth is sectorally structured and spatially differentiated. The most affected were the construction industry and the real estate market, which grew before the bursting of the mortgage bubble precisely in the metropolitan regions. Another explanation is the concept of a protected regional economy (Fratesi and Rodríguez-Pose 2016), according to which insufficient business and innovation capacities in peripheral regions are compensated by financial transfers within the cohesion and structural funds and welfare state policy. In times of economic crises, the public sector plays a stabilising role on the labour market. This convergence was episodic, as well. The recovery of industrial production, the development of construction activities, and the real estate market in metropolitan and export-orientated districts led to national growth with regional inequality. Beta divergence was confirmed in 2013 – 2014. It means an ongoing regional divergence tendency during the period of economic integration.

After reaching the maximum value of the coefficient of variation (0.67 in 2016), the curve started to decrease. A statistically significant negative correlation in 2018 – 2019 indicates the prevailing beta convergence, and the decrease in variation of coefficient means the sigma convergence. But the value of the Pearson correlation coefficient between GDP per capita in PPS of Slovakia (EU27 = 100) and the regional inequality (measured by the coefficient of variation) in 2016 – 2021 is 0,57

(Tab 2). Although it may seem that Slovakia has entered the second stage of regional development, which is characterised by national growth and regional convergence, it is beginning to lose its economic performance compared to the EU27. However, statistical insignificance suggests that it may be an episodic phase due to the short time series. Time will tell if this is occasionally regional convergence or a long-term trend. So, in this case, trade-off is the reduction of regional inequality is at the expense of catching-up to EU27 average.

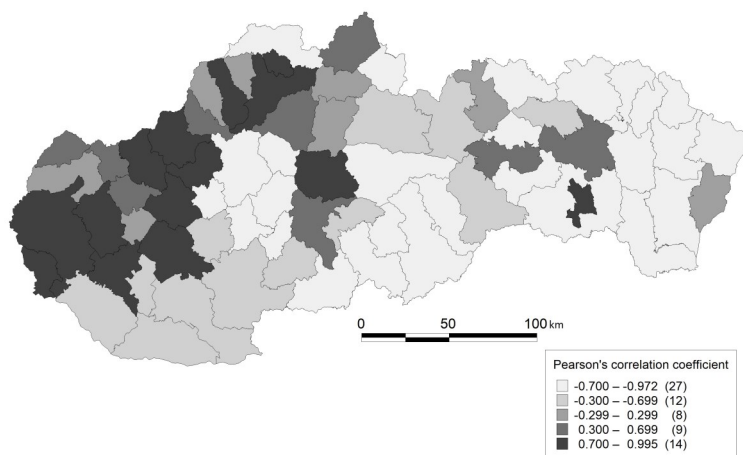


Fig. 3. Correlation between shares of regional economic aggregate and regional inequality in 1997 – 2008

Source: SOSR (1997 – 2007) on request, SOSR (2023a and 2023b).

Fig. 3 shows the spatial pattern of Slovakia's regional economies in the period 1997 – 2008, which is characterised by deepening regional inequality. High positive values (positive correlation Pearson  $> 0.7$ ) mean that the districts located mainly in the western part of Slovakia increased the shares of the EA – open regions of successful adaptation. On the contrary, high negative values (negative correlation dependence Pearson  $< -0.7$ ) mean that a large group of districts along the border with Hungary towards the east of the country showed decreasing economic performance – lagging region of unsuccessful adaptation (Korec and Ondoš 2004). In the following period (2012 – 2016), after the economic crisis, the growth of the Slovak economy returned to its original development trajectory, accompanied by a deepening of regional inequality. The spatial pattern is no longer determined by the east-west gradient as in the first period. Rather, we are witnessing the catching-up of the economic performance regarding the originally less developed districts in upper Nitra, upper Považie, Orava, Kysuce and Liptov by improving of transport infrastructure – partial open regions of catching-up adaptation (Fig. 4).

On the contrary, regional capital districts (except Bratislava and Prešov) and some districts located in western Slovakia have lost their development dynamics. The smaller share of EA in the Bratislava hinterland can be attributed to residential construction in the expanding suburbanisation of Bratislava (Šveda and Pazúr 2018) because the resulting value of EA is composed of the indicator attributed to the number of inhabitants, which is in the denominator. Some less developed districts of southern and eastern Slovakia are also coming to life, e.g. Lučenec, Poltár,

Michalovce, Snina, Svidník and Bardejov. Finally, it seems that the last observed period (2016 – 2021) represents a new stage of regional development, where the national economy is growing while the regional inequality decreases. The interpretation is the opposite compared to previous periods. High negative values mean that districts with an increasing share of EA participate in the reduction of regional inequality. What is interesting is the fact that the share of Bratislava and its hinterland in EA is decreasing. In general, we can say that the districts with metropolitan functions (regional capital districts), except for Prešov, started to lose their development dynamics. On the contrary, less developed districts such as Veľký Krtíš, Rimavská Sobota, Revúca, Trebišov, Stropkov, Bardejov, Sabinov, Stará Ľubovňa and Kežmarok increase their share on EA (Fig. 5).

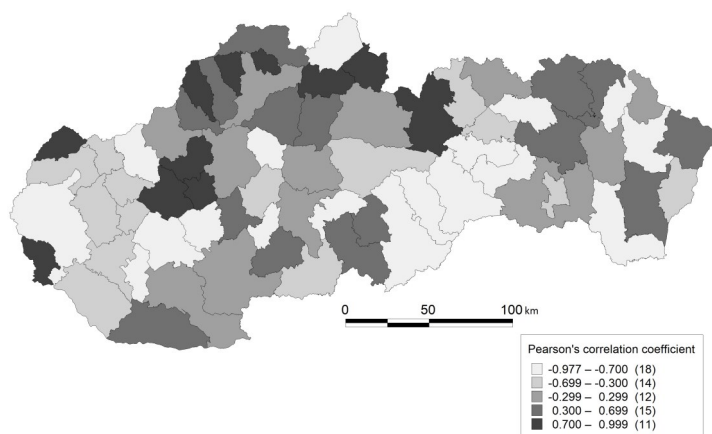


Fig. 4. Correlation between shares of regional economic aggregate and regional inequality in 2012 – 2016

Source: SOSR (1997 – 2007) on request, SOSR (2023a and 2023b).

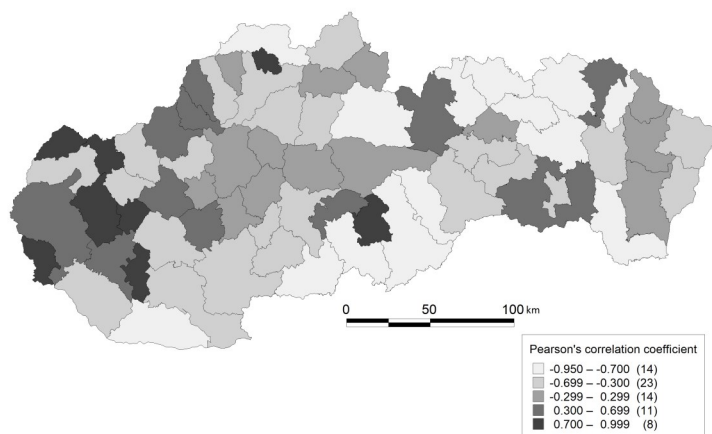


Fig. 5. Correlation between shares of regional economic aggregate and regional inequality in 2016 – 2021

Source: SOSR (1997 – 2007) on request, SOSR (2023a and 2023b).

It is interesting that the mentioned districts were defined (based on unemployment rate) as lagging in 2015 in Law No. 336 on the support of less developed districts). They could apply for a regional grant aimed at creating jobs. However, whether the effects of place-based policy are really equity requires a further analysis. This trend is also reinforced by the effects of the COVID-19 disease. Although the unemployment rate was significantly higher in the lagging and marginal districts of southern and eastern Slovakia (Michálek 2021), higher fluctuations in the labour market (labour and social mobility were limited) were recorded in the districts of western Slovakia due to the location of important multinational companies.

The correlation analysis between the relative size of the regional economy and regional inequality reveal that the Bratislava region achieves the highest value in all three periods (Tab. 2). The dominance of the Bratislava region was also confirmed in research on the relationship between GDP and FDI (Kotulič et al. 2016). This means that the deepening or reduction of regional inequality is determined top-down due to the economic size of Bratislava. On the contrary, the bottom-up deepening or reduction of regional inequality depends on the ability of less developed regions to use external and internal sources of development.

## DISCUSSION

The debate on the growth and inequality trade-off needs to be understood in terms of the influence of external and internal factors on development. In the context of regional policies, less developed regions rely mainly on the influence of external factors (drawdown of EU funds, foreign direct investments, state aid), because internal sources of development (human resources, innovation capacities, small and medium-sized businesses) are absent, and if they exist, they are not a guarantee of fast growth dynamics (Plešivčák and Buček 2017 and Smętkowski 2018). Using the example of the Banská Bystrica region, Plešivčák and Buček (2017) showed that the results of external factors fell short of expectations (due to the euroscepticism of M. Kotleba as Chairman of the Regional Self-Government of the Banská Bystrica region). According to Matlovič et al. (2018), the spatial polarisation of Slovakia is paradoxically increased by the allocation of financial resources from structural funds when in 2014 the largest volume went to the most developed regions of the country. The amounts per inhabitant were €315 in the Prešov region and €450 in the Košice region less than the national average.

Gintare (2019) showed seven endogenous determinants (factors) of regional development that are used to explain regional inequality at the national level. Regarding the contextual conditions of the Slovak regional structure, the impact of globalisation and integration and attitudes toward post-modernisation, we highlight these: locational (1), demographic (2), cultural (3), and political (4). The importance of the location determinant for the less developed regions of Slovakia was justified by the East-West gradient. Although the East-West gradient is an important determinant of development in all V4 countries (Blažek and Csank 2005, Smętkowski 2015 and Ženka et al. 2021), Slovakia is the only country where the West-East gradient is deepened, which is a manifestation of the growing importance of the national metropolitan gradient (Matlovič et al. 2018) conditioned by the eccentric geographical location of Bratislava (Halás et al. 2017).

The demographic determinant is often associated with the geographical concentration of excluded Roma communities. Péntzes and Demeter (2021) state that the

problems of most peripheral regions in Hungary are closely correlated with rapid growth and the increasing percentage of the socially excluded Roma population in these regions. This can also be stated in the case of the less developed regions of Slovakia, namely the eastern regions of Gemer, Šariš, Spiš and Zemplín. We should not forget the process of top-down ageing, which in the last decade has gained a higher intensity in the entire territory of Slovakia, except for the districts in the hinterland of Bratislava (Káčerová et al. 2022) and shrinking supply side of the labour market due decreasing share of the productive age population (annual decrease starts in 2012) – Morvay and Hudcovský (2022). The cultural determinant appears in the work of Zarycki (2007), who states that the following features of a broadly understood culture are typical for the eastern, less developed regions of Poland: “homo sovieticus”, “anti-intellectualism”, “aversion to elites”, “reliance on the state”, relativising corruption, and “accepting poverty”, which ultimately harms the economic development of these regions. Local traditions and national identities are then often legitimised through extremist, populist and antisystem parties that mobilise primarily in less developed regions. Their voter bases can be found in regions with high unemployment, low wages, but also with a higher representation of young people (Plešivčák and Buček 2017 and Rehák et al. 2021). Trust in politics at the national level is devalued by corruption, cronyism, and populism. They have already acquired a systemic form and have led to the privatisation of public power. In the context of transition economy, this type is known as oligarchic capitalism, characterised by a relatively authoritarian political system and a close tie between the government and business and financial interest groups (Myant and Drahokoupil 2011). These political determinants and post-modernisation patterns of society behaviour were also reflected in the approach to vaccination during the COVID-19 pandemic (Przybyla and Bačík 2021).

## CONCLUSION

Is Slovakia entering a new stage of regional development? The answer is unclear. The period of 1997 – 2008 is in accordance with the first stage of the Kuznets-Williamson hypothesis of growth accompanied by an increase in inequality with clear spatial pattern of the east-west gradient, when developed districts grow at the expense of less developed ones (eg., by draining the workforce, obtaining investment and built infrastructure). The period of 2012 – 2016 is a continuation of the first stage after the external shock caused by the economic crisis, but with selective dynamics of regions of successful adaptation and growth of regions of catching-up adaptation. The period 2016 – 2021 is in accordance with the second stage of the Kuznets-Williamson hypothesis of growth accompanied by a decrease in inequality. However, regional convergence comes at a price. Since 2016 we have witnessed Slovakia’s economic lagging behind the economy of EU27 average and decline of economic performance of Bratislava. Our research confirmed, that the deepening or reduction of regional inequality is determined top-down due to the economic size of Bratislava. It seems that FDI strategies are no longer as effective as they used to be. We have already entered the second stage of regional development, but we simply do not realise it. If we want to avoid the development trap (Diemer et al. 2022), reduce inequality without harming growth or falling behind to EU, we need to implement policy that facilitates trade in ideas (innovation) rather than trade in goods (assembly).

*The paper was supported by the VEGA Agency (project No. 1/0252/23).*

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## HEADANIE KOMPROMISU MEDZI NÁRODNÝM RASTOM A MEDZIREGIONÁLNYMI NEROVNOSTAMI: TRIDSÄT ROKOV REGIONÁLNEHO ROZVOJA NA SLOVENSKU

Predložený článok sa venuje otázkam regionálneho rozvoja na Slovensku, ktoré sú aj po 30 rokoch samostatného štátu stále aktuálne z hľadiska základného a aplikovaného výskumu. Vlády sú často postavené pred otázku kompromisu medzi národným rastom a medziregionálnymi nerovnosťami. Niekdajšia nejasná vízia prechodu ku kapitalizmu „bez prívlastkov“ sa premenila na realitu kapitalizmu závislého na priamych zahraničných investíciách (PZI), orientovaného na export. Postsocialistická transformácia je teda chápaná ako kombinácia inštitucionálnych zmien závislých od cesty a aktívnych zmien utvárania cesty na základe kľúčových rozhodnutí širokého spektra aktérov a inštitúcií. Tento vysvetľujúci kontext je nevyhnutný na pochopenie vzťahu medzi rastom a nerovnosťami.

Empirickým výskumom sa snažíme odpovedať na otázku: V akej etape regionálneho rozvoja sa nachádzajú regióny Slovenska? Testujeme pôvodnú Kuznets-Williamsonovu hypotézu obrátenej U krivky, podľa ktorej dochádza k striedaniu obdobia rastu a poklesu na jednej strane a k regionálnej divergencii a konvergencii v závislosti od významu inovačných politík a technologických odvetví na strane druhej. Existencia spojitého časového radu medzi rokmi 1997 až 2021 nám umožňuje kvantifikovať regionálne rozdiely pomocou metódy regionálnej konvergence. Za ukazovateľ ekonomickej výkonnosti sme zvolili ekonomický agregát na obyvateľa (EAO), ktorý je vyjadrením súčinu veľkosti zamestnanosti a priemernej nominálnej mesačnej mzdy váženým počtom obyvateľov.

Výsledky naznačujú, že počas sledovaného obdobia (1997 – 2021) sa objavili dve vývojové etapy:

– Obdobie rokov 1997 – 2008 je v súlade s prvou etapou Kuznets-Williamsonovej hypotézy ekonomického rastu sprevádzaného rastom regionálnych rozdielov s jasným východno-západným priestorovým vzorom. Obdobie rokov 2012 – 2016 je pokračovaním prvej etapy po externom šoku spôsobenom ekonomickou krízou, ale so selektívnou dyna-

mikou ekonomického rastu. Okresy krajských miest (okrem Bratislavy a Prešova) a niektoré okresy na západnom Slovensku stratili dynamiku, naopak ekonomika niektorých menej rozvinutých okresov na juhu a východe Slovenska rástla.

– Obdobie rokov 2016 – 2021 je v súlade s druhou etapou Kuznets-Williamsonovej hypotézy, keď dochádza k poklesu regionálnych rozdielov. Dôležitým faktorom je skutočnosť, že podiel Bratislavy na EAO začal klesať, čo malo za následok pokles regionálnych rozdielov. Naopak svoj podiel na EAO zvyšovali menej rozvinuté okresy na juhu a východe Slovenska.

Zistili sme, že najvyššiu tesnosť vzťahu medzi hodnotami podielov okresov na celkovom EAO a vývojom regionálnych rozdielov (meraných variačným koeficientom) dosahuje Bratislava vo všetkých troch obdobiach. To znamená, že prehľbovanie alebo znižovanie regionálnych rozdielov je determinované zhora, vplyvom ekonomickej veľkosti Bratislavy. Naopak, prehľbovanie alebo znižovanie regionálnych rozdielov zdola závisí od schopnosti menej rozvinutých využívať vonkajšie a vnútorné zdroje rozvoja. Zdá sa, že v druhej fáze regionálneho rozvoja sa benefity z pôvodne rastových okresov presúvajú do menej rozvinutých okresov. Určité obavy súvisia s načasovaním poklesu podielu Bratislavy na celkovom EA, pretože od roku 2016 sme svedkami ekonomického zaostávania Slovenska za priemerom EÚ27. Zdá sa, že stratégie priamych zahraničných investícií už nie sú také efektívne ako kedysi. Vstúpili sme do druhej etapy regionálneho rozvoja. Ak chceme znížiť nerovnosť bez toho, aby sme poškodili rast alebo zaostávali za EÚ27, musíme implementovať politiku, ktorá uľahčí obchod s myšlienkami (ekonomika inovácií) a nie obchod s tovarom (montážna ekonomika).



Article first received: May 2023

Article accepted: June 2023

