Volume 15 Issue 2 2023

DETUROPE

Central European Journal of Regional Development and Tourism

Czech Republic ◆ Hungary ◆ Serbia

DETUROPE

THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM

Volume 15 Issue 2

2023

DETUROPE – the Central European Journal of Regional Development and Tourism is an international online open-access scientific journal publishing results of theoretical and applied research in the fields of regional and rural development and tourism. The articles published in this journal pass through a double-blinded peer reviewing process.

DETUROPE is covered by Web of Science Emerging Sources Citation Index and indexed in the Scopus, ERIH plus, DOAJ (Directory of Open Access Journals), MTMT (The Hungarian National Scientific Bibliography), and the KoBSON (Serbian Consortium for Coordinated Acquisition of Electronic Resources) databases.

Published by the Regional Science Association of Subotica, Serbia in co-operation with the University of South Bohemia, Faculty of Economics and University of Pannonia, Georgikon Faculty, Kesthely, Hungary.

Address of the contact information: DETUROPE. Regionális Tudományi Társaság Szabadka/Društvo za Regionalne Nauke, Corvin Mátyás/Matije Korvina 9. 24000 Szabadka/Subotica, Serbia, deturope@gmail.com

ISSN 1821-2506

TABLE OF CONTENTS

In Memoriam János Rechnitzer

János Rechnitzer, one of the leading authorities in Hungarian regional science, at the age of 71, passed away on 22 June 2023. As the founder and director of the Institute of the Centre for Regional Studies in Győr and the Doctoral School of Regional and Economic Sciences at Széchenyi István University (Győr), János Rechnitzer has launched and supported the academic careers of many young researchers. Few researchers can boast of having founded one academic institution, and only in very exceptional cases have been able to establish two. Based on these foundations, regional researchers in Győr can rightly say, to borrow Dostoevsky's words about Gogol, that "We all came from under János Rechnitzer's Overcoat".

János Rechnitzer's extremely rich professional career has covered the following 8 broad areas of research. 1) Regional input-output analysis in Hungary; 2) Modelling the spatial diffusion of innovations and its application in regional policy; 3) Textbooks (in Hungarian) on regional economics; 4) The study of Hungarian-Austrian-Slovak cross-border regional relations; 5) The development of a new concept and methodology of regional planning and policy; 6) The study of factors influencing regional development, analysis of regional structure of the transition from socialism to market economy; 7) Mobility and environment: automotive industry, self-driving vehicles, social impacts and challenges; 8) The exploration of the development processes of Hungarian and Central and Eastern European cities.

János Rechnitzer was born in 1952 in Hédervár, near Győr. He moved to Pécs during his university years. After graduating from the University, he started his research career at the Transdanubian Scientific Institute of the Hungarian Academy of Sciences in 1975. The establishment of the Centre for Regional Studies of the Hungarian Academy of Sciences in Pécs in 1984 was a significant event in the institutionalisation of regional science in Hungary, and a landmark event in many respects. As a part of the Centre for Regional Studies, the North Transdanubian Department was founded in 1986, by János Rechnitzer, who had a significant research background and achievements by that time, at the age of 34, as its director, on the recommendation of Academician György Enyedi. From the very beginning, the research institute played a major role in the local scientific life, making Győr, together with the ever-expanding Széchenyi István University, one of the most important research bases and university towns in the Hungarian countryside. The institute has played and

continues to play an important role in the life of the city and the region, as well as in the life of Széchenyi István University. As a milestone in the mutually beneficial relationship between the Institute and the University, the institute joined the economics programme of the Széchenyi István University (at that time still College) in 1991. The first class of the first year had 16 students at the Urban and regional economics specialisation, where I myself, as one of the students, met János Rechnitzer.

During his scientific career, János Rechnitzer published 23 books, with six co-authors, seven in foreign languages, and edited 38 books. The number of his publications is 389 (75 of them is non-Hungarian). The Hungarian Archives of Scientific Works have nearly four thousand references to his published works. His scientific work has been recognized with the Academy Youth Award in 1979, the Pro Régio Award in 2004 and the Deák Ferenc Scientific Award of the Pro Renovanda Cultura Hungariae Foundation in 2008. In 2009, he was awarded the Cross of the Knight of the Order of Merit of the Republic of Hungary for his contribution to regional science. In 2014 he was granted the title of Honorary Citizen of the City of Győr. He was awarded the Order of Merit of Hungary (civilian grade) in 2022.

In addition to his scientific activities, fine art, especially geometric painting, was an almost equally important part of his life, which was not simply a passion for collecting art, but also for organising those who cultivated and loved art. Taking advantage of the Centre for Regional Studies' architecture, a gallery (the Academy Gallery) was set up in the corridor of the building, attracting the representatives of the visual arts with temporary exhibitions, discussions and meetings, and linking science and art. These experiences also resulted in a book "(Art) collecting, but how? The anatomy and technology of a wonderful passion".

His creative and colourful personality has left a visible and long-lasting mark on the city, the research institution and the University, and his work will be an inspiration for future generations of regional researchers.

Tamás Dusek[1]

[1] Professor, Head of the Doctoral School of Regional and Economic Sciences at Széchenyi István University (Győr).

EDITORIAL: Cities, Regions and Borders in Central and Eastern Europe

Dear Reader,

Welcome to the new thematic issue of the international, peer-reviewed journal DETUROPE. This year's compilation is a memorial issue dedicated to the memory of Professor János Rechnitzer, the great scientist of regional studies, Honorary Chairman of the Hungarian Regional Science Association, Professor Emeritus of the University of Győr, Research Professor Emeritus of the CERS Institute for Regional Studies, Member of the Editorial Board of DETUROPE, who passed away on 22 June 2023, at the age of 71.

The title of the thematic issue (Cities, Regions and Borders in Central and Eastern Europe) does not cover the professor's wide-ranging research topics, but it does cover some of the most important ones. There was relatively short time to pay tribute to his work this year. We therefore decided to select some key themes and invited some younger colleagues to submit a paper in the identified topics during the summer. After the usual double-blind (and triple-blind in the case of the editors) proofreading process, only seven original manuscripts have made it to publication. We would like to thank all the authors who submitted high-quality manuscripts and the reviewers, who completed their tasks on time. The organisations – Hungarian Regional Science Association; Institute for Regional Studies; Széchenyi István University – represented by the editors hereby express their gratitude to the Editorial Board of the journal DETUROPE and especially its Editor-in-chief, Dr. Kamil Pícha.

The first paper in the current issue gives a broad overview of the macroregion – the main field of Professor Rechnitzer's research –, prepared by the editors, *Szilárd Rácz and Ildikó Egyed*. This kind of introduction provides a comprehensive review of the post-socialist economic and structural transformation processes of the Central and South-Eastern European region. The richly illustrated study provides insights into many aspects (Euro-Atlantic integration, transition, FDI, geoeconomic dependencies, core-periphery relations, economic bordering, urban development, depopulation, growing role of capital cities) of this unique region, its external and internal relations.

The next two papers address the issue of large cities. This has been one of Rechnitzer professor's favourite subjects over the past decade, as evidenced by a series of books published in Hungarian. The paper of *Réka Horeczki, Szilárd Rácz, Stefan Bilasco and Ferenc Szilágyi* explores the evolution of urbanisation and metropolitan development in Romania. The study summarises the main features of the urban structure of Romania, with a special focus on metropolitan development, and as a case study presents a specific example of a

regional centre, the gateway cities, as a changing development path. The authors present a positive, optimistic vision for the future of gateway cities. The capital-centricity highlighted in the study is also constrained by the natural geography of Bucharest. It thus offers an opportunity to exploit the locational advantages of western peripheral cities (Arad, Timisoara, Oradea) as well as the autonomous development of remote and partially isolated cities such as Cluj-Napoca. Proximity to borders used to be a weakness, but now it has become an advantage. The study of *Szilárd Rácz* places the development of five major cities in Serbia (Belgrade, Novi Sad, Nis, Kragujevac and Subotica) in a spatial and temporal context. Serbia's statehood, state organisation, administrative and spatial features, as well as its geopolitical position and orientation have undergone fundamental changes over the last three decades. The latter have important implications for urban development, which are extensively analysed in the present paper by presenting the major trends of the selected cities. Despite the identification of general trends the cities have pursued highly divergent development trajectories.

The second group of papers examines the local (small towns) and regional (NUTS3) level of Hungary. The paper of *Réka Horeczki, Ernő Molnár and Gábor Pirisi* outlines the main characteristics of population change in small towns in Hungary. The authors examine spatial and functional differences in the population dynamics of small towns. The study presents the spatial distribution of the settlements identified by prosperous suburbs and shrinking cities by illustrating the changes in the population dynamics of the Hungarian small towns population over the last almost twenty years, in the light of the latest census data. The analysis' "big picture" reflects the precarious positions of rural centers facing shrinkage and the tendencies of relative deconcentration boosting the development of small towns in the agglomerations. This dual pattern of population dynamics generates challenges for both groups. *Judit Berkes and Tamás Dusek* – Rechnitzer professor's colleagues at the university and the doctoral school in Győr – analyse the changes in the socio-economic performance of Hungarian regions in the previous decade. Among the deep-rooted regional divisions and inequalities, the two most striking elements that remained unchanged over the past 25 years are the significant gap between the capital and the countryside and the favourable position of the North-West. Overall, there were only minor shifts in the performance of the counties in positive and negative directions, and the regional differences that emerged during the previous decades are very stable. The results clearly show that territorial economic and social disparities are very slowly changing structures, shaped to a large extent by long term economic and social history and cultural habits.

A specific theme – border studies – is the final focus of the thematic issue. Rechnitzer professor's outstanding research in the 1990s included the study of Hungarian-Austrian-Slovak cross-border regional relations and the modelling of the spatial diffusion of knowledge and innovations. The educational indicators are an important basis for spatial researches focusing on regional development. Border regions provide special conditions, this is explored in a long-term analysis of *János Pénzes, István Papp, Norbert Apáti and János Péter Kiss*. Border areas are generally characterized by worse educational attainment values compared to the Hungarian national average, but during the last more than six decades, significant convergence of data could be observed, in which the dominance of large towns is decisive. For this reason, suburbanization significantly impacts the spatial pattern of educational attainment in the border zones. Most parts of the settlements are below the national average, however general conditions are better in the case of the Austrian border section. Nevertheless, the previously assumed continuous development of this border section has not been confirmed by the analysis. The paper by *Tamás Hardi, Márta Nárai and Andrea Uszkai* is written by Rechnitzer professor's colleagues from the West Hungarian Research Institute founded by him in 1986. Cross-border suburbanization has developed in the Slovakian-Hungarian border, with Bratislava residents moving to nearby villages in Hungary. The open border is a prerequisite for their daily life, and they took a risk when they bought a property in another country. The study based on questionnaire survey and interviews examines how the closing of borders during the COVID-19 epidemic affected the lifestyle of Slovak citizens who settled in Hungary and commuted to Bratislava and the new situation of the cross-border area. There are signs that the lockdown has dissolved the previously entirely Bratislava-centric way of life.

As a sort of framing for the writings, the thematic issue concludes with a book review by *Ildikó Egyed* on the last opus of Professor Rechnitzer (Cities in Central and Eastern Europe, written in Hungarian, published by Publikon, co-editor: Ádám Páthy). We hope that you will find inspiring articles in this collection of studies.

We wish you a good reading,

Judit Berkes[1], Ildikó Egyed[2] and Szilárd Rácz[3]
Editors of the thematic issue

[1] Associate Professor of the Széchenyi István University in Győr.
[2] Research Fellow of the CERS Institute for Regional Studies in Pécs.
[3] Senior Research Fellow of the CERS Institute for Regional Studies in Pécs; Secretary General of the Hungarian Regional Science Association.

***DETUROPE** – THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 15 Issue 2 2023 *ISSN 1821-2506*

Original scientific paper

FROM THE "WEST OF THE EAST" TO THE "EAST OF THE WEST": THE POST-SOCIALIST ECONOMIC AND STRUCTURAL TRANSITION OF CENTRAL AND SOUTH-EASTERN EUROPE

Szilárd RÁCZ[a], Ildikó EGYED[b]

[a] CERS Institute for Regional Studies, 7621 Pécs, Papnövelde u. 22., racz.szilard@krtk.hun-ren.hu
[b] CERS Institute for Regional Studies, 7621 Pécs, Papnövelde u. 22., egyed.ildiko@krtk.hun-ren.hu

Cite this article: Rácz, S., Egyed, I. (2023). From the "West of the East" to the "East of the West": The post-socialist economic and structural transition of Central and South-Eastern Europe. *Deturope,* 15(2), 9-27.

Abstract

Despite its normative goals of deepening interstate integration, 'de-bordering' European societies and promoting a greater degree of territorial cohesion, the European Union remains a highly and intricately bordered space. Economic bordering within the EU involves the investigation of the geoeconomic relationships that have emerged as a result of global market re-integration and EU membership of post-socialist states during the economic transition of Central and South-Eastern Europe. The objective of this paper is to provide a comprehensive review of the transformation processes of the Central and South-Eastern European region.

Keywords: integration, transition, economic development, geoeconomics, core-periphery relations, urban development

INTRODUCTION

The objective of this paper is to provide a comprehensive review of the transformation processes of the Central and South-Eastern European region. The scope of the study does not include the examination of the Baltic States (Estonia, Latvia, Lithuania) the post-Soviet states of Eastern Europe (Moldova, Ukraine, Belarus), and the neighbouring EU member states (Austria, Greece, Germany) however, they will be used as a suitable reference point from a neighbourhood perspective.

Despite its normative goals of deepening interstate integration, 'de-bordering' European societies and promoting a greater degree of territorial cohesion, the European Union remains a highly and intricately bordered space. Economic bordering within the EU involves the investigation of the geoeconomic relationships that have emerged as a result of global market re-integration and EU membership of post-socialist states during the economic transition of Central and South-Eastern Europe (CEE & SEE). In our study we apply a geoeconomics

perspective assessing the role of Foreign Direct Investment (FDI) in the transformation as external capital dependency is one of the principal bordering patterns. The limitations of our approach are explained by the fact that we analyse CEE & SEE as part of a generalised heuristic of core-periphery relations in order to highlight the role of foreign economic influence. However, we suggest that these limitations are offset by our general conclusions regarding geoeconomic dependencies within the EU. This economic bordering is not new in the EU (Scott, 2002; Smith, 2002; van Houtum, 2002).

STATES, INTEGRATION

Tables 1 and 2 provide a summary of the most relevant features of the countries in the region. As noted by the authoritative work of Illés (2002, 62) "due to the vast expanse of its territory, Central and South-Eastern Europe, a region evolving under highly variegated historical circumstances, will naturally show a large degree of differentiation, heterogenous levels of development both between and within countries". As the author notes elsewhere (Ibid., 19), in 1815, at the time of the Vienna Congress, no other autonomous state formation existed in the region besides the Russian, Habsburg, Ottoman and Prussian Empires, which were each others' neighbours. In 1914, the number of autonomous small states increased to six (with the dissolution of the Ottoman Empire), then to 13 in 1920 (with the break-up of the Habsburg and Russian Empires), and finally to 21 in 1993, after the collapse of the Socialist Federations (USSR, Yugoslavia, Czechoslovakia), and the process is still ongoing (Montenegro and Kosovo).

Table 1 shows which state formations have given rise to new independent states and highlights their success in terms of Euro-Atlantic integration. From this perspective, the region under study has become an integral part of the European Union and the North Atlantic Treaty Organisation. From a global perspective, the majority of the countries of the macro-region appear to have embarked on a successful development path (despite the uncertain and cumbersome nature of the transition from the Soviet-style system). To paraphrase Zoltán Hajdú (2006, 6) and Jacques Rupnik (2005, 33), the repositioning of these countries from being the "West of the East" to the "East of the West", or in Saul Cohen's formulation (Cohen 2003), from its geopolitical role of "shatterbelt" to a "gateway region" indicates a transformation process whose depth and significance challenges the discursive boundaries of a mere systemic transition.

Table 1 Statehood and Euro-Atlantic integration in CEE & SEE

State	Last establishment[1]	EU-relations[2]	NATO-relations[2]
Albania	1912 (Ottoman Empire)	Candidate	NATO member (2009)
Bosnia & Herzegovina	1992 (SFR Yugoslavia)	Candidate	Candidate
Bulgaria	1908 (Ottoman Empire)	EU member (2007)	NATO member (2004)
Croatia	1991 (SFR Yugoslavia)	EU member (2013)	NATO member (2009)
Czech Republic	1993 (Czechoslovakia)	EU member (2004)	NATO member (1999)
Hungary	1920 (Austria-Hungary)	EU member (2004)	NATO member (1999)
Kosovo	2008 (Serbia)	Potential candidate	Potential candidate
Montenegro	2006 (FR Yugoslavia)	Candidate	NATO member (2017)
North Macedonia	1991 (SFR Yugoslavia)	Candidate	NATO member (2020)
Poland	1918 (1945*)	EU member (2004)	NATO member (1999)
Romania	1878 (1920*)	EU member (2007)	NATO member (2004)
Serbia	2006 (FR Yugoslavia)	Candidate	Potential candidate
Slovakia	1993 (Czechoslovakia)	EU member (2004)	NATO member (2004)
Slovenia	1991 (SFR Yugoslavia)	EU member (2004)	NATO member (2004)

Legend: 1 – Officially recognised as an independent state (former entity/new territory*); 2 – Date of entry.
Source: Own edition based on data from the CIA, the EU and NATO.

As indicated by Table 2, with the exception of Poland and Romania, these are small countries at a global scale also in terms of their population. The region has the highest density of national borders globally, giving rise to Guinness World Records in areas such as the highest number of countries visited per day by different means of transport. The neighbourhood relations of the countries of the region are characterized by cooperation, interdependence and competition. Due to their limited size (population, territory, market, etc.) and power position, dependency situations have seldom been successfully addressed by autonomy movements. Indeed, fundamental processes of transformation have been witnessed in the global division of labour and the systems of cooperation, highlighting how the economic fate of the macro-region had already been inextricably linked to the global economy in earlier decades. The developed world has been the sole source of support for a region afflicted by chronic capital shortages and enduring states of disequilibrium. The Soviet Union was willing to provide economic benefits primarily in line with its political and military interests, undermining the integration efforts of these countries into the Western economic system for a long time. It is worth noting, however, that the region was not integrated into the Soviet economic system, nor were the separate countries integrated with each other. At its inception, in the beginning of the 1990s, the lack of integration made the degree of financial dependence even more critical. Transnational companies have been the main drivers of the region's global economic integration (Rácz, 2019).

Table 2 General data of CEE & SEE states

State	Territory		Population		Urban population		GDP (PPP current Int.$)		HDI	
	Thou-sand km^2	Rank	Million (2019)	Rank	% (2018)	Rank	Billion USD (2020)	Rank	Value (2019)	Rank
Albania	28.7	141	2.8	140	62.1	95	41	116	0.795	69
Bosnia & Herzegovina	51.2	126	3.3	137	49	130	50	110	0.780	73
Bulgaria	110.9	104	6.9	108	75.6	58	164	74	0.816	56
Croatia	56.6	125	4.0	131	57.6	104	113	84	0.851	43
Czech Republic	78.9	116	10.7	87	74.1	61	436	47	0.900	27
Hungary	93.0	109	9.7	93	71.9	66	323	54	0.854	40
Kosovo	10.9	170	1.8	153	N/A	N/A	21	147	N/A	N/A
Montenegro	13.8	157	0.6	171	67.5	80	12	155	0.829	48
North Macedonia	25.7	146	2.1	150	58.5	101	35	129	0.774	82
Poland	312.7	70	38.2	38	60.0	97	1297	20	0.880	35
Romania	238.4	82	19.3	62	56.4	111	590	36	0.828	49
Serbia	77.5	117	6.9	107	56.4	111	133	80	0.806	64
Slovakia	49.0	128	5.5	119	53.8	119	179	71	0.860	39
Slovenia	20.3	151	2.1	149	55.1	118	83	95	0.917	22

Legend: The rank indicates the ranking according to the list of countries covered by the given statistics. Kosovo is not included in the current HDI ranking, in 2016 its HDI was approx. at the same level as Albania and Bosnia and Herzegovina. The UN has published Kosovo's urbanisation data for 2018, combined with Serbia. The share of urban population in Kosovo was approximately 50% in 2018, according to the official UN-Habitat website.
Source: Own editing based on data from the CIA, the UN, Eurostat, IMF and UNDP.

Illés (2002) has highlighted the instrumentality of TNCs in shaping processes of integration in post-socialist countries, but also the dependency relations which these cause. This echoes the insights of the VoC (varieties of capitalism) literature which enlarged the VoC typology with a third model in 2009, i.e., the so-called dependent market economy model (DME) that the Visegrad countries adhere to, characterized by strong FDI dependency, foreign bank dominance and external control (Nölke, 2018; Nölke &Vliegenthart, 2009; Gál & Schmidt, 2017; Gál & Lux, 2022). Their development paths show notable differences compared to the small tigers of Southeast Asia, as illustrated by the unique position of Central Europe as the "outsourced assembly platform" for European industry (Nölke & Vliegenthart, 2009), which, after a major setback, has experienced a powerful process of re-industrialization (Lux, 2017), leading to increased concentration and relocation into a CE Manufacturing core (Landesmann, 2003; Taylor, 2015). Indeed, as Illés (2002) pointed out in line with the discursive constructions of "new Europes" (Sokol, 2001; Smith, 2002), CEE & SEE countries have embarked on a unique development trajectory, with various degrees of advancement in democracy, pluralism and market economies. This is manifest in a differential ability to convert their inherently asymmetrical centre-periphery relations into mutual

interdependencies or a basis for further development, as demonstrated, for instance, by the example of the regionally embedded, sophisticated and diversified CE automotive industry commonly contrasted with an industrially disconnected southern periphery (Pavlínek et al., 2009).

Table 3 provides a detailed summary of the key developments in foreign trade. German companies ensured the greatest level of integration for this region, besides a large number of Western European MNEs. By the mid-1990s, the size of German venture capital investment in the Brazilian city of São Paulo had exceeded the total value for Central, South-Eastern and Eastern Europe, including the former Soviet Union but excluding the GDR (Ibid., 2002, 203). Although the transition departed from a low baseline level, the leading (Central European) countries did not require 15 years to catch up with São Paulo. As indicated by the trend and potential, governments in the region were not so much compelled to focus their efforts on attracting new capital investment, but rather on strengthening domestic firms and making them more capital-intensive, due to the substantial gaps with TNCs in this respect.

Table 3 The share of the major foreign trade partners, 2020

State	Export, %	Import, %
Albania	Italy (45.4) Serbia (12.0) Spain (6.1)	Italy (25.1) Turkey (9.6) Greece (9.0)
Bosnia & Herzegovina	Germany (15.5) Croatia (12.9) Serbia (11.6)	Germany (12.3) Italy (11.5) Serbia (11.3)
Bulgaria	Germany (14.8) Romania (8.7) Italy (7.3)	Germany (12.0) Russia (9.9) Italy (7.4)
Croatia	Germany (12.8) Italy (12.5) Slovenia (10.3)	Germany (15.3) Italy (12.3) Slovenia (11.3)
Czech Republic	Germany (32.7) Slovakia (7.6) Poland (6.2)	Germany (23.2) China (18.1) Poland (7.9)
Hungary	Germany (28.0) Slovakia (5.4) Italy (5.2)	Germany (24.8) China (7.7) Austria (5.8)
Montenegro	Serbia (28.3) Slovenia (10.0) Undef. (7.1)	Serbia (19.8) China (10.4) Germany (9.7)
North Macedonia	Germany (47.2) Serbia (7.9) Bulgaria (4.7)	UK (15.6) Germany (10.7) Serbia (7.8)
Poland	Germany (28.9) Czechia (5.9) UK (5.7)	Germany (21.9) China (14.4) Italy (5.0)
Romania	Germany (22.8) Italy (10.7) France (6.7)	Germany (20.8) Italy (8.9) Hungary (7.3)
Serbia	Germany (12.9) Italy (8.4) Bosnia-H. (7.1)	Germany (13.6) China (12.5) Italy (8.4)
Slovakia	Germany (22.0) Czechia (10.5) Poland (7.9)	Germany (18.4) Czechia (9.9) Undef. (9.0)
Slovenia	Germany (18.0) Switzerland (12.1) Italy (9.3)	Germany (14.0) Switzerland (12.7) Italy (10.8)

Source: Own editing based on data from the UN (2021).

From a geopolitical perspective, the position and status of Central Europe, having served as the major site/frontline of the confrontation between East and West during in Cold War era, has undergone a radical transformation after the demise of the Soviet Union (with the abandonment of its imperial ambitions) and the vanishing of this frontline. Political and economic instability is an enduring feature of the transitory "in-between" space of Central Europe (Smith, 2002; Scott, 2021; Páthy, 2022), as indicated by the repercussions of conflicts in Bosnia and Kosovo, reinforcing Western perceptions of the Balkans as Europe's "others"

compared the more civilized and western-oriented region of Mitteleuropa. EU integration has not been the major force shaping the growing economic interrelatedness and integration of Eastern and Western parts of Europe or Germany's dominant position in the region. The fact that post-reunification Germany has become the dominant economic and political power in the EU (as already evident at the turn of the millennium) is undebatable. However, its economic significance derives not so much from reunification but rather the new geopolitical situation, no longer positioned on the margins, at the eastern periphery of "democratic Europe" but at its core. Despite Germany's historically strained and tumultuous relations with the CEE countries, it is within the primary interest of these states to develop partnerships with the former. The unique bufferzone situation of the CEE & SEE region no longer holds, however, certain neighboring countries have retained their importance, most notably, Turkey and Ukraine, while an increasingly aggressive and expansionary Russia, despite no longer being an immediate neighbor, exerts a significant influence on Central and Eastern European countries, causing a deepening of fault lines between them (Prochwicz-Jazowska & Weber, 2023). The key dilemma for Russia is whether it is willing to renounce its power and military ambitions and focus its attention and resources on its internal economy, reforms and development (following the highly successful example of Germany, Japan and Italy post-World War 2). The answer is quite obvious nowadays as demonstrated by the escalating Russian-Ukrainian conflict.

Table 2 reveals the outstanding position of Poland in terms of nominal GDP at purchasing power parity, which was not so straightforward twenty years ago. The main contradiction in Poland's regional engagement, namely, the asymmetry of its political and economic potential is quite telling in this respect. At that time, Poland was still lacking the economic preconditions for becoming a dominant power in Europe. That said, Illés (ibid) noted how Poland's international prestige, the influence of its foreign diaspora, its regional and international standing and Slavic character, already evident in the course of EU accession, would allow it to claim a leadership role. It is worth noting that in his account of the dependent market economy, the author did not delve into Poland's specific endogenous development path. The Polish economy's development in the 1990s was fundamentally and predominantly inward-looking, fully reliant on the internal market, and the intensity of its external economic relations, particularly those with the CEE & SEE region, did not reflect its position as a middle power, either in terms of economic development or the value of its exports. Polish export volumes barely exceeded those of the Czech Republic or Hungary, with a population a quarter of the size of Poland's, and foreign investments were lagging behind

the comparator countries. In a twenty-year hindsight, the unique trajectory of Poland sheds a very different light on the concepts of development, success and dependency.

By the turn of the millennium, the CEE & SEE region had become an integral and inextricable part of Europe, a sort of "hinterland". At the same time, it is likely to retain its position as a unique region with its own interests, both in relation to Western Europe and the post-Soviet states (Scott, 2021).

In terms of foreign economic relations, the determining factors are the landlocked situation of the majority of states and their very different geographies, as a result of which foreign trade and economic cooperation has always been Europe-centric. The former empires acted as a powerful force shaping integration through the means of a currency and customs union. The collapse and dissolution of empires and the concomitant emergence of small countries was accompanied by a significant drop in the share of intra-regional trade. Not even the system of trade agreements and coordination under the CMEA under State Socialism was able to achieve a higher intensity of trade relations, reaching their historical low in the post-transition years, which, given the role of geographical distances, went against economic rationality.

In the trade of the countries surveyed, transnational companies generate most of the turnover by outsourcing production to these countries, hence, a significant part of their substantially increasing exports comes from the assembly of foreign imported components. While the domestic value added and revenues generated in the host country remain small, it is worth noting that MNEs have also come to dominate trade between small CEE countries. Rising trade between firms located in different countries advances integration, notably, by creating the previously lacking elements of interdependence and cooperation.

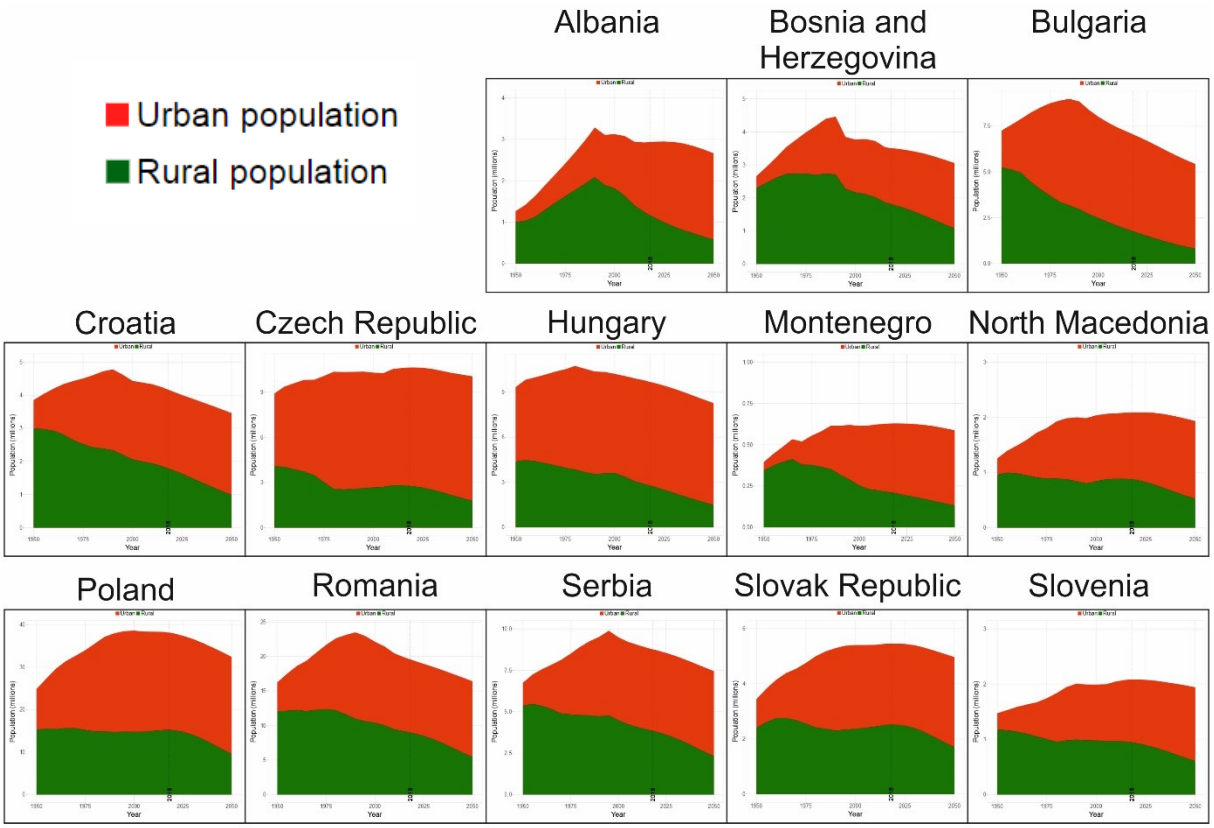
Examining ongoing integration efforts in the region, in the long run, no evidence of joint action has been found at the scale of Central Europe (e.g., confederation ideas, federalization of the former empire), nor has the idea of Pan-Slavism acquired any meaningful substance (presumably due to the Russians), while the expansionist and power ambitions of the reunified Germany have been crowned with success (Baranov, 2018). After two lost world wars, Germany emerged as a winner from the third one, the Cold War.

ECONOMIC AND URBAN DEVELOPMENT

As indicated by the last column of Table 2, internationally, the region's development and HDI indices are high (for four countries) or very high (for ten countries), which is a better indicator of actual prosperity and living standards than GDP per capita (see Berkes, 2016). The extent

to which development, population, territory and prosperity are correlated with urbanization remains unclear as the proportion of urban inhabitants does not necessarily reflect the actual state of development in the context of CEE & SEE.

Figure 1 The share of urban and rural population in CEE & SEE, 1950-2050

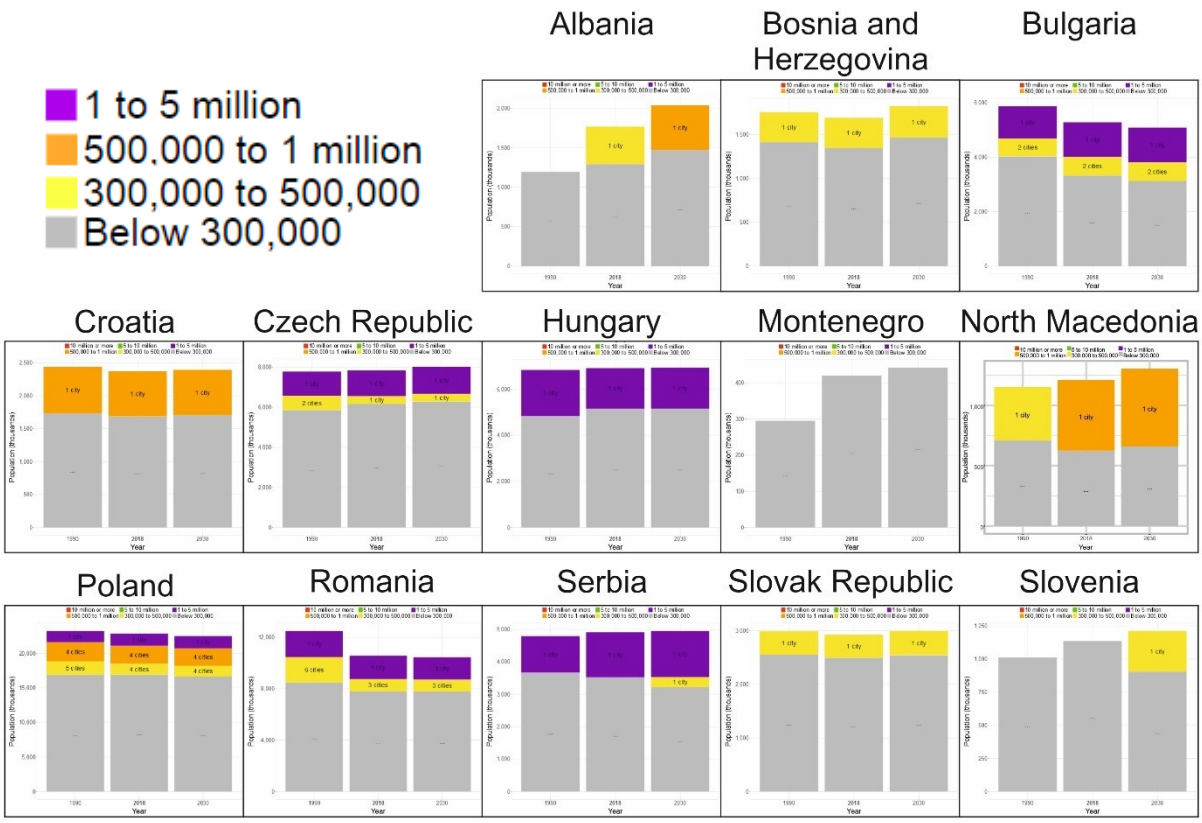


Source: Own editing based on UN data (2018)

It is therefore worth looking at Figure 1, which, drawing on the UN database and country-specific city definitions, illustrates the size and proportion of the urban-rural population. The figure clearly indicates population loss for the vast majority of countries in the region under State Socialism. The underlying factors are natural decrease, low fertility rates in all cases, and in some countries, international migration can offset domestic loss from natural decrease. The rising share of urban inhabitants coincides with the more substantial decline in the rural population and the inflow of rural migrants. Depopulation at the lowest level of the settlement hierarchy is a general and common characteristic of the CEE & SEE region not least due to the selective outmigration of the highly qualified population (Sucháček & Pytliková, 2017). This, alongside UN projections on the Visegrad countries, reinforces the claim that depopulation is likely to remain a defining trend for all of the countries. Hence, while there may be no significant rise in the number of urban inhabitants, its proportion will certainly increase. A key trend in territorial development is the changing distribution of the population

according to settlement hierarchy, not so much as a result of intensive or extensive urbanization but population decreases in the smallest rural settlements and the relative transformation of the position of small and medium-sized towns as an effect of suburbanization in metropolitan areas. Cities as the centres of economic activity and the primary locations of FDI and international firms show the most significant population-retention capacity in the long run.

Figure 2 The distribution of the urban population according to settlement category in CEE & SEE, 1990-2018-2030



Source: Own editing based on UN data (2018).

City size distributions in the urban network are illustrated by UN figures (Figure 2). The largest category, i.e., megacities of ten million, is absent in the region, and cities of one million inhabitants are found in less than half of the countries. The data indicate a relatively stable urban population for the period between 1990 and 2030, with some countries (Albania, Montenegro) showing a rising trend due to a very low baseline level. In some countries the declining share of the overall urban population is attributable to drastic population loss. The distribution reveals that, with few exceptions, these countries are dominated by a single metropolitan area, their national capitals acting as major nodes and key command and control centres in their respective national urban and regional systems. Besides the capital cities, the

secondary beneficiaries of the transition are the big cities with favorable locational factors situated in the western part of the countries (e.g., Győr, Kosice, Timisoara, Oradea, Plzeň), capable of attracting FDI and thus undergoing rapid economic restructuring and giving rise to several success stories (Rechnitzer & Berkes, 2021; Rechnitzer, 2022). By contrast, the eastern half of the macro-region concentrates the majority of stagnating or lagging behind areas, e.g., the former industrial centres and socialist towns, with demographic erosion, a fragmented settlement structure, sporadic urbanization, problems of economic restructuring, and the weakness of centrifugal forces of regional centres highlighted as their enduring features. Due to the sparser network of cities, the development of regional centres is disconnected from their predominantly rural hinterlands, showing a lower complementarity and interdependence (Rechnitzer & Páthy, 2022). Despite their commitment to the normative ideal of polycentrism, the majority of the countries are struggling with the "capital city syndrome" (Zdanowska, 2015; Scott, 2017; Rechnitzer, 2022), with the exception of Poland, the only country in the macro-region characterized by an absence of macrocephaly and the presence of cities of international significance (e.g. Kraków, Łódź, Wroclaw, Poznań). Poland shows the features of the polycentric setting with numerous and evenly spatially distributed representation of large and medium-sized towns, and a network of fully-fledged, balanced regional centres (Zdanowska, 2015; Páthy, 2017). By contrast, in centralized monocentric settings the second tier of the urban network is dwarfed by the capital in terms of both size and function. This is particularly evident in the Romanian, Bulgarian or Hungarian case where despite numerous state-led initiatives a counter-pole system could not be formed within the city network (Rechnitzer et al., 2019; Szabó et al., 2021; Sandu, 2023).

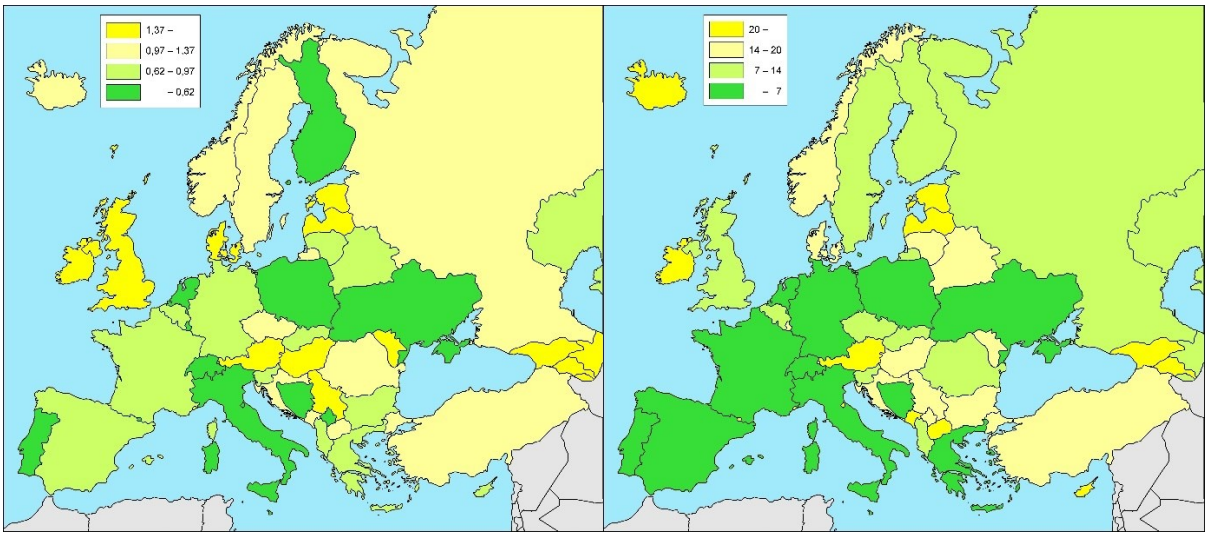
No significant change is anticipated in this respect in the near future, as indicated by the remarkable stability of the urban network or the developed structure of economic sectors (see Rechnitzer et al., 2014; Sávai et al., 2022), showing only minor shifts and modest rearrangements. Importantly, after a steep decline of their population in the 1990s, diverging demographic processes have begun to take shape in the post-millennial development of regional centres of several countries, with the majority qualifying as "small big cities" with a population of 100 to 200 thousand (Páthy, 2017; Rechnitzer & Páthy, 2022). However, studies examining the major trends of polarization in the urban network in selected CEE countries (Csizmadia & Páthy, 2010; Dogaru et al., 2014; Berkes & Páthy, 2014; Berkes, 2020; Korcelli & Olejniczak, 2021) do not necessarily confirm positive developments for second-tier city regions, undermining their networked FDI-based development due to a lack of knowledge assets and critical size. Moreover, the socio-spatial transformation processes of

the city regions themselves are indicative of heteropolitanization (Gentile et al., 2012; Neugebauer & Kovács, 2015) understood as the growing prevalence of socially, economically, culturally and spatially heterogeneous and complex urban spaces. By the same token, the structurally weak macro-regional centers in the Western Balkans cannot counteract the dominance of the respective capitals, given the small size and the limited resources of the former Yugoslavian successor states which barely exceed the size of a Western European NUTS2 region.

In the successor states, we see the consolidation of the new state territory and their own network of cities. The development of the new capitals is the most significant (Figure 3).

Figure 3 Capital city-centricity in Europe

A) Share of capital city in total population, % B) Population share of the capital and the following five cities



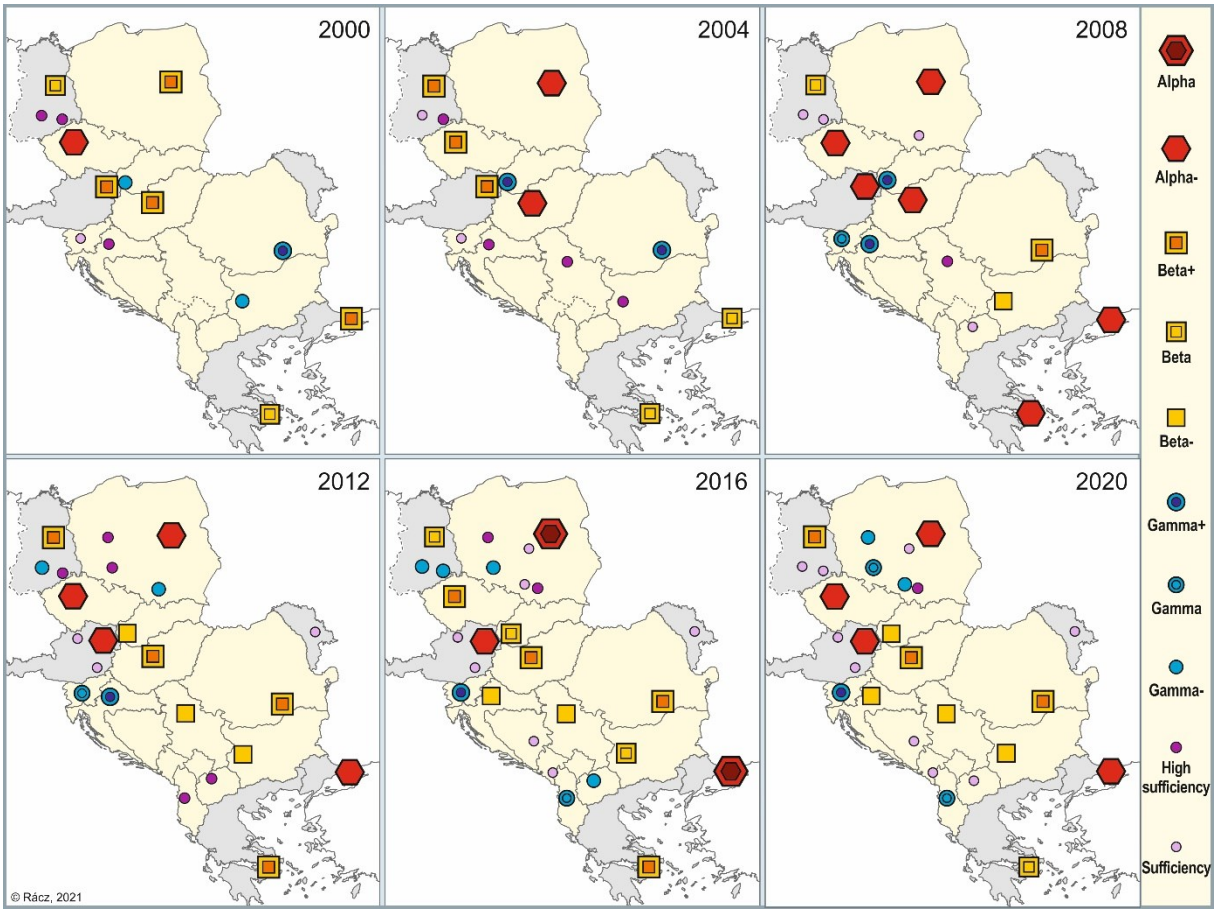
Source: Own editing based on data from national statistical offices.

However, the share of capitals in the total population shows a varied picture and the region is not unique in European comparisons (average: 17%, median: 14%). Of course, a different picture would emerge if we were to look at the national population share of the metropolitan agglomeration, or functional urban area, rather than the administrative area of the capital. The functional development of capital cities also has a significant impact on the nature of the spatial structure and the development of inter-urban and inter-state relations. Taking into account the trends of the last two decades, capital cities continue to strengthen, their central functions become more complex and their development is faster than that of other cities. Macro-regional centres are relatively weak or cannot even be seen as real counterweights, which is a natural consequence of the small size and scarce resources of the states, which are only sufficient to 'produce' one large city. At the same time, the progress of the 'big cities'

following the capital in the hierarchy is spectacular. The proportion of the population of the capital cities and the five metropolitan areas following the capital also expresses a kind of polycentricity (or, in our case, monocentricity, capital-centricity). However, in a European comparison (average: 1.1, median: 0.97), the region cannot be considered unique from this point of view.

The most modern global cities' added value is represented by the so-called APS (advanced producer services) firms, whose evolution is illustrated in Figure 4.

Figure 4 GaWC global cities in CEE & SEE, 2000–2020



Source: Own editing based on data from Globalization and World Cities Research Network (2021)

Although the previous two figures indicate natural decrease and declining or stagnating metropolitan populations for most of the countries, Figure 4 reveals the presence of advanced producer service firms in the major cities of the region. Some neighboring countries (East Germany, Austria, Moldova, European part of Turkey, Greece) are also depicted on the map as a reference to highlight the emergence of services FDI alongside industrial FDI in the CEE & SEE region and the capital-centricity of this process, with the exception of Poland (Rácz, 2019).

Due to the differences in performance and income preserving development gap between EU15 and CEE can also be seen that economic bordering is inherent to the systemic and geo-economic relationships that have emerged as a result of EU integration of post-socialist states during the economic transition of CEE. We argue that processes of economic bordering are inherent to the geo-economic relationships that have emerged as a result of EU market integration and membership of post-socialist countries in the form of dependent development of the Eastern European semi-periphery or super-periphery (Sokol, 2001) of the EU. In this context, economic bordering examines the links between post-socialist transformation, internal problems of capital accumulation and the dominance of FDI, and the conditions for economic integration, while also assessing the results of the convergence achieved. At the same time, neoliberal narratives emphasized East-West convergence, a "normalization" of Eastern Europe by returning it to the European mainstream (Smith, 2002), promoting its catching-up (liberalization, marketing, privatization, and FDI) whereas post-crisis disappointment exacerbated post-2008 slowdown and stagnation, increased vulnerability and economic imbalances in the region (Smith & Swain, 2010). Indeed, compounded with a widening urban-rural divide, emerging conservative issue-based alliances and populist manifestos across Europe (Rodriguez-Pose, 2018; Gorzelak, 2019; Anghel, 2020; Dijkstra et al., 2020), territorial imbalance-related problems arising from persistently low levels of regional economic growth in less developed, non-agglomerated parts of the EU can lead to growing political and economic instability, undermining the European integration project. The varying degrees of economic dependence and economic performance across the region are also related to the differential exposure to FDI in the countries and the success of heterogeneous institutional, political systems and economic policies (Drobniak et al., 2017). We argue here that economic borders reflecting a different economic performance gap between CEE and the West are still alive, rigid and slow to change.

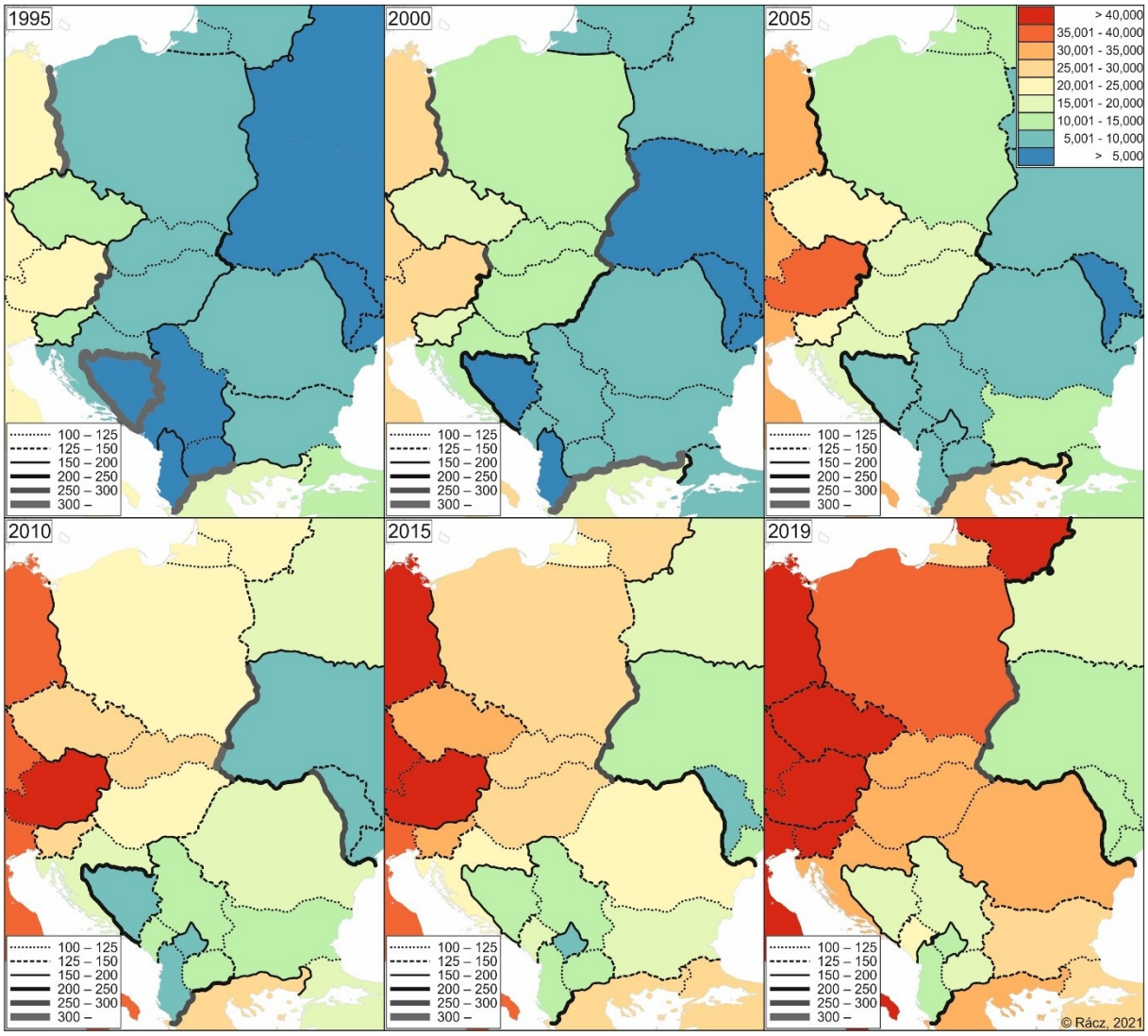
FAULT LINES – INSTEAD OF A CONCLUSION

Post-socialist economies have achieved a rather fragile equilibrium that allows for distinct kind of economic development intrinsically rooted within an international division of labour. However, this fragile equilibrium is not only dependent on internal development, but also largely depends on continuous external shocks (2008, COVID, energy crisis) to which the region's small and open economies are less resilient.

The slow catching-up of CEE countries towards the EU average can be observed at the national level but there is no significant income convergence detected. However, integration has led to fragmentation and more significant heterogeneity at the sub-national level. Instead of a summary, the paper concludes by briefly addressing the role of borders as fault lines.

Figure 5 illustrate economic development and the evolution of economic fault lines. The figure shows the relative development of the neighboring countries, by depicting the ratio of national GDP per capita in the border area (the thickness of the borderline indicating the size of the gap).

Figure 5 Economic development and fault lines in CEE & SEE, 1995-2019



Legend: The colors indicate GDP per capita values at purchasing power parity (USD current prices), while the line thickness indicates GDP per capita ratios of neighboring states or provinces.
Source: Own edition based on data from the World Bank (2021).

Notwithstanding the lack of income convergence, CEE countries appear to be slowly catching up with the EU average at the national level. Their very low initial GDP and FDI bases are largely responsible for this trend (Bevan & Estrin, 2004), but in the long run, their FDI-led model does not contribute to prosperity, welfare and domestic capital accumulation, due to significant income outflows and the increasing appropriation of surplus value in an east-west direction (Gál & Lux, 2022; Drahokoupil & Galgóczi, 2015). However, this integration has led to fragmentation at the sub-national level, as demonstrated, for instance, by the spatially uneven distribution of FDI at the forefront of re-industrialization (Páthy, 2022; Gál & Lux, 2022). Figure 5 shows, for instance, the reconstruction after the South Slavic wars (Bosnia and Herzegovina), the positive impact of EU accession (Austria and Germany vs. the V4 countries; Hungary vs. Romania), the aftermaths of the 2008 economic crisis (loss of comparative advantage: Greece and Slovenia), and the post-2014 effects of the war in Ukraine. The figure confirms the statement of Iván Illés (2002, 276) according to which "the most important challenges of integration are never articulated within a single country, but in relation to two or more countries". The common spatial structural challenges facing the CEE & SEE countries have been amplified by the 2020 coronavirus crisis, triggering a series of covidfencing measures with negative implications for regional and local economic development, particularly in European cross-border areas (Medeiros et al., 2020). The pandemic has led to intensifying health inequalities and the emergence of new types of inequalities, highlighting the role of settlement hierarchies, core-periphery relations and social stratification in determining the severity of COVID outcomes (Kovács et al., 2020; Uzzoli et al., 2021; Szentes et al., 2023).

In terms of the outstanding development and growing role of capital cities, it is confirmed that their absolute and relative weight is inevitable. 1) On the one hand, this is a specific consequence of the change in the political structure. On the other hand, the small size (potential, resources) of most of the states also means that capital-centricity is extreme. Only the number one city is able to develop and promote the development of its capital. 3) Thirdly, because of the top-down modernisation along the settlement hierarchy, the development of capital cities always precedes that of other cities in time, thus increasing their relative advantage and their functional expansion. The strengthening of the entire urban network, its polycentric, balanced development, is only the next step. Plans and programmes in almost all countries already point to this. Integration links have set in motion this new stock of capital cities in a European dimension, where, however, none of the cities are functionally significant.

At the same time, we have discussed the different core-periphery ideas in terms of their suitability for interpreting the geoeconomic context. We have evaluated the role of foreign capital, and the FDI model in particular, in conditioning geo-economic relations and exacerbating the vulnerability of CEE economies. External capital dependency in postcolonial dependency regimes poses long-term disadvantages for the accumulation of financial, human, and even social capital a problem that can be considered a historical weakness of CEE, especially after periodic "transformation crisis" caused by frequent regime changes and the accompanying transformation losses (Huigen & Kołodziejczyk, 2023). The limitations of our approach are given by the fact that we analyze CEE as part of a generalized heuristic of core-periphery relations in order to highlight the role of foreign economic influence and investment in CEE. However, we suggest that these limitations are offset by our general conclusions regarding geoeconomic dependencies within the EU.

Acknowledgement

Research for this publication has been supported by National Research, Development and Innovation Office – NKFIH grant #134900 (The development processes of Central and Southeast European cities).

REFERENCES

Anghel, V. (2020). Together or Apart? The European Union's East–West Divide, *Survival,* 62(3), 179-202, http://doi.org/10.1080/00396338.2020.1763621

Baranov, N. (2018). Central-Eastern Europe in the European political and historical-geographical context. *Politeja,* 57, 49-64. https://doi.org/10.12797/Politeja.15.2018.57.03

Berkes, J. (2016). I like living here. Social stratas attachment to the Hungarian big cities. *Deturope,* 8(2), 8-22. http://doi.org/10.32725/det.2016.011

Berkes, J. (2020). The economic structure and performance of the catchment area of the Hungarian regional centers. *Deturope,* 12(3), 58-81. http://doi.org/10.32725/det.2020.022

Berkes, J., & Páthy, Á. (2014). Economic Achievements of Hungarian City-Network and its Employment Potential. International. *International Journal of Arts & Sciences,* 7(2), 35-45. http://www.universitypublications.net/ijas/0702/pdf/B4R303.pdf

Bevan, A., & Estrin, S. (2004). The determinants of foreign direct investment into European transition economies. *Journal of Comparative Economics,* 32(4), 775-787. https://doi.org/10.1016/j.jce.2004.08.006

CIA's World Factbook https://www.cia.gov/the-world-factbook/ (Downloaded: 2023.08.15.)

Cohen, S. B. (2003). *Geopolitics of the world system.* Rowman & Littlefield.

Csizmadia, Z., & Páthy, Á. (2010). Győri elit és a városfejlődés – a gazdasági és társadalmi folyamatok megítélése. *Tér és Társadalom,* 24(2), 63-91. http://doi.org/10.17649/TET.24.2.1314

Dijkstra, L., Poelman, P., & Rodríguez-Pose, A. (2020). The geography of EU discontent, *Regional Studies,* 54(6), 737-753, http://doi.org/10.1080/00343404.2019.1654603

Dogaru, T., Burger, M., Oort, F., & Karreman, B. (2014). The Geography of Multinational Corporations in CEE Countries: Perspectives for Second-Tier City Regions and European Cohesion Policy. *Investigaciones Regionales*. 193-214.

Drahokoupil, J., & Galgóczi, B. (2015). Foreign direct investment in eastern and southern European countries: still an engine of growth? In Galgóczi, B., Drahokoupil J., & Bernaciak, M. (Eds.), *Foreign investment in Eastern and Southern Europe after 2008: still a lever of growth?* (pp. 19-35), Brussels: ETUI.

Drobniak, A., Polko, A., & Sucháček, J. (2017). Transition and resilience in Central and Eastern European regions. In Lux, G., & Horváth, Gy. (Eds.), *The Routledge Handbook to Regional Development in Central and Eastern Europe* (pp. 240-260). London-New York: Routledge. https://doi.org/10.4324/9781315586137

Gál, Z., & Lux, G. (2022). FDI-based regional development in Central and Eastern Europe: A review and an agenda. *Tér és Társadalom,* 36(3), 68-98. http://doi.org/10.17649/TET.36.3.3439

Gál, Z., & Schmidt, A. (2017). Geoeconomics in Central and Eastern Europe: Implications of FDI. In Munoz, J. M. (Ed.), *Advances in Geoeconomics* (pp. 76-93).London-New York: Routledge. https://doi.org/10.4324/9781315312132

Gentile, M., Tammaru, T. & Van Kempen, R., (2012). Heteropolitanization: Social and spatial change in Central and East European cities. *Cities*, 29(5), 291-299. DOI: http://doi.org/10.1016/j.cities.2012.05.005

Gorzelak, G. (Ed.) (2019). *Social and Economic Development in Central and Eastern Europe. Stability and Change after 1990.* London: Routledge. https://doi.org/10.4324/9780429450969

Hajdú Z. (2006). A Kelet nyugatjáról, a Nyugat keletjéről. In Kertész, Á. et al. (szerk.), *III. Magyar Földrajzi Konferencia.* Budapest, MTA Földrajztudományi Kutatóintézet. http://geography.hu/mfk2006/pdf/Hajd%FA%20Zolt%E1n.pdf

Huigen S., Kołodziejczyk D. (Eds.) (2023). *East central Europe between the colonial and the postcolonial in the twentieth century*. Palgrave Macmillan. https://doi.org/10.1007/978-3-031-17487-2

Illés, I. (2002). *Közép- és Délkelet-Európa az ezredfordulón: Átalakulás, integráció, régiók.* Budapest-Pécs: Dialóg Campus Kiadó.

IMF (2021). *World Economic Outlook (October 2021).* International Monetary Fund. https://www.imf.org/external/datamapper/datasets/WEO (download: 2023.08.15.)

Korcelli-Olejniczak, E. (2021). Small towns in settlement systems: A return to the foreground. In Bański, J. (Ed.), *The Routledge Handbook of Small Towns* (pp. 20-31). NY: Routledge. https://doi.org/10.4324/9781003094203

Kovács, S. Z., Koós, B., Uzzoli A., Páger B., & Egyed, I. (2020). Regional effects of the COVID-19 pandemic and policy responses in Hungary. *R-Economy,* 6(3), 208-221. http://doi.org/10.15826/recon.2020.6.3.018

Landesmann, M. A. (2003). Structural features of economic integration in an Enlarged Europe: patterns of catching-up and industrial specialisation (No. 181). Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

Lux, G. (2017). *Újraiparosodás Közép-Európában*. Budapest-Pécs: Dialóg Campus Kiadó. http://real.mtak.hu/id/eprint/37947

Medeiros, E., Ramírez, M. G., Ocskay, Gy., & Peyrony, J. (2020). Covidfencing effects on cross-border deterritorialism: the case of Europe. *European Planning Studies,* 29(5), 962-982. http://doi.org/10.1080/09654313.2020.1818185

Neugebauer, C., & Kovács, Z. (2015). Paths of socio-spatial change in post-socialist cities—Insights from five city-regions in Central and Eastern Europe. In Lang, T., Henn, S., Sgibnev, W., & Ehrlich, K. (Eds.), *Understanding Geographies of Polarization and Peripheralization: Perspectives from Central and Eastern Europe and Beyond* (pp. 171-196). London: Palgrave Macmillan. https://doi.org/10.1057%2F9781137415080

Nölke, A., & Vliegenthart, A. (2009). Enlarging the varieties of capitalism: The emergence of dependent market economies is East Central Europe. *World Politics*, 4., 670-702. https://doi.org/10.1017/S0043887109990098

Nölke, A. (2018). Dependent versus state-permeated capitalism: two basic options for emerging markets. *International Journal of Management and Economics,* 54(4), 269-282. https://doi.org/10.2478/ijme-2018-0026

Páthy, Á. (2017). Types of development paths and the hierarchy of the regional centres of Central and Eastern Europe. *Regional Statistics,* 7(2), 124-147. http://doi.org/10.15196/RS07202

Páthy, Á. (2022). A városfejlődés történeti keretei Kelet-Közép-Európában. In Rechnitzer, J., & Páthy, Á. (szerk). *Nagyvárosok Kelet- és Közép-Európában* (pp. 65-106). Győr: Publikon - KRTK RKI.

Pavlínek, P., Domański, B., & Guzik, R. (2009). Industrial Upgrading Through Foreign Direct Investment in Central European Automotive. *European Urban and Regional Studies,* 16(1), 43-63. https://doi.org/10.1177/0969776408098932

Prochwicz-Jazowska, M., & Weber, G. (2023). Europe's Center of Gravity Has Not (Yet) Shifted East. Internationale Politik Quarterly. April 4. https://ip-quarterly.com/en/europes-center-gravity-has-not-yet-shifted-east

Rácz, S. (2019). Development Processes of Regional Centres in Central and Southeast Europe – From State Socialism to Dependent Market Economies. *Deturope*, 11(2), 92-100. http://doi.org/10.32725/det.2019.017

Rechnitzer, J. (2022). Kelet- és Közép-Európa nagyvárosai a magyar kutatásokban. A kitekintő regionális tudomány. In Rechnitzer, J., & Páthy, Á. (szerk.), *Nagyvárosok Kelet- és Közép-Európában* (pp. 13-64). Győr: Publikon - KRTK RKI.

Rechnitzer, J. (2022). Kelet-közép-európai nagyvárosok térben és időben. In Rechnitzer, J., & Páthy, Á. (szerk.). *Nagyvárosok Kelet- és Közép-Európában* (pp. 125-185). Győr: Publikon - KRTK RKI.

Rechnitzer, J., & Berkes, J. (Szerk.) (2021). *Nagyvárosok Magyarországon.* Budapest: Ludovika Egyetemi Kiadó.

Rechnitzer, J., & Páthy, Á. (2022). Fejlődési trendek nagyvárosi dimenziókban Kelet- és Közép-Európában. In Rechnitzer, J., & Páthy, Á. (szerk). *Nagyvárosok Kelet- és Közép-Európában* (pp. 303-314). Győr: Publikon - KRTK RKI.

Rechnitzer, J., Berkes, J., & Filep, B. (2019). The most important city development initiatives of Hungary. *Regional Statistics,* 9(2), 20-44. http://doi.org/10.15196/RS090204

Rechnitzer, J., Páthy, Á., & Berkes, J. (2014). A magyar városhálózat stabilitása és változása. *Tér és Társadalom,* 28(2), 105-127. http://doi.org/10.17649/TET.28.2.2623

Rodriguez-Pose, A. (2018) The Revenge of the Places That Don't Matter (And What to Do About It). *Cambridge Journal of Regions, Economy and Society,* 11(1), 189-209. http://doi.org/10.1093/cjres/rsx024

Rupnik, J. (2005). Panell speach in Session I: Between Germany and Russia, Europe and America: historical points of reference of Central and Eastern Europe. In Kamińska, M. E. (Ed.) New Geopolitics of Central and Eastern Europe. Between European Union and United States. Stefan Batory Foundation, Warsaw 2005. http://pdc.ceu.hu/archive/00002388/01/geopolityka.pdf#page=33

Sandu, A. (2023). The post-socialist cities from Central and Eastern Europe: Between spatial growth and demographic decline. *Urban Studies,* 0(0). https://doi.org/10.1177/00420980231189261

Sávai, M., Bodnár, G., Mozsár, F., Lengyel, I., & Szakálné Kanó, I. (2022). Spatial aspects of the restructuring of the Hungarian economy between 2000 and 2019. *Deturope,* 14(3), 15-33. http://doi.org/10.32725/det.2022.020

Scott, J. W. (2002). A Networked Space of Meaning? Spatial Politics as Geostrategies of European Integration. *Space and Polity,* 6(2), 147-167. https://doi.org/10.1080/1356257022000003608

Scott, J. W. (2017). Rebordering Central and Eastern Europe. In Lux, G., & Horváth, Gy. (Eds.), *The Routledge Handbook to Regional Development in Central and Eastern Europe* (pp. 175-187). London-New York: Routledge. https://doi.org/10.4324/9781315586137

Scott, J. W. (2021). Post-Millennial Visegrád Four Geopolitics: Illiberalism and Positionality within the EU. *Deturope,* 13(2), 13-33. http://doi.org/10.32725/det.2021.011

Smith, A., & Swain, A. (2010). The Global Economic Crisis, Eastern Europe, and the Former Soviet Union: Models of Development and the Contradictions of Internationalization. *Eurasian Geography and Economics,* 51(1), 1-34. http://doi.org/10.2747/1539-7216.51.1.1

Smith, A. (2002). Imagining Geographies of the "New Europe" Geo-economic Power and the New European Architecture of Integration. *Political Geography,* 21, 5647-5670. http://doi.org/10.1016/S0962-6298(02)00011-2

Sokol, M. (2001). Central and Eastern Europe a Decade After the Fall of State-socialism Regional Dimensions of Transition Processes. *Regional Studies,* 35(7), 645-655. https://doi.org/10.1080/00343400120075911

Sucháček, J., & Pytliková, M. (2017). The regional dimension of migration and labour markets in Central and Eastern Europe. In Lux, G., & Horváth, Gy. (Eds.), *The Routledge Handbook to Regional Development in Central and Eastern Europe* (pp. 211-224). London-New York: Routledge. https://doi.org/10.4324/9781315586137

Szabó, P., Józsa, V., & Gordos, T. (2021). Cohesion policy challenges and discovery in 2021-2027. The case of Hungary. *Deturope,* 13(2), 66-100. http://doi.org/10.32725/det.2021.014

Szentes, V., Morvay, S., Berkes, J., & Szakály, Z. (2023). Járványok térbeli terjedése. A Covid19-járvány öt hullámának térbeli relációi Győr-Moson-Sopron megye példáján. *Statisztikai Szemle,* 101(8), 739-755. http://doi.org/10.20311/stat2023.08.hu0739

Taylor, P. (2015). Industrial Zone Shifts East in Europe. *The New York Times.* March 16, 2015. https://www.nytimes.com/2015/03/17/business/international/industrial-zone-shifts-east-in-europe.html

UN (2018) *Revision of World Urbanization Prospects*. United Nations. https://population.un.org/wup/ (download: 2023.08.15.)

UN (2021) World Statistics Pocketbook, 2021 edition. New York, United Nations.

Uzzoli, A., Kovács, S. Z., Fábián, A., Páger, B., & Szabó, T. (2021). Spatial analysis of the Covid-19 pandemic in Hungary: Changing epidemic waves in time and space. *Region*, 8(2), 147-165. https://doi.org/10.18335/region.v8i2.343

van Houtum, H. (2002). Borders of Comfort: Spatial Economic Bordering Processes in and by the European Union. *Regional & Federal Studies,* 12(4), 37-58. https://doi.org/10.1080/714004772

Zdanowska, N. (2015). Metropolisation and the Evolution of Systems of Cities in the Czech Republic, Hungary and Poland since 1950. *Deturope,* 7(2), 45-64. http://doi.org/10.32725/det.2015.015

***DETUROPE** – THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 15 Issue 2 2023 *ISSN 1821-2506*

Original scientific paper

EVOLUTION OF URBANISATION AND METROPOLITAN DEVELOPMENT IN ROMANIA

Réka HORECZKI[a], Szilárd RÁCZ[b], Stefan BILASCO[c,d], Ferenc SZILÁGYI[e]

[a] CERS Institute for Regional Studies, 7621 Pécs, Papnövelde u. 22., horeczki.reka@krtk.hun-ren.hu
[b] CERS Institute for Regional Studies, 7621 Pécs, Papnövelde u. 22., racz.szilard@krtk.hun-ren.hu
[c] Faculty of Geography, Babes-Bolyai University, 400006 Cluj-Napoca, 5-7. Str. Clinicilor, stefan.bilasco@ubbcluj.ro
[d] Cluj-Napoca Subsidiary Geography Section, Romanian Academy, 400015 Cluj-Napoca, 9. Str. Republicii
[e] Faculty of Economics and Social Sciences, Partium Christian University, 410209 Oradea, 36. Str. Primăriei, ferenc.szilagyi@partium.ro

Cite this article: Horeczki, R., Rácz, S., Bilasco, S., Szilágyi, F. (2023). Evolution of urbanisation and metropolitan development in Romania. *Deturope,* 15(2), 28-47.

Abstract

The study summarises the main features of the urban structure of Romania, with a special focus on metropolitan development. Romanian settlement development since the regime change has been essentially urban-focused. Concentrated social, economic and environmental problems are identified at the urban level, which have facilitated the regional division and the designation of regional centres. These specific development areas have identified urban and rural problems for which coherent solutions have been sought. Urban areas of attraction are considered subordinate to the centre, with the exception of tourist destinations, where the geographical location of *natural***,** historical, architectural or artistic assets opens up development opportunities for rural areas independently of cities. The Romanian system provides a starting point for further reflection on the spatial categories of Hungarian spatial development, as it considers the urban-rural functional area as the basic unit of development policy and does not rigidly adhere to the existing administrative structure. The paper presents a specific example of a regional centre, the gateway cities, as a changing development path.

Keywords: growth-pole, urban network, Romania, metropolitan structure, population change

INTRODUCTION

Romania is located at the meeting point of three major regions – Central, Eastern and Southern Europe. Its geography is dominated by the Carpathians, the Danube and the Black Sea (Săgeată, 2010). The country is geographically highly fragmented, with the Carpathians running through its central areas, dividing it into two large units: the part within the Carpathian Basin and the part beyond the Carpathians. The topography is extremely varied, with almost everything from high mountains to lowlands.

The reorganisation of the territorial-administrative system has been a serious economic-social and political issue since the period of state socialism and the unification of Romania.

With the establishment of modern Romania after the First World War, geographic and historical regions with very different levels of development and spatial structures were brought together in a single state. Despite almost a century of homogenisation, these historical differences persist to this day (Miklósné Zakar, 2015). Transylvania, Moldova and the Wallachia are the three large regions of the country, which can be divided into several smaller geo-historical regions: Banat, Partium, Maramures and historical Transylvania; Bukovina and Moldova; Oltenia, Muntenia and Dobrogea (Cocean, 2008). In general, Partium is more difficult to demarcate than Szeklerland, Dobruja, Bukovina, where clear borders can be drawn (Szilágyi & Elekes, 2020). There are many historical interpretations of Partium. Today, the western and northern borders of the Partium region are stabilised by the state border (western Hungary, northern Ukraine), while the southern (Mures Valley) and eastern (Transylvanian-Higher Mountains, Transylvanian Plateau, Eastern Carpathians) borders are partly natural (Szilágyi, 2013, 2019a, 2019b). Natural geography is an essential and fundamental asset, both in terms of socio-geographical distances and transport infrastructure.

The Administrative Union Act of 1925 provided for the centralisation of four major territorial units: Transylvania, Bukovina, Bessarabia and Romania. On the one hand, the administrative network of Greater Romania carried the system of the Hungarian duchy system, the Romanian “judet” mega-system, the district-based (bezirk) system of Bukovina and the rural (tinut) system of Bessarabia. In the Romanian redistributions of administrative units, the local levels - the village and town units - were left unchanged, while the district and county levels were merged and divided up on several occasions. After the Second World War, the spatial structure (industrial, economic, administrative and partly ethnic) and the settlement network of Romania developed in a way that was completely subordinated to political expectations. Territorial policy was the result, almost of necessity, of changes in borders, of the considerable differences in development between the regions and of the ideological foundations of the system. The dynamic (and controlled) post-war population growth in itself required a comprehensive settlement policy, which in the case of Romania meant a full-scale systematisation: socialist urbanisation (industrialisation, urban development and redevelopment), controlled internal migration (in Transylvania, consciously changing the ethnic composition) and village restructuring (Hajdú, 2012; Horeczki & Nagy, 2017). The municipal policy of the socialist era in Romania was predominantly urban. One of the consequences of the economic, social and regional policies of the socialist era was a high level of internal migration. Due to the extent of internal migration, at the end of the period, one third of the country's population and half of the urban population did not live in the

municipality where they were born. Romania's population grew from 15.8 million in 1948 to 23.2 million in 1990, thanks to sometimes harsh state population policies, which in itself raised the question of economic, social, urban and housing development (Hajdú, 2013). By 1997, the redistribution of the territory of the counties resulted in the creation of 41 medium-level territorial units in the country. The 'drawing' of development regions took no account of cultural, historical or geographical traditions. The current administrative system is made up of 8 development regions, 41 counties and Bucharest, 319 towns and 2686 municipalities. The Romanian territorial-administrative system is based on the tripartite division of municipalities, cities and counties. The municipality is an administrative-political unit comprising several settlements. Originally, the number of municípium was much lower, and although in legal terms it does not mean exactly the same as county seat in Hungary, it is also a privileged level of towns and many authors translate municípium (perhaps incorrectly) as county seat. Even if this is not correct in terms of the level in the hierarchy of municipalities, there is a parallel between the two systems.

SPATIAL CATEGORIES IN SPATIAL PLANNING DOCUMENTS IN ROMANIA

This paper will look at the problems of public administration and the design of territorial units eligible to receive EU Structural Funds. In almost all countries, the division of administrative territory has been specifically linked to the creation of statistical regions and the establishment of a territorial structure for regional development. Since the early period of EU integration, as in all countries, the issue of the interrelationship between administrative division and regional development has become an important element of domestic policy debates in Romania. An understanding of the historical processes is an important element of this (regions can only be based on a county-framework). The basic units of the Romanian public administration are the counties, partly in terms of their boundaries and partly in terms of the competences assigned to them. In fact, Romanian regional policy is highly concentrated, with neither regions nor counties having significant development competences and, above all, the resources to implement them.

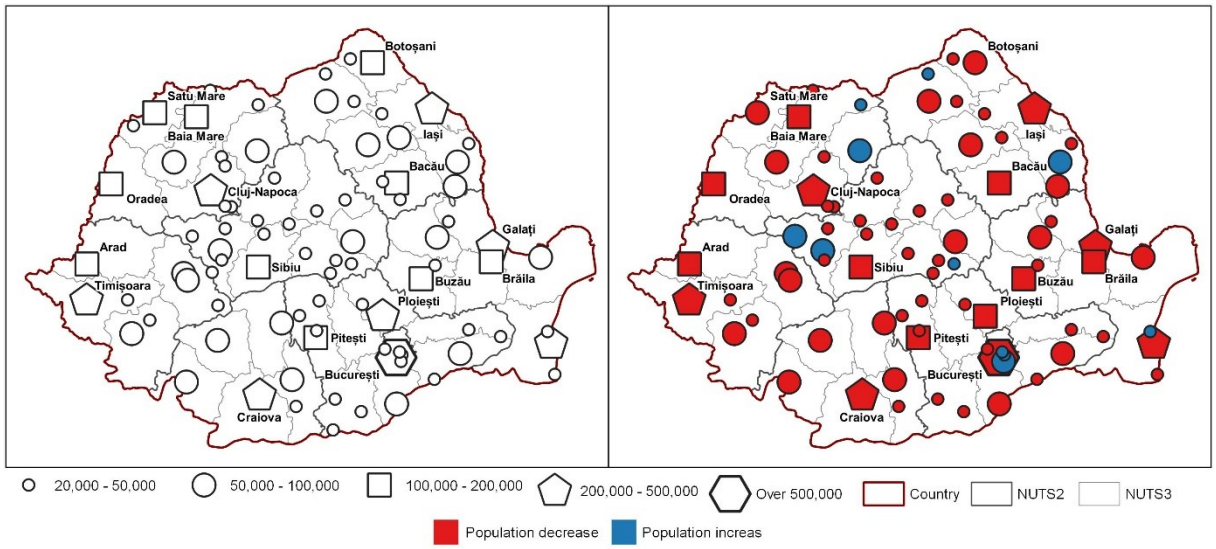
No legal framework was found to promote territorial concentration in the country. Law 151/1998 sets out the general framework, institutions, objectives, competences and instruments of Romanian regional policy. It is complemented by Law 315/2014. The development objectives and beneficiary areas are mainly listed in the National Development

Plans, but it is important to note that the beneficiary areas refer to disadvantaged and underdeveloped rural areas, priority recreation areas and rust belt areas.

Romanian regional policy has recognised that territorial disparities within the country are most sharply accentuated along the municipal hierarchy, with the undoubted existence of a capital-rural dichotomy. The National Spatial Development Plan was established by Law No. 351/2001. Part IV of the 351st Regional Spatial Plan established a five-point scale for the settlement network:

- Rank 0 municipalities (1 city) - the capital, Bucharest;
- Rank I municipalities (11 city) - municipalities of national and European importance;
- Rank II municipalities (81 town) - regional and county-level municipalities and smaller centres with a role in balancing the settlement network;
- Rank III municipalities (172) - towns with micro-regional influence;
- Rank IV municipalities (2,686) - villages with a role as a seat of communes;
- Rank V settlements (10,408) - villages which are part of communes.

Figure 1 The population dynamics of the cities and towns* in Romania (2011-2021)



*above 50,000 dwellers
Source: own editing based on Census data

The importance of the scaling of the settlement network is that it was later used as a basis for the designation of metropolitan areas and the definition of the so-called "growth poles". The classification criteria are: geographical location, accessibility, economic functions, amenities, level of services. For the reasons that follow, the methodology for the selection of the municipalities of order 0 and I is of most importance to us. These were as follows:

- easily accessible towns located on transport axes of international interest;
- with a population of at least 200,000 and a flexible, highly skilled workforce;
- their economy is dominated by secondary and tertiary sectors;
- they have a well developed institutional system.

A new criterion for the definition of Rank II settlements is the existence of a regional centre, the area of development units. The category is divided into two main groups of cities, with separate subgroups for county capitals and other municipalities. In the case of the county capitals, in addition to the large population of the catchment area (200-500,000 inhabitants), a living urban-rural link of 60-80 km was required. For other urban centres, the catchment area has a population of only 30-100,000 while its extent is fixed at around 20 km. The basic principle of ranking, as can be seen above, is size, the ranking of cities being directly related to their population. The second important criterion is the presence/absence of administrative functions, with a high weighting being given to the availability of public institutions locally.

The primary level and purpose of territorial planning during the period under review was the country. In the process of territorial planning, the aim was to develop the country in an integrated and harmonious way, and to plan the economic, social and cultural functions of the country as a whole in proportion. Territorial planning meant complex, comprehensive planning, including the territorial aspects of the industrial, agricultural, transport, communications, social, etc. sectors (Horeczki & Nagy, 2017).

THE STRUCTURAL FEATURES OF URBAN AREAS

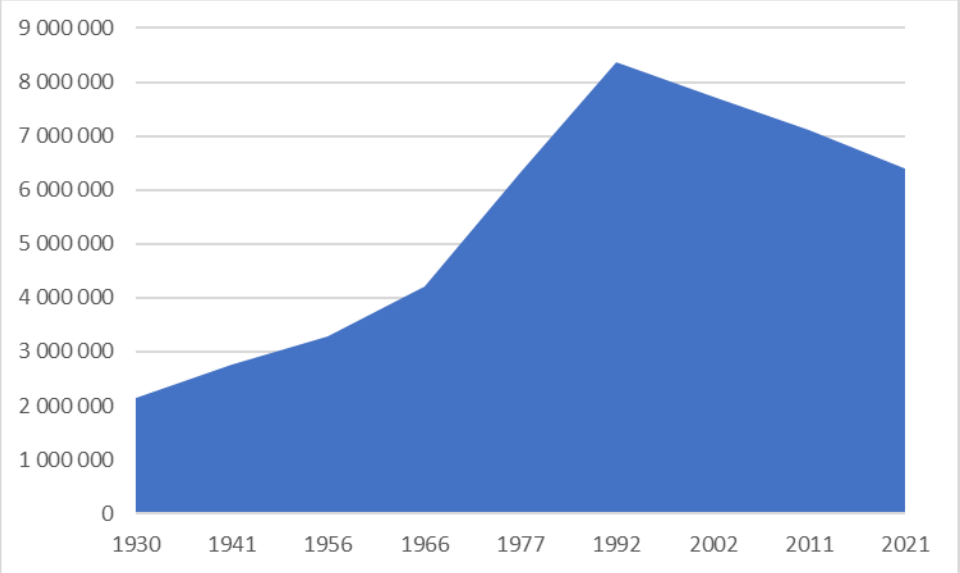
By the end of the socialist period, a network of large cities with a relatively modern industrial base had been created, with seven relatively evenly spaced cities of 300,000 people, in addition to the capital of two million. The hierarchy of cities at the end of the socialist era can be seen in the work of Ioan Ianoş (1987), who used several indicators (demographic, economic, administrative, political, social, cultural and spatial) to construct an eight-level functional hierarchy. Romania reached the threshold of regime change with a ruined economy and a severely deteriorated standard of living. The transition to a market economy was a long and arduous process, and the country faced serious economic problems until the turn of the millennium. The low level of socialist territorial homogenisation was interrupted by the regime change and the emerging market economy, and territorial disparities increased (Horváth, 2004; Benedek & Berekméri, 2009). In 1948, Bucharest was also the most

urbanized city as the capital (1 million inhabitants including suburbs). Only two cities in the country (Cluj Napoca, Timisoara) had a population of more than 100,000. The other cities were more in the medium size category. The proportion of small towns in the urban population was high. The controlled population growth of the previous decades - Romania had a strict abortion ban between 1966 and 1989 (Veres, 2011) - was replaced by a natural decline. Since 1996, the trend of village-urban migration has reversed, partly due to forced migration (many of the unemployed from urban industry have found a living in the primary sector in villages) and partly due to suburbanisation in some large cities. Romania's population declined by 1.13 million between 1992 and 2002 and by 1.56 million between 2002 and 2011. The vast majority of cities - 246 out of 266 (Benedek, 2006a) - lost population. Emigration, which in the previous decades was limited to the Hungarian and German populations, has reached significant proportions after the abolition of the Schengen visa requirement (2002) (Veres, 2011). Emigration takes various forms (e.g. tourist status through undeclared work), with some estimates suggesting that more than 2.3 million people have left Romania in the last two and a half decades.

Cities have responded to radical socio-economic changes differently depending on their endowments and their capacity to adapt and innovate (Berekméri, 2011; Borbély, 2011). A more pronounced differentiation of the urban hierarchy has been initiated, with large cities in a more advantageous position (Ianoş, 2004; Benedek, 2006a). Bucharest was the clear winner in the territorial processes, while Banat and Central Transylvania were able to preserve their relative historical development. The winners of the transition include large cities with advanced or fast-growing service sectors, cities with high value-added productive sectors, the Black Sea and western border regions. In general, the losers were small and medium-sized cities, declining industrial centres and districts that were alienated from local resources and inflated (Horváth, 2004; Ianoş, 2004). Urban depopulation became a dominant trend from the second half of the 1990s, with the largest population losses in the cities of South Transylvania, Banat, Partium, Romanian Lowlands and Central Moldova, and drastic population losses in mono-functional small towns (Elekes, 2008; Mitrica et al., 2014). Romania's public administration has remained unchanged in form, with the number of units in the mega-system varying between 39 and 42 since 1968. The reorganisation of public administration has not brought about real decentralisation. The spatial development institutional system has been developed in parallel with the administrative institutional system, and ethno-cultural and historical aspects have not been taken into account in the delimitation of the planning regions (1998). The debates surrounding the creation of a region

in Szeklerland are a flashpoint for ethnic conflicts, however, the change is not only in the interest of the Szekler counties, but also the big cities aspiring to have their own region and development resources. Several of the country's large cities, which traditionally had strong spatial organising functions – Arad, Oradea, Sibiu, Târgu Mures – have lost their potential role as regional centres. The dissatisfaction of the counties and cities in the development regions is reflected in the fact that in many cases the regional development councils in Romania have been located in smaller county centres. Regionalisation and the reform of the regional division are constantly present in political and public life and in regional research (Săgeată, 2004; Cocean, 2013).

Figure 2 Change in the aggregate population of the county capitals, 1930-2021 (persons)



Source: own editing based on Szilágyi and Elekes, 2020 and data of the Romanian Statistical Office

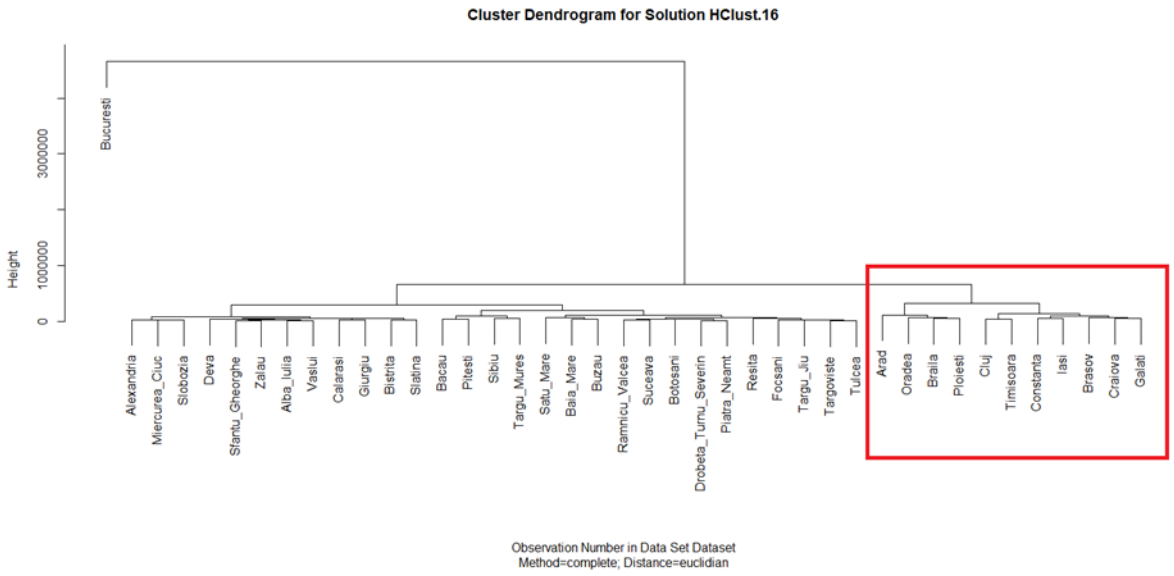
Over the past ninety years, the country's metropolitan development can be separated into two major phases; the prosperous period up to the change of regime, with significant population growth, and the years after 1992, which saw a population decline of millions. The number of cities increased moderately in the 1990s, rising from 260 to 266 between 1990 and 2002. In terms of metropolitan population change, in all cases there has been a decline since the change of regime. The cities least affected by population decline are Alba Iulia, Bistrita, Cluj Napoca, Oradea (Szilágyi, 2012; Szilágyi & Elekes, 2021; Zsibók & Egyed, 2022). The settlement network developed in an unbalanced way, with dense urban networks developing in some areas, while larger urban deprivation zones remained (Ianoş, 2004; Benedek, 2011). The declining urban population was boosted by the wave of urbanisation in the 2000s, which brought the total to 320 (Berekméri, 2011). Political voluntarism and the use of urbanisation

as a policy instrument emerged in the 2000-2004 government cycle (46 new cities), despite the fact that in 2001, for the first time since 1945, urbanisation was again subject to well-defined conditions and urban deprivation areas were also delimited as a target area for spatial development (Benedek, 2006b). The over-dominance of the metropolitan region is also a feature of Romania, despite the fact that its balanced urban network provides a potential basis for polycentric development. In Romania, the declining income generation of rural regions in the 1990s could only be compensated by the growth of the capital region, which is why Bucharest accounted for 278% of Romania's GDP growth between 1995 and 2001. Csák (2015) refers to this period as the second no-planning and development period. For him, the first such period was between 1930 and 1947. Romania has been lagging behind the Visegrad countries for decades, as illustrated by the late re-industrialisation generated by foreign capital investment. Chapter 4 of Law 351/2001 on the National Spatial Development Plan contains Romania's new strategy for the development of the settlement network, which classifies settlements into six categories (from capitals to villages) according to their geographical location, population, accessibility, economic and institutional functions, and level of infrastructure development. Local taxes and duties are set according to this ranking, with higher rates at the higher levels. The conditions for becoming a town or municipality are laid down in this law. However, most of the new towns do not meet the functional requirements of the law (Benedek, 2006b). The Strategic Concept for Spatial Development of Romania has a six-level concept of poles, from the European metropolis to the local level. Despite the fact that the population and the level of urbanisation in Romania have increased dynamically over the last almost a century, the hierarchy of cities based on population has not changed fundamentally (Ianoş, 2004). Eighteen of the twenty most populous cities were included in the list in 1930 and 2002 (Benedek, 2006a). The distribution of the urban population by population category is relatively balanced (Berekméri, 2011). Although the weight of Bucharest in the urban population has gradually decreased over the last four decades, with rural urban growth, urbanisation and suburbanisation of the capital, slightly more than nine percent of the country's population still lives within the administrative boundaries of the capital (Bucharest's population in 2011 was 1.88 million, that of the agglomeration was 2.2-2.3 million). The number and coverage of regional centres has remained unchanged over the last four censuses, with only the order of population changing, with Cluj Napoca and Timisoara having a population of 325 and 319 thousand respectively, the only two cities to boast a growing population in 2002-2011. In 1992, the populations of 300,000 inhabitants in Constanta, Craiova, Brasov and Galați were only 249,000-290,000. The total population of

the seven cities still exceeds that of the capital, but the gap has been gradually narrowing over the past three decades. Twelve more cities have a population of over 100,000 (Ploiești is the largest with 201,000), and five others have "dropped out" of the 100,000 category since 2002. The spatial distribution of the larger cities is relatively dispersed, except in mountainous areas. In the larger historical regions (Moldova, Oltenia, Muntenia, Transylvania) there are 3 to 6 large cities. In smaller, peripheral regions (Maramures, Partium there are two, while in historical regions divided by the change of state borders (Banat, Dobrogea, Bukovina) there is only one large city. As in the Eastern-Europe's countries, the transformation of the urban network is essentially characterised by increasing economic fragmentation and the dominance of the capital, with the cities of certain regions becoming more important. However, the spatial structure does not have the North-South or East-West divisions of most Central and Eastern European countries, but rather a mosaic character (Csák, 2011; Kurkó, 2011, Mitrica et al., 2014).

The dominance of the capital is shown in the cluster analysis of cities, where a group of eleven cities is second in the hierarchy after Bucharest - in terms of population. The ranking tables show us that the group of cities is fragmented in nature, with hardly any intersection of clusters. Our cluster analysis group only alternates positions between each other, and Bacau is the only other clustered city that in certain years is included in the group of cities we identify as regional centres.

Figure 3 Cluster Dendogram for Romanian large cities, 2021



Source: own editing

Metropolitan areas as a development policy category in Romania

Law No 351/2001 on the National Spatial Development Plan creates the possibility of creating metropolitan areas for the capital and the municipalities of rank I. The Zona Metropolitana is a territorial unit created by the association of municipalities with the aim of reinforcing the complementary nature of the territorial development process. The Zona Metropolitana includes urban and rural settlements in the immediate vicinity of the city centre (at a maximum distance of 30 km!), in close cooperation with the metropolitan area in a multi-faceted and intensive way. The legal form of a voluntary partnership is an intermunicipal (development-planning) association between municipalities, as a legal entity. Their creation was made possible by Law No 286/2006 on local administration, and all 12 cities concerned have created their own Zona Metropolitana. Despite the similarity in legal status, the Bucharest metropolitan area is a fundamentally different category. Only this group of municipalities can be considered a metropolitan area in the international (ESPON - Mega) sense, the others only partially meeting the criteria in terms of total population, population density, degree of agglomeration and international importance. Rural metropolitan areas are more in line with the broader concept of FUA (functional urban area) or FUR (functional urban region), also used by ESPON, than metropolitan areas. A legal approach based on a metropolitan centre cannot interpret multipolar city-regions (Galati-Braila, Deva-Hunedoara, Arad-Timișoara) or classical conurbations (Brasov-Jiu-valley).

Special categories of development priority areas before the turn of the millennium

The first identification of problem areas was carried out by the Green Charter for Regional Development (GCRD, 1997). This was used as the basis for the identification and delimitation of the types of spaces requiring different approaches to development:

- Areas with complex problems – difficult to delimit (Transylvania and the Danube Delta). The main problem areas are: high depopulation, difficult accessibility, low level of services, poor use of existing tourism potential.
- Very poor rural regions – high depopulation, poor infrastructure, subsistence agriculture, low income level of the population, regional centre towns rapidly declining after the forced development in the socialist era (Botosani, Vaslui, Alexandria, etc.).
- Declining (traditional) industrial regions - districts resulting from monostructural industrial development, mainly heavy industry. The disappearance or reduction of subsidies has exposed the structural problems of regional economies, outdated service

structures, lack of attractiveness for outside investors, and lack of R&D&I. From a social point of view, the main problem is high and persistent unemployment (-1.5 million industrial jobs between 1990 and 1996 – Popescu, 2014).

- Mining regions - the economy is based on the extractive industry, whose production has been affected by the declining/restructuring demand of the national manufacturing industry, in addition to global market trends. Unemployment is extremely high, transport and communication infrastructure needed for restructuring is lacking, public services are poor and environmental damage is significant.
- Regions with significant environmental problems - these included areas of non-ferrous mining where decades of declining production have had a positive impact on the environment, but where the business environment remains unattractive because new investment is made more expensive by disposal costs. From a social point of view, the biggest problem is the disastrous health of the people living here.
- Regions severely affected by land degradation - mainly hilly and mountainous areas, where slope mass movements due to poor landscape management regularly cause serious damage. Among the problems, intensive deforestation and overgrazing and extensive livestock farming are prominent.

In Romania, the delimitation of areas with special problems, special legal status and a legally defined system of operation was regulated by the Emergency Government Decree No 24/1998 on the system of disadvantaged areas. According to this legislation, disadvantaged areas are geographical areas defined on the basis of administrative units (cities, municipalities) where the unemployment rate is at least three times higher than the national average; the infrastructure is poorly developed.

The creation of areas is the result of a complex, multi-stage mechanism, based on successive, unanimous decisions by three agencies (Regional Development Council, National Regional Development Council, Government). Firms and entrepreneurs operating in these regions are entitled to tax incentives (VAT exemption, flat-rate exemption, etc.) for a period of 3-10 years. 38 areas with a total population of 1.5 million inhabitants have been designated by Government Decree. In principle, the incentives have not achieved their objective, and no significant investment has been made in the areas concerned (Government decision 399/2001). The Report attributes this to poorly developed infrastructure, difficult accessibility of the areas, lack of skilled labour and, finally, lack of confidence in the stability of the legislation. As a result, in the summer of 2002, the preferential scheme was abolished.

New categories of development zones after the millennium

a) Industrial restructuring areas

The old industrial regions have been given renewed priority, and the regional policy for them has been developed on the basis of Government Decision No. 399/2001 (19.IV.). In this Decision, the so-called 'industrial conversion areas with potential for economic growth' were defined. The definition was based on the high number of large local enterprises facing restructuring problems, the presence of environmental problems and high unemployment, but at the same time the regional economy showed potential for development, supported by a well-developed transport and communications infrastructure.

A total of 11 industrial regions were identified, which together accounted for over a quarter of the country's population. As Romania was not yet a member of the EU at that time, but pre-accession negotiations were already underway, PHARE pre-accession funds were used to develop the regions. The selection of projects was based on a double correspondence between the priorities of the National Development Plan and the PHARE development orientations.

The strength of the selection was weakened by the fact that the Government Decree did not provide a methodology for the delimitation of regions. Those familiar with Romanian economic and territorial processes from the inside believed that many regions or centres that were ripe for industrial restructuring were not included in the list, while a number of local economic centres that were already developing rapidly in 2001 were included among the beneficiary regions. Between 2001 and 2007, a regional policy based on economic restructuring and the complex regeneration of industrial centres, mostly nationally funded, appeared to be the ‘mainstream’ of Romanian territorial policy, but after EU accession the programme was discontinued and there was no continuation.

b) Growth and rural development poles as beneficiaries of support categories

Following EU integration, Romanian cities were classified in priority categories for assistance. Law No 998/2008 defined seven growth poles, one for each of the large cities (Cluj-Napoca, Iasi, Timisoara, Craiova, Brasov, Ploiesti, Constanta), and one for each of the rural development poles (Csák, 2009; Popescu, 2014). In order to access EU funds, the growth poles had to prepare so-called Integrated Development Plans, not only for the metropolitan area, but for the whole territory of the Zona Metropolitana. The Integrated Development Plans identified the strategic projects to be developed within the three pre-defined priorities (urban infrastructure, development of the local economic environment, social infrastructure). The other urban centres are classified in two additional categories of support, the so-called “urban development poles” (13 cities: Arad, Baia Mare, Târgu Mures,

Oradea, Satu Mare, Sibiu, Deva, Bacau, Braila, Galati, Pitesti, Ramnicu-Valcea, Suceava) and the so-called “urban centres”. This demarcation was a typical example of polycentric urban development, which attempted to counterbalance the dominance of the capital city and to give regional centres the economic weight they deserved (Popescu, 2014). Under the 2007-13 ROP, the 7 growth poles received EUR 621 million, the 11 development poles EUR 248.5 million and the 240 smaller towns EUR 1 391.2 million. Ultimately, the use of ROP funds has led to a stronger development of urban centres and contributed to a widening of the developed-non-developed gap within the country, whereas the priority of Law No. 315/2000 regulating regional policy is to limit the increase of territorial disparities within the country. Of the five development priorities in the NSRF 2007-2013, one is explicitly territorial (support for balanced territorial development) and the priority for infrastructure development has a direct territorial impact. The priorities of the Regional Operative Programme are mainly urban-centred (e.g. existing social and business infrastructure is mainly concentrated in the centres). The fifth axis - tourism - sets the objective of reducing existing territorial disparities through investment, in particular through a more even territorial distribution of natural attractions. However, this axis accounts for less than one-sixth of the total ROP budget, while axis 1 alone, with its direct urban focus, accounts for almost double. The ROP axes have little territorial focus, with only the first axis (Sustainable Development of Cities - Urban Growth Poles) being selective, by excluding small centres of less than 10 000 inhabitants. The implementation of the ROP was highly centralised, with a stronger dependence of the Regional Development Agencies on the central administration than on the regional development councils. There are also few examples of genuine decentralisation within regions, with the secondary centralisation efforts of regional centres being a more common practice. The lack of large-scale projects generating significant regional impact (in Hungarian terms, flagship projects) was identified by experts as the main shortcoming in the use of resources. Benedek (2016) concludes that the regional policies implemented in Romania have failed because they have not achieved their main objective of reducing territorial disparities. Development gaps have increased within the country. There is a strong polarisation, particularly between Bucharest and the rest of the country.

In preparation for the 2014-20 period, sectoral and territorial development programmes were prepared in parallel to the Partnership Agreement, with minimal parallel coordination. As the PM is more limited in scope than in the past, it is not a document covering all territorial objectives, and therefore cannot be expected to cover all territorial specificities and categories of areas to be developed.

c) Categories of territories defined in the 2014-2020 EU funding period

Based on a basically functional analysis, the Strategic Concept for Spatial Development in Romania has defined hierarchical levels different from the previous ones: metropolitan MEGA poles; national OPUS (Orizont Potential Urban Strategic) poles (they have considerable urban functional potential, with a population of over 250,000), significant regional institutions and economic, cultural and academic centres.; supra-regional OPUS poles – 50-250. OPUS regional poles – municipalities of regional scope with important tourist and cultural offer; Sub-regional poles: cities of 30-50,000 inhabitants, for decentralisation and deconcentration of administrative and service functions; Local poles: small towns of less than 20,000 inhabitants, with varying levels of development and potential. The definition of the area in the National Rural Development Programme follows a similar trend compared to recent years: the environment of large agglomerations is identified as a metropolitan area, where interaction is common and reciprocal. The peri-urban area is defined as the 30-60 km surrounding urban areas. Functional zones are used to define areas influenced by a specific specialised or dominant activity, with a base area that is not legally defined.

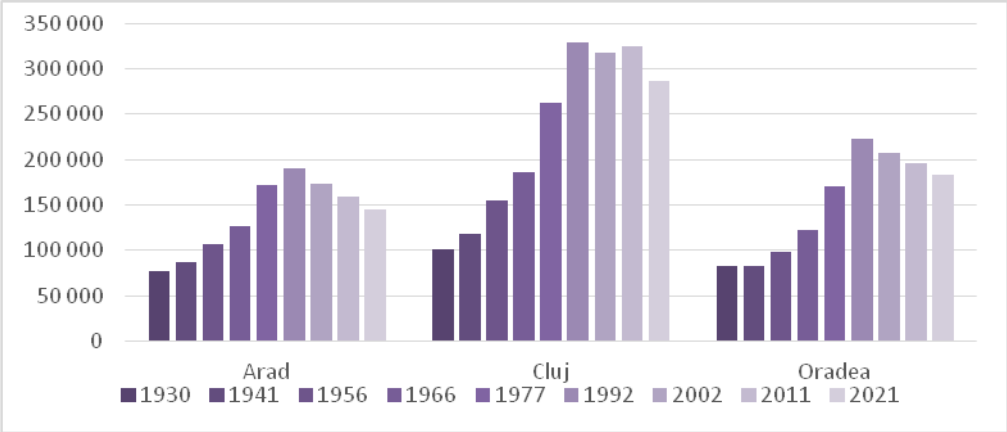
Cities with a border and/or a gateway role: The case of Oradea, Arad and Cluj Napoca

Among the regional centres, we first examined those cities with a specific spatial organisation power, which have always played a kind of intermediate, border or gateway role over the past almost a hundred years. Without being exhaustive, we present the cities with just a few facts and figures.

Arad, with its industrial tradition, multi-ethnic and multi-religious, was already a highly urbanised city in the 19th century and is still one of the most developed parts of Romania. The city boasts a diverse and multifaceted cultural, economic, national, religious and architectural heritage, numerous natural attractions, historical monuments, and hosts outstanding economic, cultural and professional events. Oradea, a city with a thousand years of history, is located at the crossroads of East and West. It is a true bridge between the two worlds, which has managed to absorb and transform all the good that the two great cultural plates have brought, based on its own vision of the world. Cluj-Napoca is one of Romania's most important cultural centres and is today considered the capital of Transylvania, not only because of its history but also because of the dynamism that has made it the academic, medical, economic, cultural, sporting and scientific centre of Transylvania. In 2015, Cluj-Napoca was named European Youth Capital City and in 2018 it became European City of Sport.

All three cities reflect general urbanisation trends in Romania (Figure 4), especially Arad and Oradea. The population dynamics of the two border cities are very similar, with almost identical populations at the beginning of the period under study, peaking at the change of regime, followed by a slow decline. Oradea's dynamics were more spectacular, the absolute rate of decline was therefore greater than in the case of Arad. Cluj-Napoca's role as a regional centre also brought with it the spread of the city, which led to a surge in population growth both in the 1960s and after the change of regime. Population dynamics are decreasing but remain below the relative proportions of the two cities. Cluj-Napoca is the second largest city in Romania and its attractiveness is still very impressive (Figure 4).

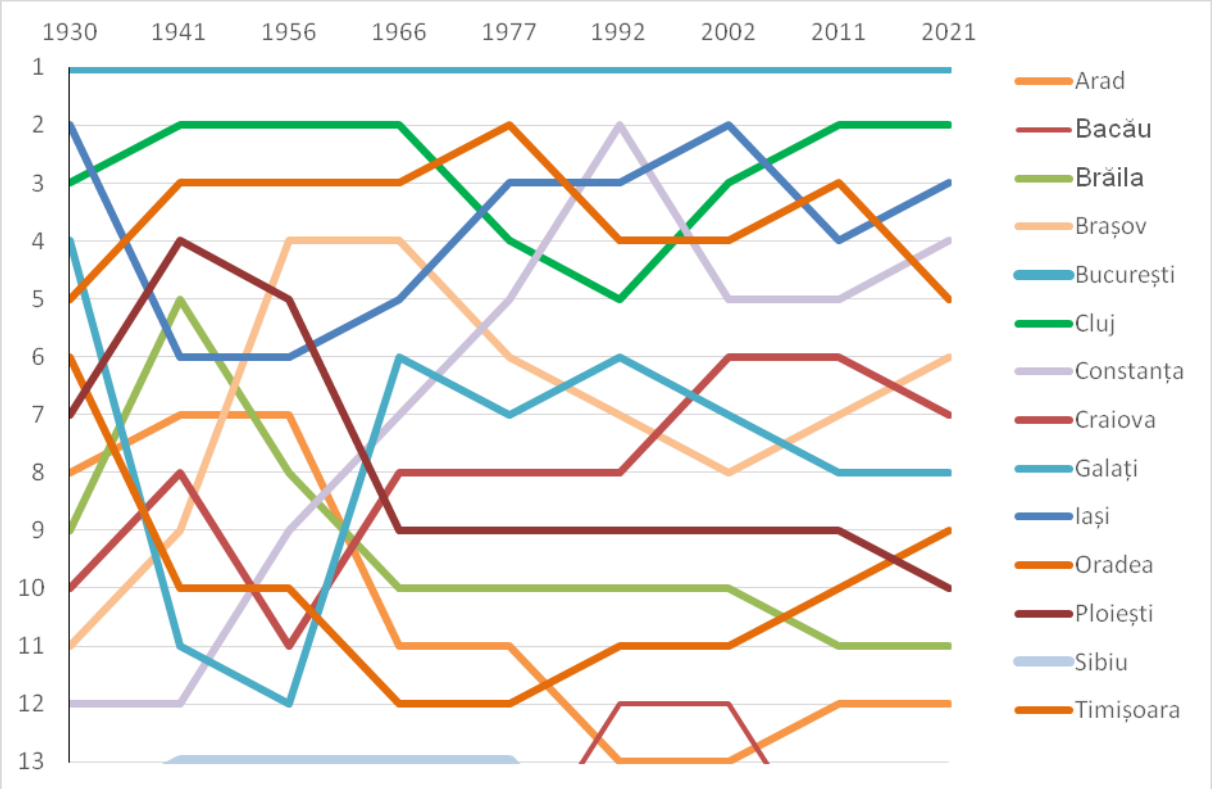
Figure 4 Population change in three gateway cities, 1930-2021 (persons)



Source: own editing

Looking at the population ranking of cities, Bucharest's position since 1930 is clear. Cluj-Napoca's position fell by three positions between 1970 and 2000. It was overtaken by Timisoara, Constanca and Iasi; however, from 2005 onwards it regained the second most prominent position, which it has held steadily since then. Looking at the position of cities, we can see that there were two periods of significant urban competition (when the allocation of development resources basically determined the development path of cities): between 1930-1966 and 1992-2011, when there is a significant structural shift, especially between 5th and 11th place. A similar conclusion is reached by Benedek (2006b), who analysed the changes in the ranking of cities between 1930 and 2002 in the light of the urbanisation process. It is remarkable that the two groups (places 2-5 and 6-8) do not converge during the period under study, there are no intersections. Since the late 2000s, three significant groups can be distinguished outside the capital: 2nd-5th: Cluj-Napoca, Iasi, Constanța, Oradea, Timisoara; 6th-8th: Brașov, Craiova, Galați; 9th-12th: Oradea, Ploiești, Brăila, Arad.

Figure 5 Changes in the ranking of the largest cities between 1930 and 2021



Note: The ranking represents changes in the position of cities in relation to their population change.
Source: own editing

If we consider the economic gateway role of cities: the two neighbouring county capitals (Arad and Oradea), the logistics activity group is the main source of employment in the cities. They are the gateway cities to the west of Romania; Cluj Napoca, on the other hand, is an east-west border city, with a significant trade and services sector and a centre of higher education. The modernisation of the rail and road infrastructure is ongoing, as is the development of the motorway network, whose planned interchanges near the two cities have not yet been completed. The connection of Cluj-Napoca to the main transport hubs is already in the pipeline, and a number of eastern and southern connections are under construction. The positive effects of this nodality are not yet visible, but are expected in the medium term. These cities are the most dynamic growth poles in Romania: Cluj Napoca has managed the transition from a predominantly manufacturing town to a city with a strong and balanced economic mix (World Bank, 2013). In the cities of Arad and Oradea, the importance of the cargo transport activity group is significant in absolute terms, but in specific terms the outperformance is even more impressive. In both counties, the number of people employed in transport exceeds 10,000 (2021: Bihor – 15,800; Arad – 13,700), which ranks 6th and 9th respectively in the national ranking. In terms of the number of goods transport companies,

Bihor ranks third (2021: 2,914) and Arad 12th (1,688), while in terms of the density of goods transport companies, Bihor has been ranked 2-3 and Arad 7-9 in the last decade among the 42 Romanian municipalities. In terms of aggregate turnover of transport firms, Bihor has fluctuated increasingly around 6-8th places and Arad around 9-10th places over the last decade.

In the pre-millennium development policy documents analysed, these three cities are considered to have a significant regional centre role. Due to their border location, neither Oradea nor Arad were centres of industrial development, Cluj-Napoca being in a much more favourable position. All of them were already identified as urban development poles in the categories established for the use of the 2007-2013 Regional Operative Programmes.

Table 1 Main figures for the three cities, 2021

	Arad	Cluj-Napoca	Oradea
Population	145,078	286,598	183,105
Number of communes in official metropolitan area	24	19	11
Number municipalities in the real suburban area	11	12	9
Total population of integrated urban area	202,377	408,864	236,329
Number of employees	83,279	200,919	109,925
Number of universities, higher education institutions	2	9	4
Number of nights spent in the city and the suburban area, 2022	258,628	909,752	1,318,927

Source: own editing

CONCLUSION – THE EMERGENCE OF SPACE CATEGORIES IN DEVELOPMENT POLICY PRACTICE

From the above, it is quite clear that the Romanian spatial development system since the change of regime has been essentially urban-focused. It is at this level that the concentrated social, economic and environmental problems have been identified, and it is believed that by addressing these, the problems of rural spaces associated with cities can be largely addressed. Urban areas of attraction are seen as subordinate to the centre, the only exceptions being tourist destinations, where the geographical location of natural, historical, architectural or artistic assets also opens up development opportunities for rural areas, independently of cities. The Romanian system provides a starting point for further reflection on the spatial categories of Hungarian spatial development, defining urban-rural functional areas as the basic units of development policy, whilst not rigidly adhering to the existing administrative structure.

We expect a positive, optimistic vision for the future of gateway cities. The capital-centricity highlighted in the study is also constrained by Bucharest's natural geography. It is located in a part of the country beyond the Carpathian Mountains, far from the European core. It thus offers an opportunity to exploit the locational advantages of western peripheral cities (Arad, Timisoara, Oradea) as well as the autonomous development of remote and partially isolated cities such as Cluj-Napoca. Proximity to borders used to be a weakness, but now it has become an advantage. According to the latest news (clubferoviar.ro), the infrastructure improvements will result in temporary shutdowns. In November, the Oradea-Cluj Napoca railway line will be closed for at least two years while it is upgraded to double track, electric and relatively high speed. Once completed, journey times are expected to be cut by a third – improving the journey time between the two cities from 3 to 1 hour. By upgrading infrastructure and strengthening connectivity, these western gateway cities can gain new dynamism and an advantage in the competition between Romanian cities.

Acknowledgement

Research of Szilárd Rácz has been supported by National Research, Development and Innovation Office – NKFIH grant #134900 (The development processes of Central and Southeast European cities). Research of Stefan Bilasco and Réka Horeczki has been made within the framework of the Hungarian-Romanian Academic Bilateral Research Programme.

REFERENCES

Benedek, J., & Berekméri, M. (2009). Városhálózat. In Horváth, Gy. (szerk.), *Dél-Erdély és Bánság* (pp. 215-237). Pécs-Budapest, MTA Regionális Kutatások Központja, Dialóg Campus Kiadó. (A Kárpát-medence régiói, 9).

Benedek, J. (2006a). A Romániai urbanizáció jellegzetességei az utolsó évszázad során. In Győri, R., & Hajdú, Z. (szerk.), *Kárpát-medence. Települések, tájak, régiók, térstruktúrák* (pp. 77-102). Pécs-Budapest: MTA RKK, Dialóg Campus Kiadó.

Benedek, J. (2006b). Urban policy and urbanisation in the transititon Romania. *Romanian Review of Regional Studies,* 2(1), 51-64.

Benedek, J. (2011). *România. Tér, gazdaság, társadalom.* Kolozsvár: Nemzeti Kisebbségkutató Intézet, Kriterion Könyvkiadó.

Benedek, J. (2016). The role of urban growth poles in regional policy: the Romanian case. *Procedia – Social and Behavioral Sciences,* 223, 285-290. https://doi.org/10.1016/j.sbspro.2016.05.368

Berekméri, M. (2011). Települések. In Benedek, J. (szerk.), *România. Tér, gazdaság, társadalom* (pp. 217-228). Kolozsvár: Nemzeti Kisebbségkutató Intézet, Kriterion Könyvkiadó.

Borbély, L. (2011). Modele de dezvoltare regională în Uniunea Europeană și Romania. Cluj-Napoca: Presa Universitară Clujeană.

Clubferoviar webpage: https://clubferoviar.ro/fara-trenuri-pe-cluj-napoca-oradea/

Cocean, P. (2008). Stages in the Formation of the Romanian Mental Space. *Romanian Review of Regional Studies,* 4(2), 31-42.

Cocean, P. (2013). Project for a Functional Regionalization of Romania. *Romanian Review of Regional Studies,* 9(2), 3-8.

Csák, L. (2009). Romániai kis- és középvárosok „jelentéktelensége". *Tér és Társadalom,* 23(1) 181-196. https://doi.org/10.17649/TET.23.1.1224

Csák, L. (2011). A területi tervezés elméleti alapjai és alkalmazásának feltételei Romániában. Doktori értekezés. Pécs: PTE KTK Regionális Politika és Gazdaságtan Doktori Iskola. (Dissertation).

Csák, L. (2015). Long-term challenges of Romanian urban network: planning for regions with different background. *Hungarian Studies,* 29(1-2), 37-48. https://doi.org/10.1556/044.2015.29.1-2.3

Elekes, T. (2008). Demográfiai, gazdasági-társadalmi folyamatok Románia városaiban 1948-tól napjainkig. *Tér és Társadalom*, 22(2) 185-201. https://doi.org/10.17649/TET.22.2.1177

Hajdú, Z. (2012). *The Romanian Settlement Policy during the Period of State Socialism.* Pécs: Hungarian Academy of Sciences Research Centre for Economic and Regional Studies Institute of Regional Studies (Discussion Papers, 88).

Hajdú, Z. (2013). A comparative analysis of Hungarian and Romanian settlement development policies during the state socialism. *Geographia Napocensis,* 7(2), 19-26.

Horeczki, R., & Nagy, G. (2017). Egyes európai országok térkategóriák, tértípusok kijelölésére és alkalmazására vonatkozó gyakorlata – Románia. (Manuscript). Pécs: MTA KRTK Regionális Kutatások Intézete.

Horváth, Gy. (2004). A regionális fejlődés és politika a kelet-közép-európai csatlakozó országokban. In Inotai, A., & Bognár, K. (Eds.), *EU-tanulmányok 1-5. kötet* (pp. 73-122). Budapest: Nemzeti Fejlesztési Hivatal.

Ianoş, I. (1987). *Oraşele şi organizarea spaţiului geografic.* Bucureşti: Editura Academiei.

Ianoş, I. (2004). Dinamica urbană (Aplicaţii la oraşul şi sistemul urban românesc). Bucureşti: Editura Tehnică.

Kurkó, I. (2011). Régiók, regionális diszparitások. In Benedek, J. (szerk.), *Románia. Tér, gazdaság, társadalom* (pp. 429-453). Kolozsvár: Nemzeti Kisebbségkutató Intézet, Kriterion Könyvkiadó.

Miklósné Zakar, A. (2015). Térfelfogások, terek, régiók Romániában. In Hardi, T. (szerk.), Terek *és tér-képzetek: Elképzelt és formalizált terek, régiók a Kárpát-medencében, Közép-Európában* (pp. 227-278). Somorja, Győr: Fórum Kisebbségkutató Intézet, MTA KRTK Regionális Kutatások Intézete.

Mitrică, B., Săgeată, R., & Grigorescu, I. (2014). The Romanian urban system – an overview of the post-communist period. *Forum geografic,* XIII(2), 230-241. http://doi.org/10.5775/fg.2067-4635.2014.179.d

Popescu, C. (2014). Deindustrialization and urban shrinkage in Romania. What lessons for the spatial policy? *Transylvanian Review of Administrative Sciences,* 42 E/2014, 181-202.

Rezultate definitive RPL (2021). Recensamantul Populatiei si Locuintelor http://www.recensamantromania.ro/ (Downloaded: September 2023)

Rezultate Recensamant (1992). Recensamantul Populatiei si Locuintelor http://www.recensamantromania.ro/ (Downloaded: September 2023)

Rezultate Recensamant (2011). Recensamantul Populatiei si Locuintelor 2011 http://www.recensamantromania.ro/ (Downloaded: September 2023)

Rezultate Recensamant (2002). Recensamantul Populatiei si Locuintelor http://www.recensamantromania.ro/ (Downloaded: September 2023)

Romanian Administrative Law, 2001 http://adattar.adatbank.transindex.ro/ (Downloaded: September 2023)

Săgeată, R. (2004). Models of Political Administrative Regionalisation of the Territory. Bucharest: Top Form.

Săgeată, R. (2010). *Regional Development in Romania. Geographical Studies.* Sibiu: Lucian Blaga University Press House.

Spatial development and zoning plans of Romania. http://adatbank.transindex.ro/

Szilágyi, F., & Elekes, T. (2020). Changes in administration, spatial structure, and demography in the Partium region since the Treaty of Trianon. *Regional Statistics,* 10(1), 101-119. https://doi.org/10.15196/RS100104

Szilágyi, F., & Elekes, T. (2021). Urban growth and language shift in county seats in Transylvania between 1900 and 2011. *Regional Statistics,* 11(4), 150-169. https://doi.org/10.15196/RS110407

Szilágyi, F. (2012). Changes in the Urban System of Romania, and Their Possible Effect on the Future Administrative Reform of the Country In: Csapó, T. & Balogh, A. (Eds.) *Development of the Settlement Network in the Central European Countries* (pp. 25-39). Berlin, Heidelberg: Springer-Verlag.

Szilágyi, F. (2013). Közigazgatás a Partiumban a honfoglalástól napjainkig. Nagyvárad: Partium Kiadó.

Szilágyi, F. (2019a). *Partium – Reintegráció a magyar-román határvidéken*. Budapest: Károli Gáspár Református Egyetem Állam- és Jogtudományi Kar.

Szilágyi, F. (2019b). The Concept of Partium Region. In Szilágyi, F., Süli-Zakar, I., & Bakk, M. (Eds.), *Partium - Borders, Ethnic Groups and Territorial Development* (pp. 181-266). Budapest: Károli Gáspár Református Egyetem Állam- és Jogtudományi Kar.

Veres, V. (2011). Népesség és népesedés. In Benedek, J. (Ed.), *România. Tér, gazdaság, társadalom* (pp. 127-167). Kolozsvár: Nemzeti Kisebbségkutató Intézet, Kriterion Könyvkiadó.

World Bank (2013). Growth Poles: The Next Phase http://hdl.handle.net/10986/24488

Zsibók, Z., & Egyed, I. (2022). The role of the foundational economy: The case of two regional centres in Central and Eastern Europe. *Deturope,* 14(3), 34-64. doi.10.32725/det.2022.021

***DETUROPE** – THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 15 Issue 2 2023 *ISSN 1821-2506*

Original scientific paper

URBAN DEVELOPMENT IN SERBIA – THE ECONOMIC POSITIONS AND DEVELOPMENT PROCESSES OF MAJOR CITIES

Szilárd RÁCZ[a]

[a] CERS Institute for Regional Studies, 7621 Pécs, Papnövelde u. 22., racz.szilard@krtk.hun-ren.hu

Cite this article: Rácz, S. (2023). Urban development in Serbia – The economic positions and development processes of major cities. *Deturope,* 15(2), 48-65.

Abstract

The aim of the paper is to review the development of the five largest cities of Serbia in the post-Yugoslav period. In the introduction, the general development of the urban network and spatial structure of the Balkans will be presented in a historical context, as well as the geographical location and geopolitical situation of Serbia. Over the last three decades, the state structure of Serbia has undergone several fundamental transformations, which have had a significant impact on the development of these cities. This is analysed in terms of the transformation of administrative and spatial characteristics. Finally, the development, economic and demographic processes of Belgrade, Novi Sad, Nis, Kragujevac and Subotica are examined in detail.

Keywords: urban development, economic transformation, Western Balkans, Serbia, Belgrade, cities

INTRODUCTION

The urban network bears the marks of the fundamental spatial implications of social, economic and political processes, but it is also the object of future aspirations. The urban network is characterised by a high degree of stability, exhibiting changes only in the long term. In order to unveil its deep-seated structures, it is worth providing a brief overview of the historical development of the urban system. The evolution of the settlement network in the Balkans was shaped to a large extent by three overlapping clusters of factors (Hajdú & Rácz, 2011): 1) complex natural geographical features; 2) its perception as a space of changing empires due to the frequent modification of state borders and shifting centres of power, and the permanent reorganisation of its core; 3) ethno-cultural specificities.

Natural geographical assets have fostered or sometimes hindered the development of various inter-settlement linkages. The presence of mountains meant that connections between the coastal and inner areas were hard to establish. Only those inland cities and towns situated in basins were able to maintain their position against the tempests of history that lay at the intersection of major roads and rivers. Almost each state has an internal axis attached to its

rivers. The majority of cities are located in coastal areas, on the fringes of the Balkan Peninsula or along the major rivers. As a result of its topography, the middle area of the peninsula is less suitable for the development of cities with large population concentrations and a wider catchment area. The fragmented spatial structure undermines the extension of urban functions (Rácz, 2014). Belated urbanisation characterises the peninsular states even in comparison to Central Europe, and the urban network of the region is much sparser, owing to its unique topography and historical backwardness (Hajdú & Rácz, 2011). With the exception of Bulgaria and Greece, the level of urbanisation in the countries of the Balkan Peninsula is still below the continental average (Hajdú et al., 2018). A defining feature of the region is the absence of a centrally located city with a potential to exert a strong and durable influence at the level of the macro-region.

Despite the fact that the coastal zone of the Balkan Peninsula was the earliest hotbed of the development of European civilisation, over the past few centuries, the Balkans always remained a periphery, never becoming the development center of a larger region. The main factor shaping the development of the urban network was the permanently changing state structure: the region was either a part of different empires (under periods of integration) or saw the formation of autonomous small states (periods of disintegration). This political instability also triggered cyclical demographic, economic and administrative changes (Table 1). While integration (EU, NATO) appears as the dominant trend over the last decade, exogeneous factors of disintegration (great powers) and internal (ethnic) movements are also discernible.

Table 1 The effects of cyclical development on the urban network and space structure in Southeast Europe

	Integrating (imperial) period	**Disintegrating (in-between, small-state) period**
Co-operation	territorial	ethnic
Borders	easy to cross (connecting)	ethnic borders are difficult to cross
Ethnic space	mixed, more heterogeneous	homogenising
Settlement network development	even, structurally and territorially balanced	fragmenting ‘subsets’, increasing differences
‘Lacks’ in the network	developed small towns	regional centres with rich functions
Large town functions	interregional, macroregional	national (state)
Imperial capital(s)	strong development, rich functionality	relative power and social decline
Historic centres	relative recession, becoming peripheral	‘selective’ development
Ethnic centres	stagnation, limited growth	outstanding development
Gateway cities	mostly monopolistic	gateway cities nationally developed

Source: Rácz, 2011, 214.

The frequent shifting of borders was accompanied by the transformation of urban catchment areas. Various attempts were made to mitigate ethnic divisions within the South Slavic state, to which the new constitution of 1974 provided a definitive resolution. Widespread decentralisation led to the reinforcement of member state interests and the fragmentation of the settlement network along national lines. The catchment areas of cities extended beyond subnational borders only in cases where the ethnic settlement area required. Thus, only these latter areas were significantly affected by the "internationalisation" of borders with the dissolution of Yugoslavia (Reményi, 2011).

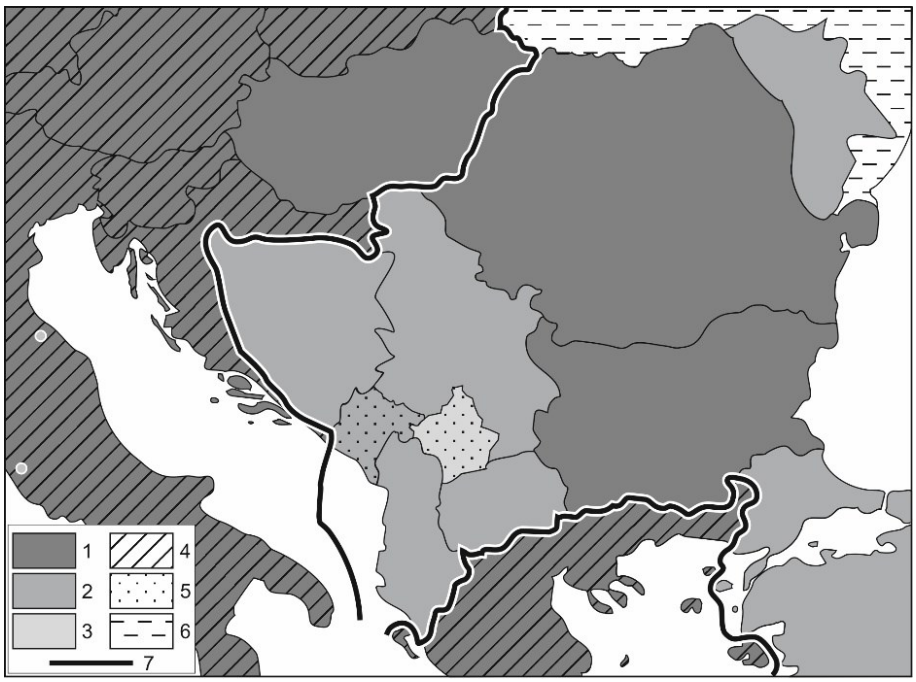
Besides the changing state authority, the different cultures and their heterogeneous uses of space contribued to the differential development of cities and their relations (Rácz, 2011). It is common knowledge that the ethnic and religious composition of the Balkans is very diverse, exhibiting a spatially mosaic-like distribution. No other European macro-region shows a similar degree of multiculturalism. The peninsula has always been home to a colourful mosaic of different ethnicities, cultures and religions, underlying the high intensity of historical processes (Hajdú et al., 2007). Western and Central Europe and Southeastern Europe meet here not only in geographical terms. The fact that the majority of the states, regions and cities are located in the border area or contact zone of the Balkan Peninsula and the Carpathian Basin lends a special perspective to the internal processes. Each respective macro-region and spatial category has (political, political geographical) meanings that are cyclically reinterpreted, making their legitimacy rather problematic.

GEOGRAPHICAL AND GEOPOLITICAL POSITION OF SERBIA

The largest and most populous country in the Western Balkans stretches between the south-eastern part of the Pannonian plain and the central part of the Balkan Peninsula, an area where agricultural plains in the north alternate with hilly and mountainous regions traversed by river valleys in the southern territory of Central Serbia. The main transport corridors are defined by the Danube, Tisza, Sava and Morava Rivers, with their confluence in Central Serbia. The region is of geostrategic importance, traversed by routes connecting Western and Central Europe with the Balkans and the Middle East. The spatial organising and intermediary role of its central areas – the nodal cities – is highlighted as an important benefit of its geographical position.

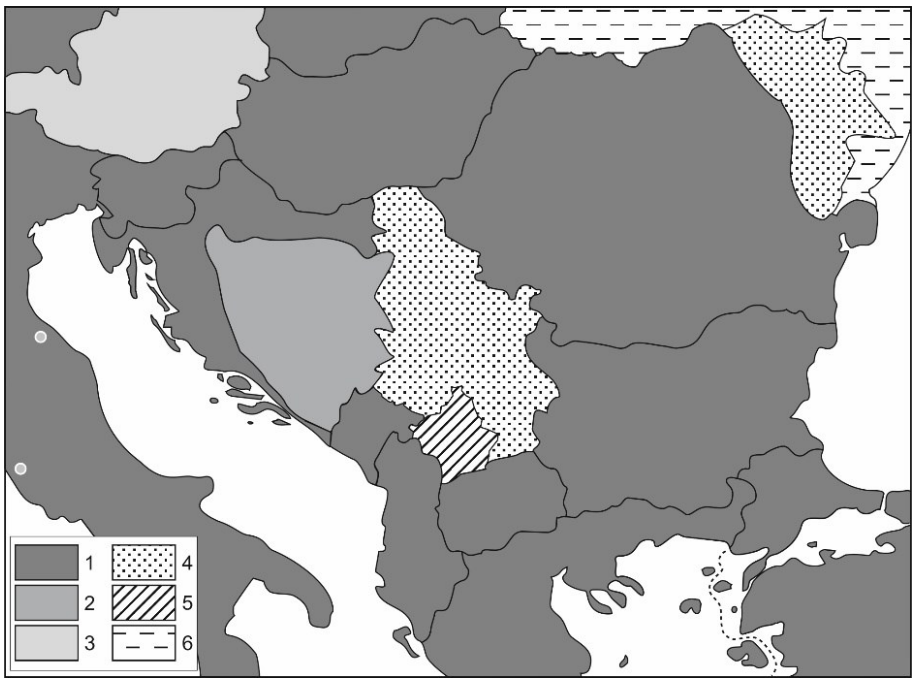
The fact that Serbia is bordered by the EU and NATO has important implications for the axes and trans-Balkan routes traversing the country (figures 1 and 2).

Figure 1 EU integration relations in Southeast Europe, 2023



Legend: 1 – EU member; 2 – EU candidate; 3 – Potential EU candidate; 4 – Eurozone member; 5 – Unilaterally uses Euro; 6 – EU Eastern Partnership; 7 – Schengen border.
Source: Own compilation.

Figure 2 NATO integration relations in Southeast Europe, 2023



Legend: 1 – NATO member; 2 – NATO candidate (Membership Action Plan); 3 – NATO Partnership for Peace (PfP) partner; 4 – NATO PfP partner (Individual Partnership Action Plan); 5 – NATO Potential PfP partner; 6 – Potential NATO candidate (Application for membership submitted).
Source: Own compilation.

The milestones of Serbia's EU integration are as follows (Lőrinczné, 2018): 2008 – Stabilisation and Association Agreement; 2009 – Application for membership; 2012 – Candidate country status granted; 2014 – Formal start of accession negotiations.

The advanced state of Euro-Atlantic integration has contributed to the apparent stabilisation of the status of Serbia's neighbourhood, however, below the surface, deep-seated uncertainties remain. Importantly, Serbia has developed particularly stable and intense relations with Hungary in recent years (Bakó & Rácz, 2020).

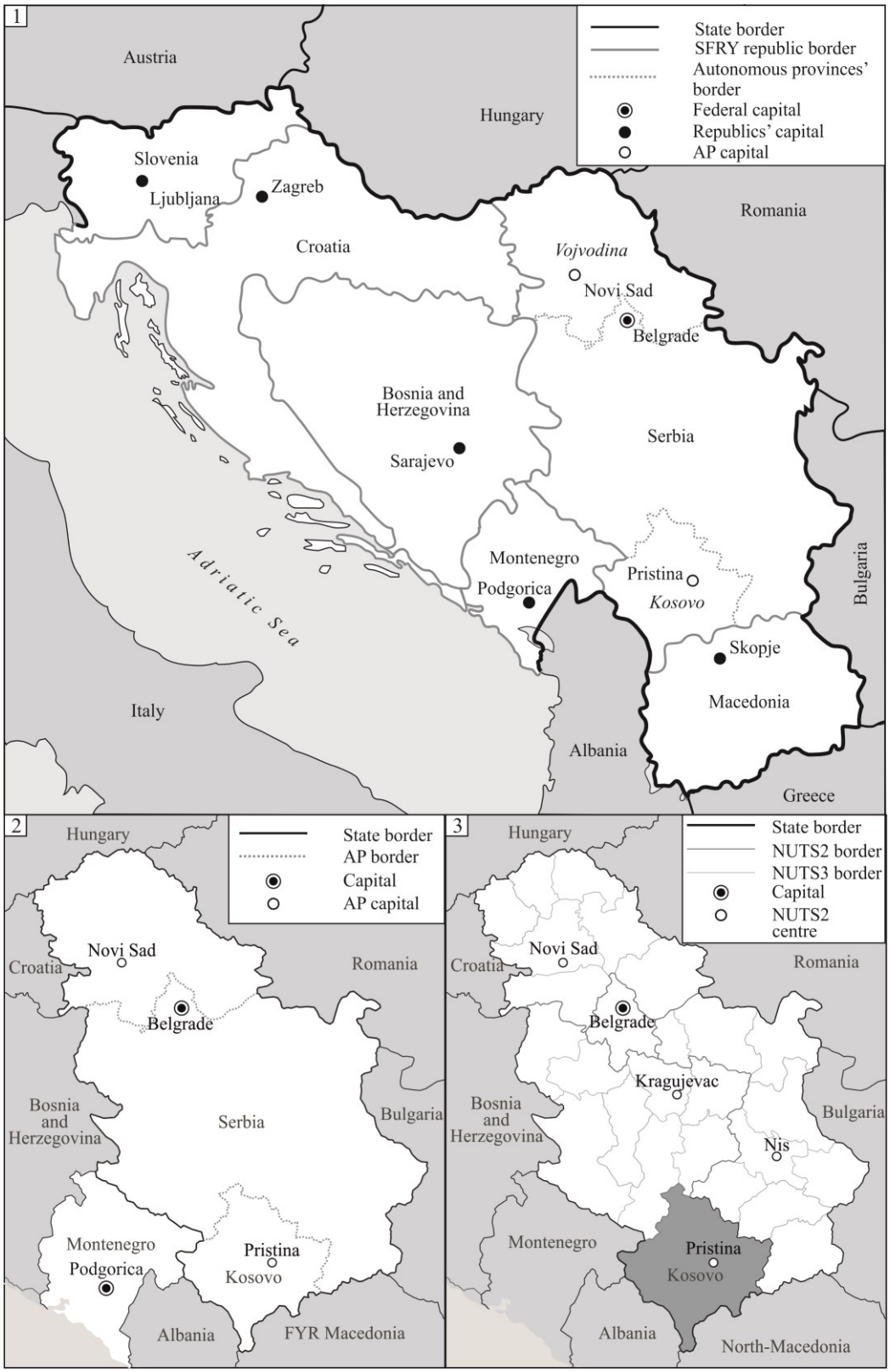
Serbia's foreign economic relations are defined by a "seesaw policy" inherited from the Tito era (Ramet, 2006). Although Serbia has upheld its commitment to EU integration, and strived to align itself to the German power axis, it has also maintained close ties with Russia. Meanwhile, its economic policy interests have prompted it to forge closer relations with countries such as China and Turkey, while also effectively asserting its position vis-à-vis the Kosovo settlement in the United States (Bakó, 2021).

On 17 February 2008, Kosovo unilaterally declared its independence, launching a host of new processes not only within Serbia, which still opposes it, but globally as well: who is entitled to self-determination, will Kosovo set a precedent for other countries? Among Serbia's neighbours (in chronological order), Albania, Hungary, Croatia, Bulgaria, Montenegro, and Macedonia have recognised Kosovo's independence, while Bosnia-Herzegovina and Romania have not.

ADMINISTRATIVE AND SPATIAL STRUCTURAL CHARACTERISTICS OF SERBIA

Serbia's statehood and state organisation have been fundamentally transformed several times over the past three decades, as illustrated by Figure 3. The Constitution defines Vojvodina and Kosovo-Metohija as autonomous provinces of the Republic of Serbia. This indicates an asymmetrical territorial division, with a special middle tier wedged between the central government and local governments (municipalities, towns and the city of Belgrade). Pursuant to the Law on Regional Development of 2009, Serbia is divided into NUTS regions and districts (Vuković et al., 2012; Bakó, 2021). Northern Serbia is one of the NUTS1 macroregions, constituted by the NUTS2 regions of Vojvodina and Belgrade. The other macroregion is Southern Serbia, covering the two NUTS2 regions of Šumadija and Western Serbia, and Southern and Eastern Serbia (and de jure Kosovo-Metohija as well).

Figure 3 Political geographical changes of Serbia since 1991



Legend: 1 – Socialist Federal Republic of Yugoslavia, 1991; 2 – Federal Republic of Yugoslavia (Serbia and Montenegro from 2003), 1992-2006; 3 – Republic of Serbia and its division into NUTS regions and districts, 2009.
Source: Own editing based on Bakó 2021.

Vojvodina is a multi-ethnic autonomous province, whose political status and nature of autonomy has undergone several modifications over the past decades (having the status of a province between 1945 and 1974, then an autonomous province with extensive autonomy between 1974 to 1990, and turning into an autonomous province once more from 2000 on). Historically, it was relatively developed compared to the southern territory of the country, with its contribution to the national GDP going beyond its 26%-share in the country's population. Its urban network is polycentric (Živanović et al., 2021) due to the presence of a dense network of small and medium-sized towns whose weight significantly exceeds their share in the national territory and population. Its settlement system is morphologically balanced, however, the northern and central Banat areas lying to the east of the Tisza River are less densely populated. Vojvodine outperforms the rest of the country's territories in terms of average settlement size, population density and the share of the urban population.

Central Serbia, due to its special topography, is dominated by small villages. Whereas in the case of Vojvodina, only 3% of the population lives in settlements with less than 1,000 inhabitants, this ratio exceeds 20% in the southern part of the country, highlighting the unique intermediary role of smaller towns (Lukić, 2013). Likewise, depopulation predominantly characterises the southern, especially mountainous and border settlements, but it is increasingly prevalent at the national (Živanović et al., 2022) and macroregional (Lukic et al., 2012) level as well.

The country's major – north-south – development axis follows the Danube and Morava Rivers, and connects important cities, e.g. Subotica, Novi Sad, Belgrade, Niš, Leskovac and Vranje. Other (secondary) axes run east-west. In southern Vojvodina, the major cities located along the route that traverses the capital city are Sremska Mitrovica, Šabac, Obrenovac, Belgrade, Pančevo, Smederevo and Požarevac. The axis running through Central Serbia strengthens the spatial organisation role of Užice, Kragujevac, Nis and Pirot. The transport network reflects the current urban hierarchy. The dominant sector for both freight and passenger traffic is road transport, while transit traffic is connected to Trans-European Corridor X. Serbia's river transport is under-utilised compared to its favourable assets.

The country pursued a very unique development path in the past three decades. Its isolation in the 1990s undermined its integration into global processes. Essentially, the building of the market economy began only with the fall of the Milošević regime in 2000 (Bakó, 2021). The impacts of war defeats and the economic transformation were manifest in the urban network with a spatially variable intensity (Zeković, 2009). After the dissolution of Yugoslavia, hundreds of thousands of Serbian families migrated from the territories falling under the

jurisdiction of the newly created states to the mother country (600,000 migrants, according to the most common estimates). The spatial distribution of the successive waves of refugees was highly uneven, with their focal point in cities in the proximity of the war-torn parts of the country and the settlements adjacent to large cities. The largest population increase was recorded in Novi Sad and its surrounding region (Hajdú & Rácz, 2011).

The role of local governments has been steadily declining over the past three decades. Local governments enjoyed the widest autonomy in the Socialist era (Table 2). Between 1990 and 2000, political and economic instability in Yugoslavia and then in Serbia led to growing centralisation and the marginalisation of municipalities. With the administrative re-establishment of cities post- 2000, the situation of non-urban local governments deteriorated further, as the newly strengthened cities became the main foci of political influence. Before 2008, several settlements (e.g., Subotica) were prevented from acquiring city status as defined by the Hungarian administration, mostly for political reasons. The development of cities and corresponding local governments only became possible in 2008 (Bakó, 2021).

Table 2 History of the administrative development of cities and municipalities in Serbia

1943-1975	After the Second World War, the districts and larger districts were phased out. Several cities and villages were part of one larger district. The municipalities were established and their area expanded over time.
1975-1990	Municipalities are grouped into regional municipal communities. In the territory of the Socialist Republic of Serbia 8 regional municipal communities existed. The territory of Autonomous Province of Vojvodina, the Autonomous Province of Kosovo and the city of Belgrade were exceptions (several independent municipalities remained within the autonomous provinces).
1980-1989	In the city of Belgrade, of Novi Sad and Pristina a community of municipalities was established. This is the first form of association at city level.
1990-2000	Regional municipal communities have ceased to exist and many smaller municipalities have been established. In Novi Sad the community of the municipalities was dissolved and the Novi Sad municipality was formed.
2000-	Cities were formed as a result of the reorganisation of institutions and the enforcement of laws. In 2008, a decision was taken to adopt the Statute of the city throughout Serbia. As a result of this measure, it was possible to establish cities and their urban municipalities. As of 2017, Serbian cities have begun to introduce new Statutes to strengthen local governments.

Source: Bakó & Rácz 2020, 195.

The war and the successive embargoes redesigned the regional economic map of Serbia, which were compounded by massive internal migration. This triggered the decline of various cities and regions. However, the position of Novi Sad within the country was strengthened and despite the unfavourable circumstances its development was relentless in almost every domain, as demonstrated by statistical data. The FDI and infrastructural investments of the consecutive period brought a fundamental shift in the balance of power (which was heavily

impacted by the policies of local governments, their relations with the government and their capacities of interest enforcement). The spatial structure of cities, their settlement development and agglomeration policies were transformed; and despite the changing nature of urbanisation challenges, the Yugoslav/Serbian commonalities of cities continue to persist. The tendency to move to the capital and the cities was intensified, which further strengthened the role of the latter. However, the much needed infrastructural developments were only partially implemented, and in many cases, the lacking financial and political conditions were compounded by a shortage of state/local government competences (Bakó, 2021).

THE DEVELOPMENT OF THE MAJOR CITIES IN SERBIA

In multi-ethnic Yugoslavia, the excessive dominance of Belgrade was less evident in the process of capital city building, and the centres of the member republics were also sufficiently developed. Belgrade's growth was somewhat counterbalanced by the decentralised governance of the country. The urban network appeared to be fairly balanced. Each nation/region disposed of its own centre. This was also manifest in the balanced proportion of small, medium and large cities and the geographical position of the network. Polycentricity is a natural phenomenon for a “synthetic state” whose central areas never co-existed within a single country. It is not surprising therefore that from the birth of the South Slavic State even to its dissolution (Živanović et al., 2019), the shape of the rank-size curve showed extreme polycentricity.

Socialist industrialisation significantly boosted migration and urbanisation. Between 1966 and 1991, the population of the five major Serbian cities showed steady growth. Before the 1990s, the increase was globally significant and led to a rise in the population of cities and the expansion of their territory. Population growth and the changing status of settlements also entailed a modification of their administrative rankings. Nonetheless, despite persistent urbanisation and urban development, the rate of urbanisation in Yugoslavia, even before its dissolution, was lagging behind the continental average, and the degree of urbanisation in the various regions of the country showed significant disparities. Population growth peaked in 1991, and was reversed in certain cases. Industrial jobs were destroyed, and many people found themselves in a hostile ethnic environment, constrained to move back to the countryside offering them ethnic and livelihood security. In addition to large-scale internal migration, a large share of the urban population moved to foreign countries. The South Slavic war further disrupted the development of several cities. Entire settlements fell into ruins or

were hollowed out and large-scale ethnic migration (homogenisation) was witnessed. Rapid urbanisation in the successor states stalled, mainly due to the relocation of former centres to other countries, while a couple of new towns were created due to administrative reasons. Following the break-up of the Yugoslav state, the main priority of the successor states was consolidating the integrated state space and establishing their own state administration. This implied the development of their national capital and new administrative centres. The political changes triggered a modification of the functions and position of several cities within the settlement network. By examining the spectrum of „loser" and „winner" cities, we can identify several distinct yet (spatially and temporally) overlapping processes in the transformation of the region: 1) the break-up of Yugoslavia, 2) armed conflicts, 3) nation-state building, 4) Euro-Atlantic and global integration (Rácz, 2011).

For reasons of space, the following section of the paper will provide only a brief overview of the post-1991 development of the five major Serbian cities, which have pursued divergent development paths. In functional terms, fifteen to sixteen large and medium-sized cities are identified in the literature (Živanović & Tošić, 2017). The growth, splintering, decline and shrinkage of these cities is a popular area of scientific research (Miljanović et al., 2023).

Belgrade represents the summit of Serbia's urban network in every respect. The administrative and economic functions of the former federal capital have been significantly downsized with the removal of cca. 70% of the population and territory of the FRY from its jurisdiction. The Belgrade – Serbia nexus mirrors that of post-Trianon Budapest. From one moment to another, it became the oversized capital of a small country. With the dissolution of Yugoslavia (1991-1992), the break-up of the Commonwealth of Serbia and Montenegro (2006) and the secession of Kosovo (2008), Belgrade is currently the capital of a country of a mere 6.6 million people. Compared to the actual size of the state territory, Belgrade's capacities are oversized in every respect. Situated at the intersection of major transport corridors, the catchment area of the capital city of nearly 1.7 million people (Belgrade is composed of 17 municipalities according to the law on the capital city) also includes mid-sized towns such as Smederevo and Pančevo (Tošić & Đorđević, 2004). Belgrade concentrates 25% of the total population, almost one-third of all employees, 40% of the highly skilled workforce, 40% of the national GDP (gradually increasing every year), 40-50% of greenfield investments, and over half of university students and foreign visitor nights (Hirt, 2009; Graovac & Djokic, 2008; Uvalić & Bartlett, 2021; Arandarenko et al., 2021). The capital city is witnessing a particularly dynamic period in terms of urbanisation (Hirt, 2009; Graovac & Djokic, 2008).

Table 3 shows the evolution of the population in the respective cities in the period between the last four censuses. Internal migration and the inflow of refugees from the former Yugoslav republics contributed to population growth primarily in Novi Sad and the Belgrade region, and in the southern cities following Kosovo's secession. Examining long-term trends, between 1991 and 2022, Novi Sad saw a steady increase of 39%, with over 100,000 surplus inhabitants. The population of Belgrade has also increased by 4.9% (+79,000 people) since 1991. In terms of internal migration, large cities, and Belgrade in particular, are popular destinations due to the availability of adequate education opportunities and attractive jobs, which has led to overcrowding in the central districts of the capital (Bakó, 2021). The successful growth of mid-sized cities notwithstanding, the population's preference for settling down in the large cities, and Belgrade in particular, has been prominent since World War 2 (Živanović et al., 2019).

Table 3 Population change in Serbian cities, 1991-2022

	Number of inhabitants				**Growth rate (%)**		
	1991	2002	2011	2022	1991-2002	2002-2011	2011-2022
Belgrade	1,602,226	1,576,124	1,659,440	1,681,405	-1.63	5.29	1.32
Novi Sad	265,464	299,294	341,625	368,967	12.74	14.14	8.00
Nis	248,086	235,159	260,237	249,501	-5.21	10.66	-4.13
Kragujevac	180,084	175,802	179,417	171,186	-2.38	2.06	-4.59
Subotica	150,534	148,401	141,554	123,952	-1.42	-4.61	-12.43

Note: Population of the administrative unit (urban municipality/gradska opština).
Source: Own edition based on census data (RZS 2023).

The population of Nis was fairly stable between 1991 to 2022 (+0.6%), despite the anticipation of further population loss, as witnessed in the case of the two other large cities. Since the last Yugoslav census, the population of Kragujevac has decreased by 4.9% or roughly 9,000 people. Subotica was the only city to have experienced a steady (as well as the most significant) population loss (-17.7%, or over 26,000 people).

It is worth noting that Serbia's population has been permanently declining since 1991, due primarily to natural decrease and emigration to a lesser extent. The population peaked in 1991, at 7,822,795 (excluding Kosovo). According to the 2022 Census, the current population has dropped to 6,647,003, which implies a decrease of 15% or nearly 1.2 million people over a period of three decades. The combined population of the five major cities has increased by 148,617 since 1991, thus, their share in the total population has risen from 31.3% to 39%.

This trend is expected to continue in the future as well, with an anticipated rise in the number and proportion of urban residents.

The multi-stage dissolution of Yugoslavia provides an insight into the rapid transformation of the urban network in Serbia (e.g., the relation to the sea, the issue of a national port). For Belgrade, the break-up of Yugoslavia implied major losses in terms of its zone of attraction and functions. In the face of heavy losses, the fact that it remained the capital of newly formed Serbia and that its counterweight cities (Novi Sad, Nis) were considerably weaker than the previous ones (e.g. Zagreb, Ljubljana) offered meagre compensation. The macroregional centres of Serbia are weak compared to Belgrade and do not qualify as effective counterweights. In the functional hierarchy, the capital is followed by two urban areas of international significance (RAPP, 2010): Novi Sad and Nis.

Novi Sad was founded in 1694 as an „appendix" to adjacent Petrovaradin. Whereas Petrovaradin was populated by Serbian border guards, Novi Sad was transformed into a German bourgeois town. The city's elevation to the rank of a free royal town was largely explained by its favourable location, and it featured among the group of fast-growing centres with high potential already at the turn of the century. Within the Yugoslavian state formations, Novi Sad saw a gradual expansion of its economic and administrative functions. Currently, Novi Sad is the second most important city in Serbia and the provincial seat of Vojvodina. Its role in transport, industry (mainly chemicals, petroleum and food), culture and higher education is nationally significant. It is also the financial, commercial and power centre of its region. The impacts of the past decades of migration were the most pronounced in Novi Sad, with its current population reaching almost 370,000 people and its catchment area stretching between the Danube and Tisza rivers. The transport and functional axis of the settlement network of the province is the north-south Subotica-Novi Sad line, intersecting with the minor east-west axes. From an administrative perspective, Vojvodina's key significance (with important implications in other areas as well) is that it is an autonomous province (with its own House of Representatives and government). The framework, economic and legal content of autonomy have been subject to intense debate from the earliest period. The capital city and Novi Sad have recorded the most spectacular economic growth after the turn of the millennium. Novi Sad has developed into an export-oriented centre of science, innovation and technology, thanks to the city leadership's support for education policy and the massive influx of foreign investments. The proximity of Belgrade is also a major contributing factor (the distance between the two city centres is about 70 kms as the crow

flies, roughly an hour by motorway and half an hour by the new Intercity train), as most multinational companies and banks are headquartered in the capital.

With its population of 250,000, Nis is the regional centre of Southern Serbia. Its favourable geographic position, advanced electronics and machinery industries, administrative, cultural and commercial functions represent significant development potential. Historically, it has played an important role in Serbian state development, being the country's capital in the Middle Ages. The current influence of Nis extends in particular to the central and southern parts of the region, while the northern areas gravitate to the much closer and more developed Belgrade. It has a diversified industry, with IT as the leading sector, as demonstrated by the presence of hundreds of software developers and international multinational companies.

Kragujevac, with its population of 170,000 people, is the former (1818-1841) capital of Serbia, known for its automotive and arms manufacturing industries under the Zastava brand. It aspires to diversify its functions as a potential regional centre (ÖIR, 2006). Heavy industry used to provide remarkably high revenues for the city, and Kragujevac was a key player in Serbia's industrial sector for a long time (Zastava's armament factory, founded in 1853, marked the beginning of Serbia's industrialisation). The car factory was founded in 1953 and was acquired by FIAT in 2008. The previous functions of Kragujevac related to its capital city status have established it as a prominent educational and cultural centre of Serbia.

With a population of around 125,000, Subotica is the fifth largest city in Serbia. Its catchment area connects, in a semicircular form, the 200,000 inhabitants of northern Bačka settlements along the Hungarian border. Its significance is boosted by the presence of cross-border linkages with its EU-member northern neighbour, especially the city Szeged, at a 45-km distance (Nagy & Ricz, 2017; Ricz, 2018). Subotica, the northern „counterpole" of Novi Sad, represented the most populous city of the province for a long time, but its position has deteriorated due to the urban and spatial development policies of the previous decades. The two cities' relations are defined by both competition and cooperation. As a border city, Subotica has mitigated the impacts of the post-regime economic crisis partly through the black market, a thriving agricultural sector and previously negligible tourism revenues, which showed a significant rise in the 1990s. In recent years, it has efficiently valorised its potential as a free zone and its proximity to the EU, which has been a major force of attraction for a large number of multinational companies. More recently, labour shortages have come to represent the major obstacle to further growth. The key challenge is how the city can respond to the massive population outmigration occurring over the last decade and a half (Bakó. 2021).

Looking at the geographical location of the top ten Serbian companies by turnover, Table 4 clearly reveals the presence of a Belgrade–Novi Sad growth axis, where eight such companies are headquartered (the share of the capital city is 50%), in light of the most recent publicly available ranking of the Serbian Business Register. Compared to the neighbouring EU countries (Bulgaria, Croatia, Hungary, Romania), the location of the TOP10 companies is less capital-centric, as a clear indicator of the economic strength and potential of Novi Sad.

Table 4 Biggest companies in Serbia by total revenue, 2021

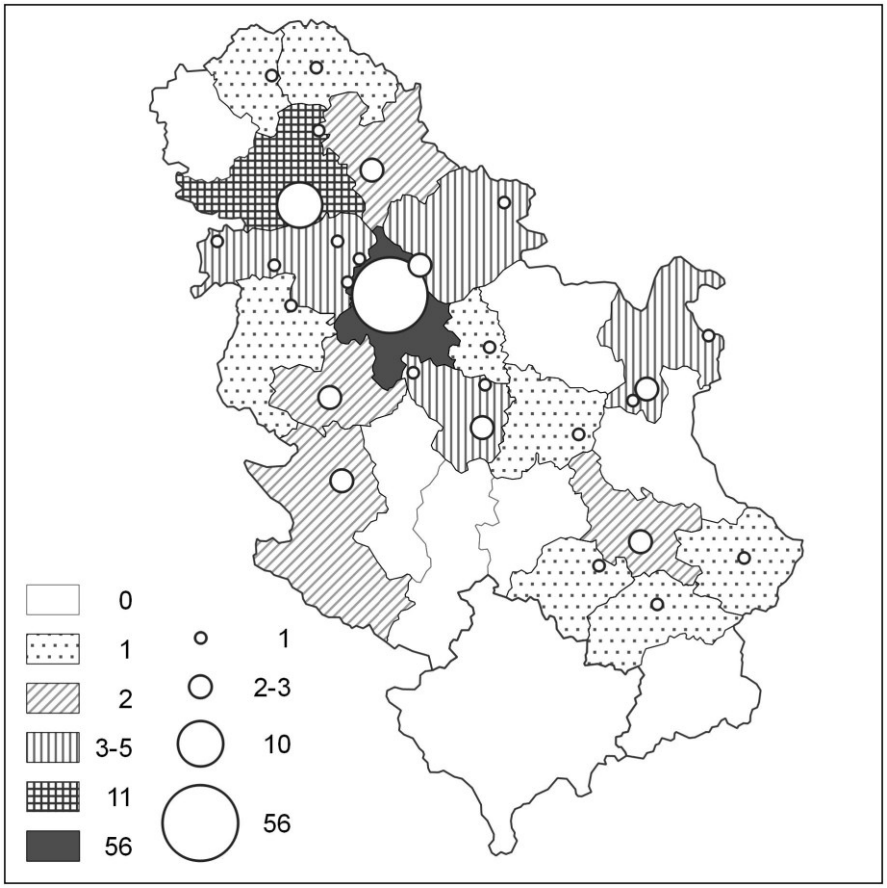
Rank	**Name**	**Location**	**Industry**	**Turnover** (billion RSD)	**Employees**
1	JP Elektroprivreda Srbije	Belgrade	Energy supply	319.7	23507
2	Naftna Industrija Srbije	Novi Sad	Oil industry	281.0	5108
3	HBIS Group Serbia Iron & Steel	Belgrade	Metals	130.6	4858
4	Serbia Zijin Copper	Bor	Mining	121.4	5724
5	Delhaize Serbia	Belgrade	Trade	118.9	11637
6	JP Srbijagas	Novi Sad	Gas supply	116.2	941
7	Tigar Tyres	Pirot	Tyre manufacturing	104.3	3634
8	Telekom Srbija	Belgrade	Telecommunications	102.9	7300
9	Elektrodistribucija Srbije	Belgrade	Energy supply	102.4	7817
10	Mercator-S	Novi Sad	Trade	81.4	8352

Source: Own edition based on the data of Serbian Business Registers Agency (SBRA 2022).

The examination of the TOP 100 companies according to turnover yields similar ratios (Figure 4). Belgrade concentrates 56 of the TOP 100 companies. Vojvodina has 23 such companies, 10 of which are located in Novi Sad. While Subotica has no such company headquarters, two are located in Zrenjanin and Pančevo, and among the larger settlements, Čantavir, Bečej, Vršac, Sremska Mitrovica and Zenta each hosts one company featuring on the top list.

The modest share of the two other southern NUTS2 regions reflects their generally low level of development. Šumadija and Western Serbia host 11 TOP 100 companies, with three located in Kragujevac. Only ten companies are found in Southern and Eastern Serbia, two of which are located in Nis. In the case of the seven development regions (oblasts) of the other three NUTS2 regions in the immediate vicinity of the capital, these NUTS3 regions concentrate a total of 19 TOP 100 firms (excluding the South Bačka distict with Novi Sad as its centre). This provides a more accurate picture of position of the wider region of the capital (a 85% share with the inclusion of Novi Sad).

Figure 4 Map of TOP 100 companies in Serbia by total revenue, 2021



Legend: The location of the seats of TOP 100 biggest companies by NUTS3 regions (colouring); and by cities/settlements (pie chart).
Source: Own edition based on the data of Serbian Business Registers Agency (SBRA 2022).

CONCLUSIONS

The objective of the present paper in the context of the current thematic issue of Deturope was to situate, in space and time, the development of the five major Serbian cities. These cities are undoubtedly the key points of the urban network in Serbia. To this end, the interpretive framework applied was a narrative model assisting the historical and political geographical interpretation of processes (i.e., the overall implications of cyclical development for the urban network and the spatial structure of the Balkans). Serbia's statehood, state organisation, administrative and spatial features, as well as its geopolitical position and orientation have undergone fundamental changes over the last three decades. The latter have important implications for urban development, which are extensively analysed in the present paper by presenting the major economic and demographic trends of the selected five cities.

The regional differences from the past were not present only in the former Yugoslavia, but they can be recognised even today in Serbia. Since 2000, there has been no significant

decrease in the disparities of economic development between the cities, instead, they have increased. Another fact worth highlighting is that the development of Serbian cities is still influenced by the past. The spatial structure of major cities, their former settlement development and agglomeration policies have changed, the challenges of urbanisation have transformed the former uniform nature of the cities, but despite this, the Yugoslav and later Serbian similarities of the cities are still evident. The relocation of the population to the cities, as well as the importance of the capital and major cities have grown, in the meantime, the necessary infrastructure development has only been partially implemented.

Despite the identification of general trends, e.g., nation-wide and rural depopulation, the urban and spatial structural concentration of the population and the economy (FDI in particular), the cities under study have pursued highly divergent development trajectories. Belgrade has become a European-scale world city of Central European standards, showcasing the peculiarities of post-socialist capital city building and development. The prosperity of Novi Sad is stable and unique, thanks to a combination of highly specific factors. The development of traditional centres (Nis, Kragujevac and Subotica) was also detectable, however, several constraining factors were identified in their case.

Acknowledgement

Research for this publication has been supported by National Research, Development and Innovation Office – NKFIH grant #134900 (The development processes of Central and Southeast European cities).

REFERENCES

Arandarenko, M., Aleksić, D., & Lončar, D. (2021). Expansion of direct investment and resilience of Serbian labour market: A regional and sectoral perspective. *Ekonomika preduzeća*, 3-4. 203-216. https://doi.org/10.5937/ekopre2103203a

Bakó, T., & Rácz, S. (2020). Key guidelines for the development and functioning of cities and municipalities in Serbia. In Gál, Z., Kovács, S. Z., & Páger, B. (Eds.), *Flows of Resources in the Regional Economy in the Age of Digitalisation: Proceedings of the 7th CERS Conference* (pp.193-203). Pécs: HRSA.

Bakó, T. (2021). From Yugoslavia to Present Serbia – Relations of Regional and Economic Policy and Public Administration. Theses of Doctoral Dissertation. Győr: Széchenyi István University Doctoral School of Regional- and Business Administration Sciences.

Graovac, A., & Djokic, J. (2008). *Implosive sprawl – Belgrade case study*. Dalian: 44th ISoCaRP Congress.

Hajdú, Z., Illés, I., & Raffay, Z. (Eds.) (2007). *Southeast-Europe: State Borders, Cross-Border Relations, Spatial Structures.* Pécs: Centre for Regional Studies Hungarian Academy of Sciences.

Hajdú, Z., Horeczki, R., & Rácz, S. (2018). Changing settlement networks in Central and Eastern Europe with special regard to urban networks. In Lux, G., & Horváth, Gy. (Eds.), *The Routledge handbook to regional development in Central and Eastern Europe* (pp. 123-140). Abingdon–New York: Routledge. https://doi.org/10.4324/9781315586137

Hajdú, Z., & Rácz, S. (2011). Urbanisation, state formation processes and new capital cities in the Western Balkans. *AUPO Geographica,* 2. 63-77.

Hirt, S. (2009). City Profile: Belgrade, Serbia. *Cities,* 5. 293-303. https://doi.org/10.1016/j.cities.2009.04.001

Lőrinczné Bencze, E. (2018). The EU and Regional Cooperation in Southeast Europe. *Central European Political Science Review,* 71. 27-54.

Lukic, T., Stojsavljevic, R., Durdev, B., Nagy, I., & Dercan, B. (2012). Depopulation in the Western Balkan countries. *European Journal of Geography*, 2. 6-23.

Lukić, V. (2013). Population Trends in Serbia and the Implications for Settlement System. *Forum Geografic*, 1. 67-74. https://doi.org/10.5775/fg.2067-4635.2013.070.i

Miljanović D., Vuksanović-Macura, Z., & Doljak, D. (2023). Rethinking the spatial transformation of postsocialist cities: Shrinking, sprawling or densifying. *Cities*, 140. 104443. https://doi.org/10.1016/j.cities.2023.104443

Nagy, I., & Ricz, A. (2017). The Willingness and Preparedness of Local Governments in Ap Vojvodina/Serbia to Grip and Use Development Funds of the European Union. *Deturope,* 2. 118-128. https://doi.org/10.32725/det.2017.016

ÖIR (2006). *Metropolitan Networking in CenSE backed by North-South Rail Corridors*. Final Report of the Pilot Projects. Wien: Österreichisches Institut für Raumplanung.

Rácz, Sz. (2011). Déli szomszédsági városhálózatok és hatások [Urban networks in the southern neighbourhood and their impacts]. In: Cieger, A. (Ed.), *Terek, tervek, történetek. Az identitás történetének térbeli keretei 2.* (pp. 211-237). Budapest: Atelier.

Rácz, Sz. (2014). New Integration Period? Changing Tendencies of the Urban Network in South East Europe. *Deturope*, 6(2). 46-63. https://doi.org/10.32725/det.2014.011

Ramet, S. P. (2006). *The three Yugoslavias: State-building and legitimation, 1918-2005*. Washington DC: Woodrow Wilson Center Press.

RAPP (2010). *Spatial Plan of the Republic of Serbia 2010–2014–2020*. Abridged version. Belgrade: Republic of Serbia Ministry of Environment and Spatial Planning Republic Agency for Spatial Planning.

Reményi, P. (2011). Borders, Settlement Structure and Regional Issues in the Western Balkans. In Kobolka, I., & Pap, N. (Eds.), *The Western Balkans: European perspective and tradition* (155-230). Budapest: Ministry of Foreign Affairs.

Ricz, A. (2018). A határon átívelő programok hatásai a Vajdaság területi fejlődésére. *Tér és Társadalom*, 1. 161-179. https://doi.org/10.17649/TET.32.1.2877

RZS (2023). *2022 Census of Population, Households and Dwellings. Ethnicity – Data by municipalities and cities*. Belgrade: Statistical Office of the Republic of Serbia. https://publikacije.stat.gov.rs/G2023/PdfE/G20234001.pdf

SBRA (2022). *Извештај о Сто нај... Привредних друштава 2021. Подаци из редовних годишњих финансијских извештаја*. Београд: Агенција за Привредне Регистре. https://www.apr.gov.rs/upload/Portals/0/GFI_2022/Publikacije/Sto_naj...privrednih_drustava_u_RS_16_11_2022.pdf

Tošić, B., & Đorđević, J. (2004). The settlements of the Belgrade region. *Geographica Pannonica,* 8. 43-46.

Uvalić, M., & Bartlett, W. (2021). *Regional disparities and regional development policies in Serbia*. Belgrade: Friedrich-Ebert-Stiftung.

Vuković, D., Jovanović, A., Zakić, N., & Vukotić, S. (2012). Nomenclature of Statistical Territorial Units: Possibilities of Application in Serbia. *Journal of Geographical Institute "Jovan Cvijić" SASA*, 2. 11-24. https://doi.org/10.2298/IJGI1102011V

Zeković, S. (2009). Regional competitiveness and territorial industrial development in Serbia. *Spatium,* 21. 27-38. https://doi.org/10.2298/SPAT0921027Z

Živanović, V., Joksimović, M., Golić, R., Malinić, V., Krstić, F., Sedlak, M., & Kovjanić, A. (2022). Depopulated and Abandoned Areas in Serbia in the 21st Century – From a Local to a National Problem. *Sustainability*, 14. 10765. https://doi.org/10.3390/su141710765

Živanović, V., Pavlović, M., Kovjanić, A., Tošić, D., & Krstić, F. (2021). Concept of polycentricity – the differences between development policies and spatial reality. *Journal of the Geographical Institute "Jovan Cvijić" SASA*, 1. 75-90. https://doi.org/10.2298/IJGI2101075Z

Živanović, Z., Tošić, B., Nikolić, T., & Gatarić, D. (2019). Urban System in Serbia – The Factor in the Planning of Balanced Regional Development. *Sustainability*, 11. 4168. https://doi.org/10.3390/su11154168

Živanović, Z., & Tošić, B. (2017). Defining urban regions in Serbia. *Geographica Pannonica*, 21. 85-95. http://dx.doi.org/10.5937/GeoPan1702085Z

DETUROPE *– THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 15 Issue 2 2023 *ISSN 1821-2506*

Original scientific paper

POPULATION DYNAMICS OF THE HUNGARIAN SMALL TOWNS IN THE LIGHT OF CENSUSES

Réka HORECZKI[a], Ernő MOLNÁR[b], Gábor PIRISI[c]

[a] CERS Institute for Regional Studies, 7621 Pécs, Papnövelde u. 22., horeczki.reka@krtk.hun-ren.hu
[b] University of Debrecen, 4032 Debrecen, Egyetem tér 1., molnar.erno@science.unideb.hu
[c] University of Pécs, 7624 Pécs, Ifjúság útja 6., pirisi.gabor@pte.hu

Cite this article: Horeczki, R., Molnár, E., Pirisi, G. (2023). Population dynamics of the Hungarian small towns in the light of censuses. *Deturope,* 15(2), 66-84.

Abstract

The importance of cities throughout history is indisputable. Their allocation of economic, cultural and political power, their spatial organization functions are impressive, and their role in social reproduction reached a milestone in 2008, when more than half of the world's population was considered urban. Today, the urban population is still growing. Small towns are extremely diverse in terms of economic power and society, but their numbers and population base do not justify their dominance in the urban network. There have been intense waves of urbanization across Europe, with the scope of formal cities widening and the scope of functional cities closing. Grouped by population category, there are more than 7,000 small towns in Europe, almost two-thirds of the countries' urban settlements are small towns. This is particularly true in Central- and Eastern-Europe, where, due to delayed urban development, there is a combination of welfare suburbanization and urban depopulation, as well as forced-generated movements from the big cities to smaller towns.

In our study, we present the main characteristics of population change in small towns in Hungary. We examine spatial and functional differences in the population dynamics of small towns. The aim of the study is to show the spatial distribution of the settlements identified by prosperous suburbs and shrinking cities by illustrating the changes in the population dynamics of the Hungarian small towns population over the last almost twenty years.

Keywords: small town, urbanization, urban hierarchy, Hungary, census

INTRODUCTION

Small Hungarian towns have a long history and a key role in organizing the rural space l. A growing number of professional forums are recognising that small towns are the future of sustainable development and the countryside. The settlement structure of the Central- and Eastern European countries is unique, with a dense urban network; these typical cases of urban development can be considered part of the historical-cultural heritage (Enyedi, 1978; Hajdú, Horeczki & Rácz, 2017; Rechnitzer, 2013). The region was characterized by significant delays and differences in urban development. In the interpretation of urban geography, Central and Eastern Europe has a low urbanization level in a European context

(Tsenkova, 2006). The region can mostly be characterized by oversized capital cities in comparison to the size of the countries, primarily in economic terms (Zdanowska, 2017), and by few and weak regional centers (Dogaru et al., 2014). We can speak about a hybrid pattern of urbanization, where elements representing the convergence to Western Europe and the distinctive regional development trajectories based on path-dependence and going back to the period before the socialist era are present simultaneously (Taubenböck et al., 2019). In this macro-region, where rural and semi-urban spatial categories are predominant, small towns represent the most accessible and characteristic level of the urban network (Burdack & Knappe, 2007; Konecka-Szydłowska & Maćkiewicz, 2015; Trócsányi et al., 2018; Vaishar, 2004; Vaishar & Zapletalová, 2009). The combination of low spatial mobility and the deficiencies of larger cities' networks make the regional importance of these settlements more emphasized as central locations – primarily as employment centres concentrating workplaces – in comparison to Western Europe (Filipović et al., 2016; Kwiatek-Sołtys, 2005; Pirisi et al., 2016). On the other hand, their relative weakness, the limitations of their economic power appear as a key factor hampering regional convergence (Bartosiewicz et al., 2019; Cole & Svidroňová, 2021; Horeczki, 2014, 2021; Molnár, 2015a).

THEORETICAL BACKGROUND

There is a field within spatial sciences that lies somewhere between the "real" urban and the rural research, belonging somewhat to both, yet not entirely to either—a field that specifically focuses on small towns as a unique settlement type. It is not an extensive field, so much so that emphasizing the 'under-researched' nature of small towns in studies is typical (Hannemann, 2004; Horeczki, 2013; Steinführer et al., 2016). Neglect appears to have dissolved in recent years (Molnár E. et al., 2023) as several special issues concerning small towns were prepared within the leading journals (Grossmann & Mallach, 2021; Servillo et al., 2017; Steinführer et al., 2016), and two important books focusing on small towns have been published recently (Bański, 2022; Mayer & Lazzeroni, 2022). The growth might be more than apparent, not simply stemming from a massification of 'knowledge production', raising the question: what explains the increasing attention towards small towns?

The scholarly interest in small towns can traditionally be traced back to multiple sources. In Central Europe, where approaches of the German geography have always been dominant, the small town primarily appeared as a central place (Grötzbach, 1963). This approach is functional and centred around services and development. Embedded in the settlement

network, small towns emerge as places catering to rural areas, gaining significance beyond themselves in these relations (Courtney et al., 2007; Elsasser, 1998; Vaishar et al., 2015; Vaishar–Zapletalová, 2009). At the same time, one of the approaches interpreting small towns as a specific problem can be traced back to this perspective. If small towns are seen as the key to rural development, some of the possible causes of the crisis in rural areas must be sought here as well. This interpretation emerged particularly sharply in post-system change Central- and Eastern-Europe (CEE) because the connection seemed rather obvious: the collapsing economies of small towns on one side and persistently crisis-ridden rural areas on the other. From this approach, it is worth examining the transformation of the economic performance of small towns (Cudny, 2012; Molnár, 2015b; Novotný et al., 2019; Zuzańska-Żyśko, 2005). Experiences from this perspective are two-fold and diverge notably between developed countries (besides Western Europe, particularly well-known case studies come from the United States and Australia) and the transformation countries of Central- and Eastern-Europe. In the former, there are also numerous signs pointing to problems related partly to the global economic transformation and partly to cyclical crises that occur from time to time (Broadway, 2000; Lovell et al., 2018), but there is more emphasis on the resilience of the small-town economy and community (Lazzeroni, 2020).

In CEE-countries, deindustrialization, the decline of industries inherited from socialism, and the ensuing economic crisis (Bole et al., 2020; Zuzańska-Żyśko, 2005), the objective limitations of tertiarization, and the question marks concerning re-industrialization (Czapiewski et al., 2016; Konecka-Szydłowska et al., 2010) have destabilized the economic role of small towns. Only a couple of small towns can act as significant commuting centres and provide employment for the population in the surrounding rural areas (Pénzes, 2013; Pénzes et al., 2015; Pirisi et al., 2016; Zuzańska-Żyśko & Sitek, 2014). The differentiation of small towns based on their economic performance and development level shows both hierarchical and spatial tendencies, while industrial potential partly inherited from the socialist era plays a key role in generating larger and “more developed” economies (Molnár et al., 2023). There are small towns with per capita economic power similar to the larger cities, but their innovation potential is clearly more limited. According to earlier investigations, only 50-60 cities and towns in the Hungarian urban network were found to have some innovation potential, while the outstanding places were larger or medium-sized cities or those belonging to their agglomeration zones (Rechnitzer et al., 2004; Rechnitzer et al., 2014). Small towns with remarkable innovation potential were mostly locations of higher education but taking the concentration process of the Hungarian higher education system and the decline of rural

locations (Lengyel, 2023) into consideration, their future seems to be not too bright. Overall, perhaps even those somewhat concise conclusions cannot be regarded as exaggerations, which directly saw small towns as the biggest losers of globalization (Enyedi, 2012).

One of the most crucial attributes of a crisis-ridden small town is demographic shrinkage: the decline of economic roles and population loss go hand in hand, reinforcing each other with positive feedback loops. Of course, this is not solely an issue in CEE-countries. The challenges faced by small towns in the globalized economy are significant even in central areas, leading to emigration (Alston, 2004; Shetty, 2009; Troeger-Weiß & Domhardt, 2009). The essence of the problem lies in the fact that the traditional population reserves in rural spaces have been depleted in both Western and Eastern Europe. Small towns are not an attractive destination for global migration that feeds the growth of big cities (Carr et al., 2012). In CEE-countries, natural decrease, negative international migration balances since at least the mid-2000s, and fundamentally, migration towards big cities have simultaneously and significantly affected shrinkage, becoming a defining factor in the life of small towns (Bartosiewicz et al., 2019; Ljubenovic et al., 2022; Pirisi & Trócsányi, 2014). The most significant and painful factor of shrinkage is a type of emigration that primarily affects the younger population (Leibert, 2016; Makkai et al., 2017; Wolff et al., 2021), endangering the economic and social reproductive potential of small towns. It is crucial to emphasize that shrinkage is not merely a quantitative issue; it leads to the breakdown of connections, erosion of social capital, fundamentally questioning the elements that constitute small-town identity.

Intensive growth was never characteristic of small towns. In the urbanization cycle theory (Van den Berg et al., 1982), the place of small-town urbanization should partly be sought in the phases of relative and absolute deconcentration (Enyedi, 2011), as “in-depth urbanization”, a counterbalance to the development of large urban metropolitan regions. However, doubts regarding the limited applicability of cycle theories to mid-sized and small towns are not new (Nyström, 1992). In the CEE-region, especially in Hungary, a significant transformation of demographic processes reversing small-town shrinkage is hardly expected in the near future. It would also be illusory to expect small towns to strengthen to such an extent in their traditional roles as to become genuine, small-scale growth poles. What is needed is either new growth impulses or the acceptance and management of shrinkage.

Examples of both cases exist. At the level of small-town planning, it is challenging to exceed the growth-paradigm, but there are precedents for 'smart shrinkage' at the small-town level too (Peters et al., 2018). On the other hand, the growth or more precisely, the success factors of small towns can be diverse, even in the age of the global economy that favors urban

spaces. In the changing patterns of territorial inequalities, not every small town can be seen as a loser. Some have integrated into functional metropolitan regions (Kwiatek-Sołtys, 2005), while others have provided attractive locational factors allowing their businesses, based on external direct investment rather than locally rooted, to successfully integrate into global value chains (Cole & Svidroňová, 2021; Novotný et al., 2019; Pipan, 2018; Wirth et al., 2016).

It is important to emphasize that while traditional small-town functions might have been questioned, there seems to be a revaluation of traditional small-town values in recent times. Two pillars are worth highlighting: firstly, small towns appear much more capable of transforming into sustainable habitats harmonising with elements of the natural environment than urban spaces (Mayer & Knox, 2010; Vaishar et al., 2016; Vaishar & Greer-Wootten, 2006). Secondly, as also witnessed during the COVID-19 pandemic (Pirisi et al., 2022; Sztando, 2020; Uzzoli, 2022), small towns are being revalued as secure places. This narrative is likely to strengthen now, especially when societal, political, military, and economic risks are on the rise. The almost suffocating stability and conservatism manifested in multiple dimensions in small towns may push young people to emigrate, but for others, these factors might be attractive (Fertner et al., 2015; Kwiatek-Sołtys, 2006; Windley & Scheidt, 1988). The decline and crisis of traditional economic functions on one side, and adaptation to globalization, primarily ensuring an appealing local living environment on the other. Theoretically, in the demographic processes of small towns, the analysis of actual data should show us this kind of duality, differentiated trajectories. This study attempts to provide an overview of the population changes in Hungarian small towns using data released three months before the manuscript preparation of the 2022 Hungarian census. The particular focus of the study is on the territorial and size differences in population dynamics.

DATA AND METHODS

The interpretation of small towns can be summarized by the saying “as many houses as many small towns”, or more precisely, “as many researchers as many different kinds of small town demarcation”. The authors of this paper have also used different approaches in their previous works but have been able to reach a consensus in the interest of common research. Without going into too much detail in this paper, it should be noted that we considered as small towns all settlements in Hungary whose population did not exceed 30,000 at the time of the 2022 census and which already had urban status at the time of the census. In previous works, all

authors of this article have used the latter, formal criterion for the delimitation of small towns, with all its contradictions (see e.g. Horeczki & Egyed, 2021; Horeczki, Molnár & Pirisi, 2023; Molnár 2007; Pirisi & Trócsányi, 2006). Considering the characteristics of the settlement network in Hungary, several authors have used a similar definition of a small town: Kőszegfalvi (2004) with the urban status and a population threshold of 30,000, Dövényi (1986) in his analysis of the Great Plain, Tóth (1988) in his early works, and the Hungarian Central Statistical Office also uses this population limit. The upper limit of 30,000 inhabitants is also the result of a compromise and partly reflects the weakness of the urban area with a central urban character (Pirisi &Trócsányi, 2009). On the other hand, cities with over 30.000 inhabitants – with the exception of some large agglomeration towns – have mostly special legal status, more autonomy and they function as mesoregional or regional centers – as opposed to "typical or traditional" small towns regarded as microregional centers (Kovács et al., 2021). The method used finally selected 317 towns for the analysis, with the smallest actor being Pálháza with a population of just 972 and the largest Szekszárd, which just slips under the 30,000 inhabitants limit. The determined group of small towns represents a colorful picture in terms of urban functions and hierarchical positions as well, there is even one county seat (Szekszárd) and two cities with county rights (Szekszárd and Esztergom) among them.

After delimiting the small towns, we analyzed their population dynamics based on the data of the last censuses (2001, 2011, 2022). We examined their population change investigating the tendencies of two decades (2001-2011 and 2011-2022), comparing their dynamics to the group average in the given decade. As a main outcome of this analysis, we identified six dynamic categories (their detailed description can be found in the next part). In a subsequent step of the analysis, we examined the distribution of small towns among the dynamic categories based on different criteria (population, urban hierarchy, complex city types, regional location). While the population size typology was based on the 2022 census data, for the urban hierarchy and the complex city types we relied on the classification published in the National Atlas of Hungary (Kovács et al., 2021).

RESULTS

The appearance of continuity over time in small towns is reinforced when we consider the weight of the category within the urban or settlement network. In 2022, the 317 small towns were inhabited by 2.9 million people, 30.2% of the country's population. Three out of ten Hungarians can therefore be considered small town citizens (irrespective of whether they

identify themselves as such), and this proportion is remarkably stable. The same 317 municipalities represented a population of almost three million and a weight of 30.3% in 2011, compared with 30.2% in 2001. This means that the aggregate population change (shrinkage) of small towns is identical for the country as a whole. Between 2001 to 2022, the current population of small towns are expected to have lost 5.77% of its initial population (5.82% for the country as a whole). This stability is somewhat altered if we do not look at the change in the rate of the current population, but rather apply the upper and lower limit criteria mentioned above at the time of the censuses. In this case, 199 municipalities fit into the small town definition in 2001 with a population of 2.22 million (21.7% of the national total) and 291 municipalities in 2011 with 2.70 million inhabitants, representing a weight of 27.2%. The growing importance of small towns in this sense can of course be partly attributed to formal urbanization (Karsai & Trócsányi, 2019). As Faragó (2010, p. 434) puts it, "the trend of economic development is a continuation of urbanization".

Table 1 Causes behind the expansion of the small town network

	Period	Formal urbanization	Shrinking cities (under 30,000)	TOTAL increase
Number of small towns	2001-2011	91	4	95
	2011-2021	20	6	26
	2001-2022	111	10	121
Population of small towns	2001-2011	514,095	115,706	629,801
	2011-2021	108,704	172,997	281,701
	2001-2022	622,799	288,703	911,502

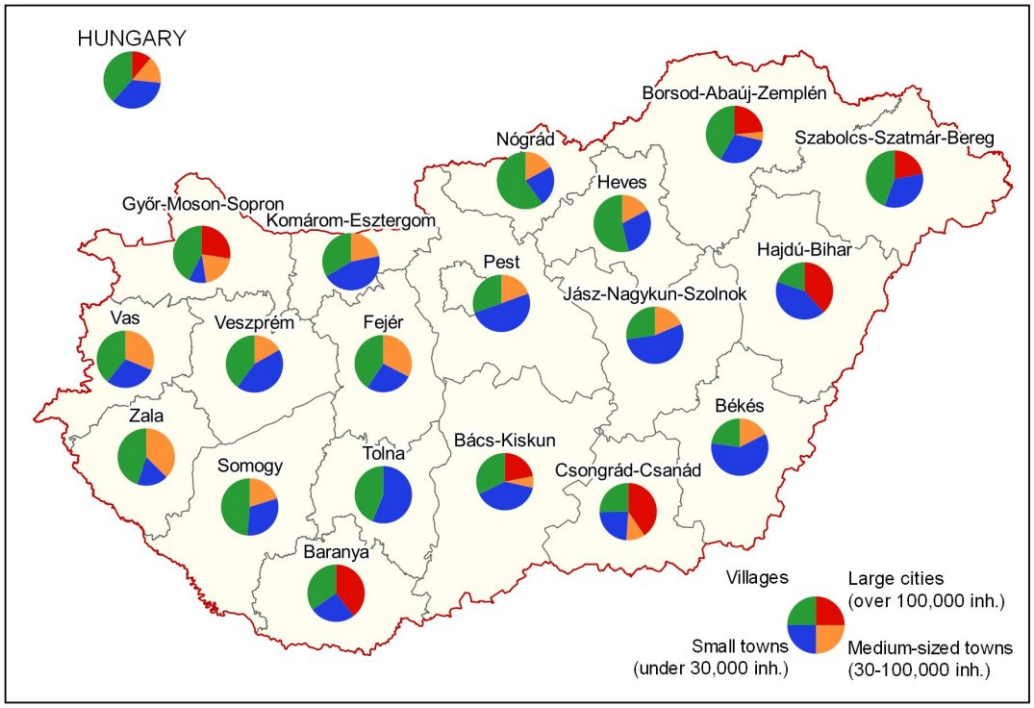
Source: own editing.

In the period under review, a total of 111 large villages and municipalities were granted the title of town (table 1), all of which can be classified as small towns (the largest - Fót, Gyömrő and Vecsés - have a population of over 20,000). However, the population is not only open at the bottom. Ten settlements defined as small towns in our research (Ajka, Gyöngyös, Gyula, Hajdúböszörmény, Kazincbarcika, Kiskunfélegyháza, Orosháza, Pápa, Szekszárd and Szentes) were found to be above the 30,000 threshold in 2001, yet their shrinkage was generally significant. There are far fewer dynamic settlements emerging from the small town category: only three towns (Dunakeszi, Szigetszentmiklós and Mosonmagyaróvár) were still below the 30,000 inhabitants threshold in 2001. While the former two are dynamic suburbs of Budapest with a population exceeding 40,000 until recently, the latter town is located in the northwestern edge of the country influenced by the spatial proximity of the Austrian and

Slovakian capital cities. A similar result was found in Rácz (2008), which confirmed the growing importance of small towns and the increasing share of towns with a population of less than 20,000. Shrinking therefore represents a net increase in the population of small towns under the current conditions and delimitation, but this effect is only secondary to the growth of formal urbanization, which came to a halt in all but two cases in 2013. The weight of small towns, even if relatively stable over time and essentially only due to formal urbanization, has moved from around 20% after the regime change to around 30%, but shows very significant spatial variations.

Small towns have a high population share in counties where there are no large cities (Figure 1). Pest county is of course in a misleading position in this context, as the influence of the capital determines the development of the settlement geography. However, in addition to the absence of large towns, the importance of small towns may be high both in areas where the weight of villages is high, i.e. where the overall population distribution shows more rural characteristics (Tolna, Veszprém), and in areas where the weight of the village population is low, where the historical path of urbanization has led through the development of rural towns to the present day (Békés, Jász-Nagykun-Szolnok).

Figure 1 Population distribution by settlement category in the counties



Source: own editing.

The counties of Győr-Moson-Sopron, Nógrád and Zala, with their completely different backgrounds, represent the other pole. In the case of the former-mentioned, the relatively small weight of small towns is due to the fact that it is home to two major medium-sized towns in addition to its metropolitan seat (the situation would have been different if the analysis had been based on the 2001 census data, when Mosonmagyaróvár was still classified as a small town). However, in the case of Nógrád and Zala, the high proportion of municipalities also indicates that urbanization is slow, few villages have been able to develop (at least formally) into towns, and they are among the smallest (e.g. Letenye, Pacsa, Zalakaros, Zalalövő in Zala). In Nógrád, moreover, the latest promotion to town rank (Bátonyterenye, Rétság) occurred in 1989, after which the process completely froze in the absence of large municipalities and settlements with dynamic population growth. The issue of Pest county deserves special mention, as its urban network is dominated by small towns and several of its larger towns are considered to be relatively functionally poor. However, even though the growth of the number of towns in this county has been intense, in formal terms Pest is still under-urbanized: the vast majority of the country's settlements with a population of more than 5,000 but without urban status (19 out of 25) are located in this county. If formal urbanization gains a new dynamic, it is not difficult to predict that the number and relative importance of small towns in Pest county will continue to grow.

The weight of small towns does not show a classic east-west or centre-periphery dichotomy. To summarize our observations, this is again a manifestation of the in-between situation so characteristic of small towns: the role of small towns is prominent when urbanization is intense enough to allow a relatively large number of villages to develop into towns, but not enough to produce a series of medium-sized and/or large towns.

In our analysis, we have examined the population dynamics of small towns based on data from the most recent censuses (2001, 2011 and 2022), compared to the average of their own group (the group average was -2,30% in the first decade and –3,56% in the second decade, the population shrinkage of small towns accelerated). We have assessed separately the population changes between 2001 and 2011 and between 2011 and 2022 and have identified six categories in total by comparing the two decades. Municipalities that have experienced population growth in both decades (red) were classified as “Towns with continuous growth” (category 1), while small towns that have experienced a decline in addition to (or instead of) growth but at a rate below the group average for small towns as a whole (yellow) were classified as “Towns with continuously above-average dynamics” (category 2). In this group

the shrinkage of the towns was less intensive than the -2,30% and the -3,56% average characteristic for the two decades, some towns showed a growth in one of the two decades. At the other extreme, there were "Towns with continuous and extreme shrinkage" (category 6), which in both decades experienced extreme population decline (dark brown), with a rate of decline three times the group average (it means at least -6,89% or -10,67% decrease). Where, in addition to (or instead of) extreme shrinkage, there was 'only' above-average shrinkage, the settlement was labelled "Town with continuously under-average dynamics" (category 5) (light brown). These towns had a population dynamics between -2,30% and -6,89% in the first decade and a change between -3,56% and -10,67% in the second decade, or there were several towns undergoing extreme shrinkage in one of the two decades. Finally, there are two intermediate categories: "Towns newly gaining above-average dynamics" (category 3) and "Towns losing their above-average dynamics" (category 4). Category 3 went from above-average or extreme shrinkage to under-average shrinkage or even growth (orange), while small towns 'losing dynamism' (category 4) followed a similar path in reverse (light red) (Table 2).

Table 2 Distribution of small towns among the dynamic clusters based on population changes over the last two decades (percentage)

		2011-2022				
		Growing	**Shrinking less than average**	**Shrinking more than average**	**Extremely shrinking**	**Total**
2001-2011	**Growing**	18.0	3.5	1.9	0.6	24.0
	Shrinking less than average	1.9	2.2	2.5	0.0	6.6
	Shrinking more than average	3.2	6.9	18.6	4.4	33.1
	Extremely shrinking	0.3	1.6	18.3	16.1	36.3
	Total	23.3	14.2	41.3	21.1	**100.0**

Source: own editing based on Census 2001, 2011, 2022.

But what kind of differences in the population dynamics of small towns exist if we examine town groups based on the criteria of population size, urban hierarchy, complex urban types and regional position? At a first glance, it should be emphasized that internal differentiation of the small towns' group appears quite stable: a relatively small number of towns (18%) were found to be shifting their position between the positive and the negative poles of the table by gaining a new or losing their earlier population dynamics (categories 3-

4). However, the majority (almost 60%) of the towns can be placed on the negative pole (categories 5-6), the "most typical" small town has under-average population dynamics (category 5).

When examined from the point of view of population size (Table 3), higher categories (20-29 and 10-19 thousand inhabitants) appear to incorporate many continuously growing towns (category 1) beyond the predominating ones with under-average population dynamics (category 5). Category 1 has a clear overrepresentation in these groups, which can be explained by the relatively big and dynamic agglomeration towns.

Table 3 Distribution of small towns with different population size (%) by categories based on population dynamics

Population (thousands)	**1**	**2**	**3**	**4**	**5**	**6**	**Total**
20-29	31	7	7	7	34	14	100
10-19	31	6	9	3	38	13	100
5-9	16	8	13	8	43	12	100
-5	7	9	14	4	43	23	100
Total	**18**	**8**	**12**	**5**	**41**	**16**	**100**

1. Towns with continuous growth. 2. Towns with continuously above-average dynamics. 3. Towns newly gaining above- average dynamics. 4. Towns losing their above-average dynamics. 5. Towns with continuously under-average dynamics. 6. Towns with continuous and extreme shrinkage.
Source: own editing based on Census 2001, 2011, 2022.

On the other hand, lower population categories (5-9 and 1-4 thousand inhabitants) more characteristic for the rural space include a higher (and overrepresented) share of towns with under-average population dynamics. 23% of the towns with less than 5 thousand inhabitants is extremely shrinking (category 6), a further 43% have under-average population dynamics (category 5). However, it must be noted that our categorization was based on population data at the end of the examined period (census 2022) which strengthens the correlation between population dynamics and size.

Population dynamics problems of small towns functioning as the centres of rural space are clearly underlined by the analysis of the several hierarchical categories (Table 4). 80% of the "medium towns" and 70% of the "small towns" representing the higher hierarchical levels can be found in the two worst population dynamics categories (categories 5-6). On the other hand, "village towns" and "titular/ceremonial towns" with a modest position in the urban hierarchy have a slightly better position: 25% of the former and 33% of the latter group show continuous growth or above-average population dynamics (categories 1-2). Moving beyond the urban hierarchy and using the categories of a more complex typology (Table 5), we can state that small towns under the influence of larger cities ("agglomeration and residential

towns") as well as "resort and spa towns" dynamized by tourism mostly have a higher population dynamics than "meso- and microregional centres" or "village and titular towns" less affected and shaped by the effects of suburbanization and the development of tourism. While more than half of the towns showed a continuous growth (category 1) and there were no towns with continuous and extreme shrinkage (category 6) in the first two settlement groups, about half of the towns had under-average dynamics (category 5) and further 20-25% underwent continuous and extreme shrinkage (category 6) in the two latter settlement groups.

Table 4 Distribution of small towns with different positions in the urban hierarchy (%) by categories based on population dynamics

Urban hierarchy	**1**	**2**	**3**	**4**	**5**	**6**	**Total**
Medium town	7	7	3	3	57	23	100
Small town	8	6	8	7	52	18	100
Village town	20	5	20	2	39	14	100
Titular town	24	9	13	6	34	14	100
Total	**18**	**8**	**12**	**5**	**41**	**16**	**100**

1. Towns with continuous growth. 2. Towns with continuously above-average dynamics. 3. Towns newly gaining above- average dynamics. 4. Towns losing their above-average dynamics. 5. Towns with continuously under-average dynamics. 6. Towns with continuous and extreme shrinkage.
Source: own editing based on Census 2001, 2011, 2022.

Table 5 Distribution of complex types of small towns (%) by categories based on population dynamics

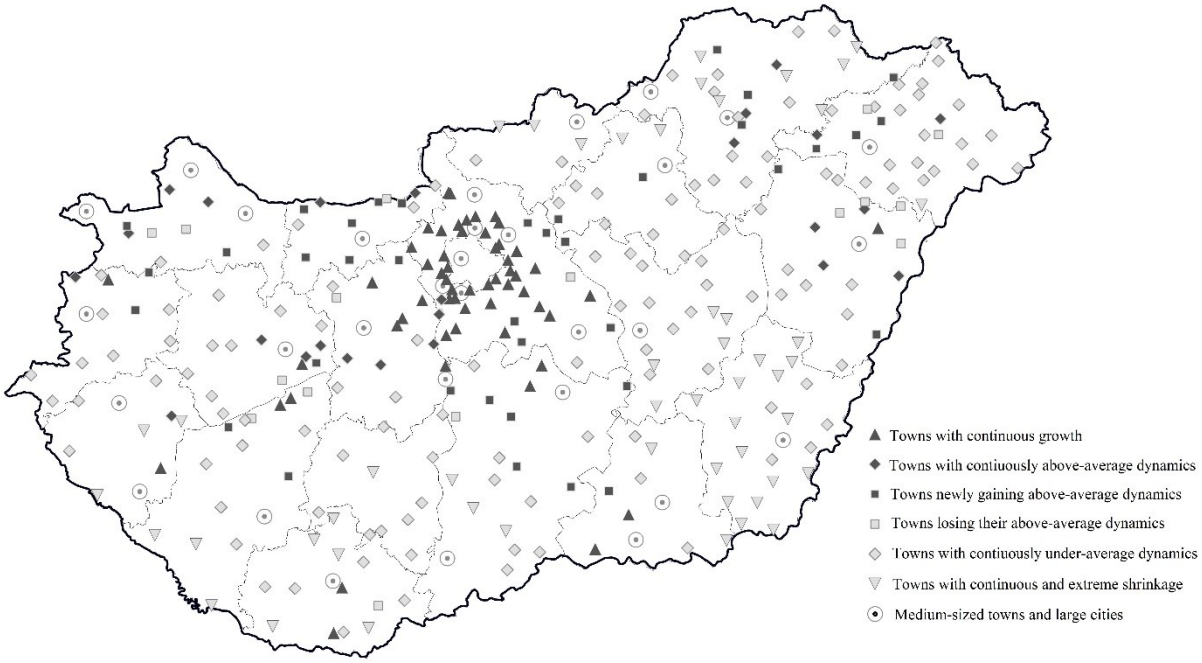
Complex urban type	**1**	**2**	**3**	**4**	**5**	**6**	**Total**
Agglomeration and residential towns	56	11	13	3	18	0	100
Resort and spa towns	56	6	13	13	13	0	100
Meso- and microregional centres	2	8	6	6	56	22	100
Village and titular towns	4	6	15	5	47	23	100
Total	**18**	**8**	**12**	**5**	**41**	**16**	**100**

1. Towns with continuous growth. 2. Towns with continuously above-average dynamics. 3. Towns newly gaining above- average dynamics. 4. Towns losing their above-average dynamics. 5. Towns with continuously under-average dynamics. 6. Towns with continuous and extreme shrinkage.
Source: own editing based on Census 2001, 2011, 2022.

Finally, by plotting the dynamic types defined by population changes on a map, some spatial correlations can be clearly seen (Figure 2). In the agglomerating areas around the large cities, mainly Budapest, around Lake Balaton and Lake Venice, and along the western border and in the more dynamic areas of the North Transdanubian region, we find small towns in a better position, mostly growing or moderately shrinking, or more recently dynamic. More than 80% of the small towns in Central Hungary (Pest county) have a stable growing population and the rest are mostly stable above group average or dynamic. On the other hand, cities with a high or extreme population decline are more prevalent in the Great Plain,

Northern Hungary and Southern Transdanubia. Three quarters of the small towns in Békés county are in the stable or strongly shrinking (6th) category, while the rest are in the stable below group average (5th) category.

Figure 2 Spatial distribution of dynamic types of small towns defined by population changes



Source: own editing.

However, small towns with stable population growth can be found around Debrecen, Szeged and Pécs, and small towns that are better off than the group average or more recently dynamic can also be found in North-Eastern Hungary and the Danube-Tisza area. It is important to note that, in contrast to the tourism-recreation function, which can highlight small towns in terms of population dynamics even in less developed regions, the driving force of industry-based economic dynamism appears to be less pronounced. In particular, among the small towns with a stable above-average dynamics (e.g. Esztergom, Komárom, Oroszlány, Hatvan, Jászfényszaru), there are various settlements where industry plays an important role. However, a glance at the map also suggests that these small towns may be suspected of being geographically located in a relatively dynamic situation: they are increasingly linked to the outskirts of agglomeration areas (Figure 2).

DISCUSSION AND CONCLUSION

The study presented the weight of small towns in the settlement network and the differences in their population dynamics in Hungary in the light of the latest census data. Our study showed that urbanization in Hungary appeared to be continuous and almost relentless until 2011. During the period under examination, there were two main sources of growth in the number of small towns: formal urbanization, with 111 new towns being promoted to town rank; and a permanent decline in the population of towns with a population of around 30,000. In the first period (2001-2011) 4 cities fell into the category of small towns, and between 2011 and 2021 a further 6 towns declined. Our analysis revealed the internal differentiation of the Hungarian small towns' network in terms of population change, the duality of dynamic agglomeration towns mostly having larger population but moderate positions in the urban hierarchy and the settlement system on the one hand, and the declining centres of rural spaces having diverse sizes and positions in the urban hierarchy on the other. Only resort and spa towns were able to break this duality, showing population stability or growth in less dynamic regions as well. This "big picture" reflects the challenged positions of rural centers facing shrinkage and the tendencies of relative deconcentration boosting the development of the small towns in agglomerations. This dual pattern of population dynamics generates challenges for both groups. The agglomeration towns have to manage growth (infrastructural and institutional shortcomings), while the centres of rural space have to cope with shrinkage while facing the problems of economies of scale (local economy, institutions). Beyond the local strategies, a general question of regional development arises from the point of view of small towns: what future(s) do national strategies imagine for agglomeration towns and rural centres? Despite the apparent stability, there are dynamic processes which, due to their regional differences, are also leading to considerable spatial reorganization. At the same time, there are still potential candidate cities, both in functional terms and in terms of population, which suggests that the role of small towns in the settlement network may continue to grow in the near future, albeit at a more moderate rate. Once we have information on the components, the role of natural population movements and migration in the population of small towns beyond simple population data, we will be closer to understanding the different dynamics of these settlements. In the follow-up part of the research, we shall attempt to answer the question: "What challenges does shrinkage create for the small town economy and institutional system, which is already facing economies of scale challenges?"

REFERENCES

Alston, M. (2004). "You don't want to be a check-out chick all your life": the out-migration of young people from Australia's small rural towns. *Australian Journal of Social Issues,* 39(3), 299-313. https://doi.org/10.1002/j.1839-4655.2004.tb01178.x

Bański, J. (Ed.) (2022). *The Routledge Handbook of Small Towns.* New York-London: Routledge.

Bartosiewicz, B., Kwiatek-Sołtys, A., & Kurek, S. (2019). Does the process of shrinking concern also small towns? Lessons from Poland. *Quaestiones Geographicae*, 38(4), 91-105. https://doi.org/10.2478/quageo-2019-0039

Bole, D., Kozina, J., & Tiran, J. (2020). The socioeconomic performance of small and mediumsized industrial towns: Slovenian perspectives. *Moravian Geographical Reports*, *28*(1), 16-28. https://doi.org/10.2478/mgr-2020-0002

Broadway, M. J. (2000). Planning for change in small towns or trying to avoid the slaughterhouse blues. *Journal of Rural Studies*, *16*(1), 37-46. https://doi.org/10.1016/S0743-0167(99)00038-8

Burdack, J., & Knappe, E. (2007). The development of small towns in Central Europe and the Baltic States. *Geografiski Raksti*, 13(1). 35-45.

Carr, P. J., Lichter, D. T., & Kefalas, M. J. (2012). Can Immigration Save Small-Town America? Hispanic Boomtowns and the Uneasy Path to Renewal. *Annals of the American Academy of Political and Social Science*, 641(1), 38-57. https://doi.org/10.1177/0002716211433445

Cole, D., & Svidroňová, M. M. (2021). Are small towns doomed to decline? The case of a post-socialist CEE country. *Post-Communist Economies*, 38(8). 1012-1034. https://doi.org/10.1080/14631377.2021.1886786

Courtney, P., Mayfield, L., Tranter, R., Jones, P., & Errington, A. (2007). Small towns as "sub-poles" in English rural development: Investigating rural-urban linkages using sub-regional social accounting matrices. *Geoforum*, 38(6), 1219-1232. https://doi.org/10.1016/j.geoforum.2007.03.006

Cudny, W. (2012). Socio-economic transformation of small towns in East Germany after 1990 - Colditz case study. *Bulletin of Geography. Socio-Economic Series*, 17(17), 33-43. https://doi.org/10.2478/v10089-012-0004-6

Czapiewski, K., Banski, J., & Gorczynska, M. (2016). The impact of location on the role of small towns in regional development: Mazovia, Poland. *European Countryside*, 8(4), 413–426. https://doi.org/10.1515/euco-2016-0028

Dogaru, T. et al. (2014). The geography of multinational corporations in CEE countries: Perspectives for second-tier city regions and European cohesion policy. *Investigaciones Regionales - Journal of Regional Research* https://ideas.repec.org/a/ris/invreg/0268.html (2022.01.04.)

Elsasser, H. (1998). Ist eine Kleinstadt mehr als eine kleine Stadt? In E. M. Munduch & A. Spiegler (Eds.), *Kleinstädte. Motoren in ländlichen Raum. Tagungsband anlässlich des ersten mitteleuropäischen Kleinstadtsymposiums in Murau* (pp. 10-17). Österreichisches Kuratorium für Landtechnik und Landentwicklung.

Enyedi, Gy. (1978). *Kelet-Közép-Európa gazdaságföldrajza*. Budapest: Közgazdasági és Jogi Könyvkiadó.

Enyedi, Gy. (2011). A városnövekedés szakaszai - újragondolva. *Tér és Társadalom*, 25(1), 5-19. https://tet.rkk.hu/index.php/TeT/article/view/1770/3533

Enyedi, Gy. (2012). *Városi világ*. Akadémiai Kiadó. https://doi.org/10.1556/9789630597982

Faragó L. (2010). Területi koncentráció és a jelentőségüket vesztő perifériák. In Barta, Gy., Beluszky, P., Földi Zs., & Kovács, K. (Eds.): *A területi kutatások csomópontjai* (pp. 432-453). Pécs, Magyar Tudományos Akadémia Regionális Kutatások Központja.

Fertner, C., Groth, N. B., Herslund, L., & Carstensen, T. A. (2015). Small towns resisting urban decay through residential attractiveness. Findings from Denmark. *Geografisk Tidsskrift - Danish Journal of Geography*, 115(2), 119-132. https://doi.org/10.1080/00167223.2015.1060863

Filipović, M., Kokotović, K. V., & Drobnjaković, M. (2016). Small Towns in Serbia – The "Bridge" Between the Urban and the Rural. *European Countryside*, 8(4), 462-480. https://doi.org/10.1515/euco-2016-0031

Grossmann, K., & Mallach, A. (2021). The small city in the urban system: complex pathways of growth and decline. In *Geografiska Annaler, Series B: Human Geography,* 103(3), 169-175. Taylor and Francis Ltd. https://doi.org/10.1080/04353684.2021.1953280

Grötzbach, E. (1963). Geographische Untersuchung über die Kleinstadt der Gegenwart in Süddeutschland. *Münchner Geographische Hefte*, *24*, 106.

Hajdú, Z., Horeczki, R. & Rácz, Sz. (2017). Changing settlement networks in Central and Eastern Europe with special regard to urban networks. In Lux, G. & Horváth, Gy. (Eds.), *The Routledge Handbook to Regional Development in Central and Eastern Europe* (pp. 123-140.) New York-London, Routledge.

Hannemann, C. (2004): Marginalisierte Städte. In *Probleme, Differenzierungen und Chancen ostdeutscher Kleinstädte im Schrumpfungsprozess*, Berlin: Berliner Wissenschafts-Verlag.

Horeczki, R. (2013). Kisváros - kiskategória - kis érdeklődés? In Rechnitzer, J., Somlyódyné Pfeil, E., & Kovács, G. (Szerk.), *A hely szelleme - a területi fejlesztések lokális dimenziói: A Fiatal Regionalisták VIII. Konferenciáján Elhangzott Előadások* (pp. 191-196). Győr: Széchenyi István Egyetem Regionális- és Gazdaságtudományi Doktori Iskola.

Horeczki, R. (2014). A kisvárosok ipari átalakulása a XX. században. *Köztes-Európa*, 6(1-14), 135-142.

Horeczki, R., & Egyed I. (2021). Small towns development in peripheral areas. *Deturope,* 13(2), 52-65.

Horeczki, R., Molnár, E., & Pirisi, G. (2023): "A kicsi szép, de gyenge is"? Tűnődés a magyarországi kisvárosok településhálózatban betöltött szerepéről. *Comitatus: Önkormányzati Szemle*, 33(246), 191-202.

Hungarian Central Statistical Office Glossary: https://www.ksh.hu/apps/meta.main?p_lang=HU

Karsai, V., & Trócsányi, A. (2019). Aki kimarad(t), lemarad(t)? – A település sikeressége és a városi cím, *Földrajzi Közlemények*, 4, 339-357. https://doi.org/10.32643/fk.143.4.4

Konecka-Szydłowska, B., & Maćkiewicz, B. (2015). Endogenous capital of small towns in the Poznań agglomeration. *Annales Universitatis Paedagogicae Cracoviensis Studia Geographica*, 8, 80-95.

Konecka-Szydłowska, B., Zuzańska-Żyśko, E., & Szmytkie, R. (2010). Role of services in the economies of small towns of Silesia region and Wielkopolskie voivodehip. *Bulletin of Geography. Socio-Economic Series*, 14(1), 51-62.

Kovács Z., Beluszky P., Tóth G., & Egedy T. (2021). Városok. In Kocsis, K. (Ed.), *Magyarország Nemzeti Atlasza. Társadalom* (pp. 118-129). Budapest: CSFK Földrajztudományi Intézet.

Kőszegfalvi, Gy. (2004). *Magyarország településrendszere. Történelmi vázlat településrendszerünkről*. Pécs: Alexandra kiadó.

Kwiatek-Sołtys, A. (2005). The role of small district towns in the urban agglomeration system in Poland. Bulletin of Geography. *Socio-Economic Series,* 4(1), 135-140.

Kwiatek-Sołtys, A. (2006). Migration attractiveness of small towns in the Małoposka Province. *Bulletin of Geography. Socio-Economic Series*, *5*(1), 155-160.

Lazzeroni, M. (2020). Industrial decline and resilience in small towns: Evidence from three European case studies. *Tijdschrift Voor Economische En Sociale Geografie*, *111*(2), 182–195. https://doi.org/10.1111/tesg.12368

Leibert, T. (2016). She leaves, he stays? Sex-selective migration in rural East Germany. *Journal of Rural Studies*, 43(2), 267-279.

Lengyel, I. (2023). A hazai terület- és településfejlesztés egyik „állatorvosi lova": a felsőoktatás leépülése a kevésbé fejlett térségekben. *Tér és Társadalom,* 37(4), in progress.

Ljubenovic, M., Bogdanovic-Protic, I., Vasilevska, L., & Zivkovic, J. (2022). Small shrinking towns in the post-socialist context of development. *Facta Universitatis - Series: Architecture and Civil Engineering*, 20(1), 61-74. https://doi.org/10.2298/fuace2204290081

Lovell, S. A., Gray, A., & Boucher, S. E. (2018). Economic marginalization and community capacity: How does industry closure in a small town affect perceptions of place? *Journal of Rural Studies*, 62, 107-115. https://doi.org/10.1016/j.jrurstud.2018.07.002

Makkai, B., Máté, E., Pirisi, G., & Trócsányi, A. (2017). Where Have All the Youngsters Gone? The Background and Consequences of Young Adults' Outmigration from Hungarian Small Towns. *European Countryside*, 9(4), 789-807. https://doi.org/10.1515/euco-2017-0044

Mayer, H., & Knox, P. (2010). Small-town sustainability: Prospects in the second modernity. *European Planning Studies*, 18(10), 1545-1565. https://doi.org/10.1080/09654313.2010.504336

Mayer, H., & Lazzeroni, M. (Eds.) (2022). *A Research Agenda for Small and Medium-Sized Towns.* Cheltenham (UK)-Northampton (US): Edward Elgar Publishing

Molnár, E. (2007). *Megújulás vagy csendes vegetálás? Az észak-alföldi kisvárosok feldolgozóipara az ezredfordulón*. Doktori (PhD) értekezés. Debrecen: Debreceni Egyetem, Földtudományok Doktori Iskola.

Molnár, E. (2015a). Martfű: egy cipőgyártó kisváros múltja és perspektívái. *Földrajzi Közlemények*, 139(2), 132-146.

Molnár, E. (2015b). Az alföldi kisvárosok iparának átalakulása, Mezőtúr példáján. In Tésits, R., & Levente, A. B. (Eds.), *A mi geográfiánk: Tóth József emlékezete* (pp. 421-431). Pécs: Publikon Kiadó.

Molnár, E., Feyrouz, A. S., & Lénárt, V. M. (2023): Kisvárosi gazdaságok funkcionális településföldrajzi megközelítésben. *City.hu – Várostudományi Szemle,* 3(1). 49-77.

Novotný, L., Kulla, M., Pregi, L., & Csachová, S. (2019). Economic transformation of post-communist small towns: Case study of the Lower Spiš region, Slovakia. *Deturope,* 11(1), 21-41.

Nyström, J. (1992). The Cyclical Urbanization Model. *Geografiska Annaler: Series B, Human Geography*, *74*(2), 133–144. https://doi.org/10.1080/04353684.1992.11879637

Pénzes, J. (2013). A foglalkoztatottság, az ingázás és a jövedelmi szint összefüggései Északkelet- és Északnyugat-Magyarországon. *Területi Statisztika*, *03*, 202–224.

Pénzes, J., Molnár, E., & Pálóczi, G. (2015). Local Labour System After the Turn of the Millennium in Hungary. *Regional Statistics*, *5*(2), 62–81. https://doi.org/10.15196/RS05204

Peters, D. J., Hamideh, S., Zarecor, K. E., & Ghandour, M. (2018). Using entrepreneurial social infrastructure to understand smart shrinkage in small towns. *Journal of Rural Studies*, *64*, 39-49. https://doi.org/10.1016/j.jrurstud.2018.10.001

Pipan, T. (2018). Neo-industrialization models and industrial culture of small towns. *GeoScape*, *12*(1), 10-16. https://doi.org/10.2478/geosc-2018-0002

Pirisi, G., Alpek, B. L., Kovács, G., Máté, É., & Trócsányi, A. (2022). Kisvárosi reziliencia a COVID-19 járvány első hullámában – egy esettanulmány Mosonmagyaróvárról. *City.hu Várostudományi Szemle*, *2*(1), 105-128.

Pirisi, G., Kiss, B., & Máté, É. (2016). A kisvárosok szerepe a munkaerő-ingázásban [The role of small towns in the spatial mobility of labour force according to the commuting]. *Területi Statisztika* (56)4, 415-437. https://doi.org/10.15196/TS560404

Pirisi, G., & Trócsányi, A. (2009). Így készül a magyar város. *Területi Statisztika* 12(2), 137-147.

Pirisi, G., & Trócsányi, A. (2014). Shrinking Small Towns in Hungary: the Factors Behind the Urban Decline in "Small Scale". *Acta Geographica Universitatis Comenianae*, *58*(2), 131-147.

Rácz, Sz. (2008). A várossá nyilvánítás aktuális kérdései és folyamata a hetvenes évektől napjainkig, *Comitatus: Önkormányzati Szemle*. (5) pp. 3-19.

Rechnitzer, J. (2013). Adalékok Kelet-Közép-Európa térszerkezetének felrajzolására. *Geopolitika a XXI. században,* 3(4), 35-52.

Rechnitzer J., Csizmadia Z., & Grosz A. (2004). A magyar városhálózat tudásalapú megújító képessége az ezredfordulón. *Tér és Társadalom,* 18(2), 117-156. https://doi.org/10.17649/TET.18.2.949

Rechnitzer J., Páthy, Á., & Berkes, J. (2014). A magyar városhálózat stabilitása és változása. *Tér és Társadalom,* 28(2), 105-127. https://doi.org/10.17649/TET.28.2.2623

Servillo, L., Atkinson, R., & Hamdouch, A. (2017). Small and Medium-Sized Towns in Europe: Conceptual, Methodological and Policy Issues. *Tijdschrift Voor Economische En Sociale Geografie*, *108*(4), 365–379. https://doi.org/10.1111/tesg.12252

Shetty, S. (2009). Shrinking Cities in the Industrial Belt: A Focus on Small and Mid-size Cities in Northwestern Ohio. http://uac.utoledo.edu

Steinführer, A., Vaishar, A., & Zapletalová, J. (2016). The small town in rural areas as an underresearched type of settlement. editors' introduction to the special issue. In *European Countryside* (Vol. 8, Issue 4, pp. 322–332). Walter de Gruyter GmbH. https://doi.org/10.1515/euco-2016-0023

Sztando, A. (2020). Will small towns benefit? Expected COVID-19 pandemic-induced changes in supralocal relationships of Polish small towns and planned responses in the supralocal perspective of their local development strategic governance. *Research Papers of Wroclaw University of Economics and Business*, *64*(10), 118–147. https://doi.org/10.15611/pn.2020.10.09

Taubenböck, H. et al. (2019). Patterns of Eastern European urbanisation in the mirror of Western trends – Convergent, unique or hybrid? *Environment and Planning B: Urban Analytics and City Science*, *46*(7) pp. 1206–1225. https://doi.org/10.1177/2399808319846902

Tóth J. (1988): *Urbanizáció az Alföldön*. Budapest: Akadémiai kiadó

Trócsányi, A., Pirisi, G., & Máté, É. (2018). An interpretation attempt of Hungarian small towns' shrinking in a post-socialist transformation context. *Chasopys Socialno-ekonomichnoyi Heohrafiyi/Journal of Human Geography*, *24*(1), 5-20. http://real.mtak.hu/86256/

Troeger-Weiß, G., & Domhardt, H.-J. (2009). Germany's Shrinkage on a Small Town Scale. In K. M. Pallagst (Ed.), *The Future of Shrinking Cities: Problems, Patterns and Strategies of Urban Transformation in a Global Context* (pp. 161–168). Institute of Urban and Regional Development.

Tsenkova, S. (2006). Beyond transitions: Understanding urban change in post-socialist cities. In S. Tsenkova & Z. Nedović-Budić (Eds.), *The Urban Mosaic of Post-Socialist Europe* pp. 21–50. Physica-Verlag HD https://doi.org/10.1007/3-7908-1727-9_2

Uzzoli, A. (2022). Városok, helyek, emberek – a COVID-19 járvány néhány társadalmi és területi vonatkozása. *City.hu – Várostudományi Szemle*, *2*(1), 42–60.

Vaishar, A. (2004). Small towns: an important part of the Moravian settlement system. *Dela*, 21. 309-318. https://doi.org/10.4312/dela.21.309-317

Vaishar, A., & Zapletalová, J. (2009). Small towns as centres of rural micro-regions. *European Countryside*, 1(2), 70-81. https://doi.org/10.2478/v10091/009-0006-4

Vaishar, A., & Greer-Wootten, B. (2006). Sustainable development in Moravia: an interpretation of the role of the small-town sector in transitional socioeconomic evolution. In Bochniarz, Z., & Cohen, G. B. (Eds.), *The environment and sustainable development in the new central Europe* (pp. 217–231). Berghahn.

Vaishar, A., Šťastná, M., & Stonawská, K. (2015). Small towns – Engines of rural development in the South-Moravian region (Czechia): An analysis of the demographic development. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 63(4), 1395-1405. https://doi.org/10.11118/actaun201563041395

Vaishar, A., Zapletalová, J., & Nováková, E. (2016). Between urban and rural: Sustainability of small towns in the Czech Republic. *European Countryside*, 8(4), 351-372. https://doi.org/10.1515/euco-2016-0025

Van den Berg, L., Drewett, R., Klaasen, L. H., Rossi, A., & Vijverberg, C. H. T. (1982). *Urban Europe: A study of growth and decline*. Pregamon PRess.

Windley, P. G., & Scheidt, R. J. (1988). Rural small towns: an environmental context for aging. *Journal of Rural Studies*, 4(2), 151-158. https://doi.org/10.1016/0743-0167(88)90033-2

Wirth, P., Elis, V., Müller, B., & Yamamoto, K. (2016). Peripheralisation of small towns in Germany and Japan – Dealing with economic decline and population loss. *Journal of Rural Studies*, 47, Part A, 62-75.

Wolff, M., Haase, A., & Leibert, T. (2021). Contextualizing small towns-trends of demographic spatial development in Germany. *Geografiska Annaler: Series B, Human Geography*, 103(3), 196-217. https://doi.org/10.1080/04353684.2021.1884498

Zdanowska, N. (2017). Distribution of foreign direct investment across the national urban systems in countries of Central and Eastern Europe in 2013. *Geographia Polonica*, 90(2), 5-24. https://doi.org/10.7163/GPol.0084

Zuzańska-Żyśko, E. (2005). Economic Transformation of Small Silesian Towns in the Years 1990–1999. *Geographica Polonica*, 78(1), 137-150.

Zuzańska-Żyśko, E., & Sitek, S. (2014). Small Towns in Metropolitan Silesia Region in the Context of Commuting to Work. In A. Kwiatek-Soltys, H. Mainet, K. Widermann, & J.-C. Edouard (Eds.), *Small and Medium Towns' Attractiveness at the beginning of the 21st Century* (pp. 269–286). CERAMAC (Centre for Research on Massif Central, Mountains and Fragiles Territories.

***DETUROPE** – THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 15 Issue 2 2023 *ISSN 1821-2506*

Original scientific paper

THE SOCIO-ECONOMIC PERFORMANCE OF THE HUNGARIAN NUTS3 REGIONS BETWEEN 2010-2020

Judit Berkes[a], Tamás Dusek[b]

[a] Széchenyi István University, 9026 Győr, Egyetem tér 1., berkes.judit@sze.hu; CERS Institute for Regional Studies, 7621 Pécs, Papnövelde u. 22., berkes.judit@krtk.hu
[b] Széchenyi István University, 9026 Győr, Egyetem tér 1., dusekt@sze.hu

Cite this article: Berkes, J., Dusek, T. (2023). The socio-economic performance of the Hungarian NUTS3 regions between 2010-2020. *Deturope,* 15(2), 85-108.

Abstract

The aim of the study is to analyse the changes in the socio-economic performance of Hungarian regions in the previous decade. The first part of the paper deals with the epistemological and methodological questions of the analysis of temporal change of spatial differences of various individual and composite socio-economic indicators. In the second part the empirical analysis will be conducted at the county level (NUTS 3 level, 20 spatial units), including a wide range of economic, social and demographic variables. The analysis is concerned with processes over an eleven-year period, 2010-2020. Our methodology combines the analysis of individual indicators with the use of complex aggregated indicators composed of several indicators. Some of the counties show higher level of socio-economic performance with more developed infrastructure, higher quality of education and stronger economic base. However, the picture is not entirely uniform, there are small, moderately positive and negative movements compared to the national average.

Keywords: regional inequalities, regional convergence, Hungary, NUTS3, socio-economic performance

INTRODUCTION

From the very beginning, one of the main priorities and objectives of regional policy – in all countries and on all continents – has been to reduce the significant regional development disparities and promote the catching-up of lagging regions. Both economic theory and ideology play a role in justifying this objective. The economic theoretical rationale is that inequality implies or shows inefficiency, and that the existence of less developed regions indicates unfulfilled development potential. Ideology may invoke the principle of equity and distributive justice. The latter aspect is not enforceable at world level. EU cohesion policy is the most striking example of its supra-national application.

The results of the various regional policy interventions aimed at economic rebalancing are mixed. Among the studies assessing the effectiveness of cohesion policy, there are examples

of all three types of effects: successful, namely a reduction in regional development disparities; however, there are also analyses that show neutral or even negative effects (i. e. increasing regional differences) (Molle, 2007; Mohl &Hagen, 2010; Mohl, 2016; Dall'Erba & Fang, 2017; Becker et al., 2018; Berkowitz et al., 2020, Szabó et al., 2021). Thus, there are successful examples of regional rebalancing of development, as well as failures. Deep-rooted demographic and institutional factors are the main reasons for failure.

The contradictory results both encourage researchers to conduct further empirical analysis of the issue and suggest that local contextual and historical circumstances are likely to play a major role. One of the aims of our analysis is therefore to highligt the changing, fluctuating nature of regional development disparities by analysing Hungary as a case study. In order to support our empirical, descriptive approach, the first part of the paper examines epistemological and methodological issues and potential problems concerning the study of regional development disparities, which are mostly overlooked in mainstream research. It is not a comprehensive survey; rather, it prepares and justifies the approach of the second section of the paper, where we analyse the current situation and changes in the previous decade of Hungarian regional socio-economic performance, at the county (NUTS 3) level with a composite indicator. In the period under study, there was no major structural break, no shock to the economy as a whole, in contrast to the economic recession of 2008-2009. The impact of the economic downturn due to COVID-19 and the large increase in energy prices was visible after the period, the effects of which will require a separate analysis.

METHODOLOGICAL BACKGROUND

Historical-descriptive approach and convergence hypothesis approach to the analysis of spatial differences

The elimination of regional disparities of socio-economic phenomena or, in a milder and more common form, their reduction to an acceptable level, is often seen as a desirable goal for economic and social policy. Acceptable level is defined on a political and ideological basis, as there is no objective yardstick. Socio-economic phenomena with regional inequalities can be very diverse and different: income, consumption, housing, unemployment, employment, labour skills, entrepreneurial activity, energy consumption, education level, and so on. Composite indicators, such as Human Development Index may also be the subject of the study. For the sake of simplicity, we will mostly use the example of the study of spatial

differences in income and GDP, but the issues involved generally affect all other temporal spatial studies to some extent.

This type of work was greatly stimulated by Williamson's research in 1965 on national development and regional inequality. From the 1990's to the present, three factors have contributed decisively to the growing popularity of research on the temporal evolution of spatial differences of any socio-economic phenomenon: firstly, the ideological background, the imperative of reducing inequalities; secondly, the easy availability of data sets on internationally comparable socio-economic indicators; and thirdly, the intention to measure the effectiveness of regional development policy, the efficiency of the use of different regional development funds, monitoring various social, educational, cultural programs. The impact of the European Union's cohesion policy is a popular research topic for the EU as a whole as well as for member states (except for the smallest states, Malta, Luxembourg). Some form of regional economic development programmes, which are similar to cohesion policy, exist in almost every country. Large and unequally developed countries, such as China, India, Indonesia, Brazil have conducted substantial research on their regional disparities.

The aim of a part of these papers is to provide a pure historical description and explanation of temporal processes with the help of historical, demographic, institutional, regional policy, technological or other concrete factors. This aim can be supplemented by some lessons, which are important from a theoretical or regional/economic policy point of view, and impact analysis of regional programmes can also complement these studies. These analyses may use single or multiple indicators and may employ sophisticated analytical tools to describe complex relationships between variables.

The other, larger part of the research on regional inequalities has a more ambitious aim: the 'testing' of various theoretical approaches to the temporal evolution of spatial differences. The most popular among these approaches is the 'convergence hypothesis' proposed by neoclassical regional economic growth theory. According to the convergence hypothesis, less developed spatial units will develop faster than more developed spatial units; therefore spatial differences are diminishing (as demonstrated, for instance, by Kotosz and Lengyel (2018)). Sources of convergence can be intra-regional factors or they can be based on inter-regional flows. Less developed regions have relatively less capital and/or lower level of technological development. This, on the one hand, offers a higher rate of return on capital which attracts external investment, and on the other hand, facilitates a technological leap forward, causing an increase in capital and productivity and consequently faster economic growth (Rácz, 2014). This sounds plausible, but in reality it is not always observable, as less developed

regions may develop more slowly than more developed regions due to a number of other factors that can impact economic growth. The epistemological status of the second approach differs from the first one. We will explain in section 1.3 why we consider the first approach appropriate and the second approach problematic.

The spatial units of analysis

Spatial units here is a general term, indicating that in the theories of regional economics and regional economic growth the size of the spatial units or regions is typically not specified. Its magnitude in terms of, say, population number or geographical size can be of any size. Therefore, the 'convergence hypothesis' can be tested for any geographical scale, from the global to the minimum size of the territory which cannot be specified exactly. On the other hand, the level or scale of spatial division can also vary. For example, in the case of an analysis of regional differences within the European Union, the following territorial subdivisions are theoretically possible: country, NUTS1 (megaregions), NUTS2 (regions), NUTS3 (counties), LAU1 (micro-regions), and LAU2 (municipalities). The number of practical options is smaller due to data availability limitations; namely, several indicators are not available even on NUTS3 level. Other papers exclude 'special' regions, for example, city-regions, islands or oil mining regions. These exclusions can be justified with historical reasons; however, this practice makes it difficult to compare results.

The temporal extension (the starting and ending points of a time period) of the investigation depends mainly on the accessibility of temporally comparable data sets. There is of course no natural starting point, zoning system or spatial extent of analysis. As in all other territorial inquiries, the modifiable areal unit problem (MAUP) must be reckoned with (Openshaw, 1984; Dusek, 2004). The final results can be modified due to a change of one element of these three factors, with the other two factors unchanged.

Abstract theories of regional economics (for an overview see Bodnár et al,. 2022) often do not specify the level of spatial aggregation which they consider relevant. This can be problematic as the spatial variations in different phenomena can be interpreted differently at various levels of aggregation (Finta & Dombi, 2021). At a granular spatial level, for example, where settlements or parts of settlements are the relevant observational units, socio-demographic differences among the population can be huge and the spatial distribution of some natural resources can be highly concentrated at the same time.

A typical methodological problem of spatial analysis within a country is that large cities often form a separate metropolitan region, isolated from their surrounding agglomeration and

wider area. This generates different structures and levels of development both as a result of commuting and the spatial division of labour between towns and rural areas.

In the case of very small spatial units (settlements, micro-regions with a small number of settlements), the daily commuting of people can significantly modify the data which are expressed in proportion to the number of inhabitants. This is the main reason why per capita types of indicators are not always appropriate. The difference of regions where the employed work and where they live is the most notable in the case of city regions and the neighbouring regions, such as, for instance, Prague and Central Bohemian Region, Budapest and Pest county, Inner London and Outer London, Jakarta and West Java, and it can be highly significant in the case of small countries such as Luxembourg.

The importance of the spatial delimitation effect on regional inequality indicators is clearly visible in the context of urban regions. However, this derives to a significant extent from a more general issue, the zoning system effect. It has long been argued that inequality indicators are sensitive to the zoning system, i.e. the way in which a country draws its internal boundaries (Parr, 1976). A further implication of this issue is that comparisons of regional inequality indicators between countries are limited due to this problem. Since in most studies, researchers do not create their own special zoning system but adopt a ready-made zoning system determined by the sources of data, these issues are mostly hidden in the analysis.

The calculation of spatial inequality indices also raises a methodological issue that does not arise for natural observational units which have the same size, namely, the dilemma of weighting or not weighting the elements. Regional units are not naturally given units; their size varies geographically and in many other respects, among which the number of inhabitants is the most important from a socio-economic point of view. A recent review of the issue (Gluschenko, 2017) argues for using only unweighted indicators. In our view, the two options are an intrinsic feature of spatial analysis, and arguments can be made for and against both.

Problems of the convergence approach

In the literature on intercountry convergence, questions such as this can be encountered: ‘Will relatively poor economies remain poor for many generations? Will the rich countries in year 2100 be the same that are relatively rich today? Is the degree of income inequality across economies increasing or decreasing over time?’ (Sala-i-Martin, 1996, 1019). ‘Is it always the case that poor countries or regions tend to grow faster than rich ones: are there automatic forces that lead to convergence over time in the levels of per capita income and product?’ (Barro & Sala-i-Martin, 1992, 223). These types of questions can also be found in regional

analyses of convergence. These questions are important from a historical point of view. It is historically variable whether in a particular country or groups of countries in a specific time-period with a particular zoning system, the differences in data were decreasing, increasing or unchanging.

The literature on spatial income disparities contributed to our historical knowledge to a significant extent. However, its contribution to theoretical knowledge is questionable. If the categorical difference between theory and history is not registered, it leads to confusion about the domain and task of both theoretical and historical types of research. This confusion can be well observed in many papers on the temporal change of regional income inequalities. There are two main ways to investigate the spatial economy: the empirical, historical description of concrete, real places, and the abstract, theoretical models and theories of spatial economy. On one hand, people are interested in concrete historical events, on the other hand, the human mind is able to abstract from the complexity of the real world, build imaginary constructs, and by seeking theoretical explanations, it creates theories. Neither of these two approaches are superior to the other. Competent historical research uses theories for the explanation of real phenomena and theoretical papers use examples from empirical writings to illustrate theory.

The contradictory results of the different studies alone disprove the convergence hypothesis. For example, in country-level studies of India, based on per capita income, none of the results dominate, with mixed results supporting or refuting convergence. An overview (Banerjee & Kuri, 2015) of the studies shows that 2 studies found absolute convergence, 7 studies found absolute divergence, and 6 studies found absolute divergence but conditional convergence. These different results do not refute each other but the approach itself: the historical part is valid, but the testing part is unjustified and pointless. The long tradition of research on the subject has led to a number of meta-analytical survey studies. The lesson from the meta-analysis of meta-analysis is that spatial disparities can decrease and increase, they fluctuate, and there is no law or set of rules to describe their evolution.

The results concerning convergence or divergence describe in a perfect manner the concrete historical patterns of regional inequalities in the applied zoning system, but there is no epistemological basis to generalise the results. Using various tests of inferential statistics should be avoided, since probability theory is applicable only if the examined events can be classified in a class of events. Regional income data have a unique characteristic; they are not homogeneous members of an identifiable class with known parameters in the distribution of values. They are uncertain, but not random, in the sense of probability theory. They are not one actualisation of repeatable ‘random samples’ derived from a larger population, but a part

of spatial economic history. Papers using regional income data describe the concrete ex post development of regional income disparities. The application of the word ‘sample’ to the group of countries and regional units is unjustifiable and misleading, nor is the use of various statistical tests justified despite its widespread practice.

SOCIO-ECONOMIC PERFORMANCE OF THE HUNGARIAN NUTS3 REGIONS

A general review of spatial disparities in Hungary

In the spatial distribution of the various socio-economic phenomena in Hungary the following spatial factors play a significant role:

- east-west location;
- distance from Budapest;
- distance from the county seat;
- size of the settlement;
- transport-geographical location.

These factors have had a stable influence on socio-economic spatial disparities over the past 100 years (Győri & Mikle, 2017; Kincses & Tóth, 2020; Zsibók & Páger, 2021; Kocziszky & Szendi, 2021; Egri, 2023). Generally, the indicators have better values for regions with western position, closer to Budapest, closer to county’s capita, with the increasing size of settlement and near the main transportation arteries. Each of these factors has a historical time span, so it has not become significant in recent years but was an important factor more than 100 years ago too, therefore the possibility of dynamic (longitudinal) measurement must be established (Harcsa, 2015). Due to the data availability, we examined NUTS3 spatial aggregation level, which matches the more than 1000-year-old Hungarian counties. Of course, county borders have changed over history, most drastically as result of the Treaty of Trianon in 1920, which cut many counties in two along the new state border. However, apart from this interference, the magnitude and number of the counties is essentially constant. On the county level mostly the effect of the east-west location is visible, the size of the settlement only for Budapest, as the dominant and most developed settlement.

The European Union has always aimed to achieve successful European integration, to reduce disparities in development and to help lagging regions catch up. Plenty of studies show that the disparities within the countries are stable, persistent and difficult to influence (see Sávai et al., 2022). The concentration of factors providing competitive advantage has

changed, and the importance of knowledge, the creation of a knowledge economy, a knowledge region, the ability to use information and innovation has increased. The reasons for this can be found in the expanding market, rapidly changing needs and hence the short market life of products, as well as the increasing demand for quality. The ability to gain a competitive advantage depends on the level of development of the country. Obviously, where the biggest problems are in building infrastructure, running social services or introducing basic utilities in large peripheral areas, there is less focus on creating a knowledge-based society and an innovative milieu. Regional policy actions to reduce regional disparities have varied from one period to another. The 'traditional' and the 'new' dimensions co-exist and are increasingly difficult to delineate (Table 1).

Table 1 Changing framework of regional differences

	Traditional	**Mixed**	**New**
Temporality	1950s to 1970s	1971-1996	1996-
Features	➢ The importance of industry ➢ Strong central governance ➢ Centralised infrastructure development	➢ The effects of industrial decline ➢ Strengthening the services sector ➢ The crisis of industrialised areas ➢ The emergence of foreign capital ➢ Legalisation of businesses ➢ The appreciation of social factors	➢ Dominance of the services sector ➢ Globalisation and, in parallel, the effects of EU accession (information society, technology, innovation, competition in knowledge-intensive industries) ➢ Appreciation of local specificities ➢ European outlook, identity awareness ➢ Focus on research and development
Regional differences	Regional differences existed, but they were not the basis for decisions	National regional development concept identifies differences in the settlement network with territorial differences Intensive differentiation	Deepening disparities Strong focus on solutions (concepts, strategies flourish)

Source: own editing

Of course, these mechanisms of action change from time to time, so that what was “new” becomes “traditional”, and the new ones are replaced by other effects. It is not possible to clearly distinguish between these influences, since there are traditional spatial forces that have to be dealt with today, despite the fact that the ‘new’ spatial processes also have a significant influence on the development of areas and cities. In many cases, the focus of development has already been on cities, primarily for business development. Today, an increasing proportion of the world's population is concentrated in large cities, mainly due to a wider range of job opportunities.

The convergence of the development of counties can be related to the dominance of economic sectors in the period under study (Nemes Nagy, 1990a). While in the 1960s the country's economy was characterised by the predominance of industry, in the 1970s the steady development of backyard farms and the strengthening of agriculture were significant. Investment decisions by the central government contributed significantly to this one-dimensional development. Then, from the 1980s onwards, this 'simplicity' seemed to break down and no clear sectoral determinants could be established, as no major investments or site developments were made. These processes have also led to uneven development.

The period since the fall of socialism, and especially the decade after the turn of the millennium, has been characterised by marked differences in the socio-economic spatial structure of the country. The transformation of the economic structure, privatisation and the inflow of foreign capital have significantly widened the gap, with a significant share of the latter being concentrated in the northwestern part of Hungary and Central Hungary since 1990 (two-thirds of all investment in the latter region), thus reinforcing the existing disadvantages in the eastern parts of the country. There are a number of reasons for this: existing economic infrastructure, educational opportunities, or urban policies. The intensity of investment is further catalysed by competition for foreign and domestic capital. There are a few positive 'counter-examples': Mercedes in Kecskemét, Bosch's expansion in the Miskolc and Eger areas, or the Lego factory in Nyíregyháza. The mentioned cities are county seats in Eastern Hungary.

Within the urban regions, we should highlight the Budapest agglomeration, which has a significant economic concentration, and the Vienna-Budapest axis, which has been developing intensively over the last decade and has become a dynamic region, mainly due to the dynamic development of the automotive industry. The regions of Western and Central Transdanubia attract the highest share of foreign capital (excluding Central Hungary). Aggregated data have shown a downward trend since the turn of the millennium for Central Transdanubia, but an interesting phenomenon is the jump in the data for Northern Great Plain from 2013 to 2014. The reason for the uneven development of the Hungarian economy lies in its different economic structure. The transition to a market economy has been a huge challenge for the whole country, including the unilateral industrialisation actors – iron and steel, or the coal basin of the northeastern county, Borsod – and the predominantly agricultural areas have found it particularly difficult to adapt to the situation, which has also left its mark on the spatial structure (Honvári, 2008; Filep et al., 2010; Rechnitzer, 2016; Vida, 2022).

In most parts of Europe, regional development in the late 1950s was based on the growth pole strategy (Egyed & Póla, 2020). According to this strategy, the development instruments are concentrated at a limited number of locations (poles), and over time, 'spill over' from the centre and have a development impact on the whole region, including the periphery. This was accepted and relied upon by the majority of the profession for a long time, but by the 1980s confidence in the theory had been shaken. The long term 'positive' impact of the poles is highly uncertain, while the current ‘backwash effect’ is clearly visible, which is eroding the periphery in favour of the centre, depriving it of resources that could be developed 'later'. This is basically the same approach imported from the West that has guided regional development in Hungary until the 1980s. This logic is strongly reflected, for example, in the National Concept for the Development of the Urban Network (1971).

The difference in position and dependency between the county seat and the county was reinforced by the fact that for roughly a quarter of a century the seat was the exclusive beneficiary of the redistribution of regional development funds. This was determined by the county apparatus as one of the key players in the planning process. All the county seats have grown dynamically, improving their infrastructure and multiplying their housing stock. Industry relocation was the engine of development, attracting people with the job opportunities and free housing that came with it. The volume of commuting also grew enormously, with the number of daily commuters exceeding 10,000 in every county town by the 1980s. This favourable resource position for the seat had quite contingent consequences for the intellectual life of the city, depending heavily on the local climate created by the county administration. The most important aspect of territorial subordination was the relationship between the capital and the countryside (Filep, 2014; Rácz & Egyed, 2022).

METHODS

Spatial inequality is most often measured along two axes: economic and social characteristics, as presented by several Hungarian studies (Dövényi & Tolnai, 1993; Faluvégi & Komjáthy, 1995; Nemes Nagy, 1998b; Major & Nemes Nagy, 1999; Kertesi & Ábrahám, 1996; Kovács, 2002; Nagy, 2002; Nemes Nagy, 2003; Beluszky & Sikos, 2007; Nagy, 2007). The effects of the two determinants are interrelated and cannot be separated. In line with these previous studies, we selected 15 commonly used, general economic and social indicators that are easy to interpret and which relate to different aspects of development:

– Activity rate (%)

- Unemployment rate (%)
- Employment rate (%)
- Average gross earnings (HUF)
- Vacancy rate (%)
- Registered job seekers as a percentage of the active population (%)
- Number of registered business organisations per 1,000 economically active population
- Investment per economically active population (thousand HUF)
- GDP per capita (thousand HUF)
- Foreign direct investment per active population (net debt stock, million HUF)
- R&D expenditure as a percentage of GDP (%)
- Value of industrial production per economically active resident by establishment (thousand HUF)
- Number of inhabitants per 100 dwellings
- Number of doctors per 10,000 inhabitants
- Number of students in higher education per thousand inhabitants

As with all other multi-indicator analyses, the question is why these indicators were chosen and not others, and why they are weighhted equally and not differently. We do not consider it a sufficient justification that others have chosen similar indicators, but consider them as the most important indicators independently of others. The aggregation of these indicators requires their transformation into a common unit of measurement, for which range normalisation is used. Normalisation is used to scale the data of an attribute so that it falls in a smaller range, such as -1.0 to 1.0 or 0.0 to 1.0. It is generally useful for classification algorithms.

$$X'_{range\ norm} = \frac{X - Xmin}{Xmax - Xmin} \tag{1}$$

The methodology consists of the following steps:

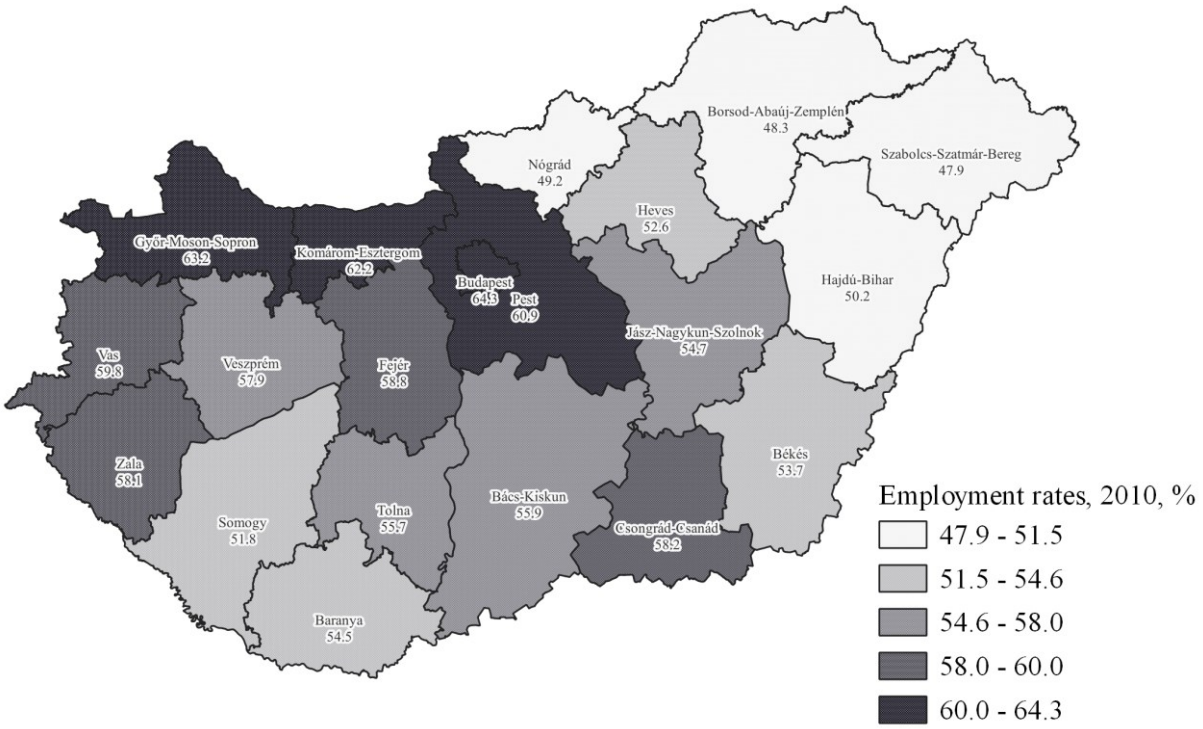
- normalisation
- addition of normalised values (maximum possible value is 15)
- average of normalised values (for each year separately)
- comparison with the average (for each year separately).

RESULTS AND DISCUSSIONANALYSIS

First of all, the indicators that play the most prominent role in territorial disparities are highlighted. According to HCSO (Hungarian Central Statistical Office), Hungary's employment rate (from 15 to 64 years) was approximately 57% in 2010 and has generally been increasing since then. As of 2021, the employment rate in Hungary was estimated to be around 73.1%. However, it is possible that employment rates have developed differently across the Hungarian NUTS3 regions, depending on the specific conditions and factors affecting each region (Figures 1 and 2). Employment rates started to rise in most counties after 2010 and have stagnated since 2018. Only Budapest, Pest, Tolna and Somogy show a slight increase.

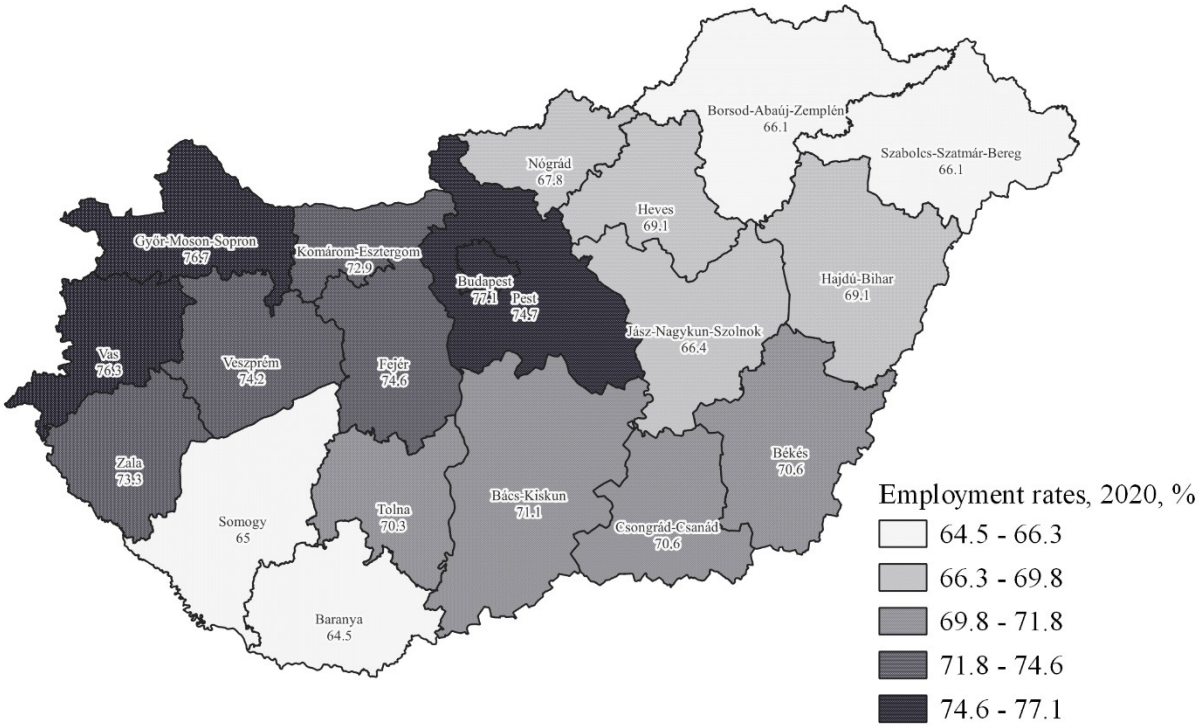
In Hungary, the GDP per capita varies significantly between different counties (Figure 3), depending on a variety of factors such as the local economy, the skill levels of the population, and the job opportunities. The most obvious difference is in the assessment of the position of Pest county (a large part of the county is the agglomeration of the capital Budapest).

Figure 1 Employment rates in counties (NUTS3) of Hungary (2010)



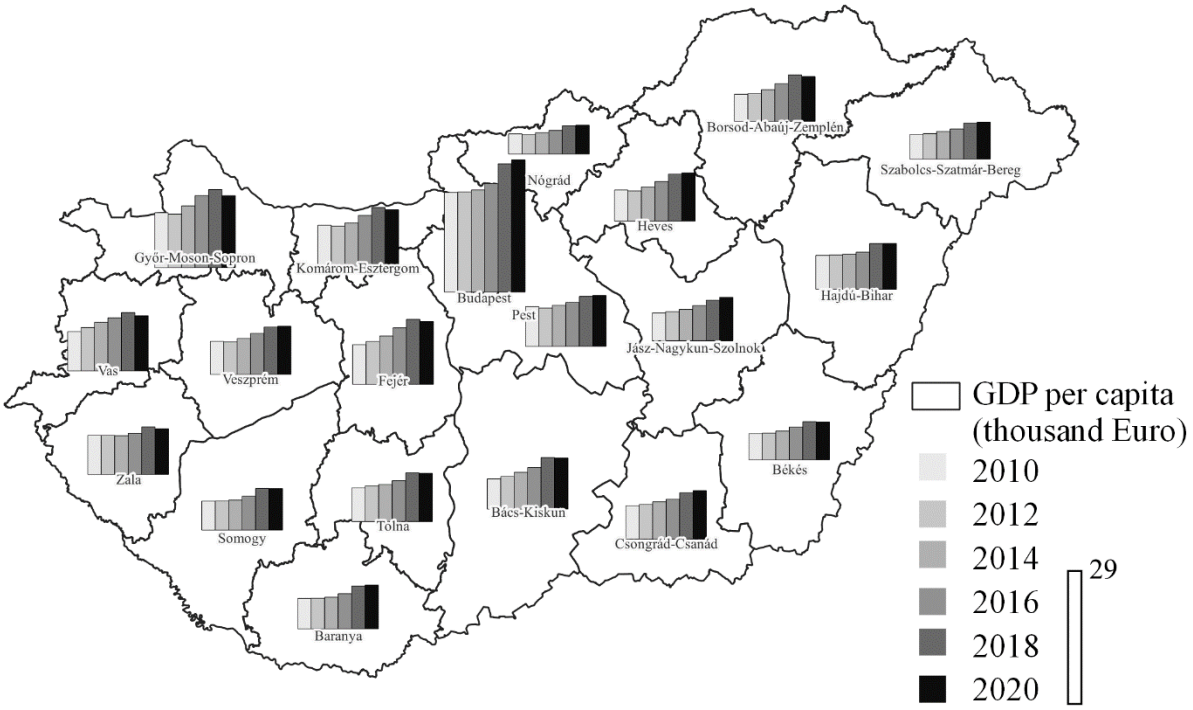
Source: own editing based on HCSO data

Figure 2 Employment rates in counties (NUTS3) of Hungary (2020)



Source: own editing based on HCSO data

Figure 3 Trends in GDP per capita by county (2010-2020, %)



Source: own editing based on HCSO data (each year deflated at the average exchange rate of the current year)

The northeastern and southwestern parts of Hungary have lost their relative position since 2010, while the middle regions of the country and the northwestern counties gained in relative position of GDP per capita. The second difference is related to the eastern counties, Borsod-Abaúj-Zemplén, Szabolcs-Szatmár-Bereg, Békés and Hajdú-Bihar. All of them rank low in GDP per capita rankings.

In ten years, Bács-Kiskun and Borsod-Abaúj-Zemplén counties have managed to catch-up. The former jumped up 8 places in the county ranking, the latter 4, making Bács-Kiskun the 6th most developed county and Borsod-Abaúj-Zemplén the 12th. It can be seen that Borsod-Abaúj-Zemplén county started from a particularly unfavourable position during the crisis.

The most important catalyst for the catching-up of Bács-Kiskun county was the construction of the Mercedes factory in the county seat, Kecskemét and the ramp-up of its production, as well as the development of the automotive supply network (Józsa, 2019; Lux, 2019). Among the industrial companies, it is worth mentioning Knorr-Bremse, and fact that the headquarters of the fast-growing Duna Aszfalt, a road construction specialist is located here deserves special mention too. There is no single large factory in Borsod-Abaúj-Zemplén county worth highlighting, but Mol Petrochemicals, BorsodChem, Bosch and Jabil have also added a great deal of value to the county's development.

The strengthening of the research and development (R&D) and innovation activities is essential for the transition of the domestic economy to an advanced, knowledge- and innovation-driven growth model. It expected, R&D performance is not the only problem of Hungarian regional development performance, but it is worth highlighting. The transition from an investment-led to a knowledge- and innovation-led growth model requires a further increase in R&D expenditure and R&D personnel.

However, the R&D and innovation ecosystem depends not only on resource and staffing conditions, but also on expanding and developing the innovation capacity of enterprises, their ability to adopt the latest technologies and their ability to develop new technologies, and thus the economy-wide diffusion of digitalisation and automation.

Hungary's R&D expenditure as a share of GDP was 1.5 per cent in 2019 (based on OECD[1]), even lower than the 2020 national target of 1.8 percent. R&D expenditure as a share of GDP in Hungary increased from 1.1 percent in 2009 to 1.5 percent in 2019, but this growth slowed down in 2019 (1.6 in 2020). R&D spending in Hungary is the fifth behind the average

[1] OECD (October 16, 2023). Gross domestic expenditure on research and development (GERD) as a percentage of GDP in Hungary from 2000 to 2021 [Graph]. In Statista. Retrieved: December 13, 2023, from https://www.statista.com/statistics/420965/gross-domestic-expenditure-on-research-and-development-gdp-hungary/

of EU Member States (2.3) (Eurostat, 2020[2]). The GERD is above the V3 average, and between 2009 and 2019 Hungary moved closer to the EU's GERD level. However, the dynamically increasing EU average has not been approached by our region.

In R&D, the national trend is that the number of researchers is growing fastest in companies (ahead of research institutes and higher education), so that in general most R&D activity is also concentrated in large companies. Another national trend is that most researchers are working in technical fields, mainly in automation, robotics, chemistry and biotechnology (see Szeged – Csongrád-Csanád county, Debrecen – Hajdú-Bihar county and Budapest).

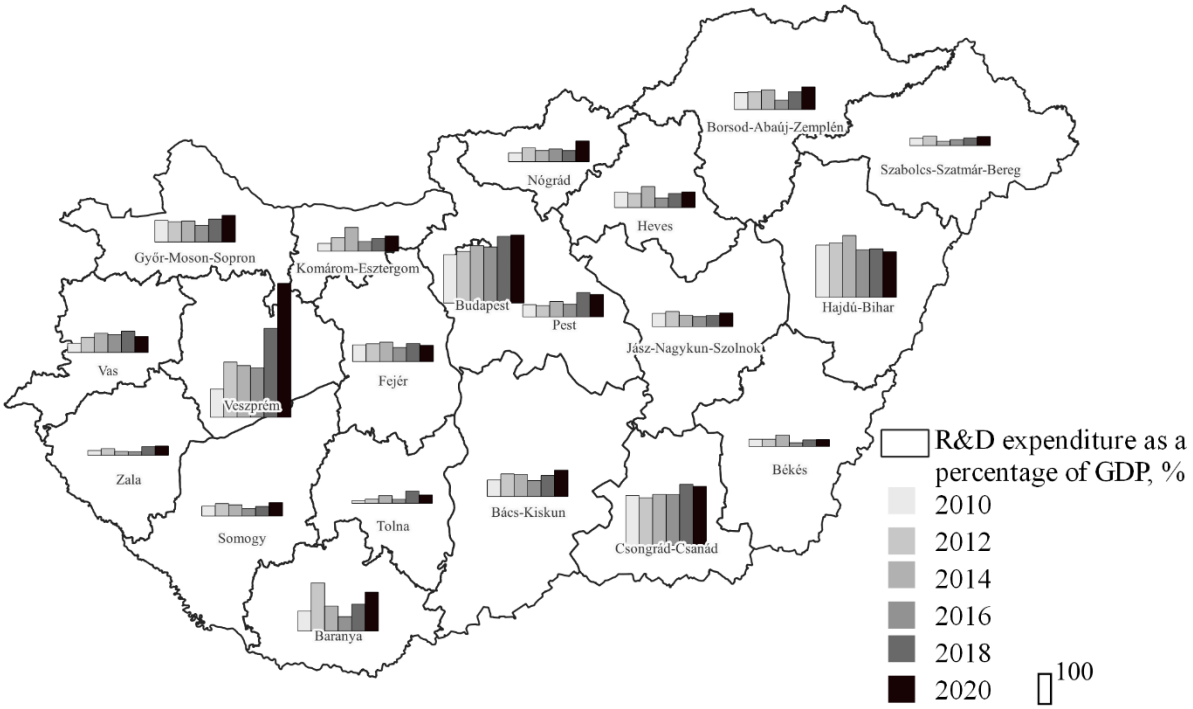
Veszprém county shows an outstanding increase in performance in this area (Figure 4). Six out of 10 researchers work in Budapest, the next largest city with the highest number of researchers is Veszprém. There are several reasons for this; there have been a number of investments for the European Capital of Culture title and under the Modern Cities programme. Infrastructure developments have led to increased labour mobility and the University of Pannonia has a major role as a regional research and development centre, with a significant impact on the economic operators in the North-Western Hungary region, and its extensive links with the business sector are expanding, which is reflected in the growing number of R&D companies in the industrial environment. Veszprém is increasingly striving to play a role of innovator, as evidenced by the growing intensity of R&D activities of the backbone companies in automation, automotive and electronics R&D. The Modern Cities Programme will soon deliver a new market-oriented innovation training centre for vocational education and training (Rákosi, 2023).

Complex index of economic development

The change in the development index calculated separately for each year (see methodology) shows different results for the Hungarian counties (Figures 5 and 6). Among the worst performing counties are Nógrád, Borsod-Abaúj-Zemplén, Szabolcs-Szatmár-Bereg and Somogy. These regions have been searching for their “path” since the fall of socialism. So far they have been less able to adapt to macroeconomic changes. By contrast, Budapest, Csongrád-Csanád and the counties of the North-Western Hungary have shown an increase in economic and labour market development; they have all gained an advantage in industries (robotics, automation, automotive, pharmaceutical technology) and have built up their infrastructure accordingly.

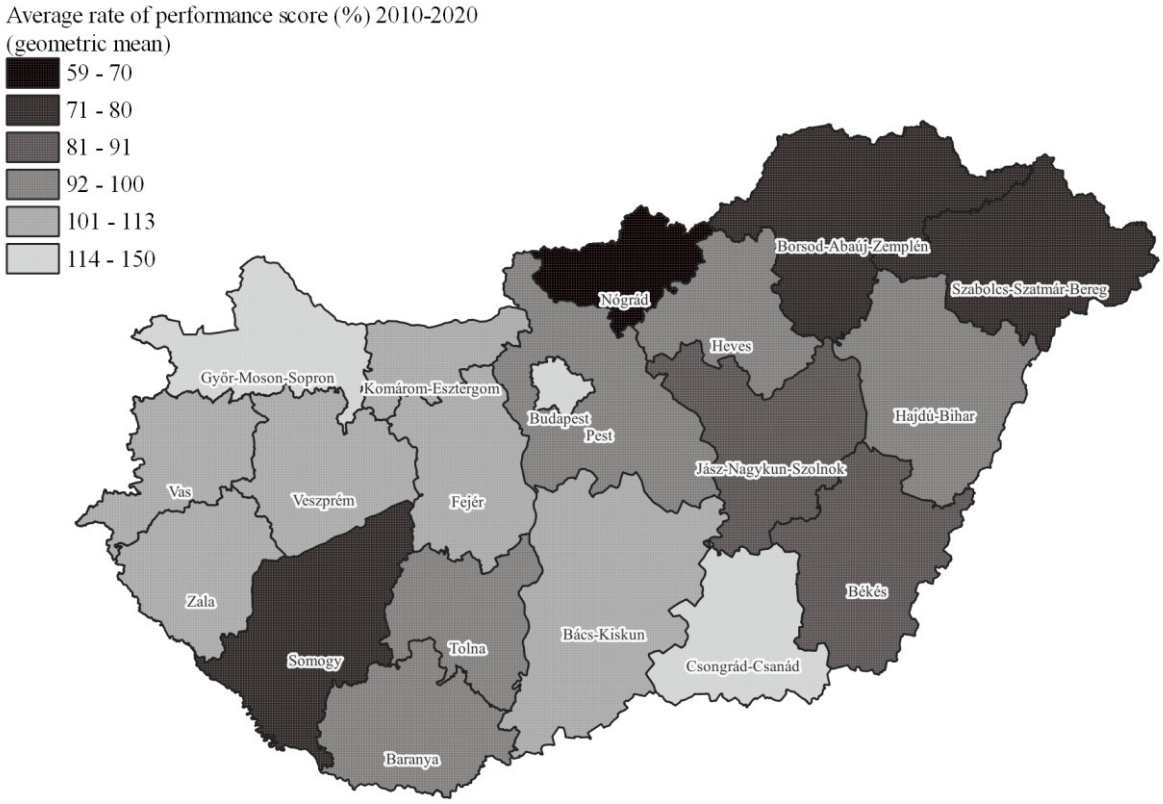
[2] https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20211129-2

Figure 4 R&D expenditure as a percentage of GDP in the counties (2010-2020, %)



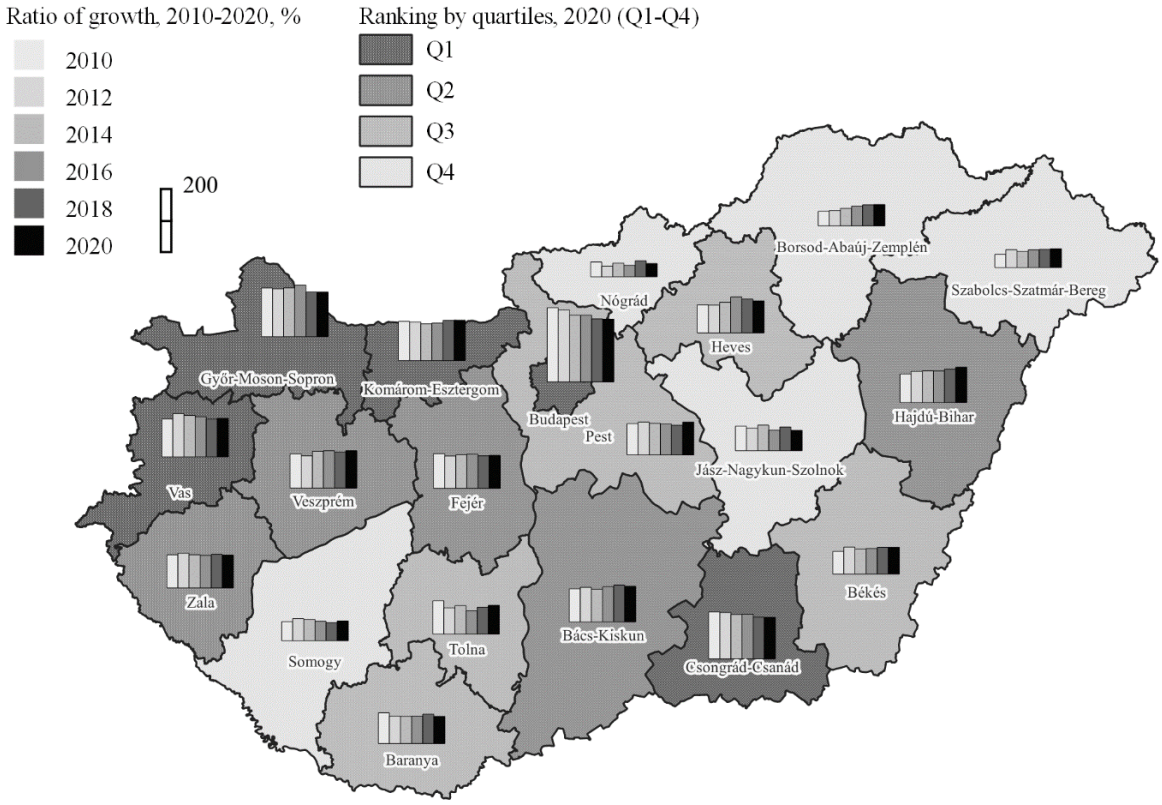
Source: own editing based on HCSO data

Figure 5 The average rate of performance score between 2010 and 2020 (%)



Source: own editing

Figure 6 The average ratio of growth based on 2020 quantile (%)



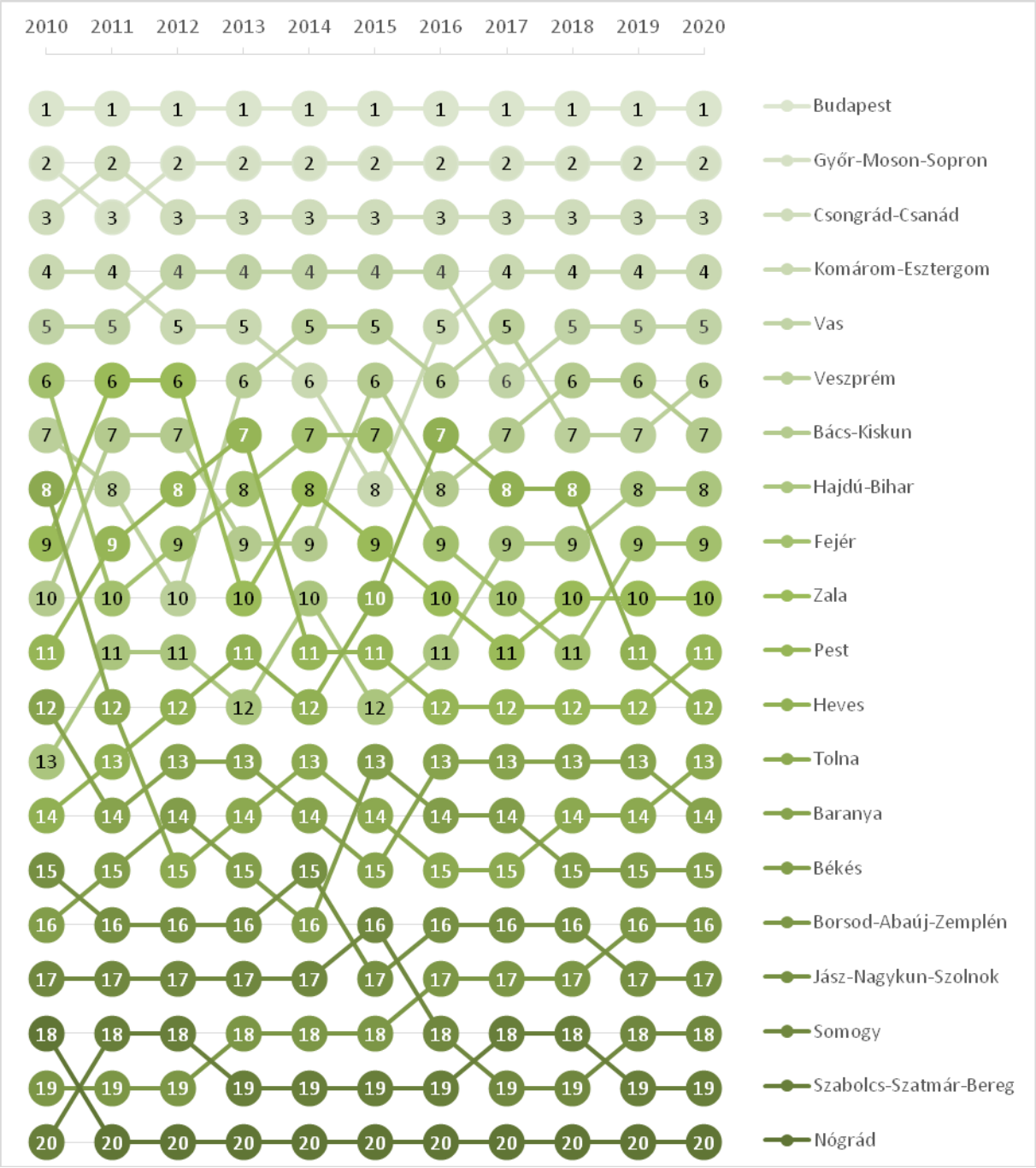
Source: own editing

The rate of growth of the economically well-performing counties was decreasing (Budapest, Csongrád-Csanád, Győr-Moson-Sopron, Vas). Counties in the second and third quartile showed some growth (Hajdú-Bihar, Veszprém) or stagnation (e.g. Zala). However, there are regions with absolute "declining" performance (observations of the last quartile), which have shown an economic growth over the last 10 years (e.g. Borsod-Abaúj-Zemplén). For some counties, the economic-labour market performance has been hectical (e.g. Tolna, Nógrád, Jász-Nagykun-Szolnok).

There have been no major movements in the first quartile in a decade. Budapest remained the leader over the period, far outperforming other counties in most indicators. The counties of Győr-Moson-Sopron and Csongrád-Csanád also remained almost unchanged in 2nd and 3rd position in the ranking, with the position being reversed only in 2010 and 2011. However, the two counties are competitive in different areas: while Csongrád-Csanád county is the best performer in research and development, higher education, health (in terms of the number of doctors per thousand inhabitants, it has the best performance in the country in several years, mainly due to the medical education of the University of Szeged), while Győr-Moson-Sopron has a stronger performance in labour market indicators, such as unemployment rate, and in

investment. Komárom-Esztergom and Vas counties have moved within the first band over the 11 years, generally to a 4th or 5th position, with the exception of 2014 and 2015 due to Komárom-Esztergom county slipping out of the range in those years and Vas county slipping out of the first quartile in 2017 and ending up 6th in the competitiveness ranking (Figure 7).

Figure 7 Changes in ranking between counties between 2010 and 2020



Source: own editing

The second quartile saw much more varied movements. The two counties of Central Transdanubia, i.e. Veszprém and Fejér, moved within the quartile (6th to 10th) almost throughout the period, with Veszprém only moving up into the first quartile in 2014, 2015 and 2017, ranking 5th in all three years, while Fejér only slipped down into the third quartile in one year (2018). Zala county also slipped out of the second quartile in 2017 in only one year, but this was also a one-off occurrence over the time interval. Bács-Kiskun county was within the second quartile throughout the period. In Hajdú-Bihar county, an evolving trend can be observed with minor fluctuations, ranking in the third band throughout the whole period between 2010 and 2013, but only twice between 2014 and 2020 and five times in the second quartile.

In the third quartile, there were more shifts. Pest county was ranked in the third quartile in 2011, 2012 and 2013, moving up in those three years, and down four positions from 2013 to 2014, from 7th to 11th. Heves county also moved regularly in that range, except in 2016, 2017 and 2018 (once in 7th and twice in 8th). Tolna county, after its outstanding 9th ranking in 2010, has performed much worse in terms of competitiveness over the period. Baranya county has always been in the third range (12th-15th). Békés county was among the worst performers in the third quartile and in one year, 2014; it did not even move into the third range.

In the fourth quartile, there were no major differences; the positions of all four counties (Borsod-Abaúj-Zemplén, Somogy, Szabolcs-Szatmár-Bereg and Nógrád) were unchanged in this ranking zone, but Jász-Nagykun-Szolnok county could only move up once, and even then only by one place to 15th. The development of Borsod-Abaúj-Zemplén county was a positive surprise, as it moved up from 20th place in 2010 to 16th in 2020.

To illustrate their overall performance between 2010 and 2020, a table was created where the ranking was based on the sum of the counties' rankings over the 11 years (Table 2). The fewer points the counties have achieved, the higher they rank in the ranking. The result is not much different from their ranking after their 2020 performance.

Comparing Figures 8 and 9 shows that the counties have approached the capital city in terms of competitiveness, since in 2010 Budapest exceeded the average performance of the counties by 130%, by that time in 2020 it was “only” 95% better. Among the developing ones, the development of Borsod-Abaúj-Zemplén county is the most outstanding, its result of 45.36% compared to the average has swelled to 66.47% in 10 years, which means that it is only 33.53% behind the average performance of the counties. Nógrád county stagnated,

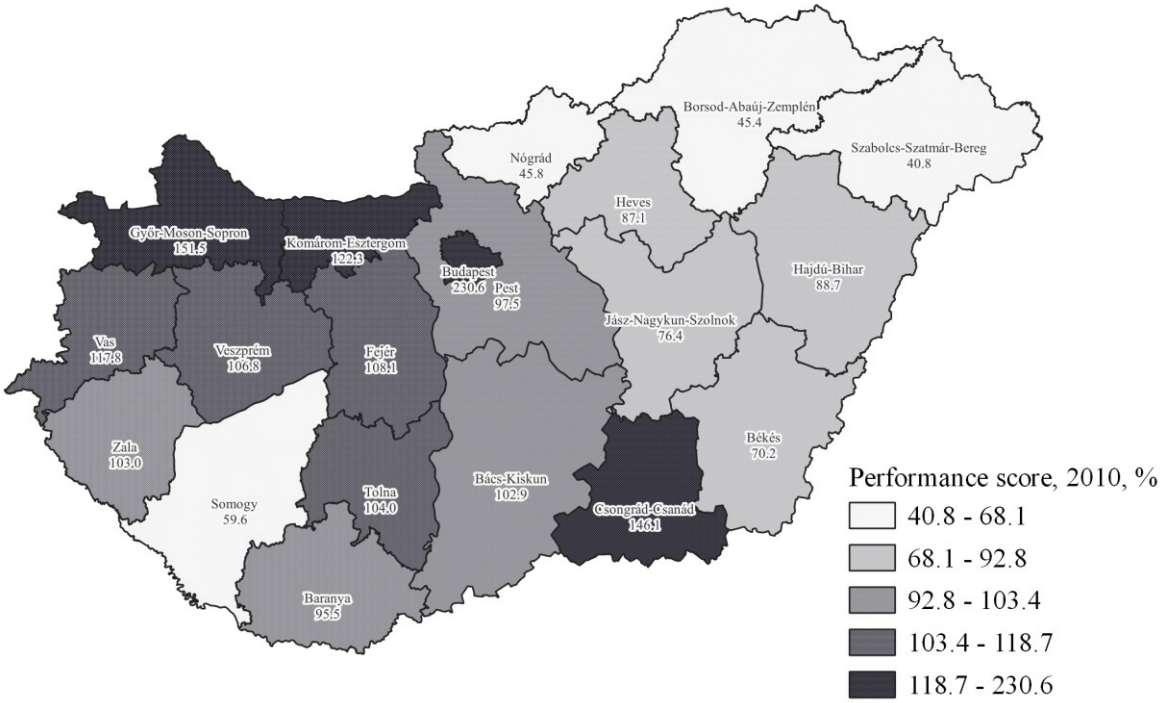
during the period it was unable to approach the competitiveness performance of the other areas.

Table 2 Scores based on the rankings

Ranking	County	Score
1.	Budapest	11
2.	Győr-Moson-Sopron	23
3.	Csongrád-Csanád	32
4.	Vas	51
5.	Komárom-Esztergom	53
6.	Veszprém	72
7.	Bács-Kiskun	82
8.	Fejér	95
9.	Zala	99
10.	Hajdú-Bihar	114
11.	Pest	116
12.	Heves	118
13.	Tolna	147
14.	Baranya	147
15.	Békés	162
16.	Jász-Nagykun-Szolnok	177
17.	Somogy	193
18.	Borsod-Abaúj-Zemplén	194
19.	Szabolcs-Szatmár-Bereg	206
20.	Nógrád	218

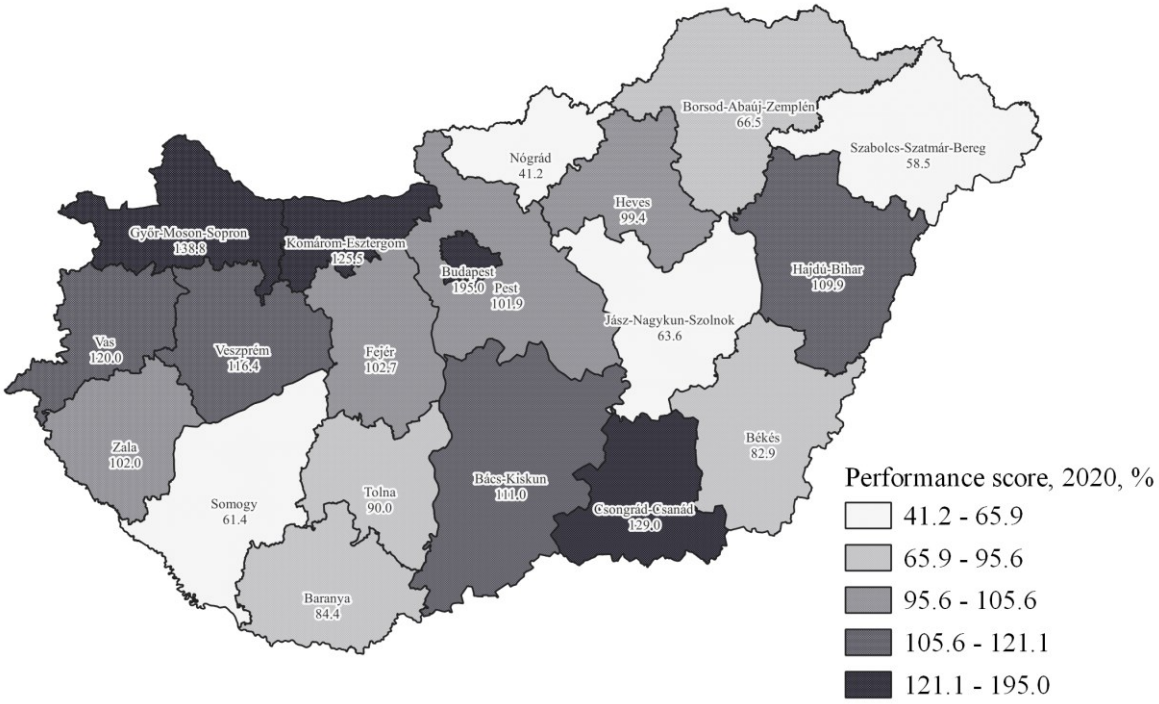
Source: own editing

Figure 8 The performance score for 2010



Source: own editing

Figure 9 The performance score for 2020



Source: own editing

CONCLUSION

The basic factors proposed in the European Union's sixth periodical report on improving regional performance can be considered as components of regional growth, namely research and development, small and medium-sized enterprises, foreign direct investment, infrastructure and human capital, as well as institutions and social capital. In our analysis, it was confirmed that the performance of the counties of Western Hungary is stronger than that of the counties of Eastern Hungary, since the value of the performance index was higher than that of the western counties. Over the examined period, some counties developed faster compared to each other, but there were counties whose performance declined. In terms of faster developing counties, Hajdú-Bihar county can be singled out, as it improved three positions during the 11-year period, as well as Borsod-Abaúj-Zemplén county among counties that show a higher than average development; improving four positions during the examined period. Among the counties with declining performance, Tolna county should be highlighted, which lost four places in the ranking during the examined period. Based on the research results, Budapest ranked first throughout the decade and can be considered the most competitive county.

Among the deep-rooted regional divisions and inequalities, the two most striking elements have not changed over the past 25 years, namely the significant gap between the capital and the countryside and the favourable position of the North-West. At the sub-regional level and at the level of municipalities, there have been more shifts.

The growth paths of the counties, due to the global, macro and local traumas that have occurred from time to time, have felt the shocks more than the national path of specific GDP output. Due to the complexity of the methodology (and the loss of information due to aggregation), it is difficult to measure these inequality 'shocks', with changes occurring at different rates and indicators (in some cases with a significant lag). It appears that GDP per capita has been high in recent decades in regions with export-oriented sectors (machinery, automotive).

Overall, there were only minor shifts in the performance of the counties in positive and negative directions, and the regional differences that emerged during the previous decades are very stable. The results clearly show that territorial economic and social disparities are very slowly changing structures, shaped to a large extent by long term economic and social history and cultural habits.

REFERENCES

Banerjee, A., & Kuri, P. K. (2015). *Development Disparities in India: An Enquiry into Convergence.* New Delhi: Springer.

Barro, R. J., & Sala-i-Martin, X. (1992). Convergence. *Journal of Political Economy*, 100, 223-251.

Becker, S. O., Egger, P. H., & von Ehrlich, M. (2018). Effects of EU Regional Policy: 1989-2013. *Regional Science and Urban Economics,* 69, 143-152. https://doi.org/10.1016/j.regsciurbeco.2017.12.001

Beluszky P., & Sikos T. T. (2007). *Változó falvaink*. Budapest: MTA Társadalomkutató Központ.

Berkowitz, P., Monfort, P., & Pienkowski, J. (2020) Unpacking the growth impacts of European Union Cohesion Policy: transmission channels from Cohesion policy into economic growth. *Regional Studies,* 54(1), 60-71. https://doi.org/10.1080/00343404.2019.1570491

Bodnár, G., Kovács, P., & Egri, Z. (2022). Elements of Endogenous Development in the Regions of Visegrad Countries. *Deturope*, 14(1), 29-49. doi: 10.32725/det.2022.002

Dall'erba, S., & Fang, F (2017) Meta-analysis of the impact of European Union Structural Funds on regional growth. *Regional Studies,* 51(6), 822-832. https://doi.org/10.1080/00343404.2015.1100285

Dövényi Z., & Tolnai Gy. (1993). A munkanélküliség regionális kérdései Magyarországon. In Enyedi, Gy. (Ed.): *Társadalmi-területi egyenlőtlenségek Magyarországon* (pp. 143-174). Budapest: Közgazdasági és Jogi Könyvkiadó,

Dusek, T. (2004). *A területi elemzések alapjai.* Budapest: ELTE.

Egri, Z. (2023). Local dimension of regional income inequalities in the 2010s – Geographical proximity based experiences from Hungary. *Deturope,* 15(1), 95-124.

Egyed, I., & Póla, P. (2020). Újraéledő francia iparpolitika – új dilemmák, kihívások és eszközök. *Tér és Társadalom,* 34(1), 96-118. https://doi.org/10.17649/TET.34.1.3158

Faluvégi A., & Komjáthy, J.-né (1995). *Kistérségi vonzáskörzetek*. Budapest: KSH, Orient Press Könyvkiadó és Nyomda.

Filep B. (2014). *A nagyvárosok az európai és a magyar területi politikában.* Pécs, Győr: Publikon Kiadó.

Filep B., Földesi P., & Csík Á. (2010). Competitiveness of cities, searching for a model to optimize cities. *Acta Technica Jaurinensis Series Logistica*, 3(3), 383-393.

Finta, I., & Dombi, P. (2021). Practical experiences, regulatory principles and issues of the territorial delimitation of development policy in Hungary. *Deturope*, 13(2), 101-124. doi: 10.32725/det.2021.015

Gluschenko, K. (2017). Measuring regional inequality: to weight or not to weight? *Spatial Economic Analysis*, 13(1), 1–24. https://doi.org/10.1080/17421772.2017.1343491

Győri, R., & Mikle, Gy. (2017). A fejlettség területi különbségeinek változása Magyarországon, 1910-2011. *Tér és Társadalom*, 31(3), 143-165. https://doi.org/10.17649/TET.31.3.2866

Harcsa, I. (2015): A területi fejlettség és egyenlőtlenségek lehetséges értelmezései - kritikai értékelés és kutatási eredmények. *Statisztikai Szemle,* 93(5), 460-486.

Honvári, J. (2008). Az új gazdasági mechanizmus, 1968. *Rubicon*, 2-3, 47-57.

Józsa, V. (2019). *A vállalati beágyazódás útjai Magyarországon.* Budaest: Ludovika Egyetemi Kiadó.

Kertesi, G., & Ábrahám, Á. (1996). A munkanélküliség regionális egyenlőtlenségei Magyarországon 1990 és 1995 között. *Közgazdasági Szemle*, 43(7), 653-681.

Kincses Á., & Tóth, G. (2020). Magyarország térszerkezetének változásai 1870-től napjainkig. *Statisztikai Szemle*, 98(6), 522-546. https://doi.org/10.20311/stat2020.6.hu0522

Kocziszky, Gy., & Szendi, D. (2021) A magyar megyék gazdasági fejlődési pályáinak összehasonlító vizsgálata. *Pénzügyi Szemle,* 66(2): 7-30. https://doi.org/10.35551/Psz_2021_k_2_1

Kotosz, B., & Lengyel, I. (2018): Térségek konvergenciájának vizsgálata a V4-országokban. *Statisztikai Szemle,* 96(11-12): 1069-1090. https://doi.org/10.20311/stat2018.11-12.hu1069

Kovács, T. (2002). A területi fejlettségi különbségek alakulása Magyarországon. *Területi Statisztika*, 5 (42)(6), 506-517.

Lux, G. (2019). A Modern városok program újraiparosítási törekvései. *Tér és Társadalom,* 33(1), 44-65. https://doi.org/10.17649/TET.33.1.3067

Major K., & Nemes Nagy J. (1999). Területi jövedelemegyenlőtlenségek a kilencvenes években. *Statisztikai Szemle*, 77(6), 397-421.

Mohl, P. (2016). Empirical Evidence on the Macroeconomic Effects of EU Cohesion Policy. Springer, Wiesbaden, https://doi.org/10.1007/978-3-658-13852-3

Mohl, P., & Hagen, T. (2010). Do EU structural funds promote regional growth? New evidence from various panel data approaches. *Regional Science and Urban Economics,* 40(5), 353-365. https://doi.org/10.1016/j.regsciurbeco.2010.03.005

Molle, W. (2007). *European cohesion policy*. London: Routledge

Nagy, G. (2007). Divergencia vagy konvergencia – az átmenet gazdasági térfolyamatainak mérlege földrajzos szemmel. *Tér és Társadalom*, 22(1), 35-51. https://doi.org/10.17649/TET.21.1.1092

Nagy, G. (2002). Oldódtak-e az öröklött területi különbségek a rendszerváltás évtizedében? In Abonyiné Palotás, J., Becsei, J., & Kovács, Cs. (Eds.), *A magyar társadalomföldrajzi kutatás* (pp. 213-225). Szeged: SZTE Gazdaság- és Társadalomföldrajz Tanszék.

Nemes Nagy, J. (1990). Területi kiegyenlítődés és differenciálódás Magyarországon. *Földrajzi Értesítő,* 39(1-4), 133-149.

Nemes Nagy, J. (1998). Vesztesek – nyertesek – stagnálók (a társadalmi-gazdasági változások regionális dimenziói). *Társadalmi Szemle*, 53(8-9), 5-18.

Nemes Nagy, J. (2003). Gazdasági-társadalmi súlypontok és mozgásuk a századvégi Magyarországon. *Területi Statisztika*, 6(43) (1), 3-14.

Openshaw, S. (1984). *The modifiable areal unit problem*. Norwick: Geo Books, Concepts and techniques in modern geography, No. 38.

Parr, J. B. (1976). Welfare Differences within a Nation: A Comment. *Papers of the Regionnl Science Association,* 32, 83-91.

Rácz, S. (2014). Regional Development in Croatia from the Turn of Millennium to the EU Accession. *Regional Statistics*, 4(2), 87-105. http://doi.org/10.15196/RS04206

Rácz, S., & Egyed, I. (2022). Territorial disparities and economic processes in Hungary: Editorial. *Deturope*, 14(3), 4-14. doi: 10.32725/det.2022.019

Rákosi, Sz. (2023). Járműipari központok fejlesztései a Modern Városok Program keretében, *Tér és Társadalom,* 37(1), 111-131. https://doi.org/10.17649/TET.37.1.3353

Rechnitzer, J. (2016). *A területi tőke a városfejlődésben*. *A Győr-kód.* Budapest: Dialóg Campus Kiad,.

Sala-i-Martin, X. (1996). Regional Cohesion: Evidence and theories of regional growth and convergence. *European Economic Review*, 40(6), 1325-1352.

Sávai, M., Bodnár, G., Mozsár, F., Lengyel, I., & Szakálné Kanó, I. (2022). Spatial aspects of the restructuring of the Hungarian economy between 2000 and 2019. *Deturope,* 14(3), 15-33. doi: 10.32725/det.2022.020

Szabó, P., Józsa, V., & Gordos, T. (2021). Cohesion policy challenges and discovery in 2021-2027. The case of Hungary. *Deturope*, 13(2), 66-100. doi: 10.32725/det.2021.014

Vida, Gy. (2022). A regionális megvalósult versenyképesség néhány szempontjának területi jellemzői Magyarországon 2010 és 2019 között, *Területi Statisztika*, 62(5), 538-569. https://doi.org/10.15196/TS620503

Zsibók, Zs., & Páger, B. (2021). Hosszú távú gazdasági konvergencia-forgatókönyvek megyei pályái Magyarországon. *Tér és Társadalom,* 35(2), 3-29. https://doi.org/10.17649/TET.35.2.3302

DETUROPE *– THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 15 Issue 2 2023 *ISSN 1821-2506*

Original scientific paper

BORDER AREAS AND EDUCATIONAL ATTAINMENT – LONG-TERM ANALYSIS OF HUNGARY FOR THE PERIOD BETWEEN 1960 AND 2022

János PÉNZES[a], István PAPP[b], Norbert APÁTI[c], János Péter KISS[d]

[a] Department of Social Geography and Regional Development Planning, University of Debrecen, 4032 Debrecen, Egyetem tér 1., penzes.janos@science.unideb.hu
[b] Department of Social Geography and Regional Development Planning, University of Debrecen, 4032 Debrecen, Egyetem tér 1., istvan2992@gmail.com
[c] Department of Social Geography and Regional Development Planning, University of Debrecen, 4032 Debrecen, Egyetem tér 1., norbertszatmarcseke@gmail.com
[d] ELTE Eötvös Loránd University, Budapest, Hungary, Department of Regional Science, 1117 Budapest, Pázmány Péter sétány 1/C., bacsnyir@gmail.com

Cite this article: Pénzes, J., Papp, I., Apáti, N., Kiss, J. P. (2023). Border areas and educational attainment – Long-term analysis of Hungary for the period between 1960 and 2022. *Deturope,* 15(2), 109-128.

Abstract

The educational indicators are an important basis for spatial researches focusing on regional development. Border areas provide special conditions for educational attainment, but the levels of aggregated results are worse in general. Different distance categories and given sections of Hungarian border areas are separated in order to detect the altering development paths of the complex educational attainment index (CEAI). This complex indicator combines the number of people with high school graduation and with diploma in the ratio of the 20 years or older population (with a weighting procedure included).

Border areas are generally characterized by worse educational attainment values than the national average, but during the last more than six decades, significant convergence of data could be observed, in which the dominance of large towns is decisive. For this reason, suburbanization significantly impacts the spatial pattern of educational attainment in the border zones. Most parts of the settlements are below the national average, however general conditions are better in the case of the Austrian border section. However, the previously assumed continuous development of this border section has not been confirmed by our analysis.

Keywords: border areas, development paths, educational attainment, regional analysis, spatial structure

INTRODUCTION

Education is one of the most important factors of territorial development, and its investigation has priority among the relevant studies. Border areas have a distinctive character for different reasons, because developed sections of these territories have a better position by concentrating the skilled population exploiting economic potentials on both sides of the border. However, underdeveloped parts of border areas are facing a lower level of educational attainment of the population as a result of the outmigration of working age persons with competitive and higher

educational attainment. This general correlation may predict some changes in the educational attainment of border areas in relation to their development trends.

The objective of the current investigation is to explore the long-term changes in the situation of Hungarian border areas focusing on educational attainment over the last more than half a century. In order to investigate this phenomenon, the border areas of Hungary are delimited with some specific consideration and a complex educational indicator is calculated with the processing of census data.

The objective of the current investigation is to detect trends in the changes of the educational attainment of Hungarian settlements along the state border. Tendencies are compared to the national average which are suitable for exploring the relative position of territories and their changes in different periods during the socialist era, the transition period and after the millennium. As part of the current study, different sections of the border area are delineated and compared in order to assess the specific features of their development.

THEORETICAL BACKGROUND

Educational attainment and territorial development

The education of the population is an issue of decisive importance, as it is fundamentally related to a number of demographic and health factors, and it carries significant inequalities between social territorial groups, which are prominent in some regions (Graetz et al., 2018). The level of education and the educational attainment of the population is clearly related to regional differences in economic growth, competitiveness, and productivity of individual countries and regions, although the causal relationships are partly disputed (Krueger & Lindahl, 2001; Sahlberg, 2006; Czaller, 2016; Kussaiynov et al., 2020). Some authors confirm that human capital is regarded as one of the most important drivers of regional development (Bodnár et al., 2022).

The investigation of educational attainment demonstratively and characteristically highlights regional inequalities and social disparities within given territories because education is an essential part of social mobility and stratification (Rechnitzer & Smahó, 2005).

Different variables of educational attainment are often included in composite indices expressing human or spatial development. The well-known Human Development Index and its adaptations (inter alia Husz, 2001; Farkas, 2012; Lipták, 2017; Szilágyi, 2018), the

territorial deprivation index (Kovács & Koós, 2018), the index of objective well-being (Nagy & Koós, 2014) or the official delimitations of underdeveloped areas (Pénzes, 2015) also contain an educational component.

Long-term regional inequalities of educational attainment are decreasing in Hungary (Sánta et al., 2015; Szakálné Kanó et al., 2017; Németh & Dövényi, 2018) as a consequence of the increasing number of educated persons (primarily among the young generations) and the decreasing ratio of people with low level of education (mostly among the elderly age groups) (Kiss et al., 2008; Harcsa, 2015). Despite the decreasing trends of inequalities, a significant concentration of highly qualified population is detected in the case of Budapest's agglomeration and the regional centers with universities (Németh & Dövényi, 2018). At the same time, increasing spatial segregation of persons with low level of education is also confirmed by the investigation of peripheral areas in Hungary (Pénzes et al., 2018; Pénzes & Demeter, 2021).

Development situation of the border areas

State borders significantly influence spatial processes in various forms and borders act as constraints rather than incentives upon the operation of spatial systems (Reichman, 1993). Border regions, due to their reduced level of economic interactions are typically described as underdeveloped areas and this can often be affirmed empirically (Petrakos & Topaloglou, 2008; Pásztor, 2013), especially in Central and Eastern Europe (Erkut & Özgen, 2003).

This disadvantageous development situation might be a consequence of the barrier function of borders (Geenhuizen et al., 1996; Wróblewski, 2020). The impact of barriers cause distortions in different networks with economic obstacles and financial losses. The number and intensity of activities typically decrease and become discontinuous (Houtum, 2000; Czimre, 2006; Pásztor, 2014). Investments in the case of border areas might be more expensive under insecure political conditions (Hansen, 1977; Ratti, 1993).

In the case of Central Europe, the newly emerging state borders after WWI caused unfavourable conditions for newly formed border areas due to protectionist policies, import substituting industrial developments, and a lack of connections between new states (Süli-Zakar, 1992). Prior to changes of regimes in Central Europe and the European integration process, barriers and filter functions dominated state borders and created significant obstacles to cross-border co-operation (Ratti, 1993). However, some backward areas along the present state border of Hungary existed even before their demarcation (dominantly along the Eastern-Slovakian, the Northern Romanian, and the Slovenian border) (Szilágyi, 2019; Pénzes, 2020).

Border areas are not evidently characterised by backwardness or obstacles for regional development. Integration process might strengthen the contact function of borders instead of the barrier or filter functions and this change might induce cross-border mobility or accelerate economic growth in these regions (Ratti, 1993). An open border area might become attractive for investments gaining advantage from the different characteristics of the other side of the state border (differences in wages, taxes, restrictions, consumption customs, etc.).

Border areas – due to their special role in territorial processes – are important targets for regional development policies, including the efforts of the European Community to create a unified and integrated economic space (the Interreg program launched in 1989 is the most important tool in this respect). Considerable development could be detected in the case of cross-border co-operations in Europe, however a significantly lower intensity of these is observed in the case of countries accessed to the EU after the millennium (Durand & Decoville, 2019). In order to accelerate cross-border cooperations, macro-level conditions and institutional background should be optimal and the physical permeability of border must also be ensured. The number of border crossing points has more than doubled since 1990 in the case of Hungary (especially along the Austrian border) and several euroregions and EGTCs (European Grouping for Territorial Cooperation) were organized (Hardi, 2010; Benczi & Ocskay 2021).

Positive impulses of borders – even during the period of barrier and filter dominance – accumulate in the close neighbourhood of border crossing points (Tagai et al., 2008; Pénzes & Papp, 2018), but the anticipated stimulating effect of newly opened border crossing points on local economic development has proved limited along backward border areas (Kiss, 2000). This fact confirms the necessity of a certain level of development to induce economic interaction, bvecause a considerable gap between the development levels of the neighbouring territories might hamper cross-border co-operation and cause imbalanced territorial development (Van der Velde & Wever, 2005; Pásztor, 2014; Morachevskaya et al., 2022).

Differing development trajectories of border zones could be observed after the political changes in Central Europe. In general, emerging Western border areas and declining or stagnating Eastern border zones presented opposing characterics (Rechnitzer, 1993; Gorzelak, 1996; Nemes Nagy, 1996; Szabó & Farkas, 2014; Rechnitzer, 2016). However, per capita values of taxable income showed decreasing values in the last decade mostly in the case of the Hungarian border area along Austria (Egri, 2023). This fact is the consequence of cross-border commuting to Austria and the missing taxation data from the Hungarian income statistics (Pénzes & Papp, 2018). One of the objectives of current research is to highlight the

educational indicators in the different border sections, because – according to our hypothesis – educational attainment reflects the continuous development of the Hungarian-Austrian border area.

Lower level of educational indicators and intensive networks of student commuting were observed in the case of backward border areas and favorable values were detected in the developed border zones (Pénzes et al., 2018; Apáti & Pénzes, 2023), but long-term analysis has not yet investigated this issue from a geographical point of view.

The educational attainment of the population living in border areas is not only impacted by the institutional background, but cross-border educational attraction has become more and more characteristic, especially in the case of our larger cities in recent decades (Teperics, 2013; Váradi, 2020), and the phenomenon of students' commuting to the other side of the national border in the direction of Austria can also be observed (Horváth, 2020). However, above all, it is the domestic and international migration of the skilled or just the low-qualified population which impacts educational indicators in the border areas.

DATA AND METHODS

Measuring educational attainment

Education attainment can be measured by various indicators depending on the levels of education and the educational system of a given country. Most frequently, census data provide information about the educational attainment of the population. Average finished school years of the population (typically compared to the number of 7 years and older population) is an indicator covering and replacing different educational indices – e.g. the proportion of those who have completed at least 8 classes, those who have at least high school graduation and those who have a diploma. These settlement-level datasets have been published as part of the census volumes since 1960 according to the Hungarian educational system.

The mentioned convergence of educational attainment values could be observed in the case of the lower levels of education (Kiss et al., 2008), for this reason we concentrated on the people with at most high school graduation and on those with a diploma as part of the current investigation (the 'average finished school years' indicator is not available for 1960 and 2022). Our dataset included the listed educational indicators and the number of people at the age of 20 or more for each settlement between 1960 and 2022. Some of the settlement's data are missing due to the administrative changes.

In order to take into account these indicators together, a special complex indicator is introduced named "complex educational attainment index". The two educational indicators are included in a weighted format because the diploma – due to its greater competitiveness on the labor market – deserved larger weight within the calculation. The weight – is not a constant value but changes in every census year – depending on the ratio of total number of persons with diploma and the persons with at most high school graduation in Hungary. This value is substituted into the calculations for every settlement in the given year (with index 'a' in the formula) as follows (Table 1):

Table 1 The ratio of total number of persons with diploma and the persons with at most high school graduation (values of 'a')

Census years	1960	1970	1980	1990	2001	2011	2022
'a'	2.629	2.980	2.851	2.135	2.316	1.772	1.481

Source: calculated by the authors from census data by the Hungarian Central Statistical Office (HCSO)

The listed value changes every year according to the number of persons with diploma that is characteristically rising after the political transition in 1989, with the expansion of tertiary education (its consequence is the decrease in the value 'a').

$$CEAI_i = \frac{x_i + a * y_i}{p_i} * 100$$

where *CEAI = complex educational atteinment index;* x_i *= number of persons with at most high school graduation;* y_i *= number of persons with diploma; a = ratio of total number of persons with diploma and the persons with at most high school graduation;* p_i *= number of population aged 20 and more.*

$$CEAI_{nat} = \frac{\sum_{i=1}^{n} x_i + a * \sum_{i=1}^{n} y_i}{\sum_{i=1}^{n} p_i} * 100$$

where $CEAI_{nat}$ *= national average of the complex educational attainment index.*

$$CEAI_i' = \frac{CEAI_i}{CEAI_{nat}} * 100$$

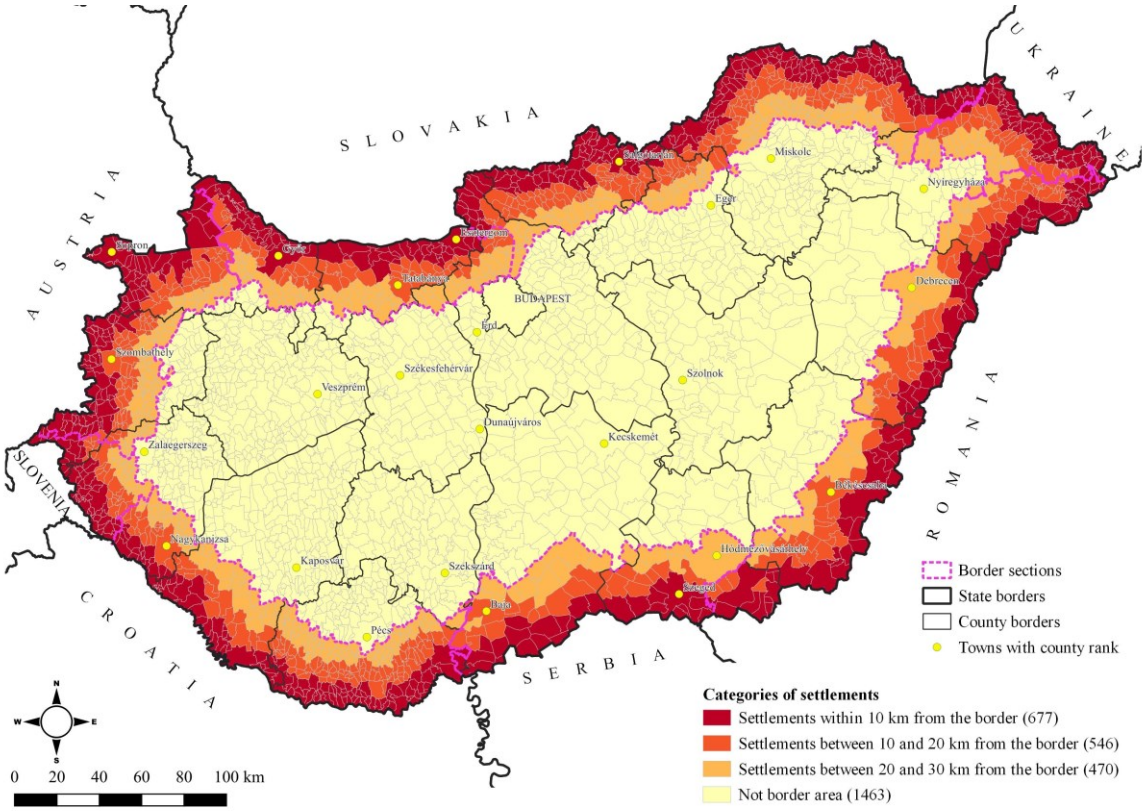
where $CEAI_i$*' = relative value of settlement-level* $CEAI_i$ *in the percent of the national average (%).*

With the help of the relative values, the significantly growing values between 1960 and 2022 become comparable.

Delimitation of the Hungarian border areas

The issues of the delimitation of the border areas have permanent relevance due to their relative character (Dusek, 2004) and transforming role. For this reason, numerous different border area concepts were published in the related literature (Kovács, 2006), and ten different approaches of delimitations were identified besides their combination (Papp, 2019). The creation of buffer zones along the state border is regarded as one of the most frequently used methods which is supported by various GIS tools (Hurbánek, 2009; Houtum & Eker, 2015). On the basis of this consideration, the approach of buffer zones was adapted in the current research.

Figure 1 Categories of settlements in the buffer zones of the state border



Source: edited by the authors

However, the width of border zones is also arguable in the light of the precedents of the related Hungarian researches. 20 kilometres broad belt along the state border is considered as one of the most frequently applied distance categories (Hoóz, 1992; Houtum & Eker, 2015; Papp, 2019), at the same time Zoltán Kovács delimited the zone within 30 kilometres proximity of the Hungarian border (Kovács, 1990). According to these consideration, three zones were delimited by the distance from state border. The categorisation of settlements

(LAU2) is based on the location of their central inner areas' centroids within 10, 20 and 30 kilometres to the state border (Fig. 1 and Tab. 2).

The delineation of the sections of the border zone is also necessary to investigate the issues of border areas. Each section of the border area is separated from the others by the road accessibility of the nearest border crossing point (according to the continuously operating border crossing listed by the Hungarian Police and the Traffic Information Centre (Útinform) in 2019 (before the COVID-pandemic). The Slovakian section of the border – due to its extreme length – has been divided into a Western and Eastern part (at the river Danube).

Table 2 Main features of the border sections of Hungary in 2022

Border sections	Number of settlements			Number of population, head		
	0-10 km	10-20 km	20-30 km	0-10 km	10-20 km	20-30 km
Austrian	102	80	83	188.447	148.159	48.561
Western-Slovakian	56	51	64	320.241	209.758	238.527
Eastern-Slovakian	180	148	113	222.140	142.670	254.676
Ukrainian	53	35	23	47.609	64.316	57.690
Romanian	88	70	33	181.293	213.314	296.005
Serbian	25	20	17	215.219	79.871	105.167
Croatian	120	113	114	94.837	111.119	81.364
Slovenian	53	29	23	20.018	9.688	9.301
Border area together	***677***	***546***	***470***	***1.289.804***	***978.895***	***1.091.291***

Source: calculated by the authors from census data by the Hungarian Central Statistical Office (HCSO)

RESULTS

The values of educational attainment significantly increased between 1960 and 2022 due to the previously mentioned reasons impacting the number of people achieving high school graduation or diploma. The intensive growth of this value slowed down during the 1980's and after 2011 at national level. Every category of the border areas unambiguously represented below average levels during the whole period (Table 3 and Table 4).

Table 3 The complex educational attainment index (CEAI) in the categories of the border area in Hungary between 1960 and 2022

Categories of the border area	**1960**	**1970**	**1980**	**1990**	**2001**	**2011**	**2022**
Average value of settlements within 10 km from the border	10.03	20.00	30.56	36.30	48.56	57.52	63.54
Average value of settlements between 10 and 20 km from the border	8.28	16.72	27.14	33.15	44.39	53.83	60.33
Average value of settlements between 20 and 30 km from the border	9.74	18.57	29.00	34.88	49.31	61.24	68.60
National average	**13.42**	**24.33**	**35.82**	**41.30**	**55.22**	**64.62**	**70.33**

Source: calculated by the authors from census data by the Hungarian Central Statistical Office (HCSO)

Table 4 The relative complex educational attainment index (CEAI') in the categories of the border area in Hungary between 1960 and 2022, %

Categories of the border area	1960	1970	1980	1990	2001	2011	2022
Average value of settlements within 10 km from the border	74.73	82.17	85.32	87.90	87.94	89.01	90.35
Average value of settlements between 10 and 20 km from the border	61.70	68.70	75.76	80.27	80.39	83.31	85.78
Average value of settlements between 20 and 30 km from the border	72.56	76.30	80.97	84.45	89.30	94.77	97.54
National average	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source: calculated by the authors from census data by the Hungarian Central Statistical Office (HCSO)

Table 5 The complex educational attainment index (CEAI) in the border sections of Hungary between 1960 and 2022

Border sections	**1960**	**1970**	**1980**	**1990**	**2001**	**2011**	**2022**
Austrian	10.77	20.77	31.91	38.40	50.24	58.86	64.82
Western-Slovakian	12.25	22.68	34.74	40.60	57.06	67.65	73.62
Eastern-Slovakian	8.74	16.33	26.07	31.07	41.69	51.74	58.75
Ukrainian	5.17	11.64	19.76	24.45	32.39	42.22	52.18
Romanian	9.44	18.88	29.42	35.63	47.35	57.64	63.75
Serbian	11.53	22.94	34.09	40.76	56.06	65.15	70.60
Croatian	5.98	12.93	21.31	26.17	35.53	44.90	50.99
Slovenian	4.25	9.94	17.20	22.27	31.94	42.48	51.56
Border area total	***9.42***	***18.59***	***29.06***	***34.92***	***47.54***	***57.60***	***64.23***
National average	**13.42**	**24.33**	**35.82**	**41.30**	**55.22**	**64.62**	**70.33**

Source: calculated by the authors from census data by the Hungarian Central Statistical Office (HCSO)

Table 6 The relative complex educational attainment index (CEAI') in the border sections of Hungary between 1960 and 2022, %

Border sections	**1960**	**1970**	**1980**	**1990**	**2001**	**2011**	**2022**
Austrian	114.30	111.73	109.79	109.96	105.68	102.19	100.93
Western-Slovakian	130.08	122.01	119.52	116.25	120.04	117.45	114.62
Eastern-Slovakian	92.81	87.84	89.70	88.95	87.70	89.82	91.48
Ukrainian	54.92	62.61	67.98	70.01	68.14	73.29	81.24
Romanian	100.19	101.53	101.24	102.01	99.61	100.06	99.26
Serbian	122.38	123.39	117.30	116.71	117.94	113.10	109.93
Croatian	63.44	69.54	73.34	74.95	74.75	77.96	79.39
Slovenian	45.11	53.49	59.19	63.78	67.19	73.75	80.27
Border area total	***70.18***	***76.40***	***81.14***	***84.56***	***86.09***	***89.14***	***91.33***
National average	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

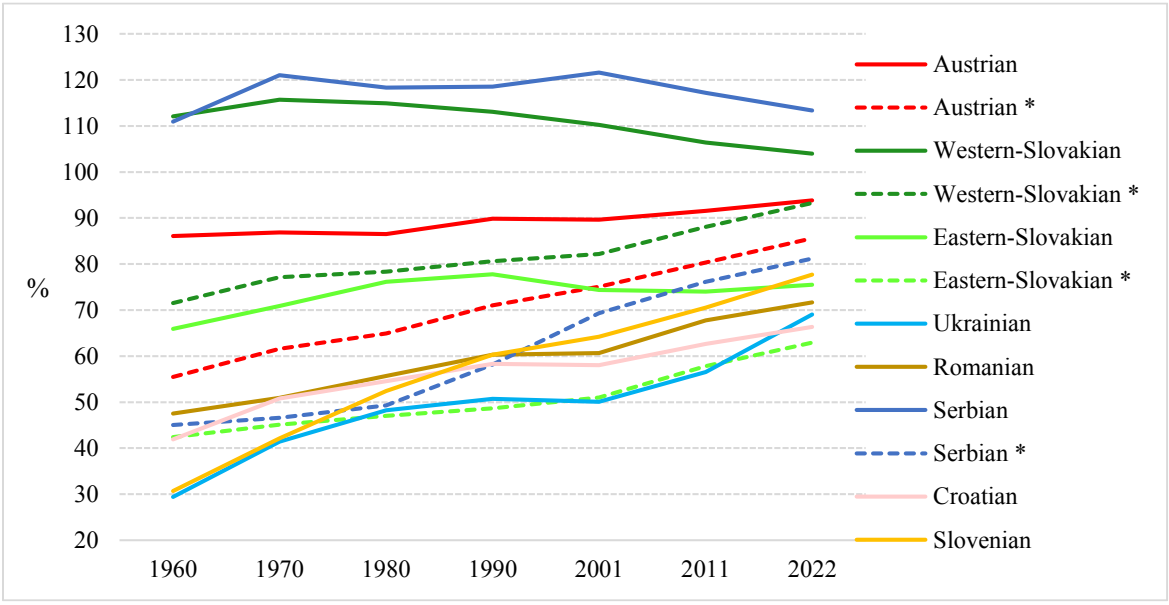
Source: calculated by the authors from census data by the Hungarian Central Statistical Office (HCSO)

The aggregated values of the complex educational attainment index clearly demonstrate the significant convergence of the border sections during the whole period (Table 5 and Table 6). However, convergence to the national average is two-faced, because the above-average

sections (Western-Slovakian, Serbian, Austrian) weakened, while the extremely low values (Slovenian, Ukrainian, Croatian sections) significantly increased until the recent census. The Romanian section of the border area is regarded as an exception, because the values formed a stagnation fitted to the national average.

As a matter of fact, significant disparities can be observed in the case of each section of the border area (Fig. 2). The zone located closest to the border represented major inequalities with above average border sections – Western-Slovakian and Serbian – already in 1960 and spectacularly low values as well. This fact draws attention to the importance of the largest cities in this respect, because only one outstanding value (with large population number) is enough to raise the development level of an expressly backward territory. The values of CEAI significantly dropped after the exclusion of the largest towns (these are identified as the towns with county rank illustrated on Fig. 1) from the calculations. The Serbian border section's value decreased with more than 50 percentage points after excluding the values of Szeged. A similar fall in the values is seen in the case of the Western-Slovakian (after the exclusion of Győr and Esztergom) and less spectacularly of the Austrian border section (after the exclusion of Sopron from the computation).

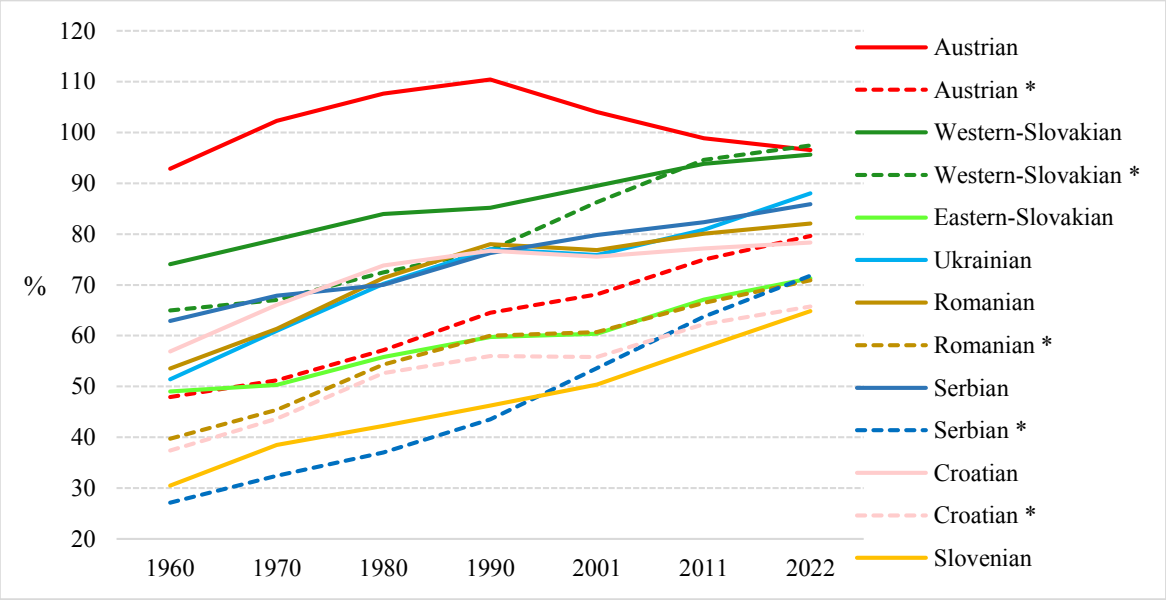
Figure 2 The relative complex educational attainment index (CEAI') in the sections of the border area within 10 km from the state border between 1960 and 2022



* towns with county rank are excluded from the calculations
Source: Calculated and edited by the authors, based on census data from the Hungarian Central Statistical Office (HCSO)

It is possible to detect an obvious convergence of the lower values to the national average (100% in the graph) during the total period. Some of the trends – both the Slovakian and the Austrian sections – deviate from the continuously increasing tendencies. Less dynamism of the larger towns is the most important factor in this case, because the county seats (and towns with county rank) reached higher CEAI values earlier due to their advanced economic profile and better institutional positions. Unambiguous stagnation is observed during the 1990s in more border area sections (Ukrainian, Romanian, Croatian). The Austrian border area does not exhibit outstanding dynamism, but the Ukrainian section shows outstanding growth after 2011 (important small towns stabilized this part of the border – e.g. Fehérgyarmat, Kisvárda, Mátészalka, Vásárosnamény) and outperforms the Croatian section on the basis of the recent census. Similar trends can be observed in the zone between 10 and 20 kilometers from the border (Fig. 3). The Austrian section's tendency differs from the others', however the exclusiov of the county seat (Szombathely) diminishes this unique character. Apart from a few exceptions, these values remain below the national average during the whole investigated period. An obvious trend of convergence is also detected – except for the 1990s' values. The Slovenian border area is in the last position since the millennium, but the Ukrainian section has better values in this category.

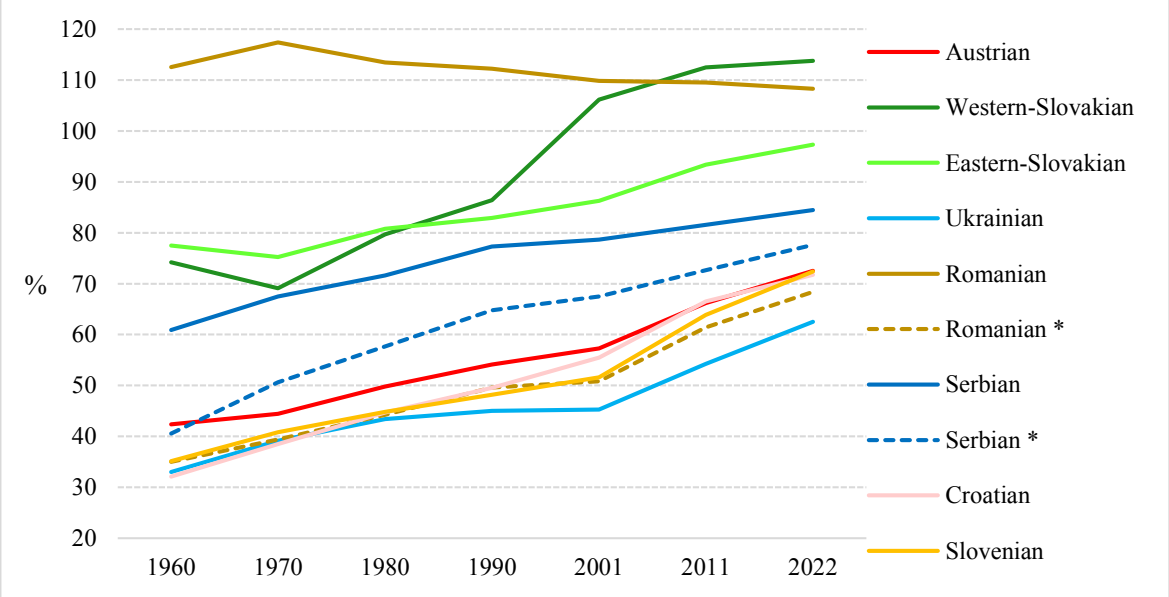
Figure 3 The relative complex educational attainment index (CEAI') in the sections of the border area between 10 and 20 km from the state border between 1960 and 2022



* towns with county rank are excluded from the calculations
Source: Calculated and edited by the authors, based on census data from the Hungarian Central Statistical Office (HCSO)

The distant border area (further than 20 kilometers from the border) represents interesting trends besides the typical converging trends (Fig. 4). The particularly altering curve of the Romanian section is largely increased by the contribution of Debrecen to the relative complex educational attainment index. Both Slovakian trends are impacted by the significantly rising values of the Budapest agglomeration and this fact is confirmed by the massive growth of the Western part during the 1990s (which was the most intensive period regarding suburbanization in the surrounding area of the capital city) (Bajmócy, 2014). Besides the lowest values of the Ukrainian section, the Austrian trends are also significantly below the national average (in parallel with the Slovenian and Croatian values).

Figure 4 The relative complex educational attainment index (CEAI') in the sections of the border area between 20 and 30 km from the state border between 1960 and 2022



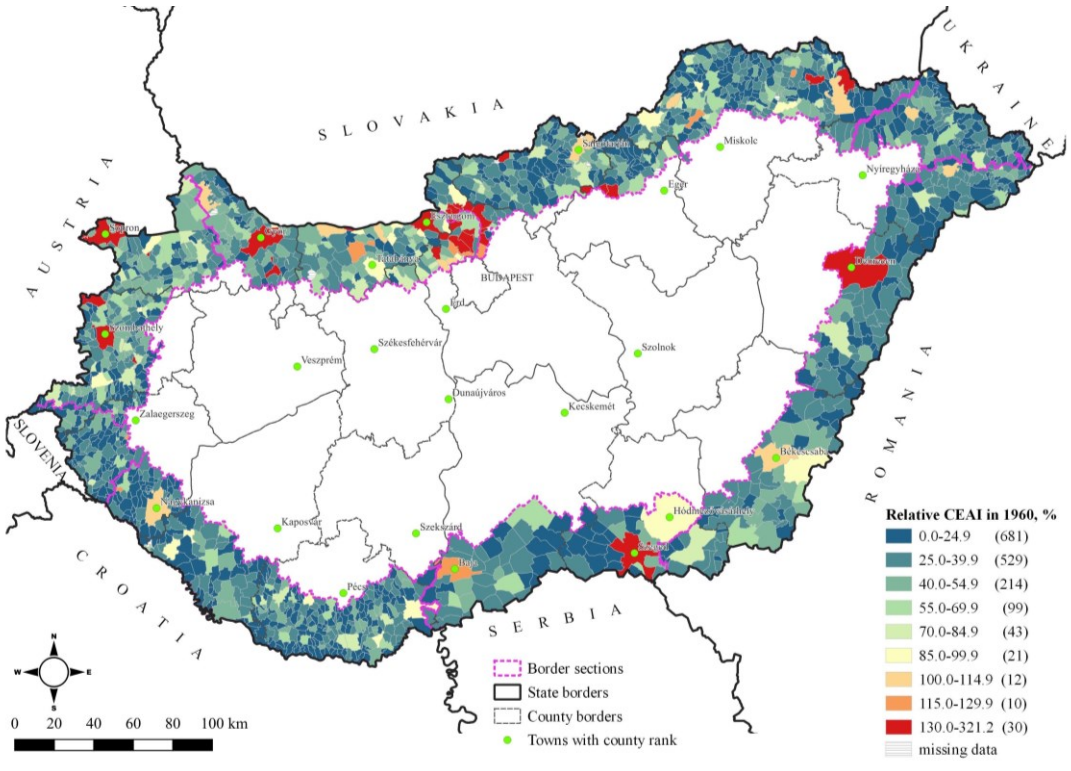
* towns with county rank are excluded from the calculations
Source: Calculated and edited by the authors, based on census data from the Hungarian Central Statistical Office (HCSO)

The three distance categories experienced significant convergence to the national average, all of them exceeds the 60 percent value of the CEAI in national comparison, furthermore, most of them are deeply below the Hungarian average. The Austrian border zones stand out from the other tendencies mostly as a result of the increased contribution of large towns, in the absence of which they are lagging behind on the basis of the comparison. The Western-Slovakian section is in a better condition than the other sections. In contrast, the most backward Ukrainian, Slovenian, Croatian and Eastern-Slovakian trends are significantly lagging behind the national level.

The relative values of the CEAI represented extremely polarized cases in the first investigated census year (1960) (Fig. 5). Approximately 40 percent of the settlements in the border area were below 25 percent of the national average, but some of them – primarily the largest cities – had outstanding values. The spatial pattern is regarded as polarized due to the island-like location of the high values – except for the characteristic concentration in the Northern part of the agglomeration of Budapest. This extreme polarization became more moderate during the years of socialism (Fig. 6) and a slight convergence could be detected in terms of the complex educational attainment index.

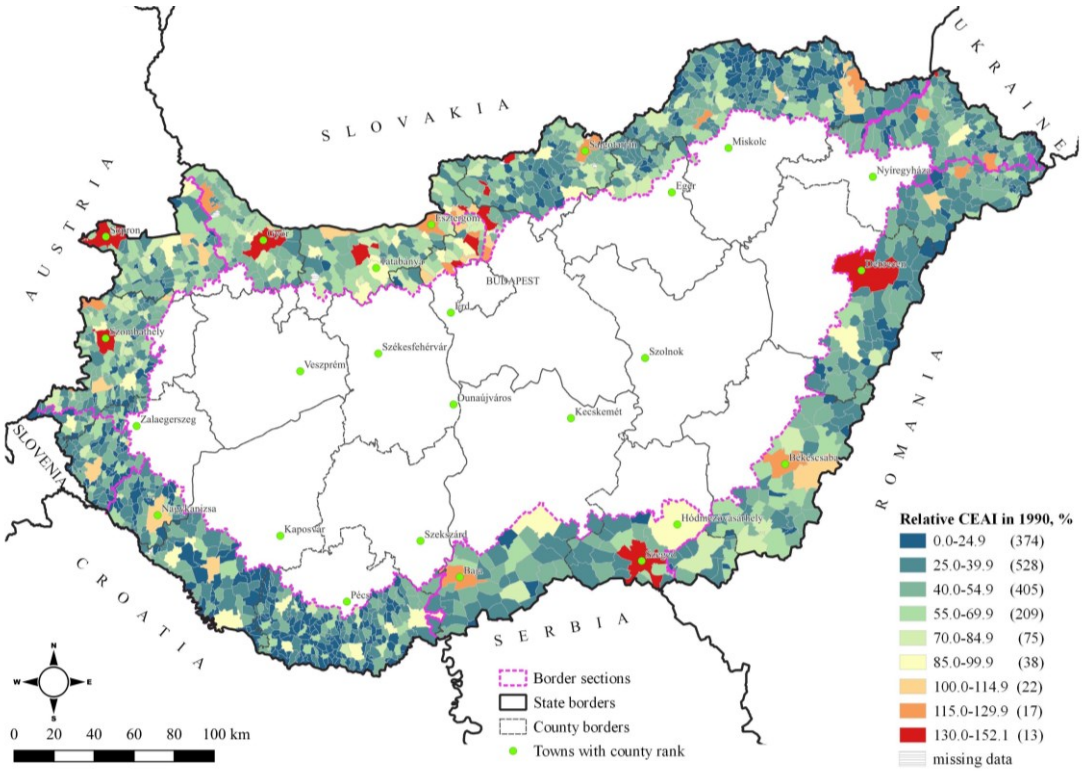
The formation of suburban territories – mostly in the surroundings of Budapest, Győr, Szeged and Szombathely – significantly moderates the spatial structure of educational attainment in the border zones after the political transition (Fig. 7). In these cases, the spreading of the radiation of urban centers is the most determining spatial process (Vaishar et al., 2020; Berkes 2020; 2021) instead of the accelerating effect of the state borders. However, indisputably, the cross-border impulses dominated in the rapid development of Rajka at the Western-Slovakian border (Balizs & Bajmócy, 2018).

Figure 5 The values of the relative complex educational attainment index (CEAI') in 1960, %



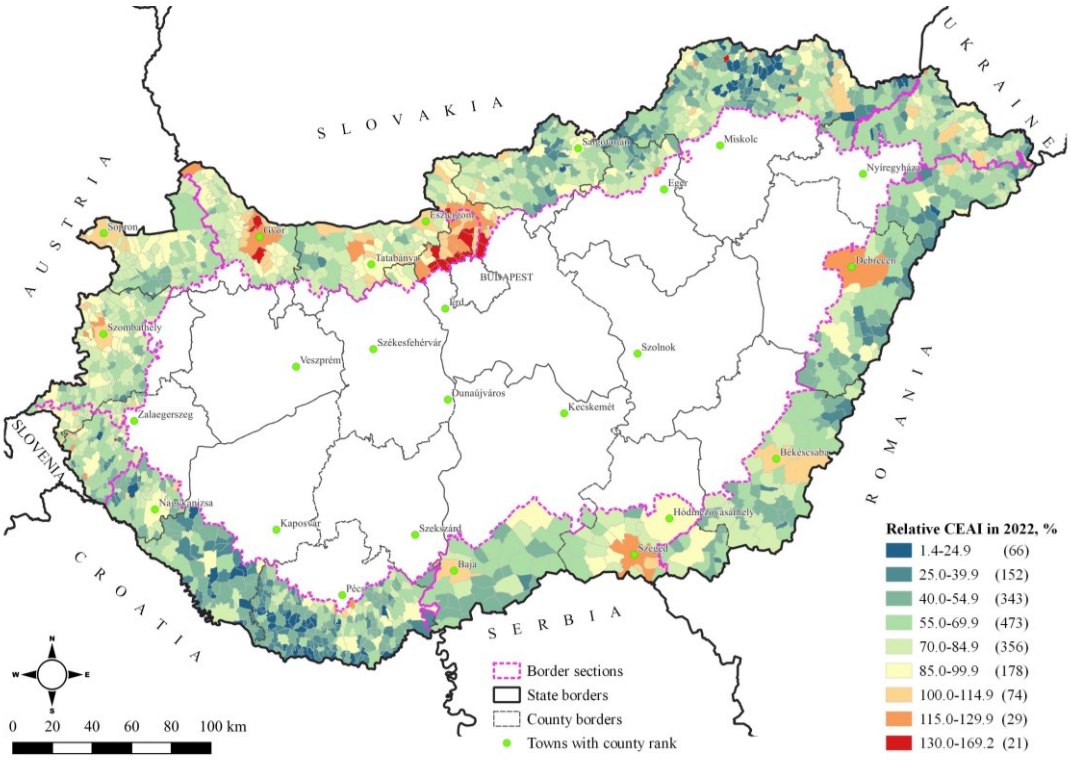
Source: Calculated and edited by the authors, based on census data from the Hungarian Central Statistical Office (HCSO)

Figure 6 The values of relative complex educational attainment index (CEAI') in 1990, %



Source: Calculated and edited by the authors, based on census data from the Hungarian Central Statistical Office (HCSO)

Figure 7 The values of the relative complex educational attainment index (CEAI') in 2022, %



Source: Calculated and edited by the authors, based on census data from the Hungarian Central Statistical Office (HCSO)

The Eastern-Slovakian border section represents a rather polarized pattern even in 2022, where traditional backward zones (Cserehát and Bodrogköz) and recently formed structural crisis areas (surroundings of Ózd and Salgótarján) show a sharp contrast with the favorable territory of the Budapest agglomeration. In spite of the convergence processes, the average position of the Croatian border area is characterized by very limited values of the relative complex educational attainment index.

DISCUSSION

Educational attainment is regarded as an essential indicator to express the development level of different territories and the spatial inequalities (Graetz et al., 2018). Current investigation also confirmed the relevance of these indicators in the investigation of territorial processes at the level of settlements. The combination of different educational indicators has some precedents (Farkas, 2012), but the introduced complex educational attainment index is specific due to the applied weighting procedure. With the help of this methodology, the number of persons with high school graduation and with diploma could be combined with a relevant and reliable weighting of the latter component.

The delimitations of border areas provide a broad range of possibilities according to the different concepts (Papp, 2019). The approach applied in the current investigation covers the area which is influenced by the existence of state borders (Hansen, 1977) and supports those often-used methodologies based on the buffers along the border line.

Our findings confirm the results published in the relevant literature on the backwardness of border areas from this respect (Süli-Zakar, 1992), however the long-term tendencies clearly demonstrate the catching up of the most backward border areas to the national average. Convergence in the case of educational indicators has been highlighted by a number of studies (Kiss et al., 2008; Sánta et al., 2015; Szakálné Kanó et al., 2017; Németh & Dövényi, 2018), but groups of backward settlements have also been detected (Pénzes et al., 2018). Current investigation explored the unambiguous development of educational attainment in the case of border areas.

Major disparities were detected during the first period of the investigated time interval that have become more moderate nowadays. The role of the largest towns proved to be decisive in the processes of the border areas (together with the relative weakening position of the largest centers). Suburbanization becoming the most intensive from the 1990s until the mid-2000s (Bajmócy, 2014) has played an important role in the spatial extension of increased CEAI

values. In light of our researches, this process has been more significant than the development impulses of the border or the border crossing points. The development impulses generated by the increasing permeability of borders can be demonstrated only in specific cases – e.g. in the surroundings of Rajka (Balizs & Bajmócy, 2018).

The often noted higher development level of the Austrian border section (Rechnitzer, 1993; Gorzelak, 1996; Nemes Nagy, 1996; Szabó & Farkas, 2014; Rechnitzer, 2016) is not unambiguously supported by our results, however the largest towns have significantly improved their educational attainment values. At the same time, some backward zones mostly in the Croatian, Slovenian and Ukrainian border sections provided charactristic examples for the homogenous external peripheries along the state border in 2022 as well. The Eastern-Slovakian and Romanian sections of the border are regarded as polarized due to their discontinuous backward zones separated by some developed groups of settlements.

CONCLUSION

The analysis of complex educational attainment with the help of the indicator introduced drew attention to the general backward situation of the Hungarian border areas. It has been demonstrated that the different sections of the border area (according to the neighboring countries with additional segmentation) and the various distance categories have their own characteristics from this respect. However, a general and significant convergence can be observed in the long-term trends and the previously detected extremely low levels of educational attainment have definitely increased. This trend is a consequence of the national educational policy (compulsory education until the age of 18 years – actually 16 years) that caused unambiguous increase in the levels of educational attainment among the young generations. For this reason, the traditional advantage of larger towns has become more moderate over the decades, but they continue to make an important contribution to the better educational attainment of their surroundings (this territorial diffusion became more visible after 1990, mostly in case of the agglomeration of Budapest). The situation of educational attainment in the border areas has shown a significant improvement, but certain sections are still significantly lagging behind the national average and form a concentrated backward territory (at the Croatian border or the Eastern-Slovakian border).

SUMMARY

Educational indicators are an important basis for spatial researches focusing on regional development. Border areas provide special conditions for educational attainment, but the levels of aggregated results are worse in general. Different distance categories and given sections of Hungarian border areas are separated in order to detect the altering development paths of the complex educational attainment index (CEAI). This complex indicator combines the number of people with high school graduation and with diploma in the ratio of the 20 years or older population (with a weighting procedure included).

The Hungarian border areas are generally characterized by worse educational attainment values than the national average, but during the last more than six decades, significant convergence of data could be observed, in which the dominance of large towns is decisive. For this reason, suburbanization significantly impacts the spatial pattern of educational attainment in the border zones. Most parts of the settlements are below the national average, however general conditions are better in the case of the Austrian border section. Sharp territorial segregation in some backward zones is also demonstrated by the recent census data (mostly along the Croatian and the Eastern-Slovakian border area).

Acknowledgement

János Pénzes' research is supported by the Bolyai János Research Scholarship of the Hungarian Academy of Sciences.

REFERENCES

Apáti, N., & Pénzes, J. (2023). A középfokú oktatási ingázás vizsgálata Magyarországon a 2010-es években. *Educatio*, 32(2), 207-227. DOI: 10.1556/2063.32.2023.2.3

Avdić, A., Avdić, B., & Zupanc, I. (2022). Socio-demographic analysis of border regions of Bosnia and Herzegovina. *Acta Geographica Slovenica*, 62(3), 7-19. 10.3986/AGS.10859

Bajmócy, P. (2014). A szuburbanizáció két évtizede Magyarországon. *Észak-magyarországi Stratégiai Füzetek*, 11(2), 6-17.

Balizs, D., & Bajmócy, P. (2018). Szuburbanizáció a határon át: társadalmi, etnikai és arculati változások Rajkán. Tér és Társadalom, 32(3), 54-75. DOI: 10.17649/TET.32.3.3046

Benczi, M., & Ocskay, G. (2021). The evolution of cross-border cooperation in Hungary. *Észak-magyarországi Stratégiai Füzetek*, 18(2), 54-67. DOI: 10.32976/stratfuz.2021.35

Berkes, J. (2020). The economic structure and performance of the catchment area of the Hungarian regional centers. *Deturope*, 12(3), 58-81. DOI: 10.32725/det.2020.022

Berkes, J. (2021). Highly qualified social strata in urban areas of Hungarian regional centres from 1980 to 2011. *Regional Statistics*, 11(4), 126-149. DOI: 10.15196/RS110406

Bodnár, G., Kovács, P., Egri, Z. (2022). Elements of Endogenous Development in the Regions of Visegrad Countries. *Deturope*, 14(1), 29-49. DOI: 10.32725/det.2022.002

Czaller, L. (2016). Increasing social returns to human capital: evidence from Hungarian regions. *Regional Studies*, 51(3), 467-477. DOI: 10.1080/00343404.2015.1112898

Czimre, K. (2006). *Cross-Border Co-operation – Theory and Practice*, Debrecen: Kossuth Egyetemi Kiadó.

Durand, F., & Decoville, A. (2019). A multidimensional measurement of the integration between European border regions. Journal of European Integration, 42(1), 1-16. DOI: 10.1080/07036337.2019.1657857

Dusek, T. (2004). *A területi elemzések alapjai*. Budapest: ELTE Regionális Földrajzi Tanszék, MTA ELTE Regionális Tudományi Kutatócsoport.

Egri, Z. (2023). Local Dimensions of Regional Income Inequalities in the 2010s - Geographical Proximity Based Experiences from Hungary. *Deturope*, 15(1), 95-124.

Erkut, G., & Özgen, C. (2003). *The Economic and Spatial Peripherality of Border Regions in South-eastern Europe*. In The 43rd European Congress of the Regional Science Association, 27-30 August, Jyväskylä, Finland [conference proceeding]. Retrieved from https://www.econstor.eu/bitstream/10419/116063/1/ERSA2003_254.pdf (accessed: 15 November 2023).

Farkas, M. B. (2012). A korrigált humán fejlettségi mutató kistérségek közötti differenciáltsága Magyarországon. *Területi Statisztika*, 15(52)(3), 230-249.

van Geenhuizen, M., van der Knaap, B., & Nijkamp, P. (1996). Trans-border European networking: Shifts in Corporate Strategy? *European Planning Studies*, 4(6), 671-682.

Gorzelak, G. (1996). *The Regional Dimension of Transformation in Central Europe*. Regional Policy and Development 10. RSA, London: Jessica Kingsley Publishers.

Graetz, N., Friedman, J., Osgood-Zimmerman, A., Burstein, R., Biehl, M. H., Shields, C., … Hay, S. I. (2018). Mapping local variation in educational attainment across Africa. *Nature*, 555, 48-53.

Hansen, N. (1977). Border Regions: a critique of spatial theory and a European case study. *Annals of Regional Science*, 11(1), 1-14.

Harcsa, I. (2015). A területi fejlettség és egyenlőtlensé-gek lehetséges értelmezései – kritikai értékelés és kutatási eredmények I. *Statisztikai Szemle*, 93(5), 460-486.

Hardi, T. (2010). *Cities, regions and transborder mobility along and across the border*. Pécs: Centre for Regional Studies of the Hungarian Academy of Sciences. (Discussion Papers, 82).

Hoóz, I. (1992). A határmenti települések elnéptelenedése. *Statisztikai Szemle*, 70(12), 1005-1018.

Horváth, V. (2020). A határon átnyúló tanulmányi célú ingázás mint az intergenerációs társadalmi mobilitás eszköze. *Tér és Társadalom*, 34(3), 46-67. DOI: 10.17649/TET.34.3.3257

van Houtum, H. (2000**).** An overview of European Geographical Research on Borders and Border Regions. *Journal of Borderlands Studies*, 15(1), 57-85.

Houtum, van H., & Eker M. (2015). Border Scapes: redesigning the borderland. *Territorio*, 72, 101-107.

Hurbánek, P. (2009). Theoretical and methodological remarks on peripherality research: periphery-border relationship and periphery-settlement relationship. In Wilk, W. (Ed.), *Global Changes: Their Regional and Local Aspects* (pp. 115-122), Warsaw: University of Warsaw, Faculty of Geography and Regional Studies.

Husz, I. (2001). Az emberi fejlődés indexe. *Szociológiai Szemle*, 11(2), 72-83.

Kiss, J. P. (2000). Illúziók nélkül. A határátkelőhelyek szerepe a határ menti kapcsolatok alakulásában az ukrán, a román és a szerb határszakaszokon az 1990-es években. *Tér és Társadalom*, 14(1), 179-192.

Kiss, J. P., Tagai, G., & Telbisz, E. (2008). A szürkeállomány területi különbségei – katedrán innen és túl. *Területi Statisztika*, 48(3), 315-334.

Kovács, C. (2006). *Az országhatármentiség értelmezésének földrajzi problémái*. Szeged: Szegedi Tudományegyetem (SZTE) Földtudományok Doktori Iskola.

Kovács, K., & Koós, B. (2018). A település-állomány jólléti pozíciójának mintázatai és azok változása 1990-2016. *Észak-magyarországi stratégiai füzetek*, 15(3), 13-30.

Kovács, Z. (1990). A határ menti területek központhálózatának átalakulása az első világháború utántól napjainkig. Földrajzi Közlemények, 114(38)(1-2), 3-16.

Krueger, A., & Lindahl, M. (2001). Education for growth: why and for whom? *Journal of Economic Literature*, 39(4), 1101-1036.

Kussaiynov, T. A., Mussina, G. S., Bulkhairova, Z. S., & Saimagambetova, G. A. (2020). Impact of expenses on human capital on the economic growth of the country: case study of the Republic of Kazakhstan. *Deturope*, 12(2), 56-70. DOI: 10.32725/det.2020.012

Lipták, K. (2017). Települési humán potenciál vizsgálata Magyarországon. *Észak-magyarországi Stratégiai Füzetek*, 14(2), 55-65.

Morachevskaya, K., Karpenko, M., & Sebentsov, A. (2022). Border divergence or convergence in the context of integration: A case study of the Russian-Belarusian and Russian-Kazakhstan borderlands. *Hungarian Geographical Bulletin*, 71(1), 39-53. DOI: 10.15201/hungeoobull.71.1.3

Nagy, G., & Koós, B. (2014). First results in modelling objective well-being in Hungary at lower territorial level. *Regional Statistics*, 4(2), 71-86.

Nemes Nagy, J. (1996). Centrumok és perifériák a piacgazdasági átmenetben, *Földrajzi Közlemények*, 120(44)(1), 31-48.

Németh, Á., & Dövényi, Z. (2018). „Kiművelt emberfők" a térben – A diplomások területi eloszlása valóban a kiegyenlítődés irányába mutat? Területi Statisztika, 58(2), 129-150. DOI: 10.15196/TS580201

Papp, I. (2019). A határ menti területek lehatárolása térinformatikai módszerekkel. In Molnár, V. É. (Ed.), *Az elmélet és a gyakorlat találkozása a térinformatikában X*. (pp. 239-246). Debrecen: Debreceni Egyetemi Kiadó.

Pásztor, S. (2013). A tér és a közgazdaság-tudomány kapcsolatának korlátai a határ menti területek kutatásában. *Competitio*, 11(1), 98-116. DOI: 10.21845/comp/2012/1/7

Pásztor, S. (2014). Special Border Development Issues in Central and Eastern Europe. In Kaczmarska, E., & Raźniak, P. (Eds.) *Społeczno-ekonomiczne i przestrzenne przemiany struktur regionalnych* (pp. 101-115). Kraków: Krakowska Akademia im Andrzeja Frycza Modrzewskiego.

Pénzes, J. (2015). A kedvezményezett térségek lehatárolásának aktuális kérdései. *Területi Statisztika*, 55(3), 206-232.

Pénzes, J., & Demeter, G. (2021). Peripheral areas and their distinctive characteristics: The case of Hungary. *Moravian Geographical Reports*, 29(3), 217-230. DOI: 10.2478/mgr-2021-0016

Pénzes, J., Kiss, J. P., Deák, A., & Apáti, N. (2018). Térségi sokszínűség és stabilitás: az iskolázottság települési szintű egyenlőtlenségeinek változása Magyarországon 1990-2011 között. *Területi Statisztika*, 58(6), 567-594. DOI: 10.15196/TS580602

Pénzes, J. & Papp, I. (2018). Települési fejlődési pályák Magyarország határ menti térségeiben. In Molnár, V. É. (Ed.), *Az elmélet és a gyakorlat találkozása a térinformatikában IX*. (pp. 285-293). Debrecen: Debreceni Egyetemi Kiadó.

Petrakos, G., & Topaloglou, L. (2008). Economic Geography and European Integration: The Effects of on the EU External Border Regions. *International Journal of Public Policy*, 3(3), 146-162. DOI: 10.1504/IJPP.2008.019064

Ratti**,** R. (1993). Strategies to Overcome Barriers: From Theory to Practice. In Ratti, R., & Reichman, S. (Eds.), *Theory and Practice of Transborder Cooperation* (241-267). Basel: Helbing and Lichtenhahn.

Rechnitzer, J. (1993). Szétszakadás vagy felzárkózás? (A térszerkezetet alakító innovációk). Győr: MTA RKK Észak-dunántúli Osztály.

Rechnitzer, J. (2016). Elmozdulások és törésvonalak Kelet-Közép-Európa térszerkezetében. *Tér és Társadalom,* 30(4), 36-53. DOI: 10.17649/TET.30.4.2811

Rechnitzer, J., & Smahó, M. (2005). *A humán erőforrások regionális sajátosságai az átmenetben*. Budapest: MTA Közgazdaságtudományi Intézet (KTI).

Reichman, S. (1993). Barriers and Strategic Planning: Spatial and Institutional Formulations. In Ratti, R., & Reichman, S. (Eds.), *Theory and Practice of Transborder Cooperation* (pp. 55-64). Basel: Helbing and Lichtenhahn.

Sahlberg, P. (2006). Education reform for raising economic competitiveness. *Journal of Educational Change*, 7(4), 259-287. DOI: 10.1007/s10833-005-4884-6

Sánta, É., Szakálné Kanó, I., & Lengyel, I. (2015). Csökkennek az iskolázottság területi egyenlőtlenségei? A felsőfokú végzettségűek területi eloszlása a népszámlálások adatai alapján, 1990-2011. *Területi Statisztika*, 55(6), 541-555.

Süli-Zakar, I. (1992). A study of state borders as factors blocking socio-economic progress in North-Eastern Hungary. *Földrajzi Értesítő, International Edition*, 66(40), 53-64.

Szabó, P., & Farkas M. B. (2014). Kelet-Közép-Európa térszerkezeti képe. *Tér és Társadalom,* 28(2), 67-86. DOI: 10.17649/TET.28.2.2612

Szakálné Kanó, I., Kazemi-Sánta, É., & Lengyel, I. (2017). Territorial distribution of highly educated individuals in Hungary after 1990. *Regional Statistics*, 7(2), 171-189. DOI: 10.15196/RS070209

Szilágyi, Z. (2018). Az életminőség területi különbségeinek változása a 20. század első harmadában Magyarországon. *Történeti térinformatikai tanulmányok*, 8, 1-59.

Szilágyi, Z. (2019). Regional Differences in Development and Quality of Life in Hungary During the First Third of the Twentieth Century. *The Hungarian Historical Review. New Series of Acta Historica Academiae Scientiarum Hungaricae*, 8(1), 121-152.

Tagai, G., Pénzes, J., & Molnár, E. (2008). Methods of the analysis of integration effect on border areas – the case of Hungary. *Eurolimes*, 6(2), 150-159.

Teperics K. (2013). Debrecen határokon átnyúló oktatási vonzáskörzete. In Szilágyi, F., & Zakota, Z. (Eds.), *Partium: Társadalom- és térszerkezet* (pp. 103-133). Nagyvárad: Dokumentum Kiadó.

Vaishar, A., Zapletalová, J., Dvořák. P (2020). Transition to the post-productive countryside as a function of a distance from the big city. Case North-East fringe of Brno, Moravia. *Deturope*, 12(2), 4-17. DOI: 10.32725/det.2020.009

Váradi, M. M. (2020). Az (im)mobilitás dinamikái vidéki terekben – szakirodalmi kitekintés empirikus kiegészítésekkel. *Tér és Társadalom*, 34(3), 114-141. DOI: 10.17649/TET.34.3.3285

van der Velde, M., & Wever, E. (2005). Border and labour market. *Jurnalul Economic*, 8(16), 139-151.

Wróblewski, Ł. (2020). Rethinking cross-border integration. A step to further discussion. *Border and Regional Studies*, 8(3), 111-135. DOI: 10.25167/brs2129

DETUROPE *– THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 15 Issue 2 2023 *ISSN 1821-2506*

Original scientific paper

THE IMPACT OF COVID-19 ON LIFE IN A CROSS-BORDER AGGLOMERATION OF BRATISLAVA

Tamás HARDI[a], Márta NÁRAI[b], Andrea USZKAI[c]

[a] CERS Institute for Regional Studies West Hungarian Research Department, 9022 Győr, Liszt Ferenc u. 10.; Faculty of Agriculture and Food Sciences, Széchenyi István University, 9200 Mosonmagyaróvár, Vár tér 2., hardi.tamas@krtk.hun-ren.hu
[b] Apáczai Csere János Faculty of Humanities, Education and Social Sciences, Széchenyi István University, 9022 Győr, Liszt Ferenc u. 42., narai.marta@ga.sze.hu
[c] CERS Institute for Regional Studies West Hungarian Research Department, 9022 Győr, Liszt Ferenc u. 10., uszkai.andrea@krtk.hun-ren.hu

Cite this article: Hardi, T., Nárai, M., Uszkai, A. (2023). The impact of COVID-19 on life in a cross-border agglomeration of Bratislava. *Deturope,* 15(2), 129-153.

Abstract

The emergence of cross-border suburbanisation is based on the geographical proximity of a large city and the unrestricted permeability of state borders. A social group, the 'transnational borderlanders', is emerging (Martinez, 1994), who use the territory of both states on both sides of the border daily, e.g. they live on one side and work on the other. In our case, a cross-border suburbanisation has developed, with Bratislava residents moving to nearby villages in Hungary. The open border is a prerequisite for their daily life, and they took a risk when they bought a property in another country. The study examines how the closing of borders during the COVID-19 epidemic affected the lifestyle of Slovak citizens who settled in Hungary and commuted to Bratislava and the new situation of the cross-border area. To this end, a questionnaire survey and interviews were conducted in four settlements in Hungary inhabited by Slovaks. The study summarises the results of these surveys and concludes that the temporary closure of borders did not have a significant impact on the satisfaction with cross-border lifestyle, and the willingness to move. In fact, there are signs that the lockdown has dissolved the previously entirely Bratislava-centric way of life (shopping, using services, registering an address, etc.).

Keywords: COVID-19 impacts, agglomeration, Bratislava, cross-border, suburbanisation

INTRODUCTION

In Europe, with its increasingly open borders, it is becoming more and more common to be resident in one country and work in another. A large cross-border commuting pool of workers has emerged. The introduction of the Schengen border regime has reinforced this process, but cross-border commuting still requires specific geographical, economic and social characteristics. Free border crossing has created the conditions for daily cross-border commuting only in certain places and regions. The majority of people live and work in the same country, and a very small proportion of the total working population commutes to other

countries, crossing national borders daily. This group can be called transnational borderlanders (Martinez, 1994), who live in two states at the same time and this is their daily routine. They should not be confused with those who live and work (study) in a state as a citizen of another country, as immigrants, or as foreign workers. The transnational borderlander group is situationally specific, as they move in a local, micro-regional space while crossing a national border. Their problems generally arise from the fact that the legislation on foreign workers in all countries, including the European Union, is designed to deal with cases where a worker moves to a country for a shorter or longer period, establishes residence and takes up employment there. It is more difficult for the administrations to deal with cases where a worker is employed in one member state and is entitled to a pension or health care there, but is resident in another member state and does not have a domicile in that State. The Schengen border regime creates many such situations, but the number of such situations is negligible in terms of the total population, so the various regulations do not take such cases into account, and this leads to numerous conflicts, which are resolved in a grey, individualised manner. The COVID-19 virus epidemic was the time when this problem became visible to everyone. At the beginning of the epidemic, each state tried to protect its citizens by closing its borders to traffic and restricting the entry of foreign nationals. The European Commission and its President criticised the unilateral decisions and took a stand in favour of keeping internal borders open without restrictions on 13 March. The reintroduction of internal border controls by Member States has prompted the EU Commission to take action. With the help of Commission President Ursula von der Leyen, a draft has been drawn up that would close the external borders to the movement of people for 30 days, allowing only EU citizens to enter, and only doctors, nurses and researchers to travel. At internal borders, different governments have put in place different border regimes. Citizens abroad, commuters across the border, have been put in a very uncomfortable situation by these quick decisions. Uncertainty, even unpredictability, has become the experience of the masses. On 30 March, the European Commission formally requested Member State Governments to allow seasonal agricultural workers and health workers to cross borders in order to ensure food supplies (Hajdú & Rácz, 2020). For those who commuted within the state, the restrictions ensured access to the workplace, but no one thought about those who were forced to cross the border to get to their workplace every day. Of course, solutions to these situations were quickly found, but the case highlights the additional risks of living transnationally as a borderlander.

THEORETICAL BACKGROUND AND LITERATURE REVIEW

The phenomenon of cross-border suburbanisation

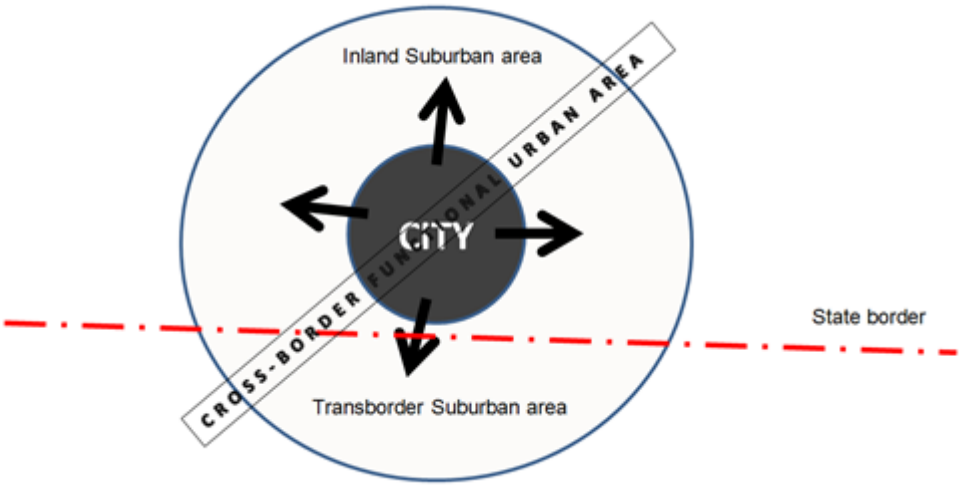
A particular variant of this lifestyle is when the place of residence is moved to the other side of the state border, and the worker becomes a cross-border commuter (Hardi & Lampl, 2008). This is typically found around large cities along the border, where a typical phase of urban development, suburbanisation, occurs and the spread of built-up areas reaches and then crosses the border. If the border can be easily crossed and the real estate market situation is favourable, mass resettlement on the other side of the border will start. Relatively few examples of this can be found in Europe, as it requires a truly unique geographical location. However, it is characterised by rapid and mass movement locally. Compared to the more common situation of looking for a job on the other side of the border, in this case, one establishes a residence there. This entails a much greater personal risk than setting up a workplace on the other side of the border, especially if the place of residence is an owner-occupied property and not a rented dwelling. (In our case, the resettlers almost exclusively buy their property.) The family's assets are invested (as in all property purchases), but here in another state. This mass movement affects a few municipalities, where it poses serious challenges for the management and development of the municipality.

The rules today are permissive and the customer rarely assumes that the freedom to cross borders may change. Property is typically purchased for decades, and it is difficult to predict (especially in Central Europe) how political relations between countries will evolve over such a long period (Krejčí, 2005).

Language skills or cultural integration are less problematic when setting up a home than when working abroad (Lampl, 2010). A resident who is settled in a foreign country has fewer language constraints than a worker who needs to speak the language (or an intermediate language) of the other country to work effectively. Moreover, in the suburbs, mass relocation creates a linguistic community of its own, and the host community has to adapt to the language of the new population. The resident, the property owner, has far more rights and entitlements than the worker, as he or she with the house/plot purchased becomes also the 'owner' of a theoretical part of the municipality.

Cross-border suburbanisation takes place when the urban sprawl of a city near the border reaches the state border and crosses that, in the presence of adequate conditions. The result may be the birth of a cross-border functional urban area (Fig. 1.).

Figure 1 Transborder suburbanisation



Source: by Authors

The progress of the integration of the EU and the breaking down of the barriers to international movements and acquisitions of property led to the increasing frequency of the appearance of similar situations (e.g. in the case of Trieste of Copenhagen [Jagodič 2010]). The strengthening of the freedom of movement not only results in new forms of migration but also the transformation of migration strategies, which then create migration forms of new quality (Pijpers & van der Velde, 2007).

Accordingly, it is an international migration which is not simply a specific form of migration but a qualitatively new phenomenon. We do not have to distinguish this phenomenon from other types of international mobility. The most frequently researched phenomenon is international migration which is realised between two states, and its main trigger is the disparity of incomes between the two countries (Tóth & Kincses, 2009). This migration often involves large distances. It has several impacts on society and spatial development both in the area of origin and the receiving area (Williams, 2009). We have to distinguish, however, the phenomenon of cross-border mobility (Hardi, 2010), which is also driven by an economic advantage, but an important motivation is spatial proximity, in certain cases even stronger than the financial gains. Cross-border employment can be motivated by the accessibility of the workplace as well as income disparities. Cross-border movement and activity can be triggered by smaller disparities in potential financial gains, thanks to geographical proximity. Because the birth of functional regions is built on the long-term spatial movement tracks (Haggett, 2006), the appearance of spatial proximity-motivated forms of cross-border movements and interactions can serve as the foundation of the birth of

transborder regions, which are already separate spatial entities and qualitatively different from the programming and institutional regions organised along the border (Rechnitzer, 1997; Hardi, 2010). In a structural approach, these can be called transnational local spaces. These cross-border regions can, as regards their functions, be labour or retail trade catchment areas, cross-border urban spaces (suburbanisation), or their most advanced form, cross-border agglomerations.

The problem arises from the fact that the persons involved are linked by their nationality to one state, but by their workplace, place or residence or the service used (e.g. health care services) to the other state, so their everyday life takes place on both sides of the border. The national administrative systems usually treat persons with other nationalities according to the rules of international migration, where habitual living and nationality are easy to separate geographically. This disparity is the source of many difficulties for the inhabitants of the cross-border regions but sometimes also offers the possibility for illegal or semi-legal benefits, due to the lack of regulation and legal clarification. This is why some authors suggest that the term "transnational migrant" or "transmigrant" should be introduced: these are persons who use habitually, actually simultaneously the territories of two states (Strüver, 2005; Jagodič, 2010; van Houtum & Gielis, 2006; Gielis, 2009). Such persons can only be called migrants because of their nationality and the use of the different state territories as the distances managed in their daily routine and their other features are no different than the movement of an ordinary citizen; the only difference is that they cross a state border (maybe several state borders).

Cross-border suburbanisation is a distinctive spatial movement in transnational local space. The existence of this phenomenon is the function of the simultaneous presence of several conditions. Some of these conditions are related to the phenomenon of suburbanisation and are necessary in the case of all cities for this phenomenon to become massive: these are the development of the local economy, the intensity of the real estate market, and the concomitant dynamic increase of the demand for real estates. Another part of the conditions is necessary for the "urban sprawl" resulting from suburbanisation to cross the state border. These are as follows:

- The specific geographical situation of the city. On the one hand, it refers to the proximity of the state border, which cuts across the optimum space of movement of outmigrants. It is also important to note that the expansion of the city to other directions within the home country is limited, either due to geographical constraints or the use of the areas for other purposes, presumably due to their low social status. Besides physical

space accessibility may also be of decisive importance, i.e. the endowments and the development potential of the transport infrastructure, the inner spatial structure of the functional parts of the central city and the location of the main commuting destinations also matter. These may lead to the use of the territory on the other side of the border, as a possibility and a must.

- The freedom of international movements. The former regimes restricted, even in case of relatively free border traffic, the multiple crossings of the border in one day, also, they made it difficult or impossible to settle down or buy real estate abroad. All these were allowed by the EU in its member states, even in places where it had been difficult or impossible before. It does not only mean the freedom of purchase but also the long-term security of keeping the real estate acquired. Owning real estate nowadays allows settling down for habitual living in another state, and not only travels for tourism purposes.
- The physical permeability of the border as a precondition of accessibility. It depends on the character of border guarding (or its mere existence) and the capacity of the infrastructure elements crossing the border.
- Besides all these, evidence depends on the character of border guarding (or its mere existence) and the capacity of the infrastructure elements crossing the border.
- In addition, financial aspects can also play a role in the birth and development of cross-border suburbanisation. There may be great differences between the costs of everyday life and real estate prices between neighbouring states. Real estate prices are heavily dependent on local conditions. In the case of closed or partially closed borders, the border regions are often peripheral, even in the presence of a central area on the other side of the border. The proximity to the city in the other country is rarely reflected in the real estate prices of the given country. If the borders are opened, it is only a peripheral area that directly meets a dynamic centre, and the price differences are substantially larger than we could expect based on the physical distance. This was the case for Bratislava and the neighbouring Austrian and Hungarian villages, but a similar phenomenon can be observed at the Romanian-Hungarian border, in the Hungarian neighbourhood of Oradea.
- Lastly, the existence and the features of the mental border should be emphasised. Nonetheless, this small-distance type of migration is not as traumatising for the individual as classic international migration (Ambrosini, 2008; Jagodič, 2010), since it occurs in the same space. The mental circumstances of migration should also be

highlighted for several reasons. On one hand, by moving to the other side of the border we transfer our property to the territory of another state and partly subordinate ourselves to its laws, which is not without risk, particularly if the neighbouring states are not in a long-term friendly relationship. The mental barrier, the "mental distance of the other state" can arise to large extent from the cognitive strength of national spaces, created by the school system, media, politics and socialisation of national character. The mental distance and prejudices may be significant, towards nationality, ethnicity and the spoken language. This may reinforce the opposition between "locals" and "in-migrants" typical in other suburban regions too, and this opposition may have an ethnic touch, notably in the case of disparities in the income level of in-migrants compared to local inhabitants, primarily if they come from a poorer country. Along the northern part of the German-Polish border, one can find the economically less advanced German regions. Outward migration from the city of Szczecin to the nearby German areas has started, and in some cases, the income level of the moving Polish middle class is higher relative to a substantial part of the inhabitants in the peripheral German region (Sontheimer, 2008), which has been a source of ethnic tension. Those who speak or understand the language of the other side and are familiar with its features are in a privileged position. In such cases, prejudice is also less frequent.

The study of the impact of the COVID-19 epidemic is a challenging task for spatial scientists (Baranyai & Ferencz, 2023; Bailey et al., 2020), especially in border regions, whose new types of processes are based on greater local autonomy, free border crossing and the decentralisation of power. It has had variable impacts from region to region, increasing or decreasing existing spatial inequalities (Czirfusz, 2021; Palomino et al., 2022). Particularly important for large cities and urban regions, it has changed their spatial processes, with urban regions being particularly affected (Florida et al., 2021; Szirmai, 2021). During the COVID-19 epidemic, as in all periods of crisis, it was common for central governments to take control of defence, a phenomenon known in the literature as 'coronationalism' (Baranyai & Ferencz, 2023; Bouckaert et al., 2020). This centralisation obviously leaves less room for local specificities such as transnational borderlander lifestyles. Centralised decisions, the closing of borders, is a national decision, which is of course temporary. The emergence of local interests and local decision-making can help to increase resilience in times of crisis (Pálné Kovács, 2023).

Cross-border suburbanisation around Bratislava

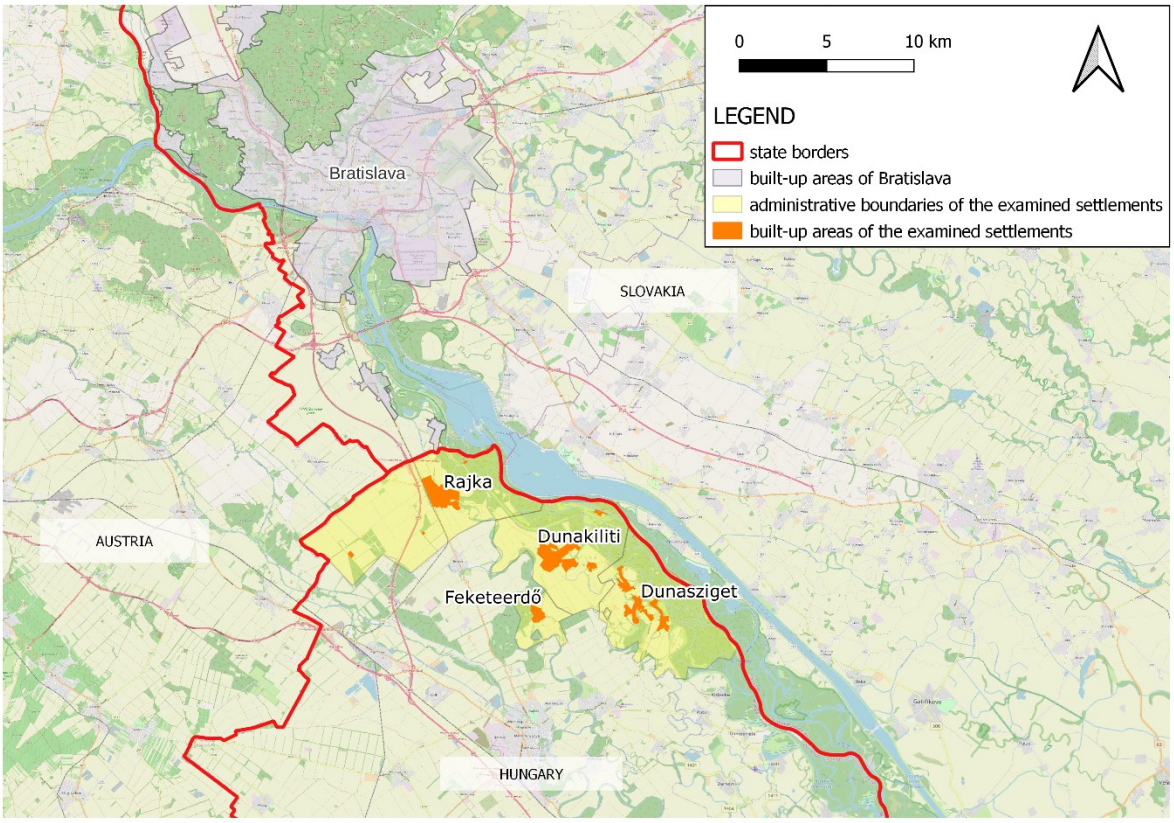
After the accession of Hungary and Slovakia to the EU (2004) and the introduction of the Schengen border system (2007), the Austrian and Hungarian border settlements became suburbs of Bratislava. In recent years, economy-driven commuting has shown a rising tendency (Kézai et al., 2022).

Cross-border suburbanisation around Bratislava represents a rare type of suburbanisation due to the geographic location of the Slovak capital city, on the border of three states. It is worth mentioning that Bratislava's population increased until 1990 as a result of the annexation of several surrounding settlements to the city and large-scale housing estate investments at that time. Since 1990, Bratislava's population has increasingly flowed out to the suburban settlements surrounding the city (Slavik et al., 2005; Zubrický, 2010; Tóth-Bodó, 2023). People are moving from the city centre to the suburbs for more space, better housing options, and a quieter lifestyle. Many residents of Bratislava's suburbs work in the city centre or nearby industrial zones. Improved transportation networks, including highways and public transportation options, make it possible for people to live in the suburbs and commute to their workplace in the city.

On the Austrian side of the border, three municipalities (Kittsee, Berg & Wolfsthal) are the most affected by cross-border suburbanisation processes. Huemer (2018) described them as the most dynamically growing villages in Austria (Farkas & Klobučnik, 2021).

As for the Hungarian side of the border, the suburbanisation of the Slovak capital is the most typical in Upper Szigetköz (Felső-Szigetköz in Hungarian), the northwestern part of the Szigetköz region, due to its greater proximity. In this region, the Danube River and the Mosoni-Danube arm of the river dominate the landscape. It shares many characteristics and attractions of the broader Szigetköz region (natural beauty, wetlands, meadows, lakes, and waterways), but it has its own features and communities. Upper Szigetköz is crossed by a network of rivers and water channels, providing opportunities for boating, fishing, and water-based activities. The area is easily accessible from the nearby cities in Hungary and Slovakia. The most typical destinations of Slovak suburban outmigrants are Rajka, Dunakiliti, Feketeerdő, Dunasziget and typically (highest rates) the same as our study area (Fig 2.).

Figure 2 Examined settlements in the Hungarian agglomeration of Bratislava



Source: Edited by Andrea Pozsgai, 2023

Focusing on the Hungarian areas, a number of researchers have already examined cross-border suburbanisation processes in the last decades. Among them, it is worth highlighting the empirical research of MTA RKK NYUTI (Győr) and Forum Minority Research Institute (Somorja), carried out with the support of the Interreg project (2008-2010). Furthermore, Szekely's work (2013) deals with urban-rural relations as a source of knowledge transfer in the surroundings of Bratislava.

A few years later, Michniak (2016) examined the main trends in commuting in Slovakia, including cross-border commuters to and from Bratislava. Balizs and Bajmócy (2018, 2019) investigated cross-border suburbanisation around the Slovak capital and highlighted the changing social, ethnic and architectural character of the "Hungarian suburb".

Ocskay, Jaschitz and Scott's study (2021) is particularly relevant from the aspect of our research as it discusses cross-border urban functional cooperation along the Slovak-Hungarian border during COVID-19. According to their findings, Bratislava's functional urban area is continuously expanding, stretching over the state borders, including Austrian and Hungarian municipalities (Bogár, 2019). The main reasons for moving are the low price level of real estate compared to Bratislava, the semi-natural rural environment and the excellent

accessibility of the downtown (from Rajka or Dunakiliti, commuters reach the city centre faster than from Slovakian villages) (Šveda et al., 2019).

Likewise, relevant conclusions can be drawn from Domonkos-Pawera's paper (2022), which has examined socio-economic disparities caused by the pandemic in cross-border areas of Slovakia. Suburbanisation in Rajka formed the subject of a thesis as well. Tóth-Bodó's empirical research (2023), including a survey with permanent population and local government, and in-depth interviews, has provided valuable information about the life of the settlement during the post-pandemic period.

Kleemann, Struve and Spyra (2023) examined the conflicts in urban peripheries in Europe, including Rajka. According to their findings, the conflicts arise from the fact that new Slovak residents in Rajka, commuting for work to Bratislava, have a higher income compared to the long-established residents of this village and have introduced a different social life. Moreover, the language barrier has prevented integration into the local community.

The purpose and methodology of the research

It is well known that many countries have implemented various COVID-19 measures and restrictions at their borders to control the spread of the virus. The impacts of this situation were examined from different aspects in the scientific literature of regional development. The study of Sikos T. et al. (2022) gives an analytical evaluation of customer and retail responses to today's market- and nonmarket-related challenges. The authors focus on analysing the effects of the COVID-19 pandemic on trade and consumption. Research has also examined the tourism and travel aspects of COVID-19 (e.g. Kubíčková & Holešinská, 2021; Čaušević & Osmanović, 2023; Krasniqi et al., 2023).

In our current research, our aim is to examine how the cross-border suburbanisation process around Pozsony has changed as a result of COVID-19 regulations.

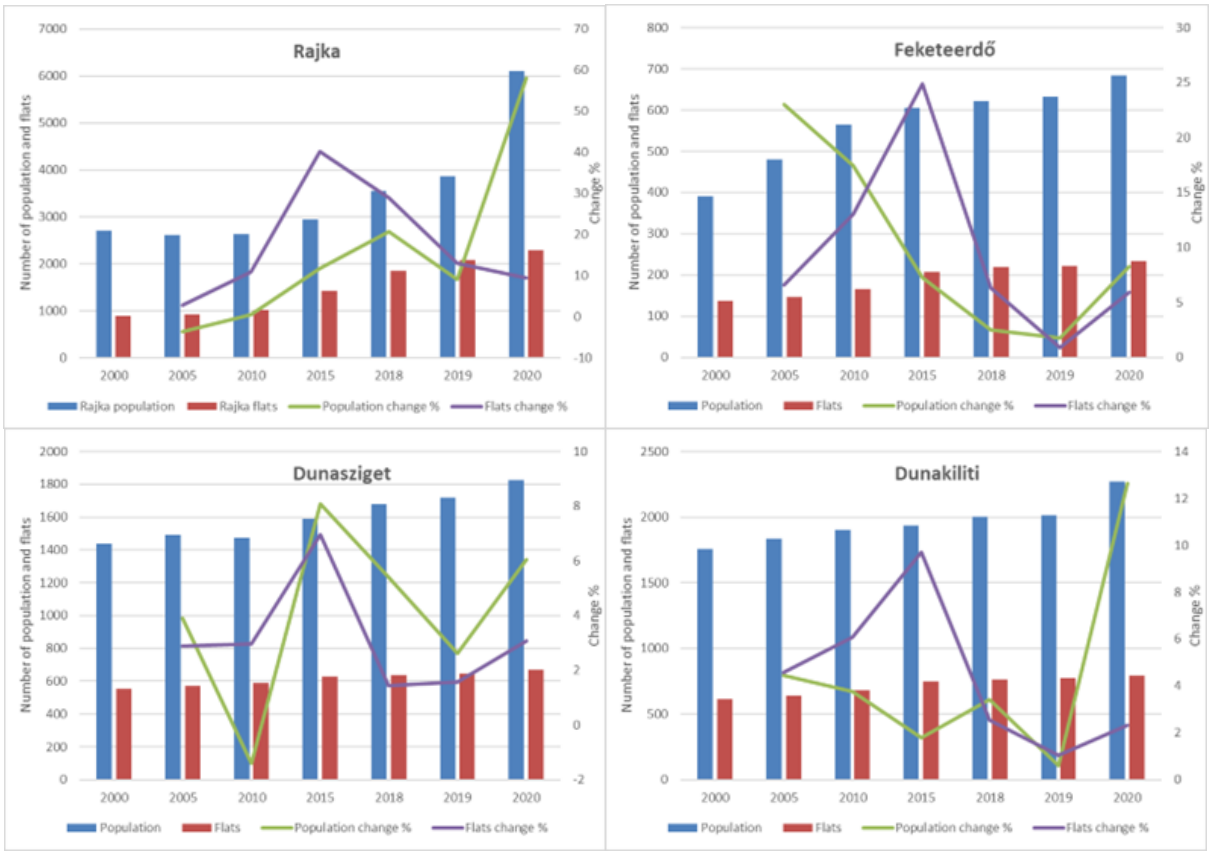
From 7 a.m. on 13 March 2020, Slovakia reinstated border control at road border crossings – except from the direction of Poland. Only Slovak citizens and those who had a residence permit were allowed to enter Slovakia. All those arriving from abroad had to go into quarantine for 14 days. Free commuting was limited to a thirty-kilometre radius from the crossing and could be carried out only with an employer's certificate or a registered address. In December 2020, commuters were obliged to undergo PCR or antigen testing not more than seven days prior to departure, causing chaos at the border.

From 15 February 2021, all passengers who arrived in Slovakia from any country in the world had to go into mandatory quarantine for 14 days (Hardi & Nárai, 2021).

Based on the latest information, from 6 April 2022, all restrictions on entry to Slovakia have been removed. Thus, incoming persons are not required to provide a confirmation of vaccination, a negative test or a confirmation that they recovered from the COVID-19 disease. Furthermore, persons coming to Slovakia do not need to register in any system (visitbratislava.com, 2023).

Many of the authors mentioned above focused on the demographic processes in the Bratislava suburb area and pointed out a rapid change in population and housing stock in Rajka. In the following, we will review these essential statistical data (Fig. 3.).

Figure 3 Permanent population and housing stock in the examined settlements



Source: Hungarian Statistical Office, processed by authors.

As the figure above illustrates, the permanent population of Rajka has been increasing significantly since 2000. Over the past two decades, the number of local inhabitants and the size of housing stock have shown an over two-fold rise. Other municipalities are also growing, but not as visibly as Rajka. Significant growth is anticipated between 2019 and 2020. This phenomenon can be explained by the fact that, during the COVID period, the closed border could be crossed only by those people who had permanent residence in one country and a place of work in another. For this reason, Slovakian settlers who moved to

Hungary in previous years and did not register their place of residence were required to do so in 2020. This produced rapid population growth statistically.

To explore the impact of the COVID-19 epidemic on cross-border suburbanisation processes, a questionnaire survey was conducted in August and September 2021 in four Hungarian settlements in the cross-border suburban area of Bratislava, where a high number and proportion of the inhabitants have moved from Slovakia.

The aim of the research was, on the one hand, to detect the motivational factors of people moving from Slovakia to Hungarian settlements: i.e. to identify the criteria for choosing a place of residence in Hungary, and the dominant criteria for choosing a particular building plot/house/flat in a given settlement. On the other hand, the assessment intended to explore how commuters organised their daily lives prior to the COVID-19 epidemic and after the general lockdowns that occurred during the first wave of the epidemic. For example, respondents were asked about where they typically worked, used various public and other services (e.g. education, health care, cultural and leisure, commercial services, etc.) and pursued various activities (e.g. sports, other recreational activities) before the outbreak of the pandemic and how the outbreak and the subsequent lockdown changed this. The questionnaire examined how the introduction of new border crossing rules, and difficulties in daily commuting affected the organisation of their everyday life, and their feelings about being a "transnational borderlander", who lives simultaneously on both sides of the state border, and whether it raised the idea of moving back to Slovakia.

The survey was carried out in four Hungarian settlements (Rajka, Dunakiliti, Dunasziget, Feketeerdő) with the help of interviewers who spoke both Hungarian and Slovak languages. The questionnaire was completed by a total of 298 households (Table 1) who had moved to Hungary from Slovakia and were living here. The sample is not representative, and the questionnaires were filled out using a snowball sampling method. SPSS statistical software was used to process the data.

Table 1 Number of questionnaires by municipality

Name of settlement	Number of questionnaires	Share (%)
Dunakiliti	25	8.4
Dunasziget	28	9.4
Feketeerdő	44	14.8
Rajka	201	67.4
Total	298	100.0

Source: Questionnaire survey 2021.

Sample characteristics – socio-demographic indicators

The questionnaires included both individual and household-related questions. Moreover, socio-demographic indicators (gender, age, education, labour market status, mother tongue) were assessed for the whole family/household. For the present analysis, these are provided primarily for the respondents, with some exceptions.

57.6% of respondents were female and 42.4% male. In terms of age distribution, all adult age groups are represented in the sample, with the highest proportions of respondents being in their 30s (29.1%) and 40s (26.9%). The youngest respondent was 18, and the oldest was 91, with a mean age of 46 years in the sample. In terms of educational background, the sample has a high proportion of graduates (48.5%), with a further 38.5% having a school leaving certificate and 5.1% having completed higher vocational education. The majority of respondents have at least a secondary education. The labour market situation is therefore favourable in itself, with three-quarters of respondents in employment, while those who are not are either retired or on disability pension (12.5%) or in receipt of any type of child allowance (7.1%). The proportion of those who are in unemployment status is minimal (2%). 45% of those with a job at the time of completing the questionnaire worked as a subordinate, the rest in a managerial position: 14.5% as top managers, 22.7% as mid-level managers and 17.7% as team leaders. Both in terms of education and labour market situation, the spouses/partners of respondents have similar characteristics, with a very high proportion of highly qualified people (53.7% with a degree, 35.2% with at least a high school diploma), and 53.7% in management positions. These indicators also show that cross-border suburbanisation processes have primarily involved the more educated and better socially advantaged strata.

At the household level, nearly half of the respondents (47%) have at least one child and a quarter (25.8%) have two children living with them. However, very few respondents have more than four members living in the same household, with nearly a tenth having five and 2.3% having six.

The financial situation of the families is favourable, with more than half (55%) managing to live well on their income without problems and 35.9% managing to live well on their income regularly. None of the households in the sample has frequent financial problems. The vast majority of respondents reported their household income per capita in euros. For a relative majority (37.5%), per capita income in 2021 varied between €600.1 and €1,000, but for nearly one-third, it exceeded €1,000. For those respondents who expressed their income in HUF (Hungarian Forint), one-third had a per capita income between €200,001 and €350,000,

while nearly one-third (30%) had a per capita income above €350,000, which allowed for a fairly high standard of living.

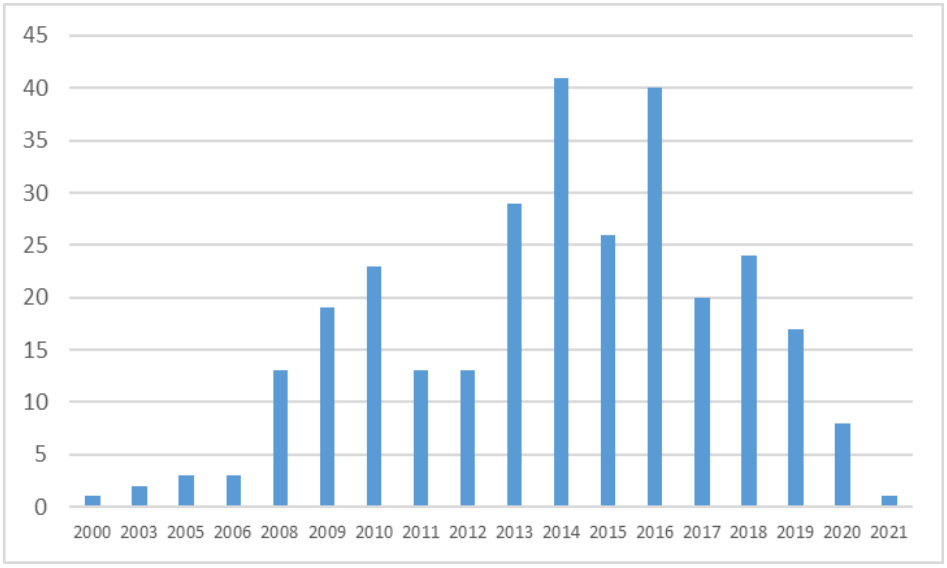
As the research is investigating cross-border suburbanisation, it is also worthwhile to look at the mother tongue and nationality of the new settlers. The questionnaire included questions on their mother tongue. The data confirm the over-representation of ethnic Slovak residents among those moving from Slovakia to Hungary. 83% of the respondents moved to Hungary as native Slovak speakers, and 84.7% of their spouses/partners are also native Slovak speakers. Respondents with a Hungarian mother tongue make up only nearly one-seventh of the sample, but two-fifths of them have a Slovak mother tongue partner. Almost all (93.3%) of our Slovak mother tongue respondents have a Slovak mother tongue partner. There is a significant relationship between the variables of medium strength (Cramer's V 0.543).

RESULTS

Moving to Hungary

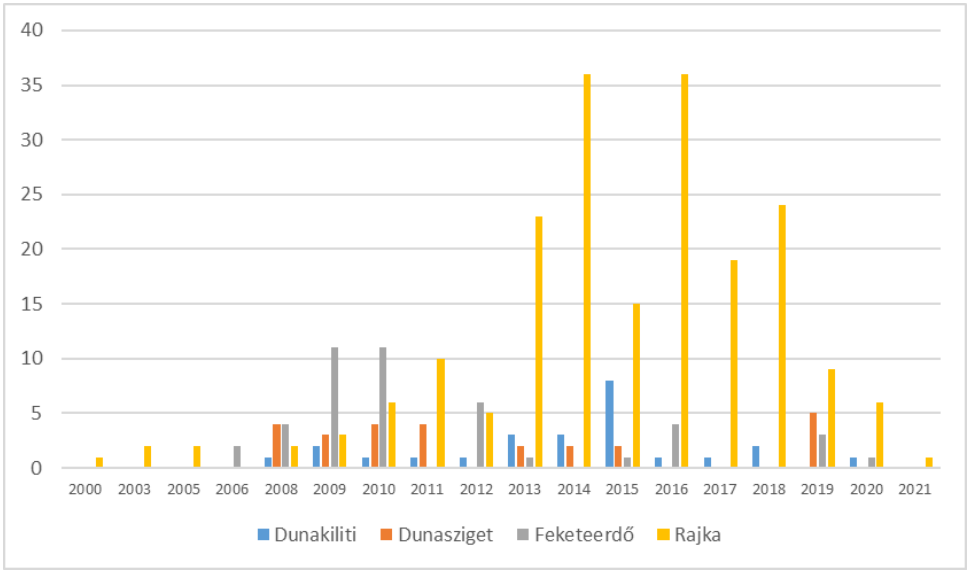
The vast majority of the research respondents moved to Hungary between 2013 and 2018. The process began in the early 2000s, but Figure 4 shows an increase from 2008 to 2010, and then again from 2013; the peak years are 2014 and 2016 (Figure 5). In the sample, those who moved to Rajka (the municipality where most people moved from Slovakia) mostly arrived since 2013, with Feketeerdő rising from 2009 to 2010, Dunasziget being more likely to have moved between 2008 and 2011, and Dunakiliti rising in 2015. These outflows are not unrelated to real estate developments and investments in the municipalities (e.g. plot developments, new residential area developments). 88.3% of our respondents moved from the Slovak capital city, Bratislava to Hungary. In the period of our survey (August-September 2021), their vast majority (87%) had a permanent place of residence in Hungary. This is the case in almost all of the surveyed settlements. 99% of the respondents from Rajka named Rajka as their permanent place of residence. The same trend is observed in Dunakiliti and Feketeerdő. For respondents from Dunasziget, on the other hand, the municipality is primarily a temporary residence, a second home for people whose permanent residence remains Bratislava. Of the 28 respondents from Dunasziget, only two have a permanent residence in this municipality.

Figure 4 Year of moving from Slovakia to Hungary (number of persons)



Source: Questionnaire survey 2021.

Figure 5 Year of migration from Slovakia to Hungary by municipality (number of persons)

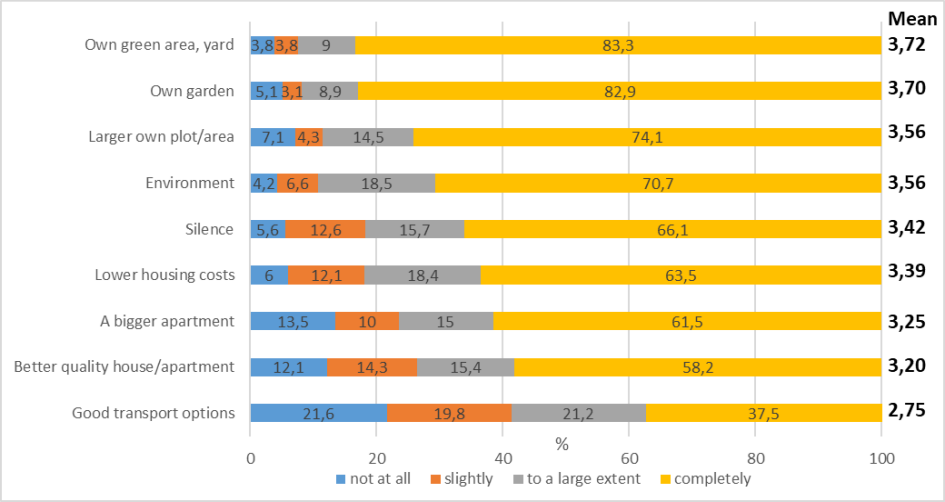


Source: Questionnaire survey 2021.

Motivations for the choice of settlement

The main motivation for respondents to change their place of residence was to have a home with a private garden, green space or a larger plot/area than before. Much less motivating factors were the better accessibility to transport or even the possibility of living in a larger or better-quality apartment/house, but rather the influence of green space and environmental factors (Figure 6).

Figure 6 Motivation to move – To what extent did the following factors play a role in your decision to move* (% and mean)



* The question was measured on a four-point Likert scale, where 1: not at all; 2: slightly; 3: to a large extent; 4: completely.
Source: Questionnaire survey 2021.

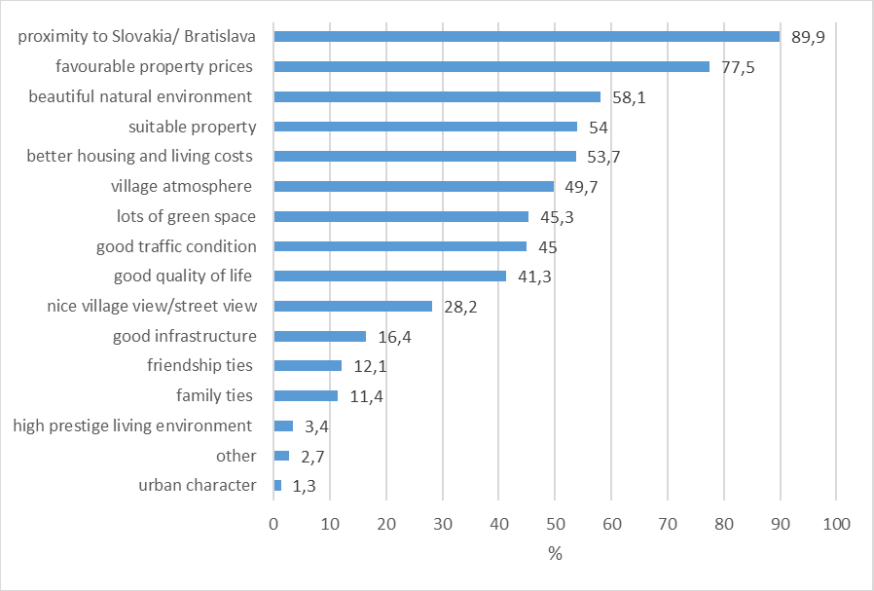
Decisions about where to live – where to move – are influenced by many factors, not just one. This is also evident from the answers to our question on why respondents chose to move to a given municipality. However, it is also clear that there are aspects that stand out. One of the main motivations for moving to a settlement in Hungary is the favourable property prices. However, the most important factor in the choice of settlements is their location, especially their proximity to Bratislava. Both factors were mentioned by the vast majority of our respondents. In addition to favourable property prices, the availability of suitable property, not only in terms of price but also, for example, size and other characteristics, and the affordable cost of housing and living were also mentioned. A beautiful natural environment is also an important attraction. Among the motivating factors, the transport situation of the settlement is not a major factor, nor is the condition of the infrastructure or the overall image of the village. The prestige of the living environment, and overall, family or friendship ties do not play a decisive role (Figure 7).

However, the largest variation was found in this aspect between the municipalities surveyed. Not only were respondents asked to indicate which factors were decisive for them when choosing a settlement, but they were also asked to highlight the most important factor. In this regard, we have found interesting differences between the municipalities surveyed. In Rajka, the 'strength' of proximity to Slovakia/Bratislava is prominent, while in Feketeerdő this was also the most important factor. In Dunasziget, the most important factor was the availability of property prices, while for Dunakiliti it was quite different, where the most

important factor for settling was family ties, followed by proximity to Bratislava and property prices (Figure 8).

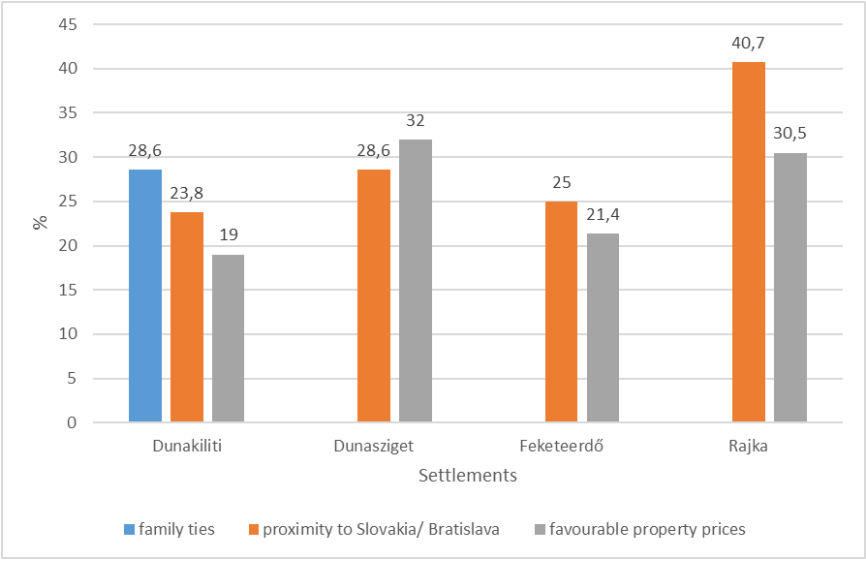
The overall proportion of those who moved to another street, house or flat within the administrative territory of the settlement after moving to the settlement is 15.8%. Intra-municipal displacement occurred in all the municipalities surveyed but was most common in Rajka.

Figure 7 Distribution of answers to the question "Why did you/do you choose this municipality?" (% of respondents)



Source: Questionnaire survey 2021.

Figure 8 Key factors influencing the choice of settlement in the surveyed settlements (%)



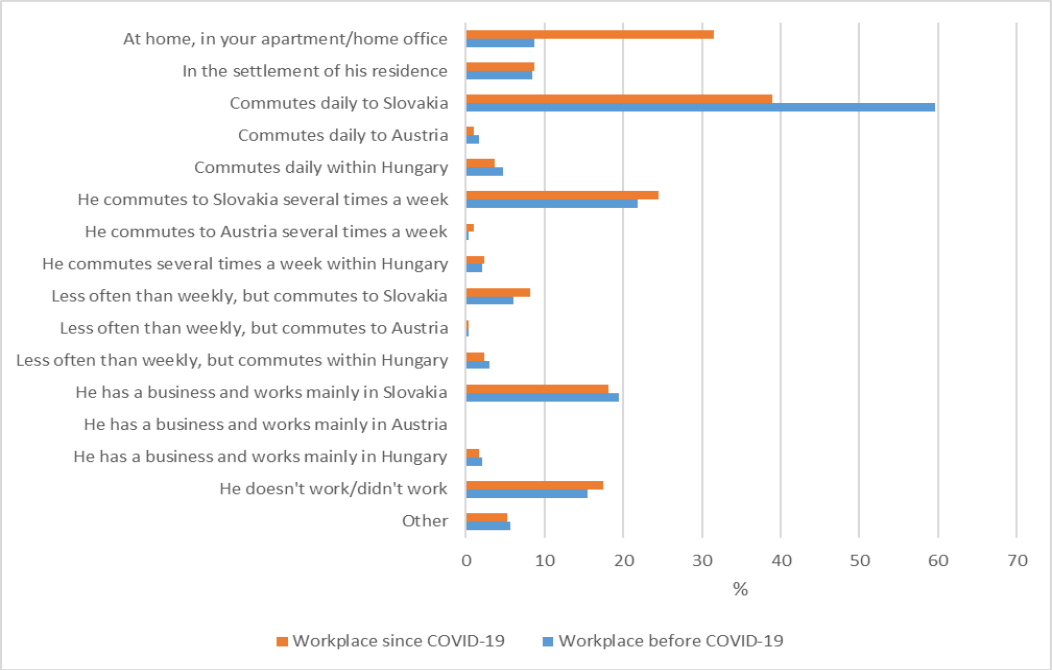
Source: Questionnaire survey 2021.

The impact of COVID-19 on work and the use of services and leisure activities

The outbreak of the coronavirus has had a significant impact on almost all aspects of life, making it difficult to organise everyday life, and particularly hard on people living in a cross-border way. We first described its impact on the location of work and commuting, then how it affected the use of various public and other services (e.g. education, healthcare, cultural and leisure services, commercial services, etc.) and the pursuit of various activities (e.g. sports, other recreational activities). Our aim was to explore whether and how the COVID-19 epidemic had influenced respondents' choices to pursue these activities in Hungary or Slovakia.

In terms of the location and form of work, respondents had the possibility to answer the questionnaire in a structured way. Figure 9 shows the possible formats. From the responses received, it is clear that before the outbreak of the coronavirus epidemic in 2020, the majority of respondents (59.7%) commuted to Slovakia daily, and almost a quarter (21.8%) commuted several times a week. Few of them had a job in Hungary and working from home (home office) was not very common. Less than a tenth of the respondents worked in a home office. The epidemic and the related border restrictions have changed this picture. There has been a significant decrease (below 40%) in the number and proportion of daily commuters to Slovakia. In parallel, the prevalence of home office work has increased. In autumn 2021, one-third (31.5%) of our survey participants worked from home (Figure 9).

Figure 9 Location of work before and after the coronavirus epidemic (%)



Source: Questionnaire survey 2021.

Regarding the use of different services and the location of several leisure activities, before the COVID-19 epidemic, respondents were mostly using both commercial services and public services in Slovakia, including education, health care, and cultural services (Reisinger, 2010). Their major shopping and other shopping activities were mostly done in Slovakia, as well as their daily shopping. The majority did their shopping in Slovakia. Furthermore, online shopping was not dominant in Slovakia either (Table 2).

The impact of the coronavirus epidemic is evident. In some cases, Slovakia-centricity has decreased the utilisation of shops and services in Hungary. It is only true for commercial services and some leisure activities (e.g. fitness, gym). Our respondents' daily shopping was already mainly done in Hungary, but there was also a visible increase in the proportion of people who did major shopping and other shopping in Hungary. Although there has been an overall decline in the use of restaurant services, the decline has affected consumption in Slovakia to a much greater degree. Education, healthcare, and cultural services show very different trends. In education, the proportion of people using online platforms has increased, while in healthcare services the strong dominance of Slovakian take-up has been maintained. Consumption of cultural services has fallen dramatically (Table 2). In terms of other leisure activities, there was also a significant decline in wellness, fitness services and on-site sports and activities (e.g. gyms). These activities were already present in the lives of the majority of respondents (67%; and 59% respectively) before the coronavirus epidemic and were used in both Slovakia and Hungary, but were dominant in Slovakia. After the pandemic, the vast majority of respondents (73.9%; and 68.8% respectively) did not pursue these activities anywhere, and those who did, tended to do so in Hungary.

The impact of the COVID-19 pandemic on attitudes, and satisfaction towards residential move

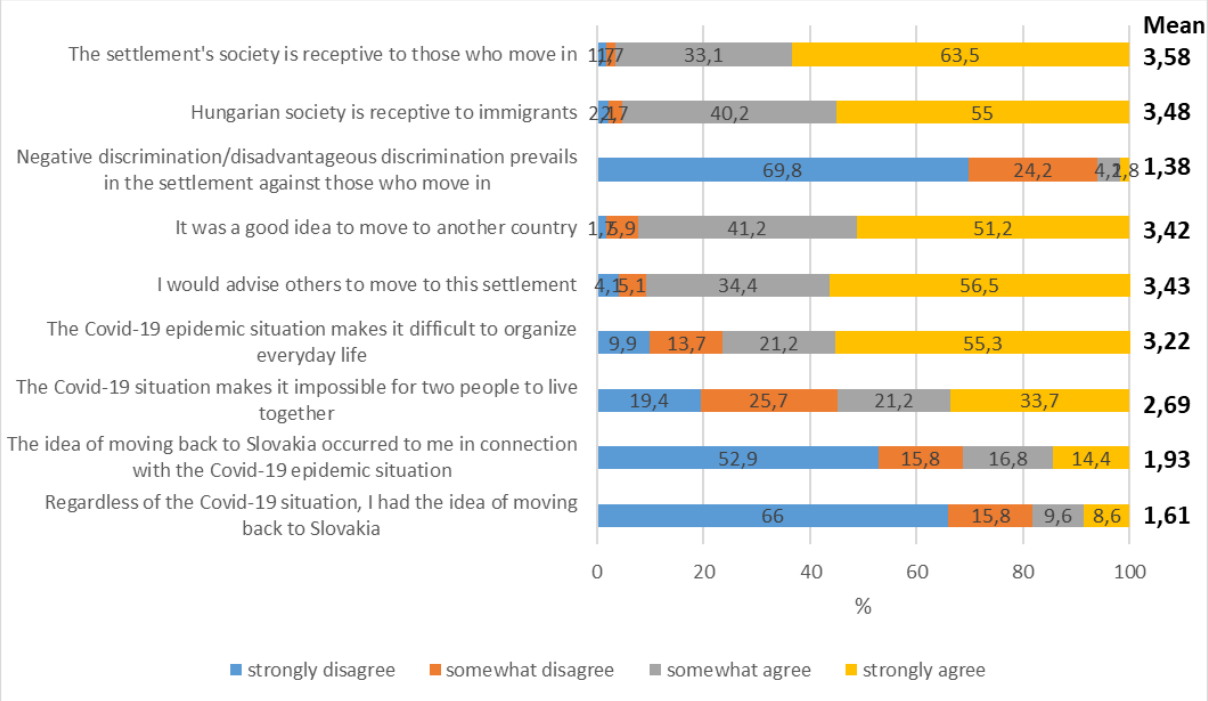
Respondents who moved to the surveyed settlements in Hungary from Slovakia were slightly divided in their opinions but were generally positive about the openness of their chosen place of residence and its receptiveness to newcomers. The majority of them have affirmed that both the local society of their settlement and Hungary are welcoming to immigrants. This openness and inclusiveness help them to feel at home in their place of residence. The difficulties caused by the COVID-19 epidemic did not deter the majority from living in a border area, on the territory of the neighbouring state. Despite the difficulties, they did not consider moving back to Slovakia, either independently of the COVID-19 epidemic situation or in connection with it (Figure 10).

Table 2 Place of use of different services and activities before and after the coronavirus outbreak (%)

Activities, servicies	Before COVID-19					After COVID-19				
	In Hungary		*In Slovakia*		*nowhere*	*In Hungary*		*In Slovakia*		*nowhere*
	in person	*online*	*in person*	*online*		*in person*	*online*	*in person*	*online*	
Daily shopping	46.3	1.0	65.1	6.4	6.0	61.1	3.0	38.6	8.1	13.2
Major shopping	29.5	2.0	79.2	4.4	3.0	50.0	4.7	57.4	8.1	3.0
Other shopping	28.5	7.0	55.4	25.8	5.0	34.2	13.4	36.2	23.2	8.1
Nursery school	10.1	0.3	16.8	0.7	48.5	8.4	0.3	13.8	0.7	55.5
Education(pl. Elementary, secondary, high school, higher education)	1.3	0.0	22.8	1.3	53.5	2.7	2.0	11.7	11.7	53.9
Healthcare services	5.4	0.3	87.6	1.0	3.2	7.0	1.7	74.2	3.7	6.4
Cultural services	20.5	1.0	55.4	3.0	20.8	8.4	1.0	17.8	2.3	65.4
On-site sports activities (e.g. gym, sports field)	26.5	–	32.6	–	41.0	19.1	–	9.7	–	68.8
Wellness, fitness servicies	30.5	–	39.6	–	33.2	15.8	–	9.7	–	73.9
Restaurants, pubs	69.1	–	62.1	–	9.9	43.3	–	18.1	–	44.5

Source: Questionnaire survey 2021.

Figure 10 Attitudes towards cross-border residential move* (% and mean)



* The level of agreement with each statement was measured using a four-point Likert scale, where 1: strongly disagree; 2: somewhat disagree; 3: somewhat agree; 4: strongly agree.
Source: Questionnaire survey 2021.

DISCUSSION

The border crossing rules put in place in response to the COVID-19 epidemic have made the daily lives of cross-border migrants much more difficult. For a few weeks or months, the role of the state border as a separation barrier has returned. The aim of the state authorities was health protection. The rapid spread of the virus and the specificity of the situation demanded a rapid implementation of the measures by the states. The group of people living across the border was relatively small, therefore the measures targeting the general population of the respective countries did not take into account their particular way of life. Thus, after the shock of the first days and weeks, and as the epidemic situation began to improve, freedom of movement has gradually returned.

The epidemic and the closure of borders impacted the life of the transnational borderlander group in many ways. Most of all, we expected that the shock would discourage people living in the territory of another country from continuing this lifestytle and that they would regret having moved to Hungary. This was not the case. The motivation to move was stronger than the difficulties caused by the closure. The main reason why Slovak citizens moved here was to find a property that met their needs close to Bratislava at a relatively low price. From this point of view, the impact of COVID-19 has not been long-standing, it has therefore not corroborated the fact that the opening of borders as a result of EU accession is precarious and easily reversible.

However, the life of the cross-border area has been fundamentally affected by the virus situation. One of the most important effects was an increase in the number of Slovak citizens registering a permanent address. Since the beginning of suburbanisation, the settled Slovak residents have kept their address in Bratislava and have not statistically increased the population of the host municipalities, while in reality, they have lived there. However, under COVID, daily border crossings were allowed for those who had a residence on one side and a workplace in the other country (within a 30-kilometre zone). This encouraged Slovak citizens moving to Hungary to register as Hungarian residents. Thus, especially in the case of Rajka, we were faced with a rapid statistical increase in the population. However, it also contributes to the strengthening of the “transnational” character of the municipality: today, officially, the majority of its inhabitants are Slovak citizens. As residents and property owners of the municipality, they have a right to access services from the municipality. This transition has also impacted local politics: members of the Slovak population are now also voters and can be

elected as representatives or mayors. This situation can already create conflicts between the local population and the immigrants.

It is interesting to note that there is an increase in the use of services in Hungary. Whereas previously only the place of residence was in Hungary, nowadays more and more services are being used in Hungary by Slovak residents. This may be naturally due to changes in exchange rates and price differences, but evidence suggests a notable increase in consumption in Hungary.

All in all, contrary to expectations, the COVID-19 situation has contributed to a stronger transnational borderland character. Rather than decreasing, the population has increased and this tendency is likely to persist. The Slovak-centricity of the Hungarian population is loosening: they are increasingly using the services of the Hungarian side and considering the settlement as their home. It is the Hungarian side that appears to adapt to increasing demand of Slovaks: service providers employ Slovak-speaking staff and more and more signs are displayed in Slovak. There is no reason to anticipate a significant spatial spread of the above phenomena due to the continuing importance of the proximity of the Slovak capital. There is however a notable exception: in the case of the municipalities along the Danube (Dunasziget, Dunakiliti), the purchase of a second home is common and could spread to other municipalities.

SUMMARY

Our research was part of a long-term project on the cross-border suburbanisation of Bratislava. We managed to capture a moment when the trend of opening borders was briefly interrupted, anticipating a situation where we could witness a rapid closing of borders. The emerging cross-border border area could be a European example, as it covers three countries (Slovakia, Hungary, Austria). We have demonstrated that development is essentially Bratislava-centric and most interactions are based there. Further research is required on the evolution of horizontal relations, i.e. to examine whether extensive bilateral connections will lead to the development of a trilateral border region.

Acknowledgement

The research of Tamás Hardi was founded by the Hungarian National Research, Development and Innovation Office – NKFIH grant 134903 (Geopolitical Processes and Imaginaries in Central Europe: States, Borders, Integration and Regional Development). The research was founded by the „Small project program" of the Centre for Economic and Regional Studies.

REFERENCES

Ambrosini, M. (2008). *Un'altra globalizzazione. La sfida delle migrazioni transnazionali.* Bologna: Il Mulino.

Bailey, D., Crescenzi, R., Roller, E., Anguelovski, I., Datta, A., & Harrison, J. (2021). Regions in COVID-19 recovery. *Regional Studies*, 12, 1955-1965. https://doi.org/j7t2

Balizs, D., & Bajmócy, P. (2018). Szuburbanizáció a határon át: társadalmi, etnikai és arculati változások Rajkán. *Tér és Társadalom,* 32(3), 54-75. doi: 10.17649/TET.32.3.3046.

Balizs, D., & Bajmócy, P. (2019). Cross-border suburbanisation around Bratislava - changing social, ethnic and architectural character of the "Hungarian suburb" of the Slovak capital. *Geografick časopis / Geographical Journal*, 71(1), 73-98.

Baranyai N., & Ferencz, Z. (2023). A COVID-19 járvány és a helyi válságkezelés jellemzői Magyarországon (COVID-19 pandemic and the characteristics of local crisis management in Hungary). *Tér és Társadalom* 37(2), 111-133. https://doi.org/10.17649/TET.37.2.3472

Bogár, M. (2019). *Bratislava v zelenom objatí?* In Šveda, M. & Šuška, P. (Eds.), *Suburbanizácia. Ako sa mení zázemie Bratislavy?* (pp. 82-100). Bratislava: Geografický ústav SAV.

Bouckaert, G., Galli, D., Kuhlmann, S., Reiter, R., & Van Hencke, S. (2020). European coronationalism? A hot spot governing a pandemic crisis. *Public Administration Review*, 5., 765-773. https://doi.org/ghvw5f

Čaušević, A., & Osmanović, M. (2023). Perception of Tourist Travel During the Covid-19 Pandemic. *Deturope,* 15(1), 125-140.

Czirfusz, M. (2021). A COVID-19-válság és a térbeli munkamegosztás változásai Magyarországon. *Területi Statisztika*, 61(3), 320-336. https://doi.org/jts8

Domonkos-Bott, L., & Pawera, R. (2022). Socio-economic disparities caused by pandemic in cross-border areas of Slovakia. *Ad Alta: Journal of Interdisciplinary Research*, 12(2), 15-18.

Farkas, R., & Klobučnik, M. (2021). Residential suburbanisation in the hinterland of Bratislava – a case study of municipalities in the Austrian border area. *Hungarian Geographical Bulletin,* 70(4), 311-323.

Florida, R., Rodríguez-Pose, A., & Storper, M. (2021). Cities in a post-COVID world. *Urban Studies*, 1-23. https://doi.org/gnxsxf

Gielis, R. (2009). Borders Make the Difference: Migrant Transnationalism as a Border Experience. *Tijdschrift voor Economische en Sociale Geografie,* 100(5), 598-609.

Haggett, P. (1979[2006]). *Geography: A Modern Synthesis.* London: Harper & Row.

Hajdú, Z., & Rácz, Sz. (2020). Államhatár-politikák az Európai Unióban és Magyarországon a globális koronavírus-válság kezdeti időszakában. *Tér és Társadalom*, 34(2), 202-210. doi:10.17649/TET.34.2.3260

Hardi, T. (2010). *Cities, regions and transborder mobility along and across the border.* Pécs: Centre for Regional Studies, Hungarian Academy of Sciences. (Discussion Papers, 82). http://discussionpapers.rkk.hu/index.php/DP/article/view/2358

Hardi, T., Lados, M., & Tóth, K. (2010). *Magyar-szlovák agglomeráció Pozsony környékén.* Győr-Somorja: MTA Regionális Kutatások Központja Nyugat-magyarországi Tudományos Intézet, Fórum Kisebbségkutató Intézet.

Hardi, T., & Lampl, Z. (2008). Határon átnyúló ingázás a szlovák-magyar határtérségben, *Tér és Társadalom*. 22(3), 109-126. doi:10.17649/TET.22.3.1188

Hardi, T., & Nárai, M. (2021). A Covid lezárások hatása a határon átnyúló szuburbanizációra Pozsony magyarországi előterében. A Magyar Regionális Tudományi Társaság XIX. Vándorgyűlése. A területi egyenlőtlenségek új formái és az átalakuló területpolitika. Budapesti Corvinus Egyetem, 2021.11.04.

van Houtum, H., & Gielis, R. (2006). Elastic migration: the case of Dutch short-distance transmigrants in Belgian and German borderlands. *Economische en Sociale Geografie,* 97(2), 195-202.

Huemer, J. (2018). Achtung Staatsgrenze! Die Suburban-isierung von Bratislava kennt keine Grenzen! In Heintel, M., Musil, R., & Weixlbaumer, N. (Ed.), *Grenzen: Theoretische, konzeptionelle und praxisbezogene Fragestellungen zu Grenzen und deren Überschreitungen*. Wiesbaden: Springer.

Jagodič, D. (2010). Határon átívelő lakóhelyi mobilitás az Európai Unió belső határai mentén–Cezhraničná rezidenčná mobilita v blízkosti vnútorných hraníc Európskej. (Cross-border residential mobility in the EU "internal" border areas) In Hardi, T., Lados, M., & Tóth, K. (Eds.), *Magyar-szlovák agglomeráció Pozsony környékén* (Hungarian-Slovakian agglomeration around Bratislava) (pp. 27–42). Győr-Somorja: MTA Regionális Kutatások Központja Nyugat-magyarországi Tudományos Intézet, Fórum Kisebbségkutató Intézet,

Kézai, P. K., Dömötör, M., & Fekete, D. (2022). Economic Development Opportunities in the Hungarian-Slovakian Cross-Border Area – Szigetköz and Csallóköz (Žitný ostrov) According to Development Documents and Local Stakeholders Perceptions. *Deturope,* 14(1), 87-110.

Kleemann, J., Struve, B., & Spyra, M. (2023). Conflicts in urban peripheries in Europe. *Land Use Policy*, 133:106849, 2-16.

Krasniqi, S., Dreshaj, K., & Dreshaj, F. S. (2023). Determinants of tourism demand in selected countries of META: Empirical Panel Analysis. *Deturope,* 15(1), 23-46.

Krejčí, O. (2005). *Geopolitics of the Central European Region.* The View from Prague and Bratislava. Bratislava: VEDA, Publishing House of the Slovak Academy of Sciences.

Kubíčková, H., & Holešinská, A. (2021). Strategies of Tourism Service Providers to Cope with the COVID-19 Pandemic. *Deturope,* 13(3), 118-129.

Lampl, Zs. (2010). Túl a város peremén (Esettanulmány a Pozsonyból kiköltözött felső-csallóközi és Rajka környéki lakosságról). [Beyond the outskirts of the city (Case study on the migrant population in the "Felső-Csallóköz" region and around Rajka village)] In Hardi, T., Lados, M., & Tóth, K. (Eds.), *Magyar-szlovák agglomeráció Pozsony környékén* (Hungarian–Slovakian agglomeration around Bratislava) (pp. 77-131). MTA Regionális Kutatások Központja Nyugat-magyarországi Tudományos Intézet, Fórum Kisebbségkutató Intézet.

Martinez, O. J. (1994). The dynamics of border interaction: New approaches to border analysis. In Schofield, C. H. (Ed.), World boundaries Vol. 1: Global boundaries (pp. 1-15). London and New York: Routledge.

Michniak, D. (2016). Main trends in commuting in Slovakia. *European Journal of Geography,* 2., 6-20.

Ocskay, Gy., Jaschitz, M., & Scott, J. (2022). Borderland formation processes: Cross-border urban functional cooperation along the Slovak-Hungarian border. In Medeiros, E. (Ed.), *Border Cities and Territorial Development* (pp. 171-189), London: Routledge.

Palomino, J. C., Rodríguez, J. G., & Sebastian, R. (2022). The COVID-19 shock on the labour market: Poverty and inequality e`ects across Spanish regions. *Regional Studies*, 1-15. https://doi.org/j7vr

Pálné Kovács, I. (2023). Az önkormányzati válságkezelés és/vagy reziliencia. Szakirodalmi szemle. *Tér és Társadalom*, 37(1), 3-22. https://doi.org/j7vp

Pijpers, R., & van der Velde, M. (2007). Mobility across Borders: Contextualizing Local Strategies to Circumvent Visa and Work Permit Requirements. *International Journal of Urban and Regional Research.* 31.4, December, 819-35.

Rechnitzer, J. (1997). Eurorégió-vázlatok a magyar–osztrák–szlovák határmenti térségben. *Tér és Társadalom*, 11(2), 29-54. doi: 10.17649/TET.11.2.419

Reisinger, A. (2010). Oktatás és egészségügy – Vzdelávanie a zdravotníctvo. (Education and public health) In Hardi., T, Lados, M., & Tóth, K. (Eds.), Magyar-szlovák agglomeráció Pozsony környékén (Hungarian–Slovakian agglomeration around Bratislava) (pp. 210-223). Győr-Somorja: MTA Regionális Kutatások Központja, Nyugat-magyarországi Tudományos Intézet, Fórum Kisebbségkutató Intézet.

Sikos, T. T., Kozák, T., Papp, V., Kovács, C. J., & Kovács, A. (2022). Crisis challenges for customers and retailers in Hungary. *Deturope,* 14(3), 84-102.

Slavik, V., Kozuch, M., & Bacik, V. (2005). Big cities in Slovakia – development, planning, contemporary transformation. *European Spatial Research and Policy,* 12(2), 47-69.

Sontheimer, M. (2008). Polish Commuters Revive A Sleepy German Town. *Spiegel Online*. 02/27/2008 05:13 PM.

Šveda, M., Sládeková Madajová, M., & Podolák, P. (2019). Senec nie je Stupava? Regionálna typizácia suburbánneho rozvoja v zázemí Bratislavy. In Šveda, M., & Šuška, M. P. (Eds.), *Suburbanizácia. Ako sa mení zázemie Bratislavy?* (pp. 276-296). Bratislava: Geografický ústav SAV.

Strüver, A. (2005). Spheres of Transnationalism within the European Union: On Open Doors, Thresholds and Drawbridges along the Dutch-German Border. *Journal of Ethnic and Migration Studies*, 31, 323-344.

Székely, V. (2013). Urban-rural relations as a source of transfer of knowledge: some examples from rural surrounding of Bratislava. *Rural Areas and Development,* 10, 1-21.

Szirmai, V. (2021). Nagyvárosok a COVID-19 vírusjárvány idején (Cities during the COVID-19 pandemic). *Földrajzi Közlemények*. 1, 1-16. https://doi.org/jttn

Tóth-Bodó, V. K. (2023). Rajka, mint Pozsony szuburbán települése. (Diplomamunka) Mosonmagyaróvár: Széchenyi István Egyetem Albert Kázmér Mosonmagyaróvári Kar.

Tóth, G., Kincses, Á. (2009). „A hazánkba bevándorlók területi elhelyezkedésének vizsgálata", *Tér és Társadalom,* 23(4), 61-81. doi: 10.17649/TET.23.4.1276.

visitbratislava.com (2023). Coronavirus: current information and measures. https://www.visitbratislava.com/covid19-news/ [29.09.2023].

Williams, A. M. (2009). International migration, uneven regional development and polarization. In: *European Urban and Regional Studies*, 3, 309-322.

Zubriczký, G. (2010). Pozsony szuburbanizációja–Suburbanizácia Bratislavy (Suburbanization of Bratislava). In Hardi, T., Lados, M., & Tóth, K. (Eds.) *Magyar-szlovák agglomeráció Pozsony környékén* (Hungarian-Slovakian agglomeration around Bratislava) (pp. 50-76). Győr-Somorja: MTA Regionális Kutatások Központja, Nyugat-magyarországi Tudományos Intézet, Fórum Kisebbségkutató Intézet.

Book review

RECHNITZER, J., & PÁTHY, Á. (EDS. 2022): NAGYVÁROSOK KELET- ÉS KÖZÉP-EURÓPÁBAN = CITIES IN CENTRAL AND EASTERN EUROPE (PUBLIKON – KRTK, GYŐR, P. 334)

Ildikó EGYED[a]

[a] CERS Institute for Regional Studies, 7621 Pécs, Papnövelde u. 22., egyed.ildiko@krtk.hun-ren.hu

Cite this article: Egyed, I. (2023). Rechnitzer, J., & Páthy, Á. (Eds. 2022): Nagyvárosok Kelet- és Közép-Európában = Cities in Central and Eastern Europe (Publikon – KRTK, Győr, p. 334). *Deturope,* 15(2): 154-158.

The comprehensive and comparative study of regional centers, which form the second tier of the Central and Eastern European (CEE) urban network, has received scant scholarly attention in the domestic literature so far. This important gap was addressed by the OTKA-research project „The role of territorial capital and innovative milieu in the development of Central and Eastern European regional centers", funded by the Hungarian National Research, Development and Innovation Office. The results of the project were summarized in a book (in Hungarian), which, in addition to unearthing the spatial structure of the major cities of the CEE region and identifying their primary socio-economic development trajectories, examined regional centers from multiple perspectives such as knowledge production, partner networks and the presence of global consultancy firms.

The focus of the research programme was on cities with a population of more than 100,000 (excluding the capital cities), with a broader, more inclusive understanding of the CEE region. Hence, a total of 95 cities from 10 countries – Austria, Bulgaria, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Serbia, Slovakia, Slovenia – were included among the study areas. Besides aiming to identify the internal hierarchy and typology of regional centers and the key determining factors of their unique development paths, our analytical approach sought to broaden the horizon by highlighting their specificities and commonalities in relation to metropolitan networks of the EU's core regions, and some elements acting as potential entry points into European urban competition and cooperation networks. In addition to describing the general trends of the Central and Eastern European urban network, the purpose of the volume is to offer the academic community fresh perspectives and inspiration for further reflection and research on second-tier cities of the CEE region.

The aim of the authors was to organize the structure of the volume to move from general to specific themes in the presentation of development processes of major Central and Eastern European cities. The volume contains ten thematic chapters and one summary chapter.

In the first chapter of the book, János Rechnitzer synthesizes the existing – mostly domestic – research conducted on the major cities of the region, including those international inquiries that can lay the groundwork for the analysis of urban functions shaping the spatial structure and the urban hierarchy of the CEE region. A review of the evolution of the spatial structural models in the CEE context demonstrates the spectacular rise of cities and the emergence of development zones organized around city regions. Moreover, capital city-centricity – as a long-standing characteristic of the region – far from being mitigated by the changes of the recent decades, has been strengthened in some respects. As a result, a large number of regional centers remain „in the shadows", struggling to fulfil their spatial organizing role, particularly in areas with scant opportunities for integration into global processes. An important conclusion of the chapter is that the complex set of functions used in our classification of the major CEE cities are highly specific to the region, and a full catching-up with the EU's core has not been realized over the last three decades. The Chapter's summary and review of existing literature on the spatial structure and urban network of the region is complemented by a scientific metrics appendix that provides a comprehensive overview of domestic publication activity conducted in the field over the last three decades.

In the next chapter, Ádám Páthy explores the historical context of urban development in Central and Eastern Europe. In addition to reviewing these processes, the author outlines global interpretive frameworks based on an understanding of CEE as a geographical and historical-cultural space, and, on the other hand, through an account of the distinctive features of the region relative to Western Europe. Among the latter, the Chapter highlights the semi-peripheral situation, dependent development, different economic structure, a greater exposure to external processes and specific power-political factors. The historical processes are discussed from the Middle Ages onwards, with a brief overview of the period of imitation and the subsequent break with Western models, and a detailed discussion of general trends of modern urban development beginning with the period of belated modernisation in the 19th century. The Chapter also investigates the homogenizing effect of State Socialist state formations on the respective cities and their urban functions, in order to determine to what extent the Socialist legacy has survived into the late phase of the transition process and continues to constrain and hamper integration into the European space. Among the frameworks shaping urban development since the systemic transitions, global processes, new

forms of spatial competition and the capacity (or failure) to overcome previous structural constraints are given special emphasis.

In the third chapter, Pál Szabó scrutinizes the key notions and terminological concepts illuminating the region-specific traits of metropolitan development. In addition to defining the concept of „regional center" in the context of the study region, he delves into the possibilities for adapting the notions of territorial capital and innovation milieu – as the interpretive frameworks of the research project – to the specific context of urban spaces. The Chapter takes account of the central functions (e.g. education, the innovation rationale of scientific research, the concentration of cultural consumption, the presence of large firms and high value added services, organizing transport and mobility) which, beyond economic development and competitiveness, are essential to creating a typology of second-tier cities in the region. The dilemma of spontaneity vs. planning is given special attention in the context of central functions, which is particularly relevant for investigating the main trends of territorial planning under Socialism and its surviving legacy in the study region. The author also emphasizes the duality of regional central functions from the perspective of universal and particular elements.

In the chapter entitled „Central and Eastern European Cities in Space and Time", János Rechnitzer takes stock of the evolution of major demographic and economic indicators of the case study cities and investigates the role of cities in spatial planning and spatial policy practice in the context of the CEE countries. The Chapter attempts to position CEE cities in the wider European space from two different aspects, i.e. the spatial structural models specific to the continent and global and European evaluation systems and urban rankings. Through an individual assessment of spatial policy strategies of the given countries, the study highlights important gaps for instance in polycentric development policy and the macro-regional connectivity of the urban system. The hierarchical structure of the urban network in the region is used as a basis for the assessment of population dynamics, economic performance and employment structure and their evolution over the past two decades. In addition, the unique circumstances and features of urban competition in the CEE context and integration into the European competitive space are examined from the perspective of sectoral specificities, the presence of large firms and indicators of knowledge production.

Taking into account regional disparities of economic development in the CEE region, the spatial economic analysis of Zoltán Egri investigates the concentration of resources in metropolitan regions. Capital city-centricity documented in previous chapters and the competitive advantage and greater embeddedness of manufacturing regions is confirmed by

the analysis using indicators of economic competitiveness and productivity. The results of the multivariate analysis suggest that the existence of a more hierarchical urban network by itself is insufficient to induce agglomeration.

In the next chapter, György Csomós analyzes R&D and innovation activities of the major CEE cities, drawing on data on scientific output, innovation potential and the absorption of R&D resources. The study examines the performance of second-tier cities in the CEE within the framework of the integrated European R&D system. In terms of innovation activity, it appears that the major cities of the CEE region have a marginal position in continental standards; while in terms of knowledge production, capital cities show an outstanding activity. In the case of the regional centers, another factor worth considering besides economies of scale is the capacity of the respective countries to promote their science policy interests and the availability of funds connected to European integration, which, like the major socio-economic factors, point towards the existence of a west-east regional slope. The study provides a detailed picture of the ranking of second-tier cities in the CEE space in terms of R&D&I and the resulting urban hierarchy in the context of the knowledge economy.

Petra Kinga Kézai reflects on the possibilities of embedding the major Central and Eastern European cities in the wider European region, analyzing the emergence and position of the examined cities in terms of rankings and indicators focusing primarily on urban competitiveness. As demonstrated by the examined indicators, the urban network of the region is characterized by capital city-centricity, and second-tier Central and Eastern European cities emerge only sporadically in European rankings, underlining the weak or incomplete functions of second-tier cities of CEE.

The presence of global consultancy firms in the region and the specifics of their location choices are explored in a study by Katalin Döbrönte. A three-tier hierarchy of location decisions is shown to characterize the region in question. Behind the capital cities, the second tier concentrates the sites of APS management firms, while the third tier is dominated by networks of audit firms. Overall, apart from the capital cities – as the main points of concentration – the cities located in the western parts of the region, mostly in the Czech Republic and Poland, and city clusters with large populations (Trojmiasto, Upper Silesia) are emerging on the European market for high value-added business services.

The study of Petra Kinga Kézai explores intra-and trans-regional linkages and the network embeddedness of regional centers from the perspective of twin cities networks. No evidence of a clear-cut hierarchy of twinning cooperation is found among the regional centers of

Central and Eastern Europe, no nodal densification has been detected in partner networks, and no centers with larger populations or greater economic resources can be identified either.

In the concluding chapter of the book, János Rechnitzer and Ádám Páthy review the factors that divide or connect the major cities of the CEE region, offering a typology based on their transformation dynamics over the past decades and their performance indicators, which summarizes the conclusions yielded by various analytical dimensions of the network of cities of the CEE region. The constraints related to the geographical position of the region and embeddedness in the continental division of labour are highlighted as important commonalities of the studied cities. Furthermore, the remnants of the Socialist past deserve special mention as factors causing a significant rupture in urban development in all of the countries of the region, apart from of Austria. The dominance of capital cities in the region, the different nature of urban-rural relations relative to Western Europe and the resulting duality have left their mark on the role of regional centers and their development resources, giving rise to „insular" and desintegrated city regions in many cases.