

# **VISEGRAD MOSAIC – NEW COLOURS AND OLD CONTOURS**

**Observing and understanding the spatial features  
of socio-economic processes in East Central  
Europe**



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## 2.

# THE METROPOLISATION PROCESS AT DIFFERENT TERRITORIAL SCALES: FOCUS ON CENTRAL AND EASTERN EUROPEAN COUNTRIES<sup>1</sup>

Maciej Smętkowski

### Introduction

Metropolisation is a territorial expression of globalisation processes. It occurs when large cities take over the key functions of the contemporary economy (i.e. management and control), as well as when metropolises are transformed into major innovation centres (Sassen 1991, Lo and Yeung 1998, Simmie 2003). The proposal that the world is 'flat' as a result of the development of information and communication technologies (Friedman 2005) is at variance with observable changes in spatial arrangements, particularly in terms of the global and continental dimension. This concept is being replaced by a vision of an increasingly 'spiky' world (Castells 2001, Florida 2005), a process triggered by the growing space of flows, comprising (Castells 1998): flows of information, nodes supporting such flows and the metropolitan class that manages them. In effect, the traditional territorial organisation of space is being superseded by network organisations (Batten 1995, Jałowicki 1999). Put simply, the latter is characterised by the presence of variably-sized nodes interconnected by a network of decentralised linkages which are practically independent of physical distance, and which are capable of adapting to changing external conditions.

To sum up, the observable processes of metropolisation are associated with:

- a transition from a traditional industrial economy, with capital and labour as the main factors of production, to an information service economy, in which innovation is the main factor in development;
- segmentation of the global economy, where competitive advantage in the high-technology segment is based on the capacity to create and innovate, whilst the low-technology segment is governed by price competition. The former segment is usually located in metropolitan areas, and the latter in non-metropolitan areas;
- changes in the spatial linkages within the economy which involve the development of a network of global cities that attract firms that provide advanced business services, the largest international corporations' headquarters, and knowledge-intensive industries which organise global information flows.

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The changes that are taking place can be observed in different spatial dimensions, or scales. The first is the global scale, at which, as many analyses indicate, a network of global cities is developing (Friedman 1986, Sassen 1991). The characteristic features of such cities include, amongst other things, the presence of advanced business services (Taylor 2007) and the handling of capital flows, also in the form of the branch offices of multinational corporations (ESPON FOCI 2010) and the servicing of air traffic (Smith and Timberlake 2001), in addition to their major role as cultural centres (e.g. Degen and Garcia 2012). All this is clearly transposed onto the continental scale (and the European), where, in addition to the obvious concentration of economic potential in the metropolises situated within the core area (the so-called Pentagon (ESPON 1.1.1, 2004)), major urban centres located in adjoining zones are also developing. This is because these metropolises are the places where knowledge-based services and knowledge-intensive industrial sectors are typically located (cf. Krätke 2007).

In consequence, spatial polarisation is growing in most countries, a phenomenon which is associated with the faster development of metropolitan centres (capital cities in particular), but also of the other cities which perform significant economic functions (ESPON SGPTD 2012). This is also clearly visible at the regional scale, where backwash processes, including the concentrating of economic potential and the movement of a qualified workforce from the periphery to the centre, prevail over spreading processes (Smętkowski, Gorzelak 2008). At the same time, at the local scale of the metropolitan area, business activity is becoming de-concentrated and so-called edge cities are developing. The metropolitan area itself is becoming more and more polycentric (cf. Hall and Pain 2007), both in terms of commuting to work (Aguillera 2005) and the location of major business areas (Hall 1999).

The relationships between a metropolis and its region, and their mutual interdependence, can also be derived using different theoretical concepts (Tab.1). The classical models of spatial interaction (Ullman 1957) can be used to distinguish the following three components: complementarity, intervening opportunity, and transferability, all of which determine the ties existing between regions. This means that the exchange of goods between the metropolis and the region is dependent on the differences in their economic structure, their mutual attractiveness as sales and supply markets, and the role of distance in such exchanges. In the light of urbanization theory, the individual stages of the urbanization processes and the attendant changes in the distribution of population in cities and their surrounding areas represent important phenomena for the city-region relationships. As a consequence of such cycles, and depending on whether concentration or de-concentration processes prevail, the city and its region either represent, vis-à-vis each other, a source or a target area for the migration of the population, which in turn affects both the spatial extent of the city and the potential uses of the city space. According to economic base theory, urban development depends on two factors: basic and non-basic activities. While the former refers to functions provided for the local economy, the latter, also referred to as city-forming functions, are provided to the external world. The latter type of functions can include exchanges between the

city and the region or its wider external environment. Using such a perspective, the region surrounding the city can be seen as only one of many potential markets for goods and services and supplying provisions. On the other hand, central place theory (Christaller 1933) is the first of the theories discussed here which directly deals with the mutual relationships between the city and the region. According to this theory, the city is a centre that supplies 'central' goods to its regional hinterland. This concept also implies that the role of the city (that is, its regional nodality) results from the degree of centrality of the regional hinterland. On the other hand, however, a region is not self-sufficient and is dependent on the city as its functional centre. The theories of growth poles, initiated by F. Perroux (1950) underline the role of motor units, from which specific centrifugal forces emanate, and towards which specific centripetal forces are directed. Applying a territorial dimension, A.O. Hirschman (1958) distinguished positive *trickling-down effects* and negative *polarisation effects*. Beneficial trickling-down effects result from the complementarity of activities undertaken between two poles (a developed one and an underdeveloped one), from purchases and investments from the developed pole to the underdeveloped one, and from the absorption of hidden unemployment in the underdeveloped pole. Polarisation effects are generated by the existence of a competitive advantage in the developed pole and the draining away of qualified personnel from the underdeveloped region. Similarly to the theory of polarized growth, there is no comprehensive theory of networks (e.g. Glückler 2007). The main tenet underpinning this group of theoretical approaches to the settlement system is that hierarchical relations between cities, as described in central place theory, give way to a new generation of systems – city networks. Such networks develop when two or more cities that were formerly independent but which have complementary functions try to cooperate and on the whole manage to merge their economies, a process which is enhanced by fast and reliable transport corridors and telecommunication infrastructure (Batten 1995). As a result of the acceleration of such linkages, the relationships between cities lose their hierarchical character and become horizontal network ties.

Table 1. City-region relations derived from selected theoretical concepts

Theory / theories	Types of relation between city and region	The role of the region in city development	The role of city in regional development
Spatial interaction theories	Complementarity Intervening opportunities Transferability	Provides resources and serves as a market for goods and services	Provides resources and serves as a market for goods and services
Urbanisation theories	Evolution of regional settlement systems as result of agglomeration or de-concentration processes	Area of origin or destination for migrations depending on current tendencies	Area of origin or destination for migrations depending on current tendencies
Economic base theory	Basic and non-basic local activities of city	There is no distinction between regional hinterland and other export markets	Not applicable. Region is a potential market for goods and services.
Central place theory	Goods and services provided by city to the region	The importance of city depends not only on local, but also regional demand. The city is a central place for its hinterland.	Region depends on city.
Growth pole theories	Positive spread effects and negative backwash effects	Region provides simple resources and labour	Capital investments, diffusion of innovations, but backwash of human resources
Network theories	Network linkages a-hierarchical and do not depend on distance between nodes.	Region does not play important role in city development unless there are nodes in regional network.	City as a centre of nodal region.

Source: Smętkowski (2011).

The generalisation of the spatial structures and dynamics in metropolitan regions (Nowosielska 2012) comprises of a hierarchical settlement system with the clear dominance of the metropolis upon its regional hinterland, also including main subregional cities in spatial terms, and the specialization of the metropolis as regards high-ordered services, intensive migration flows and the interdependence of



functions between the metropolis and the region in structural terms. The dynamics of such metropolis-region relationships depend on changes in spatial structure and the range of specific relations, as well as on the attendant stages of concentration and de-concentration of population and business activity assisted by spatial self-organization processes.

The above-mentioned processes are clearly visible in Central and Eastern European countries (CEECs), which did not join the global information economy until the 1990s (Gorzalak 1996). In consequence, this part of Europe represents fertile ground for examining the metropolisation processes which are taking place on different spatial scales. This topic is tackled in the empirical part of the paper, which analyses the metropolitan areas of the capital cities (proxy: NUTS3 regions) of 10 new Member States of the European Union. The analysis covers the period 2000-2010/2011, the choice of which was based on the availability of comparable statistical data. It should also be noted that the period in question includes various phases of the business cycle, starting from the economic downturn at the beginning of the century through a period of robust growth to the credit crunch and economic crisis post-2008.

### **CEEC metropolises in the global arena**

In general, metropolises in Central and Eastern European countries occupy quite variable positions in various global city rankings. For instance, on the basis of the GaWC (Global and World Cities) study (Taylor 2007), it can be concluded that, from a pool of 315 global cities, only Prague, Warsaw and Budapest were ranked among the first 50 cities in terms of connectivity of global service firms (at the level of ca. 40% of London's potential), whilst the respective values for Bucharest, Bratislava and Sofia were between 20% and 25%, and the capital cities of the Baltic states and Slovenia only 15%. (Table 2). However, this situation gradually changed in the following years. In 2011, based on another analysis that examined the branch structure of 350 transnational corporations that provide business services (CBRE 2011), it can be seen that the cities in question rose up the ranking substantially (albeit compared to a smaller number of cities). Of the three cities occupying top positions in the ranking, i.e. Warsaw, Budapest and Prague, particularly notable was the case of the former two cities. In the next group of cities, the change in rank was even more pronounced, particularly in the case of Bucharest and Bratislava, and to a lesser extent Sofia. On the other hand, the remaining CEEC capital cities continued to occupy lower positions in the ranking, probably due to the small size of their national economies.

Table 2. Rank of CEEC capital cities

City	CB Richard Ellis (2011)		GAWC (P. Taylor) (2000)	
	Raml (197 cities)	Number of global APS companies (max: 350)	Rank (315 cities)	Connectivity index for 100 global APS companies (max. 1,00 - London)
<b>Warsaw</b>	12	150	39	0,42
<b>Budapest</b>	20	128	45	0,41
<b>Prague</b>	21	126	29	0,43
<b>Bucharest</b>	29	110	83	0,25
<b>Bratislava</b>	35	93	113	0,21
<b>Sofia</b>	53	80	121	0,20
<b>Riga</b>	76	59	154	0,16
<b>Vilnius</b>	86	51	179	0,14
<b>Tallinn</b>	89	49	17	0,14
<b>Ljubljana</b>	93	45	185	0,14

Source: Author on the basis of data from (CBRE, 2011, Taylor 2000).

It should be noted, however, that the high position in any of the above rankings does not mean that these metropolises play any significant control or management functions in the global economy but rather that they:

- provide convenient locations for branch offices of global service companies (the significant role of international airports), which offer services mostly to local enterprises,
- employ well-qualified and cheap workforce, largely performing ancillary functions in relation to those performed by the head offices of such companies,
- some of the branch offices may be small in size when compared to the scale of operations in their home countries and/or globally.

These observations are corroborated by the low position of these CEEC cities in the location rankings of major transnational corporations (including not only service firms), particularly when location of company head offices is taken into account (cf. ESPON FOCI 2010). At the same time, cities in this part of the Europe lag behind the major city centres of the EU also in relation to the location of branch offices of such corporations.

### The growth dynamics of capital city regions

The analysed period 2000-2010 was a time of robust economic growth of the capital city regions (in this study, comprising the capital cities together with the surrounding NUTS3 subregion) in the Central and Eastern European countries, which was accompanied by an appreciation of the national currencies (Fig. 1a). As a result, in comparison with the 2000 values, GDP per capita measured in EUR increased threefold in the case of Sofia, Bratislava and Bucharest, and between 2 and 2,6 times

in the remaining urban regions, with an over 60% increase recorded in the best-developed Ljubljana. In the case of Sofia and Bucharest, this dynamic pace was a consequence of a very low development level in 2000 (the base effect), whereas the success of Bratislava could result from Slovakia's accession to the eurozone on the one hand, and on the other could be explained by the advantages created by the city's location in the proximity of Vienna. The most notable changes in the hierarchy included the relative fall in Ljubljana's rank and the improved position of Prague, Warsaw and Tallinn. In the first two cases, this could come as a consequence of their high rank in the global service networks, and in case of Tallinn – similarly to Bratislava – could also be attributed to the close distance from Helsinki. By contrast, the remaining Baltic metropolises did not cope as well, which could be caused by the severe economic crisis of 2008, and to some extent by the small size of their national economies.

The following features could be observed regarding the position of the capital cities, set against the average GDP per capita level of their respective countries (Fig. 1b):

- a very high relative development level of Bucharest and Sofia, in the latter case resulting from the speedy development of the capital city in the recent years compared to the remaining regions of the country). However, in the case of Bucharest, the statistical effect caused by the wider boundaries of the metropolitan area than the NUTS3 region surrounding the capital city could play some role (this means commuting of workers who also generate the regional income but are not counted as residents of the metropolitan area),
- Warsaw, Tallinn and Budapest are also quite conspicuous in relation to the country at large (with a relatively slower development of Warsaw and a quickly growing salary divide between the capital city region and the remaining regions in Estonia and Hungary),
- a stable situation in the remaining CEE countries, where the disparities, although significant, are not as wide (with the exception of the Vilnius region, which was developing visibly faster than other regions of the country).

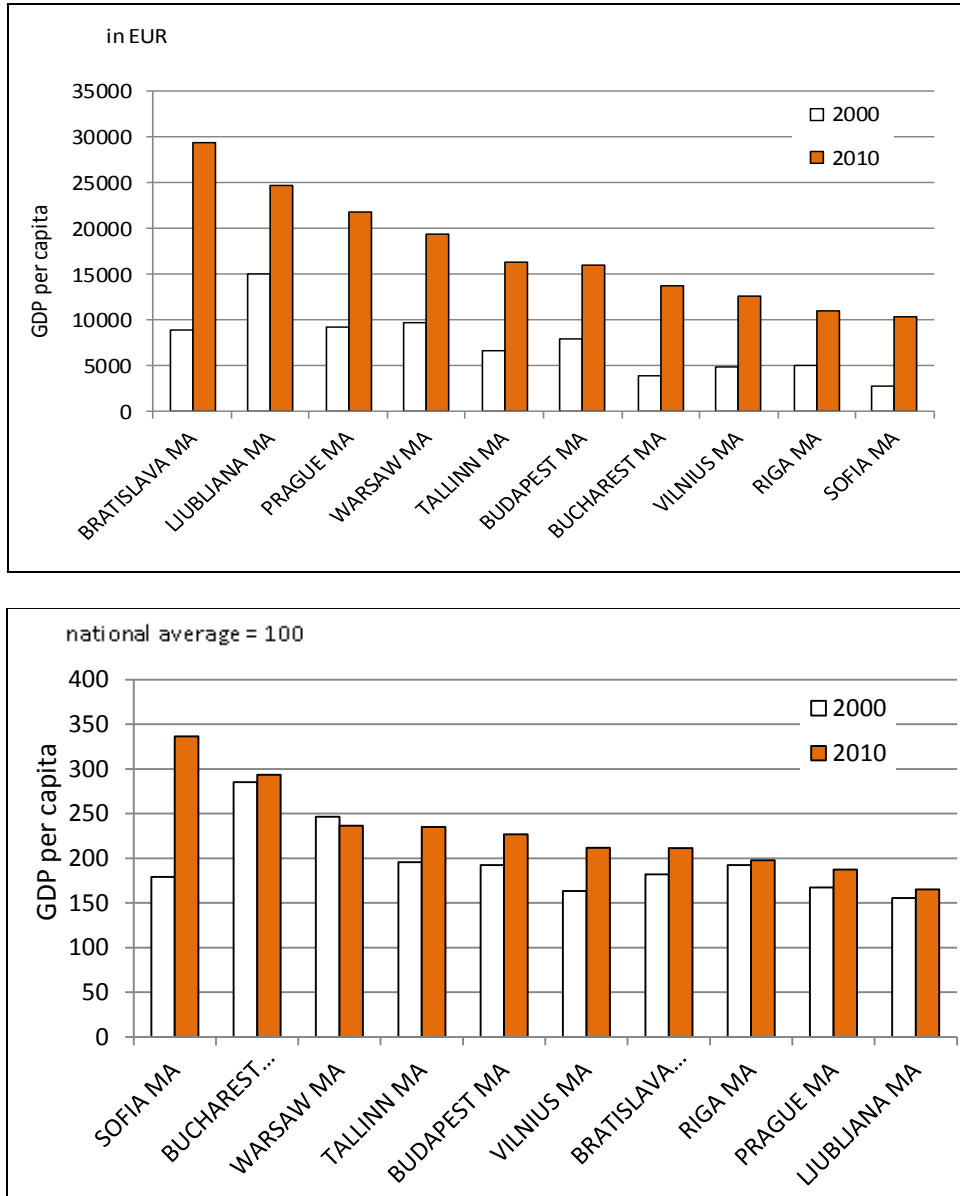


Figure 1. Dynamics of economic development of the capital city regions

Source: Author on the basis of Eurostat data.

\* MA – metropolitan area (NUTS3 proxy)

To sum up, polarisation processes associated with the development of the capital city regions were clearly visible in the Central and Eastern European countries (with the exception of Warsaw), which can largely be explained by metropolisation processes currently taking place. The relative weakening of the position of the Warsaw metropolitan area (MA) could result from the greatest polycentricity of Poland's settlement system in which, outside of the capital city, five to eight potential MAs can be identified (cf. e.g. ESPON 1.1.1, 2004).

### The metropolis–region relationship

In comparison to the surrounding regions, an even greater dominance of the metropolises over their regional hinterlands (the NUTS2 region surrounding the capital city or aggregation of the neighbouring NUTS3 regions) (see Smętkowski et al. 2011) could be observed in terms of GDP per capita figures. The disparities were particularly marked in the case of the metropolitan macroregion of Bucharest and Sofia, in addition to a speedy pace of development in the latter case. At the other extreme, there was Ljubljana, where the scale of the metropolis' dominance over the region was smaller, although increasing in the analysed period. In the remaining cases (except Warsaw), the dominance of the metropolitan areas over their regions steadily increased; it was particularly well visible in the case of Tallinn, Budapest and Bratislava (and could be viewed as proof of the absence of large urban centres in their metropolitan regions). On the other hand, the Warsaw macroregion was an interesting example of convergence, which could indicate that there was a diffusion of growth to the non-metropolitan areas of the region.

The primary sources of divergence within the metropolitan regions were the following (Smętkowski et al., 2011):

- differences in the economic structures of the constituent parts of the metropolitan macroregion, with a fast tertiarisation of the metropolitan areas on the one hand, while on the other the regional hinterland still remained strongly rooted in the industrial and agrarian development model;
- wide labour market disparities, which involved the dominance of the metropolitan area in terms of the number of jobs and a large share of post-productive age population in the demographic structure, whereas, in the remaining parts of the region, the unemployment rate was higher, so as the share of post-productive age population, which led to migration and movement of human capital from the region to the metropolis;
- differences in labour productivity in industry, which indicated that capital- and knowledge-intensive sectors had developed in the metropolitan area and that traditional, labour-intensive sectors still prevailed in the regional surroundings.

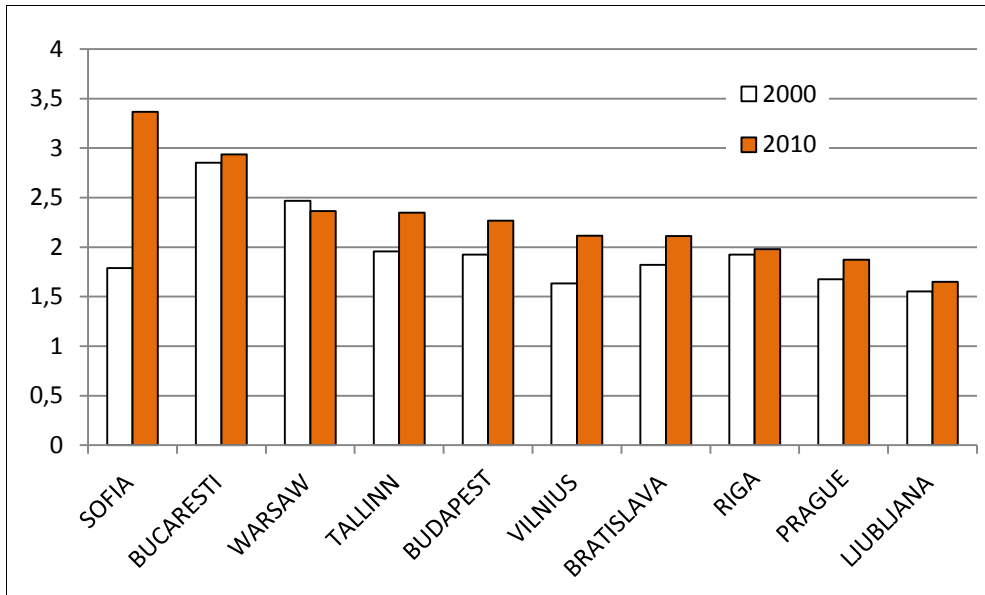


Figure 2. The gap in GDP per capita between metropolis (MA) and its outer regional hinterland

Source: Author on the basis of Eurostat data.

### Demographic changes in the metropolitan areas

Changes in the number of the population within the metropolitan areas of the capital cities were much more diverse, so as the level of concentration of residents within the administrative boundaries of the major city (Fig. 3), than the polarisation processes discussed above, both nationally and regionally. There was a certain correlation between the relatively higher increase in the number of the population in those metropolitan areas which were characterised by the highest development level. This was especially true for Prague and Ljubljana and, to a lesser extent, Bratislava. That said, the case of Sofia can be viewed as rather surprising since this city, despite a low level of development, visibly increased the number of its population and, unlike in the remaining capital cities, the concentration of the population in the central city had increased. Cases when the number of the population in the metropolitan areas had decreased were few and far between; such a situation could be observed mainly in Riga and Vilnius, most likely due to the ageing of the local population, a process which was not sufficiently offset by migratory inflows from other regions. In the majority of cases, a process of population deconcentration could be observed within the metropolitan areas, the scale of which was the greatest in the case of Budapest, Bratislava and Riga, and the smallest - in the case of Prague and Warsaw.

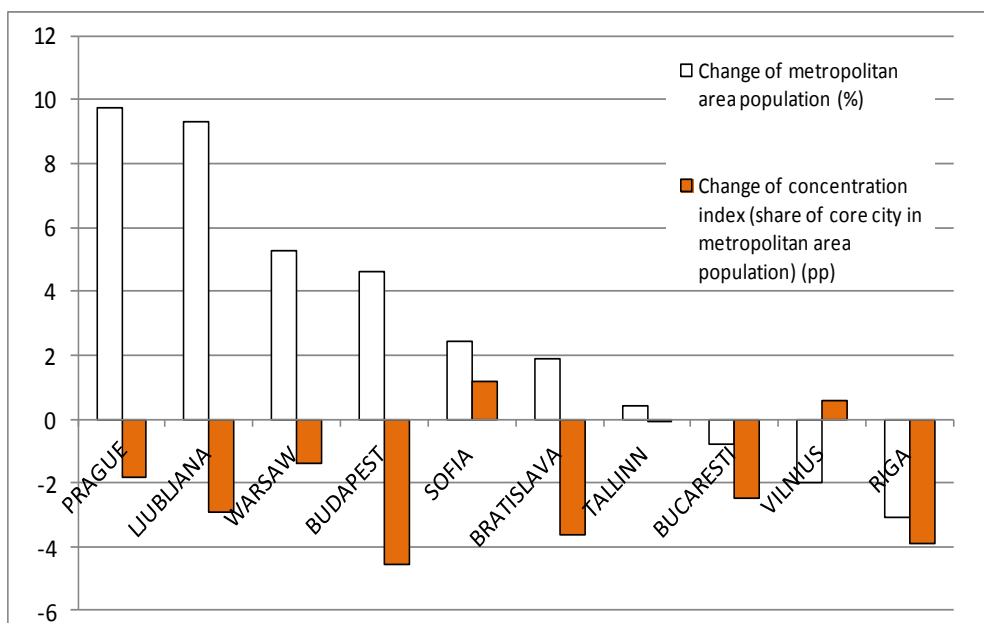


Figure 3. Population dynamics in metropolitan areas in 2000-2011 (in % or pp)  
 Source: Author on the basis of Eurostat and national statistics offices data

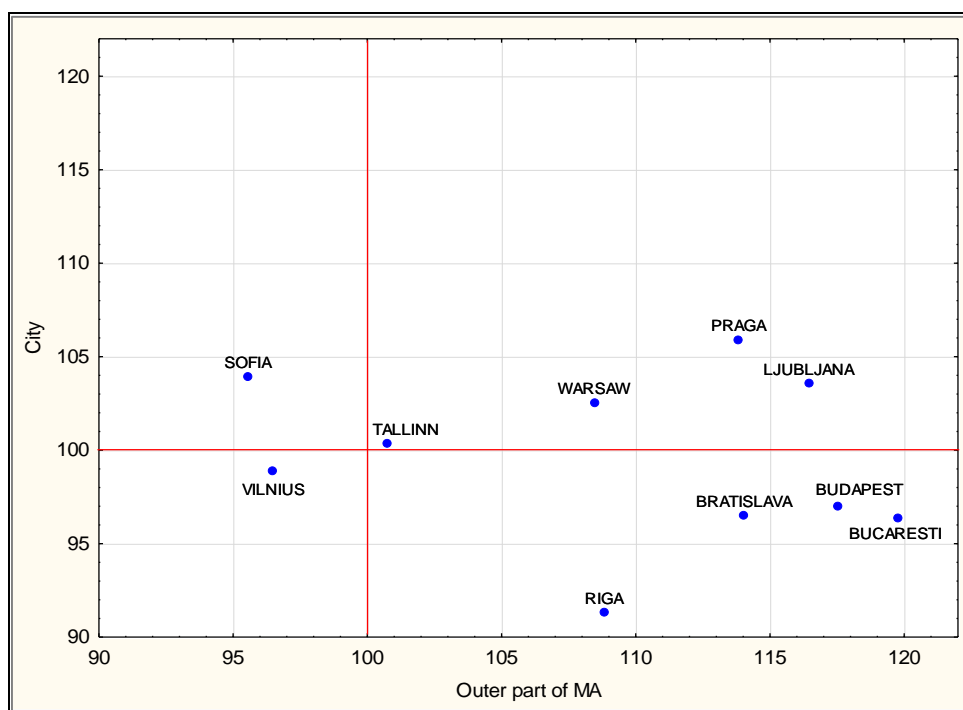


Figure 4. Population dynamics in constituent parts of metropolitan areas in 2000-2011 (2000=100)

Source: Author

In terms of the population dynamics in the central city and its surroundings, each of the metropolitan centres manifested some unique features (Fig. 4). Positive dynamics regarding the number of the population could be observed in Ljubljana, Prague and Warsaw, with a simultaneous increase in the population figures to be observed outside of the central city. In all probability, this means that the cities in question were so attractive for external migration that the influx of new residents counterbalanced the suburbanisation processes taking place in their surroundings. At the same time, another group of cities recorded a fall in the number of the population in the central city, usually accompanied by a rapid population increase at the outskirts. Such a situation was typical of the metropolitan areas of Bucharest, Budapest, Bratislava and Riga, and these are the cities where the scale of suburbanisation processes was probably the greatest. In comparison, the situation was different in Sofia, which had lost population in its surroundings; in Vilnius, where population ageing processes were probably not sufficiently compensated by the influx of new residents, leading to a fall in the number of the population in the metropolitan area, and in Tallinn, where the number of the population remained stable.

## Conclusions

Metropolisation processes taking place in the Central and Eastern European countries had varying dynamics, largely dependent on the specific regional and national contexts. At the same time, some aspects were noticeable across all the countries of the macroregion. First and foremost, these included a growing involvement of the capital cities in the global economy, a phenomenon manifested *inter alia* by a substantial increase in the number of branch offices of transnational corporations providing services for the business sector. This means a visible progress in the tertiarisation of the economies of the metropolitan regions in the CEEC. It should be noted, however, that this inclusion into the globalisation processes remains one-sided, since the role of the CEEC metropolitan centres as seats of the head offices of large international companies is still insignificant, which to some extent can be attributed to the relative weakness of their economies. Nevertheless, the convergence process of the CEEC metropolitan areas to the metropolises of highly-developed countries can be regarded as quite advanced.

Furthermore, a speedy increase in the level of wealth of the metropolitan areas can be observed, which is yet another aspect differentiating them from their national economies at large. Nonetheless, the scale of this dominance and the pace of increase can quite vary from one metropolitan area to another, the widest disparities being observed in the least-developed countries, i.e. Romania and Bulgaria, and the smallest – in the best-developed countries, Czech Republic and Slovenia, which partly corroborates the hypothesis formulated by Williamson (1965), predicting that regional inequalities increase in the early stage of socio-economic development but decrease in the later stages. On the other hand, the Baltic states are different in that regard, as their capital city regions accumulate the bulk of the national economic potential and therefore play a key role in the changing of average values. The process



of the metropolitan areas being separated from their regional hinterlands is even more acutely visible; once again, it is the fastest in the case of Romania and Bulgaria and the slowest in Slovenia and the Czech Republic. In this particular regard, the scale of the disparities is even wider than in the analysis of the country at large, which can be viewed as proof of a weakness of the metropolitan hinterland, still functioning according to the industrial and agrarian development model. At the same time, in some cases the growth of inequalities was halted (and even decreased in the Warsaw macroregion in the period concerned), which indicates that the spatial scale of development diffusion processes has increased. According to some other studies (Smętkowski et al. 2011), this process can be facilitated by such factors as development of transport accessibility of the peripheral areas or deconcentration of the population and economic potential within metropolitan areas. Such factors as these can increase the functional cohesion of metropolitan macroregions as far as work commuting are concerned. On the other hand, the differences in the economic structures between the metropolises and their surroundings still remain significant, and can hardly be viewed as factors stimulating economic integration.

The metropolitan areas saw a substantial deconcentration in the population numbers, associated primarily with significant population dynamics outside the administrative boundaries of the central city, although, in some cases, it was also accompanied by a population decrease in this type of cities. In the capital city regions that are developing at a fast pace, the problem of the demographic weakening of the central city is usually less acute. This could probably be ascribed to their being attractive destinations for migration, and such migration could counterbalance population ageing and suburbanisation processes.

The metropolisation processes observed in the CEECs converging this macroregion to the more developed countries of Western Europe. As demonstrated by several studies recent economic crisis has not change their direction - even in countries deeply affected one could observe only some slowdown and not reversal of the trend. Undoubtedly these processes pose a challenge for the regional policy in CEE countries. However, before a package of measures is adopted as part of regional policy aimed to shape the spatial structures of the CEECs in a desirable manner, two questions should be answered:

- Whether, and to what extent, are economic polarisation processes negative socially and environmentally?
- Which is more effective: to maintain the levels of public transfers to problem areas with a simultaneous removal of barriers hindering migration to better-developed regions or to unlock the indigenous potential for growth, using public resources coupled with lack of interventions in the housing market in metropolitan areas (which will in fact obstruct migration processes)?

Regardless of what answer is given to these questions, it should be assumed that the attempts made so far with a view to equalising the development level between regions should be rather replaced by efforts aimed to increase functional cohesion, which would involve greater integration and fostering of linkages and flows between the core and peripheral areas of individual countries.

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