

Changing geography of the creative economy in Hungary at the beginning of the 21st century

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Abstract

The Hungarian economy has gone through rapid transformation and modernization since the political changes of 1989/90. One of the signs of successful economic restructuring and re-integration to the world economy was the growing role of creative economy. In the present paper we analyse the changing geographical pattern of creative economy in Hungary, based on longitudinal statistical data. Our findings suggest growing core-periphery relations in the spatial pattern of creative economy, especially since the recent financial crisis. The relative weight of Budapest and its urban region has been continuously growing and even major regional centres are unable to keep pace with the Hungarian capital. We also found that cities in the Hungarian urban system became highly differentiated according to their attractiveness for creative firms and labour, and there is a growing competition among secondary cities for knowledge based and creative activities. The growing geographical concentration of the creative economy (especially the knowledge intensive industries) is partly the result of previous neoliberal regional and urban policies.

Keywords: creative economy, urban hierarchy, creative city, financial crisis, Budapest, Hungary

Introduction

The post-industrial revolution, which can also be labelled as the revolution of information, signalled the beginning of a new era creating new socio-economic order in the world, where the notion of competitiveness has been completely re-evaluated. As a growing body of literature demonstrates the economic competitiveness of regions and countries increasingly depends on those branches where the added value is based upon knowledge and creativity. According to KAO, J. (1996) we are in the age of creativity, where economic and social development increasingly depends on creative thinking.

International experience shows that in economic competition – along with information and its flow – a growing role is played by creativity (and particularly by culture),

invention and innovation (HALL, P. 1998; LAMBOOY, J.G. 1998). The importance of creativity, knowledge and innovation has never seemed as decisive as in the early 21st century. Regarding the future development of the European metropolitan regions the emphasis is more and more on the question how these city-regions will be able to attract and integrate firms from the sphere of the creative economy and its labour in the future (GLAESER, E.L. 2005).

Since the 1990s, the importance of geographical location has enjoyed a revival in economic-geographical theories. We should speak of new types of agglomeration economies in the current 'post-industrial' or 'post-Fordist' era. Only metropolitan regions that are creative enough will survive global competition (TÖRNQVIST, G. 1983; ANDERSSON, A. 1985; HALL, P. 1998). PHELPS, N.A. and OZAWA, T. (2003) have high-

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lighted the main shifts in agglomeration factors from the late industrial to the post-industrial or post-Fordist era (e.g. shift from town-with-suburbs to the global city-region, from hierarchically organised monocentric structures to polycentric structures, from manufacturing to services etc.). It is not surprising, therefore, that scientific, economic and political interest in creative economy has significantly grown since the beginning of the new millennium (DCMS 1998; MUSTERD, S. *et al.* 2007; HOWKINS, J. 2013).

As a consequence of the shift from the Fordist production system to the post-Fordist economy metropolitan regions have acquired an ever growing importance and became centres of economic and social development of countries and regions. Big cities and metropolitan regions play a prominent role; in addition, due to their size and population number, they represent a considerable material, spiritual and intellectual “mass” (MALECKI, E.J. 1987). Nowadays, the creative economy is increasingly concentrated in large cities and metropolitan regions. Cities with strong creative sectors – especially new-economy industries, such as high technology production, business and financial services, media and cultural-products industries, and neo-artisanal manufacturing – are in the vanguard of this trend (SCOTT, A.J. 2004). With integrated global markets and the advent of new technologies there has been a search for new sources of competitive advantage (LANDRY, C. and BIANCHINI, F.F. 1995; LANDRY, C. 2000; RANTISI, N.M. *et al.* 2006).

As an acknowledgement of the global trends a row of policy measures aimed at developing the creative economy have been formulated and implemented at the EU level in the last three decades. Among them the European Capitals of Culture (ECOC) initiative launched in 1985 should be mentioned, or the MEDIA programme between 1990 and 2013 aimed at supporting the audiovisual industry, but we can also refer to the Culture 2000 programme between 2000 and 2006, and its continuation the Culture programme (2007–2013), or the current Creative Europe framework programme (2014–2020), which

is an overarching cultural policy of the EU (SCHLESINGER, P. 2018). Countries of East Central Europe joined these programmes after their accession to the EU in 2004 (and 2007), in addition, the socio-economic and territorial aspects of creative economy became one of the focal points of the EU research programmes (FP6, FP7) in which post-socialist countries also actively participated. Subsequently, scientific publications applying the concept of creative cities have gradually increased in East Central Europe.

Analysing the growing body of literature focusing on creative economy in East Central Europe we can define three main strands of publications. Firstly, international comparative research projects yielded a lot of insights about the state-of-the-art of the creative economy in the region, e.g. SÁGVÁRI, B. and DESEWFFY, T. 2006; MUSTERD, S. and MURIE, A. 2010; LAZZERETTI, L. 2012; MUSTERD, S. and KOVÁCS, Z. 2013; CHAPAIN, C. and STRYJAKIEWICZ, T. 2017. Secondly, country-based statistical analyses focusing on the macroeconomic position and regional pattern of creative economy have been mushrooming, e.g. MUROVEC, N. and KAVAS, D. (2012b) in Slovenia, SLACH, O. *et al.* (2013) in Czechia, VITÁLIŠOVÁ, K. *et al.* (2013) in Slovakia, KASPRZAK, R. (2015) and RATALEWSKA, M. (2016) in Poland, and TOMA, S-G. *et al.* (2018) in Romania. The third group of papers deals with the spatial characteristics of creative economy in cities and metropolitan regions, e.g. KOVÁCS, Z. *et al.* (2007), EGEDY, T. and KOVÁCS, Z. (2009) and LENGVEL, B. and SÁGVÁRI, B. (2011) in Hungary, BEDNÁR, P. and GREBENÍCEK, P. (2012) in Czechia, MUROVEC, N. and KAVAS, D. (2012a) in Slovenia, STRYJAKIEWICZ, T. and MĘCZYŃSKI, M. (2010) and NAMYSŁAK, B. (2014) in Poland, PETRIKOVA, K. *et al.* (2015) and BACULÁKOVÁ, K. (2018) in Slovakia.

With this paper we would like to contribute to the second and third groups of papers. The main aim of this article is to analyse the changing geographical pattern of creative economy in Hungary, based on longitudinal statistical data. Using statistics

regarding the number of creative firms and employees, as well as revenues, the main temporal and spatial development trends of the creative economy in Hungary, as well as the restructuring processes within the sector will be highlighted. In the context of territorial shifts, we will also concentrate on the distribution of the creative and knowledge intensive sectors within the urban system.

Theoretical background

The creative economy

To date there is no universally accepted definition for creative economy, and there is no consensus among researchers which activities belong to the creative economy (CUNNINGHAM, S. 2002). The Department for Digital, Culture, Media & Sport (DCMS) of the UK government defines those activities as part of the creative economy which are based on personal creativity, knowledge and talent and which create jobs and value added through the generation and utilization of intellectual property (DCMS 2001, 4.). According to HOWKINS, J. (2013) economics of creativity deals predominantly with two value systems: one is based in the physical product, the tangible value, another one is based on intellectual property, which is intangible. UNCTAD (2008, 15) defined the creative economy as an evolving concept based on creative assets potentially generating economic growth and development that can foster income-generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development. The creative economy embraces economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives. It is a set of knowledge-based economic activities with a development dimension and cross-cutting linkages at macro and micro levels to the overall economy.

Based on our previous research experiences we classify creative activities into two

groups: creative industries and knowledge intensive industries (MUSTERD, S. et al. 2007). The group of creative industries is very diverse. The 'hard core' of these creative industries is often labelled 'cultural industries'. THROSBY, D. (2001) distinguishes the cultural industries more or less synonymous with the creative arts. He ranges them in a hierarchy ranked on 'pure' creativity: at the centre are the 'arts' and (core creative arts like literature, music, performing arts or visual arts, and other core cultural industries), on the outside more 'applied' creative skills (wider cultural industries and related industries). SCOTT, A.J. (2004) suggests calling the sector cultural commodity production and within cultural-product industries two categories should be distinguished: firstly, service outputs that focus on entertainment, edification, and information and secondly, manufactured products through which consumers construct distinctive forms of individuality, self-affirmation, and social display. Symbolic value and function appear as a characteristic feature of these industries.

Cultural industries can have intensive links with several other creative economic branches, as well as with creative departments of various production activities. The wide array of creative activities developed around the cultural industries is most often called 'creative industries'. According to the UNCTAD (2008, 11) creative industries engage with the cycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs. They are at the cross-road among the artisan, services and industrial sectors and constitute a new dynamic sector in world trade. Creative industries focus on, but they are not limited to arts, potentially generating revenues from trade and intellectual property rights and they constitute a set of knowledge-based activities as well. Creative industries comprise tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives. A large share of these creative industries is highly interrelated with knowledge

intensive activities. Therefore, the circle of creative industries can be extended by certain knowledge intensive industries while defining the creative economy. Knowledge intensive industries should be considered as part of the creative economy not only because they demand highly qualified labour and partly overlap with creative industries but also because some creative industries highly depend on knowledge intensive activities (BROEKEL, T. and BOSCHMA, R. 2016).

The creative class

The rise of the creative economy has also brought about societal changes in urban agglomerations. Within urban societies a new stratum the so-called 'creative class' has been gradually formed which according to some commentators highly influence the economic performance and competitiveness of cities and their regions (FLORIDA, R. 2002). According to FLORIDA, R. (2002) the competitiveness of city-regions increasingly depends on the size of the creative class and how cities are able to attract creative people. Analysing the role of creativity in economic development and urban and regional success FLORIDA came to the conclusion that Talent, Technology and Tolerance (3Ts) are important conditions (FLORIDA, R. 2002). In his famous 3T model he argued that growth is powered by creative people (Talent), who prefer places that are culturally diverse and open to new ideas (Tolerant), and the concentration of 'cultural capital' wedded to new products (Technology). All these result in 'business formation, job generation and economic growth'. FLORIDA claims that we are entering the 'creative age', in which people with original ideas of all sorts will play a central role. According to FLORIDA, R. (2002) "The creative class is comprised of a 'super creative core', which consists of a new class of scientists and engineers, university professors, poets, actors, novelists, entertainers, artists, architects and designers, cultural worthies, think-tank researchers, analysts and opinion

formers, whose economic function is to create new ideas, new technology, and/or new creative content". Beyond this core group, the creative class also includes a wider circle of talent working in knowledge intensive industries (MEUSBURGER, P. 2015).

In the growing body of literature on creative economy there has been increasing criticism on FLORIDA's creative class theory. According to KRÄTKE, S. (2010), even if we admit that creative class has been identified correctly, the mixing of different groups defined by FLORIDA cannot be interpreted and examined under a hat, because only the "scientifically and technologically creative" workers had an impact on the local economy and, thus, on the regional GDP. HALL, P. (2004) pointed out that developing a creative and innovative city is a long and slow process. According to STORPER, M. and MANVILLE, M. (2006), not the skills and creativity, but the companies and the agglomeration economies are the engines of growth. From the point of view of urban development, some authors criticized FLORIDA for supporting only the promotion of a "trendy" neighbourhood, which can negatively affect the original population living there for a long time (PECK, J. 2005), or even supporting urban transformations that favour higher status people instead of the majority (PRATT, A.C. 2008). This is also confirmed by the view that FLORIDA basically supports a hard city image building with a kind of soft edge by encouraging the creation of a consumption-oriented cultural milieu (PRATT, A.C. 2011). MARTIN-BRELOT, H. *et al.* (2009) emphasize that the geographical context of FLORIDA's theory is obviously weak. FLORIDA's theory does not take into account the human and personal trajectories and networks as well, that creative professionals may also associate with other people and also places where they had previously lived and worked (GÁKOVÁ, Z. and DIJKSTRA, L. 2014).

While FLORIDA puts the emphasis on the attraction of creative people as the secret of economic success, European policies on the creative economy consider the attraction of

creative firms more important. Empirical results of a European research project carried out between 2006 and 2010 ('Accommodating Creative Knowledge – Competitiveness of European Metropolitan Regions within the Enlarged Union' – ACRE) confirmed that the spatial mobility and settlement of the European creative class is not so much influenced by soft factors – as advocated by FLORIDA – but rather by personal trajectories and hard factors (e.g. wage level). Soft factors play – as opposed to FLORIDA's concept – a subordinated role. They are more important, however, in understanding how creative people become attached to a place. Not surprisingly, in the European development pattern of creative economy *place, pathway* (historical development of an urban region) and *personal networks* (place attachment and social networks), thus a 3P model, has lot more relevance than FLORIDA's 3T model (MUSTERD, S. and MURIE, A. 2010; BOROSS, L. et al. 2016; PÁTHY, Á. 2017).

The urban bias of creative activities

According to COSTA, P. et al. (2007) there are five main factors that have contributed to the growing interests towards creativity and its impacts on urban development: a) the idea of the 'creative city' developed by LANDRY, C. (2000), HALL, P. (2004) and others; b) the notion of 'Creative Europe' by international research institutions as well as the "Creative Cities Network" of the UNESCO; c) FLORIDA's concept on 'creative class'; d) the growing importance of the 'creative industries' within economic analysis (CAVES, R. 2002), and e) the valorization of 'creation and creativity' in the field of artistic activities analysis in the mainstream body of literature (THROSBY, D. 2001). As a consequence of these ideas and concepts the territorial development and spatial embeddedness of creative economy came into the forefront of academic research over the last two decades.

As PRATT, A.C. and HUTTON, T.A. (2012) pointed out one of the main characteristics of

creative economy is its urban bias, especially in its higher value added sectors. Canadian examples demonstrate that highly urbanized areas are attractive locations not only for the creative industries, but also for cultural industries and specialised labour. This aspect of creative activities has been supported by large number of studies. POWER, D. and NIELSEN, T. (2010) also emphasized this distinctive urban focus of the creative economy. The relationships between the concentration of creative industries and urban primacy benefit to cities, but at the same time sharpen interregional employment and income disparities. Very often major cities stand out as strongholds of the creative economy within their wider hinterland. In fact, this phenomenon drew the attention to the role of urban hierarchy in the investigation of creative economy, since metropolitan regions seem to be not only echelons of urban hierarchy in terms of population and employment, but also have a disproportionately larger share of creative and knowledge-based industries.

LORENZEN, M. and ANDERSEN, K.V. (2009) investigated altogether 444 cities in eight European countries in order to provide knowledge on the relationship of urban hierarchy and the presence of creative class, and compared it to the size distribution of the overall population across European cities. Based on data collected in 2003 and 2007 authors pointed out that even if the presence of the European creative class correlates with the European total population, its distribution constitutes a population hierarchy which differs from the urban hierarchy. Both distributions follow the rank-size rule, but the creative class's distribution has a steeper overall slope (i.e. with the size and rank of the city, the size of the creative class grows more rapidly than the city's population). Their results confirmed that the slope across the rank-size distribution is shallower towards the settlements on the lower levels of the hierarchy (i.e. the tail end of the distribution) for the creative class than for the total population. This result also implies that city-size matters and the creative class is less attracted

by smaller cities. Exploiting the theoretical foundations of CHRISTALLER'S (1933) central place model, LÖSCH'S (1940) theory on urban hierarchies and centrality, ZIPF'S (1949) rank-size rule and FLORIDA'S (2002) surveys on the creative class, authors found, that there is a good correlation between the size of the general population and the presence of the creative class in European cities, but due to relative diseconomies the tendency of cities to drop off steeply at the tail end is more profound for the creative class than for the general population (LORENZEN, M. and ANDERSEN, K.V. 2009; LANG, T. 2015).

Thus, creative urban hierarchy is distinctive from the general population hierarchy in a fundamental way: the rank-size distribution of the creative class indicates a greater proportionate growth than that of the wider population. This can be explained, on the one hand, by the specialized consumption demand of the creative class (first of all bohemians have special preferences for consuming services than the rest of the creative class and this group is the first to shy away from cities with growing diseconomies and poor services), and on the other hand, by the specialized job preferences of the creative class (the presence of the creative class correlates very highly with the presence of high-technology workplaces).

Similar phenomenon can be observed in the countries of East Central Europe, and in this respect there is no significant difference between the Western and Eastern half of Europe. Using employment statistics SLACH, O. *et al.* (2013) found that the concentration of the employees in creative and cultural industries is very high in Czechia, 40 per cent of the creative class live in Prague and its agglomeration, and the role of secondary cities is very much subordinated (e.g. Brno – 9%, Ostrava – 3%). Thus, location patterns of the creative economy highly correspond to the hierarchy of the urban system in the Czech Republic. This is similar to other Western European countries e.g. Madrid and Barcelona concentrate 45 per cent of the Spanish, Milan and Rome 35 per cent

of the Italian creative labour. Similar trend was pointed out by PINTILII, R. *et al.* (2017) in Romania where the weight of Bucharest significantly increased in the creative economy after the global financial crisis, and in 2012 49 per cent of the creative employees of the country lived in the capital city and its surroundings. Authors also pointed out the growing dynamism of the periurban zone (suburbs) where properties are significantly cheaper than in the city proper. In the present theme issue KOZINA, K. and BOLE, D. (2018) also clearly demonstrate the correlation between the position of a city in urban hierarchy and the weight of creative economy on the example of Slovenia. Thus, irrespective of the legacies of state-socialism the urban geography of the creative economy follows basically similar patterns in the Eastern and Western parts of Europe.

Considering the theoretical foundations of the paper, the main research questions of this study are as follows:

What are the most important temporal and territorial features of the development of the creative economy in Hungary?

Does a creative urban hierarchy exist in Hungary and how can its geographical feature be characterized?

What is the role of the Budapest Metropolitan Region in the creative economy of the country and is there any sign of a polycentric development in the spatial transformation of Hungarian creative economy?

How did the global economic crisis affect the development of the creative economies in Hungary, and what were the main geographical consequences of the crisis?

Research methods

First, on the basis of the international literature (see MUSTERD, S. *et al.* 2007) we defined those economic activities and occupations that can be classified as part of the creative economy (*Table 1*). For the identification of creative economy, the international NACE codes were used, which are predominantly

identical with the TEAOR'08 codes applied by the Hungarian Central Statistical Office (HCSO). Data on the number of enterprises (divided by companies, sole proprietors, and government institutions), their number of employees and annual revenues (in 1,000 EUR) were supplied by HCSO. This set of standardised data was available in a cleaned and structured format for 1999, 2004, 2007, 2011 and 2015. Based on these datasets statistical analyses were carried out in order to detect the temporal and spatial development of creative economy in Hungary.

Due to the proliferation of research results the definition of creative economy has crystallised and become more unambiguous in the

last decade. Even though ACRE project defined creative economy somewhat broader, for the sake of longitudinal analysis and the comparability of our data sets we apply in this article the traditional ACRE classification of economic activities.

In the first phase of analyses we investigated the weight of creative economy and its different sectors at the national level, since the competitiveness of cities largely depends on the share of creative economy (RECHNITZER, J. and LENGYEL, I. 2000) and the production of knowledge is highly uneven within the Hungarian urban network (NAGY, E. and NAGY, G. 2010). In the second phase of analyses we investigated the weight of

Table 1. *Subdivision of creative economy defined by the ACRE consortium*

Sectors	2–4-digit TEAOR'08 (NACE) codes		Main branches
Creative industries	13, 14, 15, 581, 182, 4751, 4753, 4754, 4759, 4761, 4762, 4763, 474, 4771, 4772, 4778, 4779, 6201, 5829, 711, 731, 742, 8211, 8220, 8299, 741, 591, 60, 592, 900, 920, 932, 6391		Architecture; Advertising; Publishing; Motion pictures, video, radio and television activities; Software consultancy and supply; News agency activities; Entertainment and recreational activities; Manufacture of textiles, wearing apparel, luggage, handbags, saddler, harness and footwear; Tanning and dressing of leather; Retail sale of new and second hand good.
Knowledge intensive industries	ICT	262, 2823, 261, 263, 264, 273, 332, 61, 62, 631, 951	Telecommunications; Computer related activities; Hardware consultancy; Data processing and database activities; Manufacture of office machinery and computers, insulated wire and cable, television and radio, telephony and line telegraphy, video recording or reproducing; Maintenance and repair of office, accounting and computing machinery.
	Finances	64, 65, 66	Financial intermediation; Insurance and pension funding; Activities auxiliary to financial intermediation.
	Law and business	69, 70, 78, 80, 712, 732	Legal, accounting, book-keeping and auditing activities, market research; Technical testing and analysis; Labour recruitment and provision of personnel; Investigation and security activities.
	R&D and higher education	72, 8542	Research and development; Research and experimental development on natural and social sciences, engineering and humanities; Higher education.

Source: Kovács, Z. et al. 2007.

creative economy at the local (settlement) level. In this case the subject of investigation was Hungary's approximately 3,200 settlements which were divided into five groups according to their size (Budapest, cities above 100 thousand, between 50 and 100 thousand, between 20 and 50 thousand and settlements below 20 thousand inhabitants). In the third phase of analyses, cities above 20 thousand inhabitants and Budapest (altogether 61 geographical units) were examined more thoroughly in order to grasp socio-economic aspects of the development of creative economy.

On the one hand, we compared the changes in the number of creative employees and total employment between 1999 and 2015 (see results in *Figure 4*). On the other hand, we elaborated and applied simple rank-order analysis to explore the correlation between the socio-economic profile and the performance of creative economy in the Hungarian cities above 20 thousand inhabitants. First, indicators for the socio-economic and creative performance of cities have been selected. For characterizing the socio-economic performance of a city, on the one hand, economic indicators such as the ratio of enterprises in industry, building industry and mining in 2015 (reflecting the diversity of local economy in a negative sense), the number of joint ventures per 1,000 inhabitants in 2015 (entrepreneurial activity), the volume of industrial tax-income in 2013 (business output), and on the other hand social indicators such as population change between 2011 and 2015 (representing population dynamics), the share of university graduates in 2011 (skill level), and the level of unemployment in 2015 (economic activity) have been chosen.

With regard to performance of the creative economy the share of creative companies within the local economy, the share of employees of creative companies within the total number of local employees, and share of annual revenues of creative firms within the total revenues of local firms (each indicator for 2015) have been applied. In the next phase of analysis, the 61 investigated

cities were ordered in each indicators in a reversed rank-order where better positions meant higher rank values. The final aggregated values for both the socio-economic and creative performance have been created by the arithmetic means of the rank-order positions. Thus, cities with highest rank values had the best socio-economic and creative economic performance (see results in *Figure 5*).

The creative economy in Hungary

The role of creative and knowledge intensive industries in the light of statistics

According to the registry of the Hungarian Central Statistical Office (HCSO) there were 222 thousand active economic organizations in the country operating in the field of the creative economy at the end of 2015, which made up 32.5 per cent of all active economic organizations registered in Hungary. Firms belonging to the creative economy provided jobs for 845 thousand employees, 22.2 per cent of all employees in the country. The total amount of revenues generated by the sector was 59.5 billion EUR in 2015.

The weight of the creative economy grew in Hungary until the world financial crisis of 2008 when the growth terminated and the number of firms (and to a lesser extent the number of employees and the amount of revenues) sharply decreased (*Figure 1*). The drop hit most seriously the creative branches, while the knowledge intensive sector was

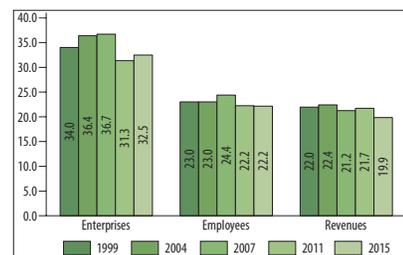


Fig. 1. The share of creative economy in Hungary (1999–2015, in %). Source: HCSO, National Accounts 1999–2015.

less affected. Between 2007 and 2011 approximately 45 thousand creative firms stopped operating, and the number of employees in creative industries decreased by ca. 130 thousand out of which 40 thousand were sole traders (self-employed). The crisis hit most hard some parts of business services (e.g. graphic design, photography, call-center activities) software consultancy and retailing (e.g. specialised and second-hand goods). A similar decline in the knowledge intensive sector of the creative economy was not experienced during the economic crisis: the number of firms and their output slowly grew. Between 2011 and 2015, even though the amount of revenues decreased there was a gradual regeneration in the creative industries and in the whole creative economy as well.

Analysing the internal structure of creative economy, it can be noted that the share of firms in the creative industry category accounted for 48 per cent of the creative economy in 2015, with 106 thousand active economic organizations (Table 2). However, at the same time the ratio of creative industries was only 37.8 per cent among the employees and 31.4 per cent regarding the total revenues of the creative economy. This clearly indicates that firms of the creative industries are smaller, employing fewer people and generating less revenue than the average of the creative economy.

Looking at the share of the knowledge intensive industries, we find substantial differences among the different sub-sectors. Even though the ICT sector comprises only 9.1 per cent of the firms and 15.8 per cent of the em-

ployees of the creative economy, it produces 33 per cent of its total turnover. Companies in international finances have above average revenues whereas those in law and businesses are below. Economic organizations classified as R&D and higher education are generally bigger with low relative revenue figures. This clearly indicates the dominance of state owned (financed) institutions in the field (e.g. universities, research institutes) providing jobs for 71 per cent of the employees in the sub-sector (see also SZAKÁLNÉ-KANÓ, I. et al. 2017).

Between 1999 and 2015 there was a substantial shift within the creative economy reflecting the trend of professionalization and the knowledge-based modernization of the economy. National policies after 2000 clearly supported the development of the knowledge intensive sector, therefore, it is no surprising that the share of knowledge intensive industries increased within the creative economy regarding the number of firms, employees and business turnover as well. At the same time the relative share of creative industries decreased (Table 3). As international comparative research gave evidence, knowledge intensive industries had similar or even higher shares in the economy in East Central European countries than in Western Europe (MUSTERD, M. and MURIE, A. 2010, 12). However, not all sub-sectors of the knowledge intensive industries grew at the same pace. Data reflect the above average dynamism of law and business services after the financial crisis. Consequently, the weight of professionals providing busi-

Table 2. The composition of creative economy in Hungary, 2015

Industries and economy	Enterprises		Employees		Revenues	
	Number	%	Person	%	1,000 EUR	%
Creative industries (A)	106,863	48.2	319,807	37.8	18,643,448	31.4
Knowledge intensive industries (B)	114,772	51.8	525,435	62.2	40,819,850	68.6
Infocommunication (ICT)	20,116	9.1	133,226	15.8	19,647,667	33.0
Finances	20,680	9.3	87,346	10.3	11,398,508	19.2
Law and business services	68,659	31.0	235,667	27.9	8,995,731	15.1
R&D, Higher education	5,317	2.4	69,196	8.2	777,945	1.3
Creative economy (A + B)	221,635	100.0	845,242	100.0	59,463,298	100.0
Economy total	681,922	–	3,815,891	–	299,561,016	–

Source: HCSO National Accounts, 2015.

Table 3. Changes of the composition of creative economy in Hungary, 1999–2015

Industries and economy	Enterprises				Employees				Revenues			
	1999 %	2015 %	Change, %	Change, number	1999 %	2015 %	Change, %	Change, persons	1999 %	2015 %	Change, %	Change, 1,000 EUR
Creative industries	62.1	48.2	-13.9	-19,469	53.9	37.8	-16.1	-122,785	42.6	31.4	-11.3	7,784,749
Knowledge intensive industries	37.9	51.8	13.9	37,652	46.1	62.2	16.1	147,573	57.4	68.6	11.3	26,203,674
Infocommunication (ICT)	5.4	9.1	3.6	9,040	11.9	15.8	3.9	35,615	35.3	33.0	-2.3	10,654,654
Finances	6.7	9.3	2.6	7,010	9.1	10.3	1.2	12,739	10.3	19.2	8.8	8,767,918
Law and business services	24.8	31.0	6.2	18,276	15.1	27.9	12.8	111,741	11.0	15.1	4.1	6,192,086
R&D, Higher education	1.0	2.4	1.4	3,326	10.0	8.2	-1.8	-12,522	0.7	1.3	0.6	589,017
Creative economy	100.0	100.0	-	18,183	100.0	100.0	-	24,788	100.0	100.0	-	33,988,423

Source: HCSO National Accounts, 1999, 2015.

ness and legal services but playing limited roles in technological development and innovation, the so-called 'dealer class' (according to KRÁTKE, S. 2010) increased. The outcome of austerity programmes launched to reduce public expenditure is also obvious, the weight of R&D and higher education stagnated over the last decade.

The creative economy in the Hungarian urban system

The creative economy has a hierarchically structured pattern in national urban systems, where the weight of the creative economy normally increases with city size. As it was documented in the literature, the locational decisions of creative firms tend to favour larger urban agglomerations (LORENZEN, M. and ANDERSEN, K.V. 2009). Hungary as a relatively small (ca. 10 million inhabitants) and highly centralized state clearly confirms this picture, as there is a high correlation between the weight of creative economy (total number of firms, employees and annual turnover) and the position of a place in the urban hierarchy.

For the sake of analysis, we divided the settlements of Hungary into five classes according to their size (1 – Budapest; 2 – cities above 100 thousand; 3 – cities between 50 and 100 thousand; 4 – cities between 20 and 50 thousand, and 5 – settlements below 20 thousand inhabitants), and the relative share of creative economy was analysed for these five classes on a temporal basis.

First we analysed the location quotient of firms in the Hungarian settlement system. The share of the Budapest Metropolitan Region (BMR) has continuously increased in the creative economy of the country over the last one and a half decades, even during the world financial crisis (Figure 2). By 2015 48.3 per cent of the creative and knowledge intensive firms were located in the BMR, even though the metropolitan region was the home for only 38.5 per cent of the firms operating in Hungary. The concentration regarding the number of employees and rev-

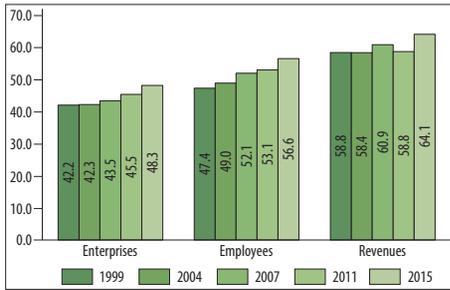


Fig. 2. The share of Budapest Metropolitan Region in the creative economy of Hungary (1999–2015, in %). Source: HCSO, National Accounts 1999–2015.

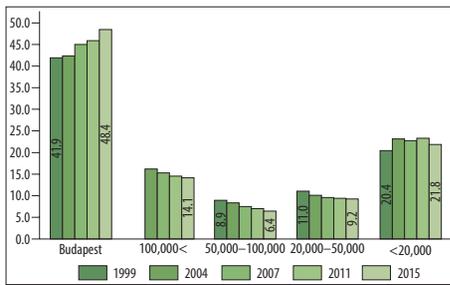


Fig. 3. Distribution of employees of the creative economy by settlement categories in Hungary (1999–2015, in %). Source: HCSO, National Accounts 1999–2015.

enues was even higher. In 2015 56.6 per cent of the creative labour force was employed in the BMR and 64.1 per cent of total revenues generated by the creative economy was concentrated here. Thus, data reflect a high level of spatial concentration of creative economy within Hungary, with growing trends.

The level of concentration, however, differs among different sub-sectors of the creative economy (Table 4). Taking into account the number of firms, the weight of BMR is outstanding in the field of ICT (57.9%). However, if we take into consideration the share of employees (70.9%) or revenues (95.5%) the predominance of Budapest and its urban region is extraordinary in the field of finances.

As Figure 3 demonstrates the growing weight of Budapest within the creative economy took place at the expense of cities at the lower levels of urban hierarchy, and only settlements (small towns and villages) below 20 thousand inhabitants were able to gain higher share in the creative economy after 1999. Similar trends were recorded regarding the spatial distribution of creative employees and revenues produced by the creative economy. Thus, we can safely say that the growing geographical concentration of creative economy has shown a clear trend in Hungary in the 21st century, and this is rather alarming for policy makers dreaming about regional levelling out.

There is a growing gap between Budapest and the rest of the country, and between the larger regional centres (e.g. Szeged, Pécs, Győr) and their hinterland (Csomós, Gy. 2015). The dominance of Budapest is outstanding, however, major regional centres still have better positions than smaller cities due to the highly hierarchical distribution of creative activities. The previously dominant east-west dimension in the spatial configuration of creative economy has been replaced

Table 4. The weight of the Budapest Metropolitan Region (BMR) within the creative economy in Hungary, 2015

Industries and economy	Enterprises	Employees	Revenues
	%		
Creative industries (A)	47.5	49.6	69.7
Knowledge intensive industries (B)	49.0	60.8	61.6
Infocommunication (ICT)	57.9	57.1	41.9
Finances	32.0	70.9	95.5
Law and business services	51.4	62.2	60.3
R&D, Higher education	49.5	50.7	78.7
Creative economy (A + B)	48.3	56.6	64.1
Economy total	38.5	43.2	52.8

Source: HCSO National Accounts, 1999–2015.

by the factor of 'distance from Budapest', or 'distance from the nearest regional centre'.

There are substantial differences in the spatial pattern of creative economy within the wider Budapest Metropolitan Region as well. Inside the city proper (i.e. within the administrative boundaries of the city) the elite districts on the Buda side show higher proportions regarding the relative share of creative firms (12th district – 51.8%; 1st district – 49.8%; and 2nd district – 49.6%), while peripheral districts on the Pest side (e.g. 21th, 23th, 15th–17th districts) have much lower values. In addition, a core-periphery dichotomy is clearly observable inside the compact city. This pattern corresponds the socio-economic pattern of the city, but the location of creative clusters (along the line of Danube e.g. InfoPark, ELTE campus, Graphisoft Park) and numerous inner-city oriented cultural and art institutions (theatres, concert halls, museums and galleries etc.) also serve as magnet for smaller creative firms (Kovács, Z. *et al.* 2010).

Within the suburban zone we can also see marked geographical differences in the configuration of the creative economy which is clearly the outcome of suburbanization in the 1990s and early 2000s (TIMÁR, J. 2006). We find municipalities with the highest share of the creative economy in the north-western sector of the agglomeration (e.g. Budajenő 53.6%; Telki 52.1%; Pilisborosjenő 48.2%) where young professionals settled down in great number as part of the suburbanization process (SZIRMAI, V. *et al.* 2011; SCHUCHMANN, J. 2012). The south-eastern sector of the agglomeration was less affected by urban sprawl and the invasion of intelligentsia. Consequently, the share of the creative economy is also significantly lower. According to our previous findings (EGEDY, T. *et al.* 2008) new creative firms are created first of all where the founders and managers are living. Thus, the location of the place of residence is vital for the creative enterprises. Site selection by firms in the Budapest metropolitan region as a rule is strongly influenced by hard factors (e.g. price and infrastructure of office, traffic and public transport), while among

the soft factors calm and quiet environment was mentioned by the managers in the first place. As a consequence, in the process of accommodating new creative firms the agglomeration zone clearly appears as a winner of the economic transition.

We investigated the correlation between the changes in the number of creative employees and the total number of employees (*Figure 4*), looking at whether an increase or decrease of the total number of employees automatically generates increase or decrease of the number of creative employees. This assumption can be obviously related to international experience on the role of diseconomies and centrality discussed in the theoretical part of the paper (see LORENZEN, M. and ANDERSEN, K.V. 2009). Those cities at the tail end of the curve appear to have characteristic diseconomies, where the conditions are less favourable for the development of the local creative class. It is obviously recognizable in the lower ratio of creative workers compared to the share of total employment in these settlements (see position of red and blue bullets). At the other end of the scale, we find cities with flourishing local markets, growing number of employees and equally growing group of creative employees. However, it can also be seen on the graph that the shrinkage or growth of the creative labour shows greater volatility especially at the two ends of the scale.

In addition, we analysed the correlation between the socio-economic development of a city (data on the share of university graduates, the level of unemployment, population dynamics, industrial tax, entrepreneurial activities and diversity of the local economy were converted into one single index) and the performance of the creative economy. Our findings confirm that larger cities with more diversified (multi-layered) economic profile show higher presence of the creative class (marked with green). At the other end of the scale cities with a rather monofunctional single-layered local economy (marked with red) lack creative labour force, which highlights the existing spatial and functional divisions within the Hungarian urban network (*Figure 5*).

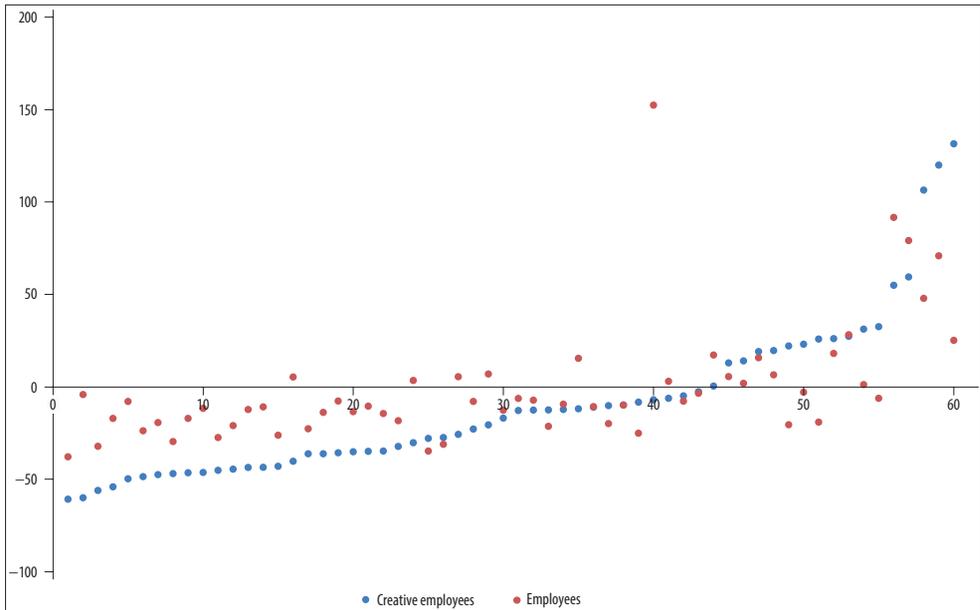


Fig. 4. Changes in the number of creative employees and total employment between 1999 and 2015 in the Hungarian cities above 20 thousand inhabitants (base year 1999; in %)

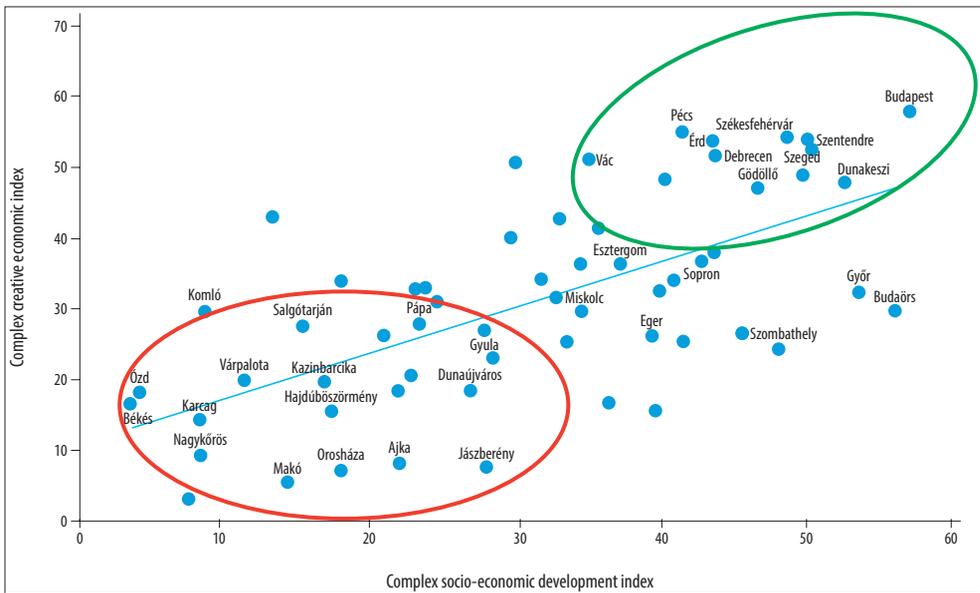


Fig. 5. Correlation between socio-economic profile and performance of creative economy in the Hungarian cities above 20 thousand inhabitants

Our results correspond to earlier domestic and international outcomes that historical pathway and city size play a decisive role in accommodating creative economy. In figure 4 Budapest is followed by two groups of cities: on the one hand, regional centres with strong traditions in higher education, R+D, and a lively cultural life (e.g. Pécs, Székesfehérvár, Debrecen, Szeged), and on the other hand, sub-centres in the agglomeration of Budapest (e.g. Szentendre, Vác, Érd and Dunakeszi) where the dynamism of the creative economy is very much related to the closeness of the metropolis. At the other end of the scale we find monofunctional industrial centres (e.g. Ajka, Ózd) and agrarian market towns on the plain in South-eastern Hungary (e.g. Makó, Karcag, Jászberény). These results confirm the findings of previous studies regarding the backwardness of market towns on the Great Hungarian Plain as far as the knowledge based economy is concerned (NAGY, E. and NAGY, G. 2010; NAGY, E. et al. 2017).

Conclusions

As the literature review at the beginning of this paper demonstrated researchers in East Central Europe rapidly joined the academic discourse on creative economy after the turn of the millennium. This was partly linked to the robust economic restructuring of these countries and the growing role of creative sectors, and partly the infiltration of EU policy measures and programmes. Results of international comparative research projects, as well as statistical analyses focusing on the macroeconomic position and regional pattern of creative economy in various countries became widely published. This paper fits to the second group of studies, as we analyzed the changing geographical pattern of creative economy in Hungary, based on longitudinal statistical data.

The Hungarian economy has gone through rapid transformation and modernization since the political changes of 1989/90. One of the signs of successful economic struc-

turing and integration to the world economy was the growing role of the creative economy. However, the growth within the creative economy was rather uneven, the knowledge intensive sectors have shown especially high dynamism. Consequently, the share of creative industries decreased within the creative economy. Even though the world financial crisis of 2008 hit hard the creative economy, and the number of firms and employees have slightly decreased, nevertheless, data reflect clearly a knowledge-based shift in the Hungarian economy.

According to our findings there is a clear correlation between the growth of creative economy and urban hierarchy. The creative economy increasingly concentrates to higher levels of the urban hierarchy, to Budapest and other regional centres (university towns). The reasons behind are partly economic (agglomeration effects, clustering etc.) and partly socio-economic (cultural diversity, social networks, etc.), but historical traditions and the quality of the built environment, as well as the diversity of neighbourhoods play a role here. Thus, our findings largely confirm the results of CARLINO, G.A. and SAIZ, A. (2008) on the importance of attractiveness of cities for highly-educated individuals.

Core-periphery relations in the spatial pattern of creative economy has increased. As data indicated the relative weight of Budapest and its urban region has been continuously growing and even major regional centres (e.g. Debrecen, Szeged, Pécs) with strong educational and cultural traditions have been unable to keep pace with the Hungarian capital. This makes the territorial configuration of the creative economy very unbalanced, and the economy of the country very fragile. The previously so dominant east-west dichotomy within the country has been replaced by the closeness to Budapest factor in the locational decisions of creative firms. New start-ups in creative economy also increasingly concentrate to Budapest.

The growing geographical concentration of the creative economy (especially the knowledge intensive industries) is partly the result

of previous neoliberal regional and urban policies (e.g. the programme of 'pole-cities', establishment of technological parks, R&D investments, development of universities etc.) putting competitiveness in the focus.

Our findings also suggest that cities in the Hungarian urban system became highly differentiated according to their attractiveness for creative firms and creative labour after the global financial crisis, and there is a growing competition among secondary cities for knowledge intensive and creative activities. Regional centres and county seats with strong cultural traditions and a solid base of higher education are clearly more favoured by creative firms and labour than monofunctional (agrarian or industrial) cities or other peripheral locations. All these shed light on the one hand, the path dependent nature of creative economic activities, and on the other hand, the difficulties of peripheral (mostly monofunctional) towns to find their ways to the 'creative age'.

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