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EDITORIAL

Welcome to another issue of DETUROPE that demonstrates the expanding breadth and depth of an interdisciplinary engagement with regional science. This special issue is a collection of articles presented at the 13th annual meeting of the Hungarian Regional Science Association entitled "*Regional Processes of Central and Eastern Europe, 1990–2015*" held on 19–20 November 2015 at *Eszterházy Károly College* in Eger. As the title of the conference suggests, the objective of the meeting was to discuss the spatial processes characterising the era between the regime change and the present with a focus on Central and Eastern European countries. A total number of 190 participants contributed to the realisation of this mission. The organising committee succeeded in inviting international and outstanding plenary speakers for the occasion:

- *Jouke van Dijk*, President of European Regional Science Association, Professor at the University of Groningen;
- *Daniela L. Constantin*, President of the Romanian Regional Science Association, Professor at the University of Economics in Bucharest;
- *Tomasz Komornicki*, Scientific Deputy Head of the Institute of Geography and Spatial Organisation of the Polish Academy of Sciences, Professor at the Maria Curie-Sklodowska University;
- *James W. Scott*, Professor at the University of Eastern Finland;
- *Zoltán Hajdú*, Scientific Advisor of the Institute for Regional Research of CERS HAS;
- *Éva G. Fekete*, Professor at the University of Miskolc;
- *Géza Tóth*, Leading Advisor of the Hungarian Central Statistical Office;
- *György Csomós*, Professor at the University of Debrecen;
- *Viktória Józsa*, Manager of Nord Consult Ltd.

After the plenary sessions, a total number of almost a hundred presentations were delivered in twelve thematic sections:

- Theoretical and Methodological Questions of Spatial Analysis;
- Regional Policy and Urban Development;
- Innovation and Regional Development;
- Regional Development Paths in Central and Eastern Europe;
- Agricultural, Environmental and Rural Development;
- Local Development in Rural and Border Regions;
- Social Change, Demography, Migration;
- Economic Development, Sectoral Development Trends;
- The Social, Economic and Cultural Role and Impacts of Tourism;
- The Socioeconomic Impacts of the Climate Change;
- Geopolitics, Europeanization, Border Politics;
- Development, Convergence and Regional Processes in Central and Eastern Europe (1990–2015) (in English).

In this issue of DETUROPE, we are pleased to introduce 17 authors with 14 articles who succeeded in meeting the requirements of the thematic issue. Their topics focus on a great diversity of theoretical, methodological as well as empirical issues, capturing how exciting and dynamic the field of regional science in Hungary became in the past few years.

Viktória Józsa gives an excellent overview of regional processes in Hungary, examines the regional characteristics along with 'regionalization' in the V4 countries, and sketches the main features of Hungarian regionalization phases between 1990 and 2015. Through the French case, *Ildikó Egyed* illustrates how the unified national territory became increasingly threatened by a „two-speed" development in the light of industrialisation, decentralisation and other circumstances. *Katalin Döbrönte* takes a close look at how Central European cities can join the global urban network by analysing high level business services, with special regard to the presence and strategy of consultancy companies. *Andrea Uszkai* examines the position of Vienna according to the different world and global city rankings, and demonstrates that the needs of local inhabitants, liveable and sustainable environment, culture and tourism play a dominant role in its "smart city" approach; however, its position is much weaker in dimensions, such as business and finances. *Tekla Sebestyén Szép* presents a strong study on the energy convergence of the European Union by applying the methodology of sigma and beta convergence, and concludes that the extent of differences in terms of the progressions decreased significantly between 2001 and 2012. *Tibor Kovács* outlines the spatial problems of demographic shrinkage through Hungarian and German examples, and suggests that each settlement has to find an original solution by mobilising their endogenous resources. *Dániel Kuttor* and *Zsolt Péter* revisit the national and international positions of University of Miskolc, Faculty of Economics in light of the Bologna process, with special focus on the catchment area and some demographic features. *Katalin Lipták* calls women's labour-market participation in the Northern Hungarian region into question, and concludes that the women's career in the research sector moves more slowly than the men's promotion. *Márton Péti* and *Csilla Szalóky-Hoffmann* highlight that Hungarian organizations moderately utilised their networking potential among Hungarian communities in neighbouring countries in the programming period of 2007-2013; consequently, policies should be more intensively and strategically built upon strengthening networks among communities in the future. *Melinda Molnár* and *Tünde Bogárdi* analyse the spatial aspects of the Roma-Hungarian coexistence, as well as describe the characteristics of Roma segregations through ethnicity analysis and mental mapping. *Dorottya Szabó* illustrates relevant criteria for the site selection of farmer markets developed in the United States of America, and develops a toolkit that can help in

similar evaluations of existing and potential markets sites in Hungary. *Amelita Kata Gódor* examines the change in food consumption behaviour and habits as well as the patterns of quality food consumption in terms of different income levels between 2010 and 2013 in the case of Hungarian regions. *Martin Zsarnoczky* highlights the contradictions of health and medical tourism by seeking answer for the following questions: who is responsible for establishing a harmonised legal background, and how should health tourists be informed about different countries' regulations regarding health service institutions. Finally, *Zsófia Vida* investigates scientific collaborations by exploring relations between Economics and Physical Geography journals and countries based on the authors' affiliation data.

Taken together, it is a pleasure to position these articles in their broader intellectual environment of regional science. In our hopes, the publication of the special issue will constitute a milestone both for HRSA and DETUROPE. The Presidency of HRSA herby expresses its gratitude to the Editorial Board of the journal.

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Guest Editor

Regional Processes of Central and Eastern Europe, 1990–2015 – Report on the 13th Annual Meeting of Hungarian Regional Science Association

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The 13th Annual Meeting of Hungarian Regional Science Association which took place on 19-20th November, 2015, was hosted by Eszterházy Károly College in Eger. The objective of the two-day meeting was to discuss the spatial processes characterising the era between the change of regime and the present with a focus on Central and Eastern European countries. A total number of 190 participants, 100 Hungarian-language and 12 English-language presentations contributed to the realisation of this mission. The Conference – as usual – began with the General Assembly of HRSA, where the major points of the agenda included the modification of Statutes and the re-election of officials. The modification and significant extension of the founding document was effected pursuant to the modified legislation. The content of objectives and functions remained unchanged. Following the termination of the four-year mandate of office holders elected in 2011, the general assembly organised a vote on the identity of the future officers. 55 members out of 284 participated in the vote. János Rechnitzer was re-elected President of the Association, Szilárd Rácz was appointed his Secretary. The new Vice-Presidents include Imre Lengyel, Imre Nagy and Pál Szabó. Members of the Presidency: Attila Fábián, Éva G. Fekete, Zoltán Gál, Viktória Józsa, József Káposzta, Attila Varga and Katalin Mezei (substitute member). The President of the Audit Committee is Tamás Tóth, its members are Sándor Zsolt Kovács and Dániel Kuttor, its Substitute Member is Hajnalka Csáfor. Based on the decision of the General Assembly, nine new and seven re-elected officers are going to participate in the leadership of the Association during the period between 2015 and 2019. The morning programme was concluded by annual (presidential, financial) accounts and reports of regional divisions.

The participants of the Annual Meeting were greeted by Kálmán Liptai, Rector of Eszterházy Károly College, which was followed by the opening speech of János Rechnitzer. The President of HRSA evoked the memory of the late Professor Gyula Horváth, founding President of the Association, who passed away on 23 September, 2015. In line with the

practice implemented since2012, an English-language plenary session followed. At the beginning of their speech, the three foreign invited lecturers shared some of their memories of Gyula Horváth based on their multi-decennial professional and personal acquaintance.

The first lecturer was *Daniela L. Constantin*, President of the Romanian Regional Science Association, professor at the University of Economics of Bucharest, who, in an exciting presentation entitled, Keys to Harmonizing EU Places Through Territorial Cohesion: A Spotlight on Services of General Interest" examined the linkages between territorial cohesion, territorial capital and the Services of General Interest (SGI). During the first part of the presentation, the professor reviewed the applied terminology and theoretical bases of territorial cohesion and territorial capital and presented their impacts in the domain of SGI. These include economic (e.g. supply of electricity, gas, postal services, telecommunications), and social (education, health, rented apartments, etc.) services, yet what they share in common is that public authorities must guarantee their supply according to minimum criteria of quality, accessibility, and affordability in each settlement (spatial dimension) and for each citizen (social dimension). The presented SWOT-analysis illustrated the impacts of territorial capital and cohesion on SGI, which produces a sustainable, inclusive growth based on a continuous harmonisation of national and regional objectives.

Tomasz Komornicki, professor of the Maria Curie-Sklodowska University, Scientific Deputy Head of the Institute of Geography and Spatial Organisation of the Polish Academy of Sciences presented a lecture titled „Transport accessibility and the effects of new investments". Accessibility and availability are the basic requirements of a social development and economic growth. As noted by the lecturer, several methodologies exist in literature for the evaluation of accessibility(measuring infrastructure, distance, potential), amongst which the econometric model of potential based measurement was presented in detail. Summarising Eastern and Central European results, the period post-regime change, especially the emergence of EU funds launched massive changes in the respective countries, railway and road travel times decreased, the interconnection between old and new EU member states and partially between new member states improved. Nonetheless, the interconnections along external EU borders focused mainly on a limited number of crossing points, and the vast majority of railway investments targeted modernisation works, no new railway lines were constructed, the railway network of the Baltic states, Romania and Bulgaria remain isolated as compared with the rest of the EU member countries. The presentation of the professor was concluded by a detailed analysis of Poland. During the 1990s, the Polish transport policy operated with low efficiency, this period can be termed the

anticipatory phase of EU accession. Post-accession, the 2007–2013 Programming Period was characterised by an idealistic practice of planning. The new strategy of 2013, however, contained a reference to the objectives of Territorial and Cohesion Policy, thus road and motorway developments exerted a positive impact on accessibility, the length of travel times.

James W. Scott, professor of the University of Eastern Finland, in his presentation titled „The Geopolitics of European Union 25 years on: Transformations and Continuity" posed the following question: what kind of a political community or geopolitical player does the EU represent? Political and scientific treatises provide heterogeneous answers to this question. According to the positive arguments, the EU constitutes a demilitarised, multilateral center of power in the world, while negative evaluations highlight the west-east division the exploitation and power asymmetries it embodies. Based on ideas representing the middle ground, the administrative organisation of the Union is merely a reproduction of the organisation of the state at a supranational level. Its role as a geopolitical player is also problematic, since realistic, idealistic, liberal elements are all visible in the various roles and manifestations of the European Union and the member states. A significant enlargement of the Community occurred in the examined 25 years, which naturally entailed the transformation of the spatial centers of gravity and policies, while the basic values remained unchanged. In the second part of the presentation, the lecturer discussed major recent and current events, such as the EU-hostile decisions of Hungary; the Ukrainian conflict; EU–Russia relations; the external borders and border policy of the EU.

The presentation entitled „From the double Iron Curtain to the construction of new fences and walls" of *Zoltán Hajdú*, Scientific Advisor of the Institute of Regional Studies of CERS HAS opening the Hungarian language Plenary Session was thematically related to the third English-language presentation. The lecturer began with a presentation of the successive waves of the geographical restructuring of European states in the 20th century, particularly those following the Cold War. These processes were related to the dissolution of the Eastern bloc, Socialist Federations – the USSR, Czechoslovakia, Yugoslavia – were dissolved, however, the birth of the new states followed various tracks. While Czechoslovakia fell apart at the border of two constituent state, in the case of Yugoslavia, the pluriethnic Federation was divided into small pluriethnic states comprised of military fronts, minefields, bloody conflicts and the presence of internationally imposed borders. The revolt of ethnic (minority) regions is still a characteristic of the respective successor states. These processes involved the destruction of various sections and parts of previous borders and border protection objects (walls, fences) and the creation of new ones. In the case of Hungary, the double Iron Curtain

was abolished post-systemic change. The country became a member of NATO, and later on, the EU, and finally, a southern, eastern border country of the Schengen Area, due to which the majority of the state border function as external EU borders (Croatian, Serbian, Romanian, Ukrainian border sections).The lecturer mentioned the global phenomena of the erection of walls and fences of the recent years, in the framework of which 8000 kilometres of border barriers were constructed globally. In Europe, the emergence of new border barriers can be observed in the Baltic states, Bulgaria, Ukraine, Hungary, Austria and Slovenia.

In her presentation*, Éva G. Fekete*, professor of the Faculty of Economics of the University of Miskolc reviewed the frameworks of local developments from the Socialist era to the present. The resources of local development were quite scarce during the period of State Socialism, strong local communities were viewed with hostility. The system became somewhat more benign with the emergence of the contributions to settlement development, the Agglomeration Fund (TEHO). Post-regime change, local governments were reinforced, economies collapsed, the local entrepreneurial base was lacking, which contributed to the emergence of the idea of spatial, micro-regional cooperation. These cooperation became institutionalised later on (1996–2001) due to the changing orientations of spatial development policy. Local governmental development associations, rural development partnerships were established in order to access EU funding. Since 2001, massive state control, an increasingly bureaucratic approach and the merging of associations have been observable in parallel with the exclusion of civil organisations. The positive feature of the period is that EU accession entailed the widening access to financial resources. Post-2011, centralisation became a dominant feature associations were dissolved, while the role of social cooperatives and public employment increased. In overall, it is resources and politics which exert a decisive influence on local development, its sole institutional frames consist of LEADER LAGs, and the currently emerging social cooperatives. Assuming the continuing tendency of development (endogenous, globalised) and centralised governance, several scenarios of the future can be drafted.

Géza Tóth, the leading Advisor of the Central Statistical Office, in his lecture entitled „The current spatial structural processes of East Central Europe", presented the spatial structural models contained in literature and development plans (Blue Banana, Sunbelt-zone, Central European Boomerang, Pentagon, etc.), after which he discussed spatial structural models applicable to the East Central European space and their relevance. Concerning the volume of GDP in the examined area, it is quite uniform in a European comparison, each region gravitates towards the western core areas, and no center of outstanding economic power exists

in a local comparison either. Based on the analysis of the model of gravity and the Getis-Ord local G statistics it can be declared that no coherent axes can be detected in the area, hindering the verification of the existence of the structural models of the Central European Boomerang, the Cucumber, and the New Banana. The economic centers of the area are the capital cities, Prague and Bratislava are outstanding in various respects.

György Csomós, Professor of the Engineering Faculty of the University of Debrecen, in his presentation titled „The space dominated by world cities, the position of Central European centers of gravity in the global system of economic governance", provided a historical framework for understanding the conceptual terminology of global cities. In the 1960s, according to the conceptual definition of Peter Hall, only seven global city regions existed, while with the ongoing globalisation of the economy, new global and regional poles emerged, assuming an increasing role in shaping the global economy. The major cities of the examined region were only able to regain their former dominant economic position after the change of regime. The role of East Central European cities further increased with the emergence of international company groups and service centers. During the previous decades, the gateway function of Vienna decreased, the evident winners in the region are Warsaw and to a lesser extent, Prague. The positions of Budapest have gradually decreased in comparison with the initial period; however, several second and third-tier Hungarian cities have become integrated into the international economic system (Győr, Debrecen, Kecskemét, Komárom, Miskolc).

The Hungarian-language Plenary Session was concluded by the paper of *Viktória Józsa*, the manager of Nord Consult Ltd., which provided an analysis of various eras of Hungarian regionalism along criteria such as spatial configuration, legal regulations, policies, the relation between the professional and scientific side. In overall, the construction of the necessary institutions entailed the transfer of competences and shifting focus from the county to the regional level. In the past few years, however, the reverse processes have been observed, with the deconstruction of regional agencies and the reinforcement of the role of counties. The author, as an illustration, presented her comparison of the main topics of various volumes of the journal *Falu Város Régió* and the thematic of HRSA Annual Meetings, and pointed out the existence of various interrelations.

The session was followed by the granting of the *Outstanding Young Regionalist Award*. In 2015, the Association announced on the seventh occasion its call to researchers under the age of 35, and the Award was granted this time by the Presidency of HRSA (extended by the heads of divisions) to János Pénzes, assistant lecturer of the Department of Social Geography and Spatial Development of the University of Debrecen, in recognition of his outstanding

results obtained in the area of domestic socio-spatial processes and the investigation of East Hungarian peripheral areas and social groups. Afterwards, a *cooperation agreement* between the fifty-year-old Hungarian Society for Urban Planning and the Hungarian Regional Science Association was signed. The objective of two organisations is to continue their efficient cooperation launched a couple of years ago in a more highly organised, institutionalised manner and with the addition of new elements.

In 2015, the morning of the second day of the Annual meeting, contrary to previous years, began with a plenary presentation, which was delivered by *Jouke van Dijk*, President of the European Regional Science Association (ERSA) entitled, Inequalities in Human Capital and Regional Growth in Central and Eastern Europe". The Professor of the University of Groningen examined various regional development indicators in the case of Europe (GDP, unemployment, competitiveness, etc.), which testify of a significant Western-Eastern European divide. In relation to human capital, a regression analysis performed on micro - regional data demonstrated that individuals with a higher qualification (with a degree) were characterised by a greater mobility in Eastern Europe, which verifies the theories of knowledge or brain drain, however, most students did not leave their region after graduation. The second part of the presentation contained an analysis of external effects related to human capital. As pointed out in the analysis, an extra year of university education might increase wages by 3 to 8 percent, and while production spillovers have no demonstrable impact at the regional scale, they are influential at the level of corporations.

After the plenary presentation, the Annual Meeting continued in twelve thematic (one English-language) sections. A total number of almost a hundred presentations were delivered in the various sections.

Original scientific paper

REGIONAL PROCESSES IN HUNGARY FROM PHARE TO SMART SPECIALISATION

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Abstract

Europeanisation and regionalization, European convergence versus local divergence are important and timely questions as regards the future of EU cohesion policy, that originally aimed to reduce economic, social and territorial inequalities. Recently, it does not solely support regional development and stimulate modernization processes, but also aims to advance competitiveness, job creation, innovation, and sustainable growth and development (Europe 2020 strategy), especially at the sub-national level. The comparison of regional processes, institutional systems, experience and the originating potential future scenarios of transition economies are interesting but yet under-examined fields of study. Is there a specific way (trajectory) of regionalization in transition economies, or practices vary from country to country? Do EU level policy changes affect national and sub-national level institutions and processes and if yes, for what extent? PHARE programmes were introduced in the early 1990s, short after the change of regime, and following the EU accession, Structural Funds have become the main public financial instruments in these countries, accompanied with a massive foreign direct investment flow. The subsequent EU programming periods and the connected terminology have been predominantly shaping regional policy in these countries; Operational Programmes, Action Plans, Logical Framework Approach, Project fiches, Regional Innovation Strategies, Local Action Groups, Competitiveness Poles, Clustering, Smart Specialisation, Re-industrialisation are only a few keywords that describe this era. The objective of this study is to present a qualitative framework to the evaluation of the period from 1990 to 2015 in Hungary, as a case study of the transition economies, with the identification of the most important milestones and tendencies of regionalization. The relevance of the research is supported by the recent elimination of the NUTS II (regional) level institutional system in the country, and the relocation of ESIF management to the NUTS III (county) level. This process poses the question if Hungary is a trendsetter in Central and Eastern Europe with this practice, or a unique case. The contribution to the state-of-the-art is a qualitative, thorough presentation of the processes, focusing on the administrative and institutional aspects that can on one hand provide a better understanding and secondly, can form an inspiring basis and qualitative methodology for further research on past and future territorial processes and the future of Cohesion policy in the CEE region.

Keywords: EU cohesion policy, qualitative evaluation, regionalization, regionalism, Hungary

INTRODUCTION

Hungary, though being a unitarian country, was a front runner in Central and Eastern Europe as regards the establishment of the legal and institutional framework for regionalization. In 1996, the Act on territorial development and spatial planning was accepted and entered into force. From that time, several modifications were introduced, statistical planning regions were established, regional development councils and agencies were set up and a significant

capacity and competence development have been realized at the regional (NUTS II) and micro-regional level. This process **did not fulfill the expectations about the role of the historically traditional, county (NUTS III) level**. A new profession and a scientific discipline have emerged and strengthened. This dynamic tendency resulted several success stories, good and bad examples, a new generation of experts and thousands of implemented EU co-financed development projects with a high absorption capacity, as quantitative indicators. **Is it a success story then?** Where are we standing now, after more than two decades, what lessons can be learned and what future holds for us? **How regionalization could be measured**; through an indicator-based methodology (eg. absorption capacity), or through the existence and sustainable operation of regional (NUTS II) level institutions rather? Though Hungary has been characterised by a centralised system from the very beginning of the examined period, the recent elimination of the regional (NUTS II) level from the territorial development institutional system raises important questions that go beyond national boundaries to the direction of the Europeanisation concept (Radaelli, 2003; Ladrech, 2010).

The **main motivation** is to shed light on recent processes and thus, generate further cross-country qualitative research in the CEE region in order to identify (1) **divergencies** from research results exploiting quantitative methods; (2) **possible dynamism and future scenarios** in policy-making and implementation. The paper is structured into a literature review, objectives and methodology, the presentation of a V4 level outlook, a single country case study and conclusions in the last section.

LITERATURE REVIEW

There exist some interesting recent studies on the effectiveness and impact of Cohesion Policy in the CEE countries, but these studies either focus on the utilisation of EU funds and absorption capacity with a quantitative methodology (Pálmai, 2014), or combine empirical results and statistical data in order conduct cross-country comparison and identify different patterns and trajectories from the past (Nagyházi, 2015). Other authors have published works on Central and Eastern Europe about regional dynamics (Palermo and Parolari, 2013), regional development agencies (Halkier et al., 1998), decentralization and transition (Kirchner, 1999) and there are some country-specific essays also for the Czech Republic and Slovak Republic (Nemec and Matejová, 2014), Poland and the Czech Republic (Yoder, 2003), and other works on horizontal partnership and patterns of sub-national governance in Poland, the Czech Republic and Hungary (Dabrowski, 2013a), without being exhaustive. **The current study is different and yet unique** in its single-country, in-depth empirical and

process-based focus with the identification of the main phases and characteristics of regionalization that can form a sound basis for further, multi-country studies and cross-country comparisons. As **theoretical framework,** the author refers to the works of Lorenz and Süli-Zakar as regards conceptual definition, differences and relationship of **regionalization and regionalism** (Lorenz, 1991; Süli-Zakar, 2005) as summarised below.

Table 1 Differences and Relationship of Regionalism and Regionalization

	REGIONALISM	REGIONALIZATION	RELATIONSHIP
DESCRIPTION	- an inter-related system of permanent natural-social-economic-cultural factors - the deal of equal parties, constitutes equality	- the neighbouring local governments establish an administrative-political community - the deal of non-equal parties, presumes subjectness	- both definitions mean geographic integration and are frequently used as the opposite of globalization - both phenomena change with the ever changing environment
EVOLUTION PROCESS	- strong economic and social links result a homogenous area from the perspective of regional structures - the natural evolution of objective relations and networks (bottom-up)	- the willingness of people creates the common territorial unit coordinated by politicians - coordinated administrative and political process (top-down)	- they can have synergetic relationship as regionalism can accelerate political-social-economic processes and regionalization can result democratization that supports the full evolution of regionalism
OBJECTIVE	- high level integration between the specific particles - horizontal integration	- more advantageous political position - vertical integration	- there are substantial linkages between the two phenomena while the organization of the particles significantly differs
RESULT	- macroregional geographic structure that allows the optimal use of human, ecological and economic resources	- increased cooperation and trust as the predecessors and real characteristics of good governance	- regionalism is the necessary predecessor of a well-functioning regionalization

Source: own construction on the basis of Süli-Zakar (2005) and Lorenz (1991)

OBJECTIVES AND METHODS

Twenty-five years after the change of the political system, the qualitative analysis of long-term territorial processes in transition economies is an interesting but yet under-examined field of study that deserves attention. How could we characterize and describe the courses of twenty-five years in a single study? Could we call it regionalism, or regionalization instead? Can we underline or contradict quantitative absorption capacity data and research results? Based on quantitative data and key performance indicators, the numbers show good absorption capacity and an efficient allocation of EU co-financing resources. On the other hand, if we operationalize the question in a qualitative way and examine regionalism and/or regionalization processes, sub-national governance and administration capacity, pluralization,

decentralization the institutionalization at regional level, we may easily discover another side of the same coin.

The objective of this paper is to determine if Hungarian regionalization/regionalism was a success story that predicts a possible future scenario for other CEE countries also.

The **relevance** of the research is supported by the recent elimination of the NUTS II (regional) level institutional system in the country, posing the main question if Hungary is a trendsetter in Central and Eastern Europe with this practice, or a unique case. The **methodology** of this contemporary, single case study is qualitative and process-based, building upon real context and empirical research.

Data and information sources are contemporary publicly available content, more specifically reports and studies, publications from organizations involved in territorial development, media, government websites and other special reports, empirical evidence and policy documents. The examined period is **twenty-five years**, starting from the introduction of the PHARE programs soon after the change of regime, and ending in the present (1990-2015). The **geographical coverage is Hungary**, as one of the transition economies and a Member State of the European Union.

The **methods of analyzing** the evidence were essentially qualitative. The research combined case study analysis and content analysis of policy and programming documents and the examined periodical. The study is explanatory and partly exploratory on the basis of the examined elements and focuses on institutionalization and administrative capacity as regards regionalization. The author identified **twelve key dimensions** and qualitative characteristics and established a **structural classification** on that basis (Table 3). Complementary to secondary sources and empirical research, two new elements of analysis were also examined, as firstly all issues (134) of the periodical Village City Region between 1994 and 2014 and their main topics and articles; and secondly the main topics of the Annual Conferences of Hungarian Regional Science Association from 2002. The **main selection criterion** for these two examined elements was the intention to capture and follow the relationship of regional theory (science) and practice. The periodical **Village City Region** is the main journal of regional (territorial) development practitioners from 1994 and it has been edited, published, and distributed to a wide audience covering all municipalities, by the all-time Ministry/Authority responsible for the coordination of regional development. **Hungarian Regional Science Association** is the main (scientific) forum of regional experts with a continuously growing membership, including both academics and practitioners from all territorial levels.

The **contribution to the state-of-the-art** is a qualitative, thorough presentation of the processes, focusing on the administrative and institutional aspects that can on one hand

provide a better understanding for the next generation of experts and interested audience and secondly, can form an inspiring basis and qualitative method for further research in the field of past and future territorial processes of Central and Eastern European countries.

RESEARCH RESULTS

The V4 level

When taking a look at the Visegrad countries, as a wider geographical scope, we can find different practices for decentralization and regionalization. The following table involves some important facts and data from the V4 countries connected to regionalization.

Table 2 Basic characteristics of V4 countries connected to regionalization (2013)

	Slovak Republic	**Czech Republic**	**Poland**	**Hungary**
NUTS I	national level	national level	6 regions	3 regions
NUTS II	4 aggregated regions	8 cohesion regions	16 voivodships	7 regions
NUTS III	8 Higher Territorial Units (kraj)	14 regions (kraj) (2001)	66 subregions	19 counties (megye)
LAU 1	79 districts (okres)	76 districts (okres) and 15 in Prague	314 powiats 65 cities with powiat status	175 districts (járás)
LAU 2	2890 municipalities (obec) 138 towns (2013)	6249 municipalities (obec) 206 with extended competence	2479 gminas	3154 municipalities including 328 cities
Administrative (self-governing) regions	no	no	yes	no
Regional authorities	yes (52)	yes	yes (66) 1991-1995	yes
Legislative background	Resolution 738/2000 on RDAs Act No. 539/2008 on regional development	Article 99 of the Constitution 183/2006 Act Act 129/2000 on regions 561/2006 Spatial Development Policy	1990 local self-governments 1998 regional self-government Act 48/2000 on Regional development support	Act on Territorial Development (1996)
Responsible ministry	Ministry of Transport, Construction and Regional Development	Ministry of Regional Development	Ministry of Regional Development	Ministry for National Economy

Source: own construction on the basis of public data from 2013, 2016

Slovakia and the Czech Republic are often characterized with a decentralized Unitarian model, and Poland with a regionalized one, while Hungary has a unitarian structure (EGTC, 2009). It can be stated that various territorial self-government and regional development systems have emerged in the V4 countries as answers to the requirements of place-specific development of EU Cohesion Policy. In the first programming period (2004-2006), as a top-down policy pressure, the European Commission opted for centralised management of EU funding, that resulted a single (integrated) regional Operational Programme in these countries accompanied by significant disappointment in both scientific and practitioner communities. Between 2007-2013, the introduction of ROPs (Regional Operational Programmes) for each NUTS II region ensured the prerequisites of regional capacity building and the diffusion of multi-annual strategic planning of developmental initiatives at regional and local levels (Dabrowski, 2012). According to research results of a recent study, that completed a V4 level comparison on regional development trends and institutional environment, the Czech Republic could be characterized with a learning process between 2004 and 2006; and a full-scale programme implementation between 2007-2013 with an important and growing role of regional self-governments. The territorial differences are the least significant compared to other V4 countries. Slovakia had not implemented ROP in its first cohesion period and has been implementing a single ROP in 2007-2013. Its territorial disparities are among the largest in the V4 group and Eastern Slovakia is still falling back visibly. As regards Poland, in spite of growing regional disparities between 1995 and 2009, recent development processes show relatively stable development disparities apart from a still significant difference between the capital region and the rest of the regions (Nagyházi, 2015). It is interesting to point out that while the referred author (using a rather quantitative methodology) recently labelled the Czech Republic and Poland as good examples for consensus based decentralization processes, Dabrowski (on the basis of empirical research) stated in 2013 that regional programming was undermined by strong central control in these two countries (Dabrowski, 2013.a). This contradiction illustrates well the potential difference between the research results of qualitative and quantitative research that the current paper also emphasizes.

As it is clear from literature and practice also, preliminary implementation processes (institutional and territorial regionalization) of Cohesion Policy were rather uneven in case of the CEE countries as EU policy lacked detailed description of regionalization processes (Hughes et al., 2004). Though regionalization was a mandatory exercise to be completed in connection to the EU accession, regional and supra-national priorities are not always in sync that is mainly caused by the gatekeeping role of central governments (Ghita, 2013). This

phenomenon could be identified in the presented case study also. Several other authors have already identified that 'shallow' adjustment to strategic regional planning requirements and 'shallow' Europeanisation (Czrenielewska et al., 2004) may result in non-strategic use of the European Strategic and Investment Funds (ESIF) and limit the effectiveness and efficiency of EU Cohesion Policy. As an addition to this issue, European convergence versus local divergence is a phenomenon that is very characteristic in CEE countries. It means that while the peripheries of the EU have shown remarkable growth in terms of GDP, that predicts a successful convergence process, territorial inequalities within the countries are not decreasing (Török, 2013).

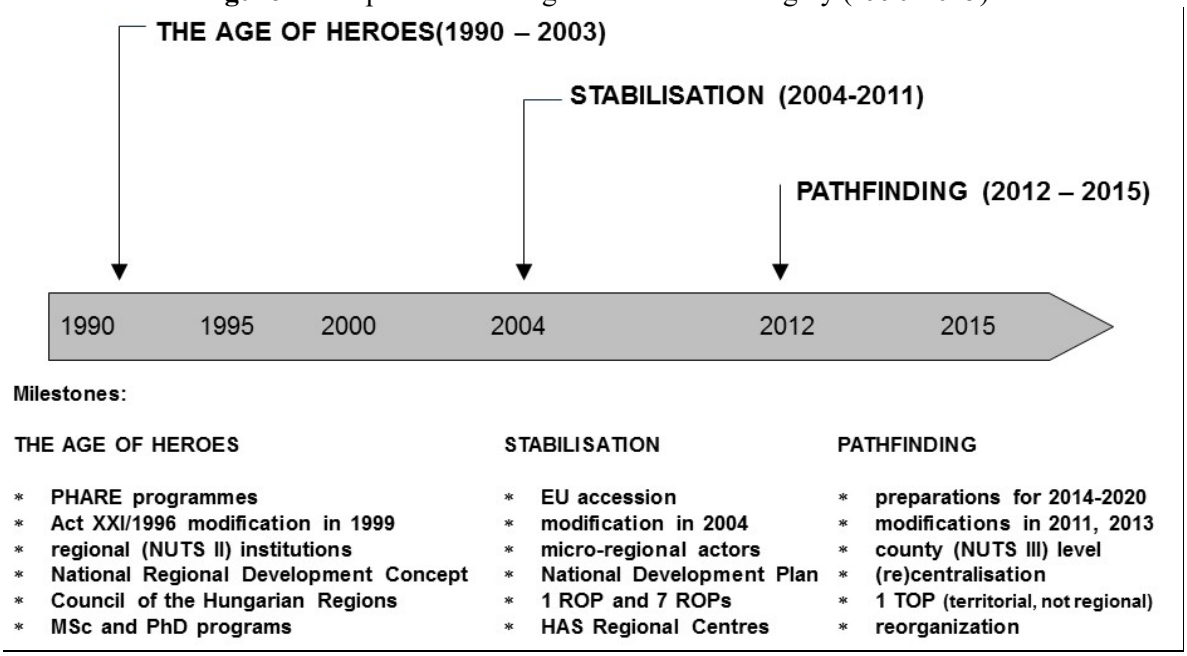
In case of Hungary, regionalization and the connected regional level institutionalization have been started and implemented and all of that resulted good absorption indicators. On the other hand, these processes have been stopped radically by the end of 2015. This process clearly does not contribute to a more strategic and place-specific use of ESIF. Though it was an unexpected action that lacked social and territorial consensus, it has to be highlighted that compared to other Visegrad countries, the management of regional development policies has been very frequently restructured in the central government in Hungary (Rechnitzer and Smaho 2011).

The Hungarian case study

Starting with the regulatory background, territorial (regional) development is regulated in Hungary by the Act on Territorial Development and Spatial Planning (XXI/1996). The objective of the act was to define the main tasks and regulations connected to territorial development and spatial planning and to establish its institutional system. This act was first modified in 1999, with the aim to establish the NUTS II level statistical and planning regions and the connected regional institutional and governance system, required for the accession of the country to the European Union. With the second modification in 2004, micro-regional councils as new players came into the picture. It has to be highlighted, that micro-regional players and associations have been actively self-organised themselves before 2004 also, as good examples of bottom-up initiatives. A major modification was made in 2011 when the institutional system of territorial development was significantly modified and as a result, from 1 January 2012, territorial and spatial development competences were re-located to the county (NUTS III) level. The latest modification was completed in 2013, whereas even the definition of "region" was modified. From 2016, the management of ESIF funds was relocated to the county (NUTS III level) with the elimination of the regional development agencies (RDA).

While Rechnitzer identified four phases in the analysis of regional policy and regionalization in Hungary (Rechnitzer, 2012), the author divided the examined period between the early 1990s and 2015 into three phases based on research results that will be presented in the next sub-sections (Figure 1).

Figure 1 Interpretation of Regionalization in Hungary (1990-2015)



Source: own construction, 2016

The Age of Heroes (1992 - 2003)

PHARE (Pologne, Hongrie Aide a la Reconstruction Économique) institutional development programmes have been introduced in the early 1990s as part of the so-called pre-accession funds (PHARE, SAPARD and ISPA).

Institutionalisation has been started at the regional level, including the decision-making (Regional Development Councils, RDCs) and operational (Regional Development Agencies, RDAs) institutions also. Significant **administrative capacity building** characterized this period that can be described with the phrase "the beginners of today are the leaders of tomorrow". At the national level coordination, the National Regional Development Council was established (1996) and an important policy document, the National Territorial Development Concept was elaborated in 1998. The number of actors has been continuously increasing, professional contacts have been intensified and several national and international events were organized, facilitating the exchange of information.

As regards **international presence**, an important milestone of integration into the international bloodstream was the establishment of the Representation of the Hungarian Regions in Brussels. The initiative was unique, as in the late 1990s, integrated regional

representation of Member States and the connected divided infrastructure model was not typical. Lateron, this model served as precedent for the Czech and Slovak Houses (Balogh, 2008). The representation has been fulfilling pioneering tasks as providing regular reports from Brussels and organization of study tours and trainings for regional representatives. Two outstandingly important organizations should be also mentioned here, firstly the national level VÁTI Urban Planning Institute and at the EU level, the European Association of Development Agencies (EURADA) that had an outstanding role in the preparation and support of Hungarian regions.

Regarding **administrative capacities**, the financial and institutional background of Hungarian regions, additionally to the various decentralised national budgetary funds (eg.: TEKI, CÉDE), extended financial sources have been allocated to the regional level from 2001 and in September 2000, the Conciliatory Council of the Hungarian Regions (TERET) was established. The members of TERET were the Presidents of the Regional Development Councils and its twofold objective was to enhance the preparation of Hungarian regions to EU accession and to strengthen the participation of regional actors in the allocation, and thus, absorption processes of national financial sources (VÁTI, 2005). The evaluation of the effectiveness and impacts of PHARE programs is not an objective of this study, but it should be highlighted, that the training and preparation of actors in the Hungarian territorial development institutional system at national, regional, micro-regional and local level through "learning by doing" and good practice transfer, have laid the foundations of Hungary's successful EU accession. Furthermore, the program has contributed significantly to Hungarian decentralization processes and the generation of territorial and thematic partnerships and cooperation (Polgár, 2007). With the preparation of the National Development Plan and establishment of the Managing Authorities, Intermediary Bodies and Programme Monitoring Committees, PHARE programs have reached their final aims and were officially closed. Higher education in regional development has been started also at several institutions. As regards **the examined periodical**, PHARE Newsletter has become a regular column and from 2001, Rural Development was introduced as a separate heading. This correlates to the launching of LEADER (Liaison Entre Actions pour le Development de l'Economie Rurale) community initiative, firstly as a pilot program, later on as part of the Agricultural and Rural Development Operational Programme. In the decentralized implementation of LEADER and the development of rural economies, Local Action Groups have played a major role. Between 1994-1999, reports from the World Habitat Days and international conferences, presentations of good practices, annexes, investment magazines, articles on urbanism, Pro Region Awards

were determinate. From 2000, articles on regionalism and regionalization have appeared and a report from the first National Forum of Regional Development Agencies in 2002. The last year before the accession was characterized by outstandingly intensive activity, the launching of a new column *'News from the EU'*.

In this period, a large number of practitioners have struggled with the weight of professional responsibility during the translation of "project fiches" (project summary data sheets adapted for PHARE), the preparation of policy documents and logical framework matrices, strategic programming activities and background reports for decision-making, but they met these challenges and contributed decisively to successful EU accession.

Stabilisation (2004 - 2011)

Hungary accessed the European Union on 1 May 2004 and this event brought significant changes in the institutional system also. The 'short' programming period between 2004-2006 has been started, including the implementation of the first National Development Plan (NDP) and the single (integrated) Regional Operational Programme (ROP).

Institutionally, the regional institutional framework was accredited and has started functioning, Managing Authorities (MAs) and Intermediary Bodies (IBs) were coordinated by sectoral ministries. System operation has dredged up some problematic points that were re-regulated by the modification of the Act in 2004. Though have been frequent changes in the central coordination of regional development, significant milestones of regionalization were the launching of the seven separate Regional Operational Programmes in 2007 and the new National Territorial development Concept in 2005.

As regards **administrative capacity**, a dynamic increase is well-identified in a national survey, reporting 298 employees as regional level staff members in 2004. Stable infrastructural background supported the operation of regional organizations, mainly regional development agencies, and the so-called Competitiveness Pole Programme was launched in 2005, as an initiative focusing on the strengthening of regional capitals as growth poles with spatial spillover effects. Though the assessment of the Pole Programme between professionals is ambivalent, two facts are indubitable: the clusters established in that period constitute the backbone of good practices of our days; and no other program similar in complexity, scale, approach and focus has been introduced since that time.

Regarding **international presence**, the Representation of Hungarian Regions in Brussels was established in a renewed form and represented the interests of all seven regions. One important international organisation should be mentioned in line with the specialisation

processes in regional development, namely the Network of Innovating Regions in Europe (IRE). This organisation enhanced the integration of Hungarian regions into international programmes, with special respect to the Research and Technological Development Framework Programmes of the EU. European Grouping of Territorial Cooperation (EGTC) was an initiative launched in 2006, that further colored the picture. Its objective was to advance interregional and transnational cooperations of regional and local authorities that could lead to increased coordination, knowledge and good practice exchange. In March 2010, the Lisbon Strategy was replaced by Europe 2020 Strategy for Smart, Sustainable and Inclusive Growth. This EU level strategy identified new priorities for territorial development and its actors.

As regards **the examined periodical**, soon after the accession in 2004, the Communication from the Directorate-General for Regional Policy on EU accession was published. Advertisements have appeared connected to ROP training programs, e-government, and the first advertisements from private consultancy companies for proposal writing also emerged. In 2006, main topics were the ten-year old territorial development institutional system, spatial planning, preparations for the next EU programming period and comparison studies between present reality and future opportunities. In 2007, main topics were the closure of PHARE Programme with the title *'Farewell to the Lighthouse'* and the first ex-post evaluation results of the 'short' programming period.

In this period, the "dilution" of craft was a common opinion, the number of proposal writing companies were replicated in a short period, the community of professionals was splitting up to "Veterans" and "Titans". The specialization in innovation and research and development is an important tendency to identify, going hand in hand with the elaboration of regional innovation strategies and the establishment of Regional Innovation Councils and Agencies from 2004. The vertical tension and opposition between regional and county levels have been dissolved and a system-level (co)operation has been started that could be considered as efficient.

Pathfinding (2012 - 2015)

The current period in Hungarian territorial development was started with a "kaikaku" (meaning 'radical change' in Japanese '5S methods' used in management consulting), and from that time, a continuous pathfinding can be experienced. We can lay down that several processes required immediate intervention. Among others, these processes were the excessive concentration of decision making power and competences (National Development Agency),

the acceleration of subsidy allocation, the signing of the Grant Agreements and the start of preparation for the 2014-2020 EU programming period. The phasing-out and phasing-in tasks between the EU programming periods were jammed and the global economic crisis did not facilitate strategic programming and the execution of the measures and interventions either. The European Commission has set several new targets and introduced new policies and buzzwords, such as (re)industrialisation, (re)shoring, smart specialization, Europe 2020, triple, quadruple, quintuple and n-tuple helix models, smart cities, sustainable development, integrated programming, CLLDs and ITIs.

Institutionally, the Office for National Economic Planning was established and removed (2012-2014), Managing Authorities belong again to sectoral ministries, the National Development Agency was abolished. There is only one 'decentralised' Territorial and Settlement Development Operational Programme (TOP) for convergence regions and its Intermediary Bodies have recently formulated on NUTS III level.

As regards **administrative capacity**, there is a clear (partly re-)allocation of resources to the NUTS III (county) level and a new player, the Széchenyi Programme Office and its regional branches have been operating from November 2012 as background institution of the Prime Minister's Office. This Office operates a Representation in Brussels from mid-2013. Regional Development Councils were eliminated from the system by 31 December 2014 and Regional Development Agencies by 1 January 2016. Counties and cities with county rank are planned to receive significant resources from TOP in the policy framework of the so-called Modern Cities Programme, coordinated from the national level. The supporting legislative background, two modifications in this relatively short period, re-arranged the institutional puzzle. The National Regional Development Council was replaced by the National Territorial Development Conciliatory Forum that forms the framework for consultations between the national and sub-national governments, down to city with county rank level. In parallel, the new EU programming period was started but until the third quarter of 2015 only a few calls for proposals were published. As a conclusion, it can be stated that the current decision of the central government is not clearly advancing Europeanisation and the 'added value' of Cohesion Policy, namely the institutionalization of strategic planning, has been at least reduced if not eliminated.

The examined periodical reacted to the changes also; several reputed authors have published debate opener articles in its issue in the second half of 2011. These writings are connected to EU programming period 2014-2020 and include also Horkay's study that urged

a paradigm and paradogma change in national development policy (see also Ángyán, Boros, Csatári, Csizmadia, Faragó, Horváth, Nyikos, Szaló and Horkay, 2011). The author's identification of the phases of regionalization is supported by the sudden and drastic decrease in the issues of the examined periodical as starting from yearly 8-10 issues between 1994 and 2004, with a yearly average of 3 issues between 2004-2011, there were no issues published in 2013, 2015 and 2016. **Specialization** strengthened towards local economic development and development of farmsteads, rural economies, community building, free entrepreneurial zones, EGTCs connected to ITIs (Integrated Territorial Investments) and indigenous development got boost. Smart specialisation, triple and n-tuple helices, (re)industrialisation, CLLDs and ITIs have become the new keywords, methods and objectives of strategic programming.

Relationship of Theory and Practice

Rigid separation of regional science and practice is not reasonable; neither on organisational, nor on professional level. In most cases, colleagues of academic and research organisations play an active role in technical tasks. The Centre for Regional Studies of the Hungarian Academy of Sciences was established in 1984 (currently it is called Centre for Economic and Regional Studies) and it launched its scientific periodical in 1987, with the title 'Space and Society'. As its President of the Editorial Board, György Enyedi formulated in the foreword of the first issue, Space and Society "is not distributing the research results of a single scientific discipline, but a problem: it examines the relationship of space and society from the aspects of different scientific disciplines, with a specific approach." (Enyedi, 1987).

As regards the first phase, the 'Age of Heroes', Village City Region periodical was issued for the first time in 1984, and the Hungarian Regional Science Association was established in 2002. Master level education has been started in 1994 and the PhD program from 1996, as guarantees for permanent supply of new graduates. Science and practice have engaged on several points, such as strategic programming, the preparation of policies and programs (Horváth, 2014) and participation in the training programmes.

In the period of 'Stabilisation' regional science and practice have been cooperating closely. With the EU accession, the integration to European scientific (research) are(n)a has been strengthened, cross-border Hungarian research has emerged as a strategic objective and research of regional processes in Eastern and Southern-Eastern Europe has become a determinate element. The number of cooperative research and joint research projects has increased continuously and their partnership was widened with economic actors.

'Pathfinding' could be characterized by centralization; according to Horváth, territorial development has become a weightless policy, almost all prerequisites of decentralized operation were eliminated and most of the results of twenty-five years of science organization was wasted (Horváth, 2014). The elimination of regional level from territorial development institutional system has raised questions connected to the reasonableness of regional sciences as a separate scientific discipline. As Nemes Nagy writes in Enyedi's scientific biography; "The Regionalist" was arguing in several essays for the existence and role of regional sciences as a separate discipline (Enyedi, 2011, Nemes-Nagy, 2012). As benchmarking data for further cross—country comparisons the author refers to Szabó who counted more than 20 PhD defenses in regional science between 2008 and 2013 in Hungary and identified 50 departments at 16 higher education institutions in 14 settlements where more than 50 lecturers participate higher education of regional development. The main problems the authors highlighted were the ever changing expectations from the practical side (and thus the suitable curriculum), the deficiencies in practice-oriented education, and in overall, the adaptation problems of higher education to the dynamically changing policy implementation environment (Szabó, 2013).

CONCLUSIONS

The Hungarian case study

It can be stated that regionalization has been started in Hungary in the early 1990s with a major contribution of the PHARE program. From that time, decentralization could be observed, while from 2012, there is a tendency towards (re)centralization. Competences formerly allocated and strengthened at the regional level, including ESIF management, are now restructured and relocated to the historical county (NUTS III) level. Regional (NUTS II) level institutions, the Regional Development Councils and Agencies, have been abolished in the near past. While in 2004, professionals were mostly characterized by miracle expectation, in 2014, there have been uncertainties and question marks. The global financial and economic crisis slightly, the changing Hungarian political-social environment, significantly influenced regional processes in the country, those phases and main characteristics are summarized by the author in Table 3.

Table 3 Characteristics of the Phases of Regionalization (1991-2015)

Characteristics / phases	1. The Age of Heroes (1990-2003)	2. Stabilization (2004-2011)	3. Pathfinding (2012-2015)
Territorial processes	first PHARE programs, regions, micro-regions	failed territorial reform (IDEA) but decentralization	centralisation, counties, cities with county rank, districts
Legal background	Act 21/1996 and modification in 1999 EU: Lisbon Strategy (2000)	modification in 2004 EU: Europe 2020 Strategy (2010)	modifications in 2011 and 2013
Relevant policy (national level)	National Territorial Development Concept (NTDC) in 1998	new NTDC in 2005, National Development Plan, Pole Programme, New Hungary Plan and New Széchenyi Plan	Széchenyi 2020 National Development 2030 national and county level S3 strategies
Strategic programming	sectoral versus regional concepts, NDP + 1 ROP	1 ROP, good absorption and 7 ROPs (from 2007)	preparations 2014-2020, 1 TOP, CLLD, ITI, Modern Cities Programme
Institutional system	Ministry of Environment and Regional Development, Ministry for Agriculture and Rural Development, counties, Teret, 2000), key role of VÁTI	Ministry for Self-Governance and Territorial Development (2006) Ministry for National Development and Economy (2008), strong National Development Agency (NDA), regions (RDAs), micro-regional level, EGTC (2006)	Ministry for National Economy (TOP Managing Authority and strategic planning), sectoral ministries, Hungarian Treasury, Széchenyi Programme Office
Infrastructural background	heterogeneous, under formulation	outstanding, high quality	under re-location and re-structuring
Human resources	dynamically increasing, cooperative, trainings, study visits	multi-actor system, replicated participants	under restructuring
International relations	Representation of Hungarian Regions in Brussels (1999)	Representation of Hungarian Regions in Brussels 2.0 (2004) plus regional offices	Széchenyi Programme Office Representation in Brussels (2013)
Financial background	decentralized funds (eg.: CÉDE), and PHARE	EU and national (2004-2006; 2007-2013)	EU and national (2007-2013; 2014-2020)
Functions	statistical-planning regions formulation	specialisation (innovation)	specialisation (local economic development)
Relationship of theory and practice	formulating cooperation, HAS regional centres, Space and Society, Village City Region, Hungarian Regional Science Association	good, efficient cooperation, relatively decentralized system	(re)centralisation, pathfinding, "innovations" in governance
Vertical/ horizontal relationship	vertical competition, horizontal cooperation, counties vs regions	operable and operating system but competition between regional centers	horizontal competition on county and settlement levels, expectations, plans

Source: own construction from public data, 2016

As regards regional processes in the last 25 years in Hungary, they could be characterized as regionalization rather than regionalism, and could be considered as **the most important institutionalized attempt towards regionalization in Hungary** in the twentieth century. If we consider absorption capacity and quantitative indicators, Hungary could be classified as a good example, but if we look beyond statistics and examine qualitative characteristics, with special respect to Europeanisation, regional level institutionalisation and administrative capacities, it can be stated that the results are ambivalent. At this point, it has to be highlighted that the presented frequent changes and unplanned decisions resulted a situation that some authors described as 'the house built next to its foundation' (Pálné Kovács, 2004; Perger, 2010). Thus, the current process could have also been evaluated as a corrective action if there was a well-prepared substitute or alternative system. On the other hand, the scheduling of the institutional change was relatively optimized as it followed the completion of strategic programming for 2014-2020.

Methodologically, the main tendencies and milestones can be well-identified and followed through the application of the qualitative methodology and the comparative set of characteristics identified by the author. The growing specialization at the EU policy level towards local economic development, innovation, competitiveness and job creation have been identified at the Member State level also in the case study, so a direct and strong effect of EU policy on the MS and sub-national level was justified.

The V4 level - Future scenarios

When examining possible future scenarios in the V4 countries, new global level regionalization agendas should also be considered, such as metropolitan regions, city-regionalism, agglomeration economies, 'virtual regionalization' without being exhaustive; that are not in line with the administrative region concept, casting a question mark over the notion of cohesive regional development under the conditions of competitiveness (Herrschel, 2010). The definition of regions as 'places of spaces' or, rather the 'places of flows' as raised by Castells, should also be reconsidered (Castells, 1999).

At the EU policy level, it has to be stated that the new focus of Cohesion Policy is largely placed on growth creation (local (LAU) level) and as growth is a cumulative process that tends to concentrate both spatially, economically and socially, new ways should be explored in order to promote cohesion in Europe. Growing regional disparities between the capital city(region) and the rest of the country is a typical CEE, and thus V4, phenomenon. As a conclusion, it can be stated that the changing focus of EU Cohesion Policy has a potential to

advance processes also in the CEE region, that are not supporting regionalization in its traditional understanding, but could generate and strengthen new conceptual avenues. In this meaning, the Hungarian case could be considered as the first sign or appearance of these new concepts.

Poland has the strongest institutionalized and administrative regions in the V4, as a regionalized unitarian country, so it is hardly probable that its regionalized system will be revised and/or modified before 2020, especially if we take into consideration the own financial income, property and assets of the voivodships. On the other hand, Slovakia and the Czech Republic, as decentralized unitarian countries, have a significant potential to follow the Hungarian example in the forthcoming years, and revise their regional institutional system, with special respect to the relocation of the competences connected to the management of ESIF funds. With strengthening specialization towards local economic development, innovation, competitiveness and job creation, even the rethinking of inner and external peripheries and the concept of multi-node (city-region) cross-border economic zones could be widely introduced. The 'Europe of the Regions' concept has been clearly shifted to the 'Europe of Cities/Cityregions' direction. The answer to the basic question if Hungary is a trendsetter or a unique case in the V4, or with a wider scope, in the CEE region as regards regionalization, depends largely on the capability of EU Cohesion Policy to meet its current and future global level challenges.

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Original scientific paper

FROM UNIFORMITY TOWARDS UNEQUALITY IN REGIONAL DEVELOPMENT POLICY: THE CASE OF FRANCE

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Abstract

The French national territory is characterised by a rich variety of landscapes and regions upon which the post-revolutionary Jacobin Republic imposed its homogenising territorial administration with the objective of achieving uniformity and a greater transparency. Territorial unity formed the basic pillar of the Republic, which no successive regimes were able to undermine and no peripheral bottom-up regionalisation movements could challenge until the end of the past decade. However, from the second half of the 20th century, the unified national territory was increasingly subject to a „two-speed" development, with declining socio-economic conditions outside the zone of influence of the capital city. Spatial disparities and the fear of the desertification of rural areas due to the generalisation of industrialisation and the rapid extension of the Fordist capitalist accumulation regime constituted the background of the genesis of spatial planning to serve as a counterbalance to spontaneous processes of spatial polarisation.

Keywords: regional development policy, spatial planning, decentralisation, France

INTRODUCTION

Historians agree that the unity, indivisibility and inalienability of the Republic (forming the basic pillars of sovereignty as conceptualised by Jean Bodin in the 16th century) as well as administrative centralisation are rooted in the pre-Enlightenment Ancien Regime. According to the historian Alexis Tocqueville, the Jacobin era known for its aptitude for centralisation was a direct legacy of pre-1789 France. The absolute nature of sovereignty, a central idea to monarchic rule, has not changed, but was transferred from the ruler to the people (Lupel, 2009). The notions of public good and public services also date back to the pre-Enlightenment period. However, in a retrospective view, the ancient structures can be qualified as pre-national, since they permitted the emergence of only certain features of the nation-state, into which they were incorporated with certain modification (Balibar, 2002). The post-revolutionary Republic, with its homogenized territorial administration (whose pillars were the 90 homogeneous *départements* and the myriad communes created in 1792) and the ideal of equality and laicity at its centre, despite its universalistic pretences, is just a particular way

of representing reality. The „French exception" based on a „certain idea of France" (republicanism) is the culmination of a long period of nation-building under the dominant influence of Rousseauian ideas of popular sovereignty. Rousseau's radical democracy, by connecting individual liberty to popular sovereignty, envisaged a maximum liberation of the individual vis-à-vis all forms of religious and other external sources of authority based on the inequality of rights. Its distinction between particular and universal interests shaped the republican concept of *laïcité* based on the defense of political autonomy, inalienable individual rights and the primacy of the public good (*res publica*) automatically excluding the possibility of specific group interests based on class, culture or ethnicity (Hayat, 2013). Individual egoisms were not allowed to distort the abstract notion of the common good as it was based on the idea of citizens freely consenting to the sacrifice of their private will to a common interest – extending beyond the sum of individual interests. The private realm was strictly separated from the public sphere. Society was conceived as a contractual association of citizens (*Gesellschaft*) without any exogenous basis of their communion. It is noted by scholars that France, the classic example of a nation made by the state, was much more hostile towards the idea of local autonomy than other countries where the state was made by the nation (Fleiner et al. 2002)[1]. The ancient provinces operated in a largely decentralised framework, enjoyed a high degree of autonomy, with their own system of measurement, weights and a wealth of local dialects, the duchies of the period had no interest in the francisation of an overwhelmingly rural population. In contrast, the Jacobin Republic, a heritage of revolutionary France, refused to recognize the autonomy of local collectivities, preferring to treat the space between the particular (the individual) and the universal (the state) as a vast empty void (Rosanvallon, 2004, Wright–Jones, 2012).

The state was the prime guarantor of territorial cohesion. The idea of regionalism was seen as posing a threat to the indivisibility of the Republic by its association with the ancient provinces. Intermediary bodies were redundant from the point of view of exercising personal and political autonomy. Cultural – linguistic differences, alterities, particular features of local societies were devalorised in the course of the homogenising and modernising project of the state. The period of the Third Republic (1870-1940) signified the most accomplished form of the French nation according to French historian Pierre Nora, editor of the monumental *Sites of Memory* series celebrating republican values.

[1] The complexity of nationhood-statehood is highlighted by Wallerstein (1991), in whose view statehood always pre-exists nationhood, as in the case of France. Gellner (1983) holds that the existence of the state is a (necessary but not sufficient) prerequisite for the emergence of nationality – firmly grounded in a shared identity of citizens, and that both belong to the realm of contingency.

In an effort to transform „peasants into Frenchmen" (Weber, 1976) through repressing local peasant cultures and particularisms, accelerate the francisation of the peripheral population as a part of a process of internal colonisation (Weber, 1976, Aldhuy, 2010, Liebich, 2011) and to mold a real cultural and linguistic community of Frenchmen, French (which, from 1536, was the official language of the administration, law, the educated and literate few) was imposed on the entire nation. The main achievements under the Third Republic included the generalisation of the republican system of schooling, instilling the patriotic sentiment and the cult of the nation into the minds of the youth through history and geography text books, implementation of the fundamental institutions of the system of meritocracy, introduction of universal civil service and the progressive extension of French citizenship. Despite the ambitious projects, local dialects survived and France remained predominantly rural – its rural population exceeding the number of city dwellers – until the 1930s. Weber (1976) pointed out that the ultimate nationalisation of peasantry and the decline of the patois coincided with its dissolution as a majority class in the first half of the 20th century. Hence, France was able to escape the massive desertification of its rural areas and conserve its agricultural patrimony until the mid-20th century, much longer than England, for instance, whose agricultural sector retreated due to the generalisation of industrialisation already in the 17th century.

Albeit the autonomy of intermediate bodies is a recent element in French political history, Jacobin centralisation encountered resistance and was subject to criticism even during periods when regionalism was absent from the official hegemonic discourse. Criticism came from multiple sources depending on the various historical eras. Post-revolutionary politics emerged in the final years of the Third Republic, advocating pluralism as a way of promoting the growing power of intermediary units. This post-revolutionary turn (Wright–Jones, 2012), a peripheral movement along the dominant trend of republicanism, was extensively discussed by recent scholarly work, e.g. Julian Wright's study on Belle Époque regionalism. From the second half of the 19th century, regionalism gained momentum in the framework of peripheral, mainly cultural-linguistic movements, not as the antithesis of nationalist sentiment[2], but rather, contributing to its reinforcement, as Wright (2003) demonstrates. Among the counter-revolutionaries, Paul Boncour represented the federalist strand[3] (advocating economic federalism), Charles Maurras the traditionalist line, which preceded the

[2] 19th century Herderian cultural nationalism emphasizing ethnicity, language and culture was a revolt against the bloodless, rationalistic nationalism of the Enlightenment which preferred the love of liberty and abstract humanism.
[3] See e.g. Boncour-Maurras „*Débat nouveau sur la République et la décentralisation*" (1905).

anti-republican era of the Vichy-regime with the rising power of corporatism (Wright–Jones, Kaplan, 2001, Dard, 2016). In addition, Pierre Rosanvallon refers to liberalism as an „alternative history of France" which paved the way for the dismantling of state power and a more federalised concept of France in line with the idea of the „Europe of regions", i.e. granting a greater role to supranational and global stakeholders in shaping the everyday lives of French citizens.

Spatial justice and the national territory: the genesis of post-war spatial planning policy

A society of equals was a revolutionary idea conceived in pre-capitalist France. However, with the transformation of the mode of production entailing the domination of man over nature, economic inequalities and social exclusion increased from the mid-19th century which demanded a reevaluation of the notion of equality (Rosanvallon, 2013). Social inequalities generated by physical conditions were incompatible with the spirit of republican egalitarianism, geographical, hereditary, physical aspects were seen as irrelevant factors in individual success and the notion of spatial determinism – an individual's life prospects being shaped by the physical milieu – was unacceptable. The discourse of the republican ruling elite revolved around notions such as uniformity, equality and spatial harmony. Quintessential to the idea of uniformity and equality is the powerful myth of rurality with its origins in 19th century France still largely composed of villages. The stability of rural France was an essential pillar of centralised state-building. Philippe Estèbe (2015), while not undermining the ideal of spatial equality specific to the Jacobin state, argues that it is a historical construction and must be viewed accordingly, i.e. within its specific social, economic and geographic context. Inherent to the particular context was a static view of the French citizen characterized by low mobility, a mainly sedentary way of life, a strong attachment to its commune of origin. Agricultural production dominated the economy, rural society was composed of small household farms operating in a relative isolation from each other.

Rurality exerted a powerful influence on regionalist movements as well, which often found recourse in the mythic perennity, diversity and richness of small patrias. The authentic France of the *pays* was seen as an antipode to the accelerating pace of industrialisation entailing the proliferation of homogenized, artificial spaces and urbanisation dismantling an age-long structure evolving in the *long durée*.

According to Estèbe (2015), the relative underdevelopment of French cities compared with their European homologues is partially due to the joint deliberation of the political and industrial elite to implant industrial firms in villages and small settlements in the name of

spatial justice, a practice largely maintained until the Fifth Republic (1958-). The anti-urban and rural-biased attitude of the political elite was also a means to prevent cities from challenging the exclusive power of the state. Equality of status, however advantageous, was counterbalanced by the limited autonomy of the local sphere: local affairs were controlled by the state's agents (the system of prefects installed under Napoleonic rule).

The second half of the 20th century was characterised by a growing preoccupation and awareness of spatial disparities fragmenting the national territory, which constituted the subject of a series of debates and resulted in the emergence of a new scientific discipline whose task was to integrate space into economic analysis (and the region, more specifically). Post-1945, spatial disparities were no longer viewed as merely the external manifestation of the diversity of landscapes, climates, flora and fauna characterizing France, but alarming signs of a highly differentiated economic space, indicators of significant social inequalities (Leménorel, 2008).

The primary indicator of social injustice was the apparent unequal access to physical infrastructure and public services. The principle of spatial justice demanded that each region (and local collectivity) be capable of the provision of a maximum amount of public goods to its inhabitants and constituting a high standard public good in itself. Hence, each settlement, regardless of its geographical position was to be granted an equal access to the basic public services.

Since the consequences of regional disparities corresponded to unacceptable forms of social injustice in a broader context, public intervention targeting the reduction of socio-spatial inequalities and guaranteeing an equal access to public goods and services were deemed necessary. The post-war years were ripe for the emergence of spatial development as a state-managed policy targeting the redistribution of the effects of growth to promote lagging areas in order to achieve a more balanced national spatial structure. Political deliberation and courage were also required in order to empower the nation to choose between „decline and rebirth, the conquest of the periphery and internal colonisation…" (Gravier, 1947: 147).

Industrial decentralisation: justification, rationale, instruments

An example of the „French exception" characterised by a voluntaristic approach is *aménagement du territoire*, i.e. spatial planning as it emerged in France in the 1950s. A conceptual clarification might be useful to facilitate a better understanding of its overall purposes and guiding principles. The term *aménagement* literally means taking care of and

arranging one's household. It is worth noting that the latin root of aménagement is *mansio*, referring both to family and household. The Greek equivalent of household is *oikonomia,* a comprehensive space encompassing political and economic relations. In geography, the term *aménagement* refers to the voluntaristic action of a local community oriented at its own territory (Brunet, Ferras, and Théry, 1992). Since an area may procure economic advantages through extra investments and a more favourable position than other territories deprived of such investments, corrective measures are necessary in order to restore a hypothetical spatial equilibrium. Hence the need for a comprehensive approach to spatial development which allows room for the expression of its adaptive capacity. Pierre Merlin (2007) defines spatial development as a future-oriented action and praxis of the spatial reorganisation of individuals, activities, facilities and communication networks according to a certain guiding principle. The geographer highlights the practical and pragmatic character of spatial development at the expense of scientific, technical or artistic pretensions, and in the spatial restructuring of functions and relations, he emphasises the utilitarian notions of cost-efficiency, convenience and harmony. Returning to the analogy of the household, just as in the premodern era when the household head represented the common interest and the single opinion and prevented disunity between family members, so was the state expected to guarantee the integrity of its territory, i.e. arrange the „household" in the most convenient way that also complies with the requirements of spatial justice.

Spatial justice remained the main preoccupation of post-war spatial planning during the „glorious three decades" referred to as the golden age of western social democracies. Reference to a „hypothetic" spatial equilibrium became a central element of political discourse on spatial equality in the 1950s (Wendeln, 2014). Due to its optimistic voluntarism, spatial planning policy represents a definite break with geographic determinism, expresses a positivistic and rationalistic attitude and a commitment to transformative, future-oriented action (Woessner, 2008). Policy-makers were convinced that the relative position of regions would improve as a result of collective action limiting the growth of the capital city. The rationale behind centrally coordinated spatial planning was that market forces, if left to their own devices, produce excessive spatial polarisation and contribute to exacerbating interregional disparities. The spatial harmonisation objective orienting spatial development interventions until the neoliberal turn from the eighties justified every effort to diminish the excessive concentration/overaccumulation of factors of production in the main locomotive of the French economy.

Jean-Francois Gravier played the key role in directing the attention of political stakeholders to the disproportionate weight of the capital city which concentrated the dominant share of economic, higher educational, administrative, financial, cultural and political decision-making units. The geographer highlighted the historically rooted centre-periphery relationship characterising the national territory represented in the popular image as „Paris and the desert" which was evident in the significant regional disparities of GDP per capita values and heterogeneous demographic conditions. The geographer pointed out that the most disadvantaged part of France, the so-called „*diagonale du vide*", an area extending between the Pyrénées to the Ardennes, revealed signs of severe demographic and economic decline. The scapegoat according to Gravier was the capital city, sterilising the population and depriving rural areas of their essential human resources. The generalisation of vulnerable zones suffering from a variety of crises (economic, financial, political) was, according to Gravier, a direct impact of the existence of the oversized capital city. The plight of the rural population necessitated further outward migration towards the capital city, hence rural localities incapable of collective action and interest enforcement were experiencing depopulation and desertification. The devastating picture painted by Gravier of the future of Paris and the „French desert" had a profound impact on the state-led interventions of spatial planning policy.

Essentially, spatial development associated the overall prosperity of the national economy with the territorial redistribution of the benefits of growth. Industrial decentralisation policy became the principal instrument through which the state intended to restore the balance between the center and the periphery. The region was viewed as a suitable framework for narrowing the developmental gap and attaining the objective of a more balanced spatial development within the national borders. The three decades between 1945 and 1982 were characterised by the predominance of voluntarist state intervention (*the era of the planning state*). This period was also referred to as the era of *tamed jacobinism* due to its centralising tendencies and the predominance of Jacobin structures counterbalanced by local interest enforcement, particularly on the behalf of powerful city mayors (Grémion, 1976). Effective decentralisation was hindered by the complex web of relations between the local elite, the political leadership and senior government officials.

Industrial decentralisation – the spatial restructuring of industrial labour, the implantation of Parisian firms in the periphery – and spatial planning policy went hand in hand. Industry was regarded as the primary engine of growth and the central planning objectives appeared to match the deconcentration strategies of large companies. Spatial development policies were

coordinated by the Delegation for Spatial Planning (DATAR), a Prime Ministerial department established in 1963. Spatial planning objectives contributed to boosting economic development, and economic growth occured in a favourable socio-economic context, amidst rising living standards and rapid urbanisation. Between 1960 and 1974, the rate of the urban population increased from 62 to 73% (Le Bras –Todd, 2013). Afterwards, cities continued to grow at an uninterrupted albeit slower pace, by 2015 the rate of urban dwellers had reached 80%.

The first decree on the reduction of the hegemony of Paris was issued in 1955 requiring a special permission for the creation of companies (with over fifty employees) in the Paris area. The decentralisation of scientific activities was also strongly supported by the state. Between 1960 and 1980, 520,000 jobs were created in rural areas (outside Île-de-France), new firms located outside the Paris region were granted 7,250 decentralisation premiums. The spatial planning fund (*PAT*) integrated formerly isolated sources of funding from 1995 on and was distributed in function of a firm's distance from Paris. The spatial location of new companies was decided by the state in a highly arbitrary manner. Automotive industry played a strategic role in decentralisation due to its large growth potential and number of employees. During three decades, the three major manufacturers (Peugeot, Renault, Ford) established their presence in western, northern regions, in Alsace and Lorraine.

The French policy of counterweight metropolises represented the most emblematic programme during the interventionist phase of spatial planning in the 1960-70s. It involved the selection of a limited number of counterweight metropolises – Lille, Nancy, Strasbourg, Lyon, Marseille, Toulouse, Bordeaux, Nantes – counterbalancing the excessive dominance of Paris. The state-led programme was inspired by the growth pole theory of Francois Perroux, the founder of French regional science. The concepts Perroux used (growth poles, region, equilibration, propulsive industries, asymmetric power, dominance, etc.) cannot be interpreted outside the context of his theory, as he himself pointed out.

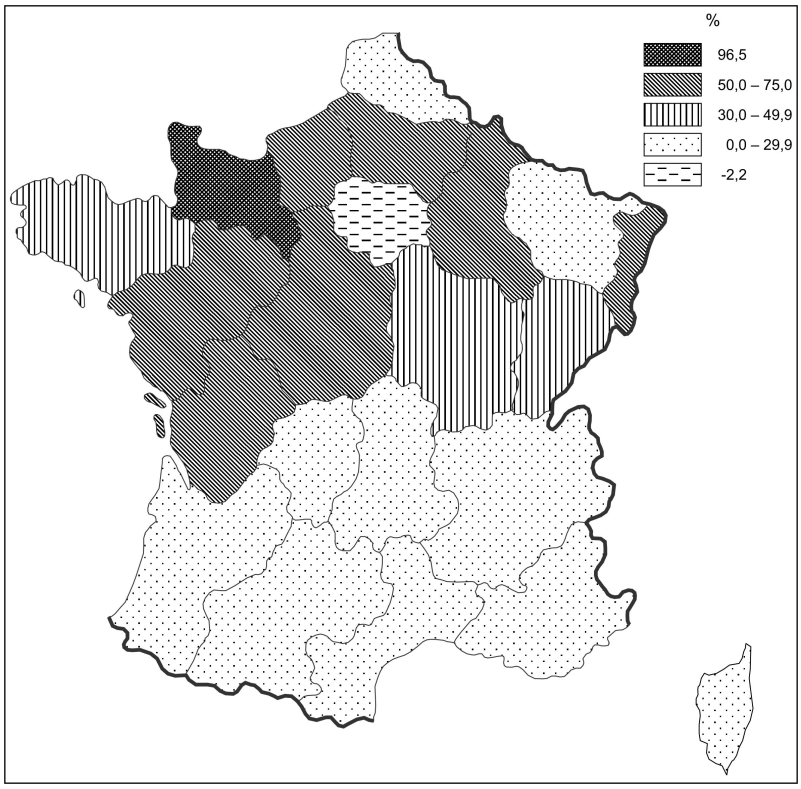
In Perroux's theory, the region does not represent the physical-geographical (banal) space, it is not confined within pre-fixed geographic/political boundaries. It is an economic space conceived as a field of forces, an area of planning, never in a state of perfect equilibrium. Perroux's theory is not interested in the geographical location of growth poles, however, it points out that the spatial agglomeration of economic activities has a favourable effect on the competitivity and growth potential of a pole (Asheim, 1996). Perrouxian poles are constituted by industrial complexes, one or several interrelated firms of a propulsive sector (so-called industrialising industries). In the ideal case, they are located at the core urban agglomeration

of highly structured regions with a hierarchical settlement network and are expected to generate growth in their region automatically. It is noted by Perroux that the impacts of growth are not limited exclusively to the central agglomeration but are transmitted to the hinterland through centrifugal *spread effects* and in the form of new investments triggered by the anticipated advantages of the spatial proximity of the pole. As instruments of spatial planning, poles were created in objective (banal) spaces, and growth via spread effects was expected to be transmitted from the planned poles towards the hinterland.

A deficiency of Perrouxian growth pole theory is that albeit it explains the operative mechanisms of poles, it does not discuss the factors leading to their emergence. Later research unveiled that in order to avoid the creation of „cathedrals in a desert" and to ensure the efficient functioning of a pole, besides the presence of a lead sector, a network of suppliers (for the diffusion of innovation), interfirm linkages, a sufficiently integrated regional economy, a qualified workforce, the proximity of a consumer market, freely disposable capital, urban agglomeration, research facilities, and financial services are also required. The absence of any of these factors may limit the scope of potential poles. In French practice, the planned poles were either unable to induce growth in their hinterland, behaved as isolated units or tended to produce so-called backwash effects through depriving their regional environment from the most valuable resources (Parr, 1999). Backwash effects occured when the presence of new, cost-efficient and export-oriented firms reduced demand for local SMEs formerly producing for the regional market and labour force migrated to the growth pole. The „centripetal effect" of the pole was manifest in growing concentration of capital, widening the development gap between a reinforced pole and a devitalised hinterland. The fact that top-down investment strategies contained no built-in compensatory mechanisms for those areas which were excluded from the circle of beneficiaries and suffered from the consequences of the absence of growth mechanisms demonstrates the short-sightedness of strategy-makers. No attention was paid to the fair redistribution of benefits of growth at the regional scale either. The lack of corrective or ex-post compensatory mechanisms was due to the expected functioning of counterweight metropolises as effective Perrouxian growth poles, inducing intraregional equilibration mechanisms via generating economic growth in predominantly rural, less industrialised western regions. The propulsive sector through the existence of strong backward linkages was expected to generate cumulative growth. Policy-makers relied on this effect when they undertook investments in peripheral towns often lacking sufficient conditions for the successful implementation of the strategy.

Public subsidies are most efficient if they target the elimination of bottlenecks in lagging regions, such as infrastructure or the lack of qualified labour force (Faragó, 2013). However, in the case of the French poles, the exclusive focus on infrastructural investments was not sufficient to tackle the problems of disadvantaged regions where, in addition to a shortage of physical capital, lacking institutional, social and geographical assets also posed serious obstacles to the successful implementation of the strategy. Growth poles are meant to be examined in a wider theoretical framework, i.e. they should not be separated from their context. They constitute an integral part of the development process which is not the equivalent of growth (Perroux, 1988).

Figure 1 The growth of industrial employment, 1945-75, percentage



Source: Braun-Collignon 2006

Albeit employment data (*Figure 1*) demonstrates the success of the growth pole strategy, it is a subject of debate whether the peripheral metropolises experienced growth as a result of exogenous processes related to globalisation and spontaneous metropolisation, new corporate strategies of delocalisation or regional policy interventions and the mobilisation of the meagre resources of spatial planning policy. The new investments targeted the implantation of large Fordist industrial units in the metropolises (vehicle industrial sector, chemical industry, steel industry). The 2745 industrial decentralisation operations conducted between 1955–75 led to the creation of 429,489 new jobs and 3,200 enterprises (Merlin, 2007). However, over half of

the new jobs were located in the proximity of Paris, only one-fourth were created in the southern and southwestern regions, and 8% in industrial restructuring regions. Industrial decentralisation produced spectacular results in the Central region, Upper Normandy, Lower Normandy and Picardy regions where most of the newly established rural jobs required a low-skilled workforce.

Nonetheless, quantitative growth was unable to put an end the predominance of the capital city, hierarchical and asymmetrical relations between Paris and the peripheral towns were reproduced along different lines. Paris remained the primary beneficiary of industrial decentralisation: it managed to get rid of a substantial proportion of its manufacturing industrial employees between 1954–75 (29%) and while the inner ring underwent successful desindustrialisation, the outer ring saw a rise of manufacturing employees (+154 000). Besides, the majority of company headquarters were established in a 50-km radius of Paris and 42 % of the new jobs were created in the Paris Basin. As a result of the new spatial division of labour, a new type of qualitative differentiation (heterogeneous qualification levels, content of workplaces, wages, prestige) replaced the previous quantitative differences. In this respect, regional policy has expressly contributed to the rigidification and conservation of relations of dependency and increasing concentration of company headquarters in the centre. The geographical deconcentration of labour occurred in a period characterised by constant and high demand for low-skilled jobs, which explains the success of Fordist-type investments leading to regional convergence, as capital flowed to peripheral regions where wages were low and labour force migrated to advanced regions.

Table 1 The evolution of the demographic weight of counterweight metropolises

	Population of the eight cities (million)	Share in the total urban population (%)	Rate as a percentage of the capital city (%)
1962	4.4	13.6	59.5
1968	4.9	13.9	59.8
1975	5.3	14.1	63.1
1982	5.6	14.0	64.3
1990	6.0	14.0	64.5
1999	6.5	14.7	67.4
2007	7.1	14.8	68.9
2014	9.6	18.5	78.2

*Lille, Nancy, Strasbourg, Lyon, Marseille, Toulouse, Bordeaux, Nantes
Source: INSEE, World Bank data.

By the end of the 20th century, the counterweight metropolises of the 1960s had developed into fully-fledged metropolises or showing signs of metropolisation (Nancy-Metz, Strasbourg,

Grenoble, Montpellier, Toulouse, Bordeaux, Nantes, Rennes), by which they contributed to the development of a more polycentric urban network.

Table 2 The classification of French cities

1	Paris	International metropolis with global functions
2	Lyon, Marseille, Lille	European metropolis Population > 1 million
3	Nice, Toulouse, Bordeaux, Nantes, Strasbourg, Grenoble	European metropolis 400 – 1 million
4	Rouen, Metz, Montpellier, Rennes, Orléans, Clermont-Ferrand, Dijon, Caen	Mid-sized city 200 – 550 000
5	Toulon, Douai-Lens, Nancy, Tours, Saint-Étienne, Béthune, Avignon, Le Havre, Mulhouse, Angers, Reims, Brest	mid-sized city < 200 000

Source: INSEE.

Embarking on the road to decentralisation (1982-2015)

The *Trente Glorieuses* between 1945-75 were marked by General De Gaulle's commitment to the reconstruction of France, massive state-led projects, the reaffirmation of the „French exception" and the valorisation of a „*certain idea of France*" analogous with its greatness. The basic units of the decentralised institutional system were laid down in tandem with state-interventionism and the industrial decentralisation policy reviewed in the above section. During this period, French regions were no more than instruments of spatial planning put in the service of a more balanced spatial structure. Economic regions were delineated in order to fulfil economic planning objectives since no other administrative unit provided an adequate framework for state intervention. The basic administrative units of regionalism exist since the delimitation of the 22 programming regions in 1954. Regional action programmes were launched in 1955 to promote the socio-economic development of lagging regions. The state established a special fund (economic and social development fund) to finance regional projects integrating previously fragmented regional aid instruments. The state-led modernisation and infrastructural developments advanced at a rapid pace. The programming regions included 2 to 8 counties each, 14 regions maintained the names of former provinces. Regional action districts implemented in 1964 (*CAR*) were placed under the control of prefects, regional affairs were delegated to the regional development council whose members included local politicians and various experts (Piercy, 2009).

The idea of regionalism appeared at the level of political discourse in a 1968 speech of the President De Gaulle in Lyon in which he termed the century-long centralising trend of the

French Republic obsolete and announced a new era of regionalism which alone would guarantee the economic hegemony of France. However, pursuant to a failed referendum in 1969, marking the end of the Gaullist presidency, the political recognition of a France of regions was postponed until 1982. Meanwhile, various factors contributed to weakening the power of the centralised state, among which decolonisation deserves special attention, for it marked an end to the self-proclaimed civilisatory mission of France directed at „savages", a myth based on cultural superiority underlying the French ideology of greatness. This historical role had to be abandoned and thus, it was no longer viewed as a glorious aspect of the narrative of national greatness. Neomarxist critics underlined the inherent contradiction between the myth of republican egalitarianism and the historical reality of exploitation, domination and colonisation, namely that it was embedded in a particular hegemonic order which defies the myth of its universal exportability. The decisive blow to the centralising state-interventionist era was the growing dominance of Anglo-Saxon neoliberal ideology from the 1980s attacking the majority of the foundations of the social state, which coincided with the accelerating pace of European Integration (Single Market, EMU). The 1980s were characterised by the overall crisis of the welfare state relying on the prospect of illimited growth. Rosanvallon (1981) mentions three aspects of the crisis, the first is financial, the second related to the efficiency of public policy (capacity of offering a solution to mass unemployment) and the third is related to legitimacy (capacity to offer a viable alternative to the neoliberal paradigm).

The republican solidarity-based system based on massive redistribution and settlement autonomy was challenged by the phenomenon of metropolisation and the privatisation of public services. The dominant trend of metropolisation produced a territorial structure described by Pierre Veltz as the *urban archipelago*, where the distance between the constitutive elements of the system are far less remarkable than the rural-urban divide in the previous era (Lévy, 2013). This is in line with the world city thesis (Friedmann, 1986) which emphasises that a limited number of cities concentrating the primary control functions play the key role in the spatial organization of the world economy. These strategic functions are assumed in essence by the layer of "cadres" (middle and top managers) defined by INSEE as superieur metropolitan employees (EMS). The presence of EMS highlights the command power of metropolises. In France, apart from one global city (Paris) which still captures the essential part of cadres, their presence in regional capital cities has significantly progressed.

It was President Mitterand who embraced the idea of regionalism and implemented a series of decentralisation reforms named after the Minister of Interior Affairs Gaston Defferre.

Pursuant to the Defferre Laws of 1982, regions became territorial collectivities of their own right. Pursuant to formal decentralisation, cities were granted a large degree of autonomy coupled with the advantages of massive state redistribution guaranteed by the system of republican solidarity. The 1999 Chevènement Laws introduced various intersettlement cooperative frameworks (EPCIs)[4] in the view of achieving economies in terms of the organisation of public services, and finally, the MAPTAM Law and the NOTRE Law (2015-2016) defined the new territorial organisation of France based on the supremacy of metropolises and supersized regions[5]. The proponents of the reform claim that traditional centre-periphery relations formerly characterizing the national territory are no longer relevant in a context of European-scale competition between cities of similar size and where Paris competes with London and Tokyo.

Decentralisation has been a costly adventure for the French state, resulting in an extreme spatial fragmentation of power and a plethora of administrative tiers. (In 2015, the republic counted 36,529 communes, 101 counties and 27 regions, i.e. 40% of the local collectivities of the EU[6].) Since 1982, each successive legislation added a supplementary tier to the existing territorial-administrative system, while the traditional county-based structure maintained its legitimacy despite successive attempts of left-wing governments to suppress it. The traditional structure constituted by six distinct tiers forming the arena of action of spatial development policies (the settlement, the county, the EPCIs, the region, the state, Europe) is redundant and its relevance is questioned by the series of new reforms which *highlight the preeminence of the economic over the political*. Despite its declared radical objectives, the reforms left an extremely fragmented settlement structure intact, whereas Europe-wide countries are aiming at the fusion of settlements. Besides, fears concerning the „hollowing out" of the settlement scale (the basic cell of local democracy) are realistic in light of the text of the reforms which leave an alarmingly narrow scope of areas of intervention for the communal level.

The economic role of the region is valorised by the reforms, and a marked division of labour between the new and existing tiers (regions, metropolises, counties, settlements) is targeted through the specialisation and definition of tasks. The region is granted substantial liberty to define its economic development strategy whose objectives are fixed in the Regional

[4] Despite the traditional resistance to such intercommunal structures, the number of EPCIs with own-source tax revenue in 2016 was 2062, which entails the diminishing number of isolated settlements (27)., (Plantevignes S, Sebbanc L, 2016)

[5] Pursuant to the Maptam law of 2014, the Republic saw its large cities transformed into metropolises: Nice, Lyon, Rennes, Bordeaux, Toulouse, Nantes, Brest, Lille, Rouen, Grenoble, Strasbourg, Montpellier, Grand Paris, Aix-Marseille-Provence, Nancy.

[6] TRÉSOR-ÉCO – n° 154.

Economic Development, Innovation and Internationalisation Plan. Sustainable development goals are to be included in another strategic document, the Regional Sustainable Development Plan. Both documents are to be elaborated by the regional authorities.

Power relations reproduced between settlements within administrative regions reflected the way the state organised its relations with subnational units, giving a birth to „mini-states" as regions were referred to. Power did not simply wane or weaken as a result of decentralisation; on the contrary, it began to dominate inter-settlement relations. However, their equal status affirmed by legislation did not empower settlements to exercise control over administrative units of inferior ranking, i.e. no hierarchical relations were allowed between settlements in terms of competences. The general system of competences meant that each local community could freely exercise tasks outside those prescribed by the law, provided that they served the community's interests. This resulted in a complex web of competences, which was inefficient and imposed a great burden on public expenditure. The new decentralisation laws which initially targeted the suppression of the counties, decided to finish off with the system of general competences in the case of counties and regions, determining the specialised competences of each territorial administrative level. In reality, it is an instrument of control which seems to be contrary to the spirit of decentralisation. The anticipated greater transparency and visibility evidently serve the interests of the superior levels of the administrative hierarchy. The regionalisation agenda is in part a response to European processes demanding a continuous reorganisation of power relations between nation-states and subnational units, demonstrating preference to supra-state forms of political organisation and forms of cooperation across the continent. The requirement of strong, self-governing units matching in size the German „*Länder*" became crucial for the country to boost its economic competitiveness. It was widely held that French regions were too small and lacking sufficient resources to initiate their own programmes. The maintained attachment to counties destroyed every illusion of an imminent and radical transformation of the administrative structure despite the siren calls of proponents of a „new geographical contract" relying on the elimination of old forms of attachment, rendering them obsolete against the backdrop of increasingly deterritorialised spaces constituted by a variety of flows inherent in the functioning of the global economy. Geographers, planners, entrepreneurs hail the new territorial reforms granting a greater autonomy to regions and achieving a greater transparency in the field of programme funding. The benefits derived from reducing the number of regions from 26 to 13 in Metropolitan France via the directives of the *Notre Law* of 2015 are substantial according to preliminary statistical calculations. The claims of the

proponents of the reforms seem to outweigh the disadvantages voiced by those who regard those as a possible end to the decentralisation project and claim that outside their excessive bias towards metropolitan areas, reforms neglect rural France, i.e. 90% of its territory, 2/3 of its settlements and 27.3 million inhabitants (over 40% of the total population). On the opposite extremity are situated progressive thinkers such as the geographer Jacques Lévy who sees an overwhelming need to transform a century-long rural-based structure into an almost exclusively urbanised space, whose hypothetic uniformity and unity is but a mere relic of the past and whose maintained legacy produces excessive inequalities and undermines the rhetoric on spatial justice. The rigidity of the past structure as manifested by the importance of physical frontiers, separation, geometrical forms, dividing lines is contrasted with the growing influence of shapeless networks and poles. The new structure which highlights the dominance of the *region-metropolis-EPCI* triangle disrupts former structures based on the hypothetical democratic equality of settlements. The role of regional prefects is also reinforced in the new system of multi-level governance, who collaborate with the metropolitan level administrative structures, a new level of the representation of asymmetrical power relations in the administrative structure. If the reallocation in power shifts towards the strongest elements in the system, this will evidently lead to an asymmetry of interest enforcement capacity, evidently at the expense of the weakest elements, the rural settlements. These areas are lacking *visibility*, which is apparently the most significant objective defined for French metropolises. Visibility in the economic space almost always implies a high level of urbanisation, density and concentration in the view of achieving economies of scale. Hence, lagging, handicapped territories, e.g. extremely sparsely populated remote rural spaces as detected by INSEE, which are estimated to make up an alarming 26 percent of the territory of France, 5 percent of its population and 14 percent of its settlements, remain in the domain of the „invisible".

Regarding the government's plans to drastically reduce the level of funding (*dotation globale de fonctionnement, DFG*), territorial collectivities will fall short of 11 billion euros between 2015-17 in compliance with EU-objectives to reduce the state deficit below 3% of overall GDP. For the local collectivities, it will result in a cutback on investments and operating costs (Le Pors 2015). In the case of local collectivities jeopardised by the loss of funding, this means a significant deviation from the democratic functioning previously ensured by a comfortable level of state funding. According to Le Pors (2015), the reform reveals a bias towards enterprises to the detriment of households. In another approach, the new territorial reforms can be interpreted as an attempt to harmonise the institutional system

with the exigences of the global economy. In this framework, the objective is to ensure a greater coherence between the geographic reality of local collectivities and the territorial economic geography which would produce substantial benefits in terms of economic efficiency, while, at the same time, a greater adaptation to the „lived spaces" constituted by the everyday trajectories of citizens. By transferring the tasks and competences of the communal level to the intercommunal and metropolitan levels of governance, the basic units of the practice of local democracy are at the risk of losing their instruments and role in the provision of services of proximity.

Not all territorial stakeholders share the enthusiasm of the ruling elite about the benefits of the extension of communal integration, resistance is most evident in the case of peripheral communes attached to their autonomy. Mayors of smaller communes highlight the dangers of technocratic top-down governance styles and the danger of being dissolved in intercommunal structures which should be regarded as instruments and not ends in themselves. Apart from peripheral voices opposing the reforms with their exclusive focus on size and efficiency, it seems that mid-sized towns rejoice over the possibility already open to a number of new entrants into the selective club of French metropolises instituted with the MAPTAM Law. As of August 2016, five additional French agglomerations have become eligible to obtain the status of metropolis, namely St-Etienne, Dijon, Orléans, Toulon. For St-Etienne it is vital to ensure the visibility of the agglomeration in a region where the dominance of Grenoble and Lyon creates a highly unbalanced structure. Intensive lobbying on behalf of city mayors preceded the modification of the Law which rendered further candidates eligible to obtaining the rank of metropolis. In fact, a supplementary text in the law made it possible for each regional capital city to obtain the status of metropolis regardless of the level of preparation of the given city. This resulted in an interesting conflict between Tours and Orléans, for instance, the latter obtaining the title automatically, while the former, whose preparedness would more likely have justified its eligibility, was refused in the first round.

Mainstream politicians, irrespective of party affiliation, have manifested their commitment to the prescriptions of new economic geography establishing a relation between the growth potential of cities and their size, indicating that the ideology of *big is beautiful* has reentered the scene after a temporary interlude in the politics of DATAR marked by its support of medium and small sized cities in the 1970s-1980s. By succumbing to the logic of the functioning of the economy and supporting the strongest elements in the spatial hierarchy, spatial planning has abandoned its traditional focus on redistribution and spatial equilibrium. This poses the question of whether it is still possible to refer to it as an autonomous policy

committed to ideas of spatial justice, harmonisation, equilibrisation. By eradicating the traditional „territorial millefeuille" and enforcing its rationalising logic, the state contributes to the possible emancipation of the richest regions and their ambitious metropolises more interested in competition outside the national borders than in aiding disadvantaged settlements which, up until now, have enjoyed the benefits of the generous redistributory policies of the state. Laurent Davezies, by introducing the notion of „new territorial egoisms", refers to the autonomisation of rich regions (Catalony, Northern Italy, Scotland) based on superior GDP values in the 21st century known as „regional nationalisms" and their eventual liberation from the burden of providing for the needs of poorer regions within their countries. Such behaviour in the case of France would imply disastrous consequences, entailing the disruption of the unity of the Republic.

CONCLUSION

Albeit centralisation contributed to shaping a „certain idea of the nation" based on its indivisibility, uniformity, homogeneity, a capacity to transcend differences and particularities, constituted the geographical translation of political and social egality (Estèbe, 2015) and was enforced via the voluntaristic actions of central agencies adhering to the principles of intra-national solidarity in order to counterbalance the detrimental effects of market forces, it is considered inefficient and too costly in the context of the current valorisation of metropolitan growth and the advantages of integration into various flows and networks transcending national boundaries. The preeminence of economic growth objectives in the background of the recent territorial reforms led to a drastic reduction of state funding accorded to local collectivities, and reinforcement of the role of supersized autonomous self-governing units (the supersized regions). It is likely that asymmetrical power relations, private players, powerful mayors' lobbies and pressure from the EU contributed to the recent reorganisation of the territorial administrative system of the Republic. All these factors point towards the contingent nature of the reform process culminating in a unique system of governance, considered as an unachieved experience and not as a *terminus ad quem*, i.e. an ideal representation of the national territory. It is a division corresponding to a specific perception of the national territory from the perspective of the functioning of the global economy which disregards the organic development of historically embedded communities. In the words of Jacques Lévy, the need to redefine the traditional post-revolutionary structures stems from the overwhelming prevalence of the „urban fact", largely ignored by the political elite until recently. The outstanding speed of urbanisation in France rendered senseless a division based

on the hypothetical equality of settlements – itself a product of egalitarianistic enlightenment thought. Under these circumstances, multi-speed development will become a permanent feature of the national territory divided between winners and losers of supra-national processes.

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Original scientific paper

GRAVITY CENTERS OF CENTRAL EUROPEAN URBAN NETWORK – GLOBAL EMBEDDEDNESS BASED ON ADVANCED PRODUCER SERVICES

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Abstract

The focus of the paper is on how Central-European cities can join the global urban network by taking part in offering high level business services for multinational companies. Companies offering these high level business services are multinational companies themselves, which locate their offices in the production and service-providing centers. New centralities and marginalities occur, and a key question how the fragmented Central European urban structure mainly characterised by small cities is affected by these changes, which cities became global cities, and which cities can be integrated in the urban network on a regional level. The hypothesis is justified by the examinations, mainly the integration of capital cities can be witnessed. Primary gravity centers are Warsaw and Vienna, besides Prague and Budapest can be identified as global cities of the region. The Central-European space is connected as a macro-region, all capital cities are on the map of examination, no new periphery occurs on macro level. The role of big cities apart from capital cities is in strong correlation with the relevant country's urban network, with its mono- vs polycentric type of organization.

Keywords: global urban structure, Central Europe, advanced producer services

INTRODUCTION

According to Hall (Hall, 1990) the whole European urban structure was influenced by the changes took place in Central and Eastern Europe in 1989-90, and especially Berlin and Vienna could get back their role and nodes of international flows and traffic again, and could become thus more attractive locations for advanced producer services as well. This is also true for Warsaw, Budapest and Prague. According to Kunzmann (Kunzmann et al., 1996) the development of cities on the peripheries could restructure the spatial structure of the European urban network.

Present paper focuses on the Central European urban network, and studies how far it could got integrated to the global urban structure based on location strategies of advanced producer services as indicator.

There has been a shift in the approach of the development of the European urban network in the past 10 years. Previously the European Spatial Development Perspective defined the directions for development of European urban structure. It was based on the polycentric approach, and aimed at developing cities in order to form a counterweight to the cities of Pentagon. (European Commission, 1999). However, according to the development processes of the years after 2000, globalization process came to the front also in the urban structure policy, and a shift occurred in European Union policy: development is focused on the significant metropolitan regions, where economic and innovation capacities are concentrated. So the metropolitan regions got integrated into the global urban network, and the polycentric policy was shifted to the level of mid and small sized cities. (European Commission, 2007) It became clear that a European urban network does not exist in itself, only as part of the global urban network. Certain European large cities become key actors in international economic processes and thus they are linked to global processes. The main focus of this paper, how far the Central European cities can become actors in these processes, and which cities these are.

The paper deals with the cities of Hungary, Slovakia, Poland, Czech Republic, Slovenia, Romania, Bulgaria, Croatia, Serbia, Bosnia-Herzegovina, Macedonia, Kosovo and Montenegro as parts of Central European urban network. Examination of Austrian cities is also included for reasons of comparison, as they are geographically in the same space, however with different development opportunities.

First a justification for the relevance of the topic is given, and theoretical embeddedness is offered. The paper is based on Sassen's global city notion, and further on builds on Sassen's New Economy and on the work of Taylor and the Global and World City Research Group and Network (GAWC). They already conducted several researches based on the advanced producer services on global level, however Central European space did not form part of their studies.

OBJECTIVES AND METHODS

The development of a transnational urban network can be witnessed in the last 30-35 years, where the nodes are important cities of global economy. These cities have a key role in the international network flows of capital, information and labour force as nodal points. These processes strengthen further the position of these cities. There is a shift in the key relations and interactions of cities. As Friedmann states (1986), it is not the strong relationships with

the hinterland any more that determines the position of the global cities, but the speed and depth of integration of these cities into different flows (De Vos et al., 2012). Here the dichotomy of Friedmann's world city (1986) and Sassen's global city (1991) notion meets. The question is whether world cities or global cities are the key actors when examining the advanced producer services.

De Vos (De Vos et al., 2012) offers the comparison of the world city and global city notions, and while the network of world cities redesigns the traditional centrum – periphery patterns in the world economy, the global urban network can exceed these limits. While in case of world cities the main actors are the multinational companies without limiting their type of activity, and function as a power center, „container", in case of global cities main actors are the specialized business service providers and the central cities can be defined as servers of global capital. As a result the centrum – periphery dichotomy transforms and the new geography of central and marginal places emerges. Global cities are characteristically not embedded in their region, main focuses of relationships fall out of the physically surrounding geographical space. In case of the global cities we can talk about functional centrality contrary to the central place theory of Christaller (De Vos et al., 2012).

Study of global cities goes back to Hall's world city concept in 1966 and to Friedmann's and Wolff's world city notion in 1982. Hall defines world cities based on their functions and accordingly these cities are centers of national and international political power, centers of governmental, public administration institutions, and centers of national, international and generally speaking of economic activities. Friedmann and Wolff make a step forward, and they mean that world cities are characterised by the dominance of financial and service sector within economy. These cities are closely interrelated via communication technologies and financial operations, and practice a worldwide control over market expansion. (Hall, 1966, Friedmann et al., 1982)

Taylor's world city concept builds on Wallerstein's world-system theory in a sense that a world city for Wallerstein is a historically defined and evolving system that already determines a city's position in the world-system.

Sassen was the first to word the notion of global city in 1991 in her work related to the New Economy. As contrary to Taylor she votes for the notion of the global city instead of world city, however using the same argument. Their reasoning is in line, central cities have global function, however, no historical determination is, however, at stake. Of course there

are global cities that are world cities at the same time and vice versa. Global city as a notion offers the definition of those cities that have a strategic role within the global urban network.

Accordingly also world economic processes have become more intensive with the development of communication technology and with the strengthening of liquidity and mobility of capital, but first the main actors were state actors. It was with the deregulation of markets and the appearance and spread of multinational companies that world economic process developed into global economic processes.

Overrunning the central place theory – that considered central place as a decision-making center with a strong interaction with its region, hinterland - a new approach occurs: main interactions take place between global cities and not with the surroundings.

Sassen defined in her New Economy advanced producer service providers as key actors in the organization of the global economy. Production is concentrated in the biggest cities, and location of advanced producer services is linked to them. As producer companies increased number of sites, business service companies adapted their location strategies and followed the producers in order to maintain business relations. In fact the emergence of the multinational network of advanced producer services was a reply to the strategic decisions of producer companies, to the changes of their location strategies. And thus arriving to the point, the activity of advanced producer services formed a global urban network, comprising activities like global advertising campaigns, system of contracting, electronic communication and personal relations among the sites of the business service provider. (Taylor, 2004, Taylor, 2012)

According to Sassen (1991) several factors influenced the model of global city. The ever stronger geographical spread of economic activities strengthened the role of central organizational functions. The broader spread are the activities of the multinational companies geographically, the more complex are the central strategic functions. The scale and complexity of these functions can reach such an extent that producer companies tend to outsource these functions to specialized service providers. Thus besides the seat of the multinationals, the advanced service providers also gain key positions as handling strategic functions of production companies. It has an even larger emphasis in cases where companies are actors in the global markets and their activities exceed routine activities. It is characteristic that more and more multinational buys advanced business services from specialized service providers. As a result of this process a high concentration of business service providers mean an important information basis and economic power. As production activities are not

necessarily concentrated physically, and are carried out on sites with different comparative advantages, real concentration is realized by the advanced business service providers that always concentrate locations also physically. The statement the more multinational company seat a city comprises the bigger economic role it has in the world economy was clearly true before, however the picture is more diversified today. The statement is still valid in many places, however in countries with a developed infrastructure, producer companies can apply a more diversified location strategy for their production activities, and production site and business center does not necessarily match. The centralization of specialized business service providers results in a new type of geographical concentration. The role of the advanced service providers – which themselves are multinational companies, is to realize an even stronger concentration, to carry out strategic company functions while adapting to the spatial dispersal of economic processes. As a working environment for these business services the different countries operate different legal systems, accounting systems, advertising culture, etc. Thus processes reach such complexity that the producer companies are themselves interested in outsourcing these functions and save resources for the core production activities (Sassen, 2005).

Methodologically speaking study of the cooperation of the global urban network based on advanced producer services is only indirectly feasible. In case of studying networks, two levels are at hand: the level of the nodal points, the cities, and the level of cooperation, the interactions among the nodes. In case of the advanced service providers a third level appears as well. The services take place in the cities, which is the middle level. The cities provide the site for the producer companies' activity, to which the advance producer services are linked, and the activity of the service providers is also realized on the premises of the city. However, the relations themselves do not take place among cities, but happens on the sub-city level, the business services are in cooperation with each other. And as a third point, the network itself works on a supra-city level, among the sites of the business service providers, and the seat of these management companies where the decisions are taken. Thus not the cities themselves are the decision-making centers, but it takes place on the supra-city level, in the multinational companies, which are also responsible for the interactions in the network. (Taylor et al., 2012)

Location and space is a central notion in the operation of the global economy further on. In the 1980s when the globalization of the economy was in the forefront, emphasis was put on the hypermobility of capital and the globalization of communication, and at the same time the importance of space and place became neutral (Sassen, 2000). However, the last decades

proved that global economic processes also take place in space, and need resources that are not hypermobile, but embedded in place. Thus the role of space, and first of all, the value of cities increased again, and the geography of strategic places, the new geography of centrality became highlighted. According to the new geography of central places, global economic processes are materialized as well, and the centers of these activities are usually the global cities. Globally integrated organisations also need a central location, where the activity itself takes place. As an example, information industry also needs significant infrastructure and their strategic nodes are where facilities are concentrated. It is also valid for other industries where majority of activities take place in the electronic space, like in case of finance. This approach leads to the conclusion that those cities emerge as nodal points that concentrate on services based on communication technologies to a large extent (Derudder et al., 2012).

Global economy results in new global and regional hierarchies of cities, and cities that cannot join the global processes get to the periphery. Former production centers and ports are crowded out and got marginal. (Sassen, 2008) Our main question is whether Central European urban network can become part of these processes or it gets to the periphery.

The most comprehensive study of the global urban network processes based on the advanced producer services was carried out by Taylor and co-researchers in the frame of the Global and World City Research Group and Network (GAWC). Their aim was to identify those global cities that base position on corporate services. The research unit is the service provider and study focuses on the presence of these business services in cities. Studying networks and interactions shows position of a city based on a certain type of specialized service (e.g. accounting, legal, marketing services, etc.), and by weighting them, relative position of a city in the global urban network.

Not a large number of cities in Central Europe have global role, really some capitals have the potential for joining the global economic processes. Also Central European urban structure is not an integrated one, national networks are not linked. As a result of the historic development of cities in Central Europe the level of urbanization is lower than in Western Europe. Industrialization and rise of middle class took place late, they could not enter the world commerce on the seas, lacked colonies, and their economies operated in the feudal system longer than in Western Europe. Still there are differences in this region as well, in Czech-Moravia and Upper-Silesia industrialization started relatively earlier, and thus the cities here could catch-up with development processes in Western-Europe better than the cities of Hungary, Slovakia, East-Poland, the Transylvanian part of Romania where

urbanization started only in the 2nd half of the 19th century. Modernisation and development of the urban network in the Balkan countries only began after the 1st world war as a consequence of the continued presence of the feudal Turkish Empire. The emergence of the nation states in the region resulted countries with low number of inhabitants, and with relatively small cities considering number of population, and lack of mid-sized cities compared to Western Europe. Wars, also considering the world wars had a significant impact on these counties' territories, population and urban network, important changes, reorganizations took place. In the socialist era central state governance determined the development of cities overshadowing market processes. Quantitative city development took place as a contrary to quality development, the number of cities highly increased, however not all cities could fulfil all functions a city is expected to. During the 1990s the isolation of cities in the region ended, and integration with the European urban network was a real possibility for development. Favourable processes occurred, inflow of capital and technology, appearance of multinational companies, visits of foreign tourists in cities. As a consequence of late integration and underdeveloped infrastructure a strong city competition emerged for the resources and factors. Capitals had a real advantage in this city-competition which further strengthened the trait processes that concentrates modernization on a few number of nodes (Pounds, 2003).

RESULTS

Primarily capital cities could become part of the global structure, and capitals are overrepresented in the examination sample. However there are important differences among positions of different capital cities in the region. Referring back to Hall's (1990) statement, the absolute lead of Vienna is not underlined.

Derudder (Derudder et al., 2012) conducted a comparative research based on Taylor's and Alderson's previous findings regarding the global urban structure based on the one hand on the site location of multinational companies, and on the other hand on the locations of advanced producer services (Alderson et al., 2010) studied 6,308 cities and the sites of the 500 biggest multinational companies, while Taylor (Taylor et al., 2011) examined 175 advanced producer services in 525 cities. Nine Central European cities got on the map out of 130 significant cities: Budapest, Bucharest, Bratislava, Ljubljana, Prague, Sofia, Vienna, Warsaw and Zagreb, all of them capitals. According to the findings three of them, Prague,

Warsaw and Vienna have the strongest embeddedness in both corporate networks. Budapest and Bucharest are embedded in the network of business service providers. Sofia, Ljubljana, Zagreb and Bratislava are neither global, nor world cities, these capitals have only regional scopes (De Vos et al., 2012).

The results of the present study show correlation with these results. According to the findings of the study, lead cities in Central Europe are Warsaw and Vienna based on the presence and interactions of advanced producer services. It is important however, no overall primarily role of Vienna can be underlined, on the contrary, Warsaw has a more significant role than Vienna, however the gap is moderate. Among leading capitals we have to mention Budapest, Prague and Bucharest on the second level. However comparing networking among main cities in the region we can state there are only four competitive capitals in the studies sample, Vienna, Warsaw, Prague and Budapest.

All the West-Balkan capitals are on the map for the full service type of consultancy companies. It is a very important fact, as this position ensures the involvement of the Western Balkans to the European urban structure, and thus keeping it integrated, and not allowing becoming a new marginality.

As regards cities outside capitals, 41 cities are involved besides the 14 capitals, and there are 15 cities involved with less than 100.000 inhabitants. Although the capital cities are in the best position for integration to the global urban network, their opportunities are not exclusive. Although not on a global level, but rather regional level, other cities than capital cities can join the structure, in certain countries even small cities with inhabitant numbers below 100.000.

Location strategies of the consultancy companies are in line with the urban structure of all countries. All location decisions reflect whether the said country has a polycentric or monocentric structure. In this respect the most cities with locations are involved in Austria, but also the Czech Republic and Poland shows its polycentric structure through the location strategies of business service providers. In this respect Hungary and Serbia shows the most monocentric structures.

Full service companies are present in all countries and all capitals with an approach of total market coverage, which is also important in not getting excluded from global processes. The real question is the location strategies of the strategic consultancy companies, these are which can really offer positions for cities in the region.

As a consequence we can state, a clear integration to the global urban structure can be witnessed in case of Vienna, Warsaw, Prague, Budapest, and maybe Bucharest.

DISCUSSION

Altogether 16 countries are involved in the study of Central-European space, where 105 cities are present with an inhabitant number above 100.000 (Tab. 1.). As a characteristic of the Central European region the population of the biggest city, in fact the capital city does not exceed 500.000 in seven countries, and in the domain 100.000 – 500.000 no other (- or maximum one other city) occurs. In the other nine studied countries there is only one city, the capital – with the exception of Poland – where population exceeds 500.000, in case of seven capital cities more than one million. It's only Poland where five big cities have inhabitants more than 500.000, and it is only in Poland and Romania where a two digit number of cities exceeds the inhabitant number of 100.000. These data show expressively the scale of cities in Central Europe, its fragmented characteristic which occurs as a disadvantage in integration into global networking systems.

Table 1 Research space

Countries	Number of cities with more than one-million inhabitants	Number of cities with 500.000 – 1 million inhabitants	Number of cities with 100.000 - 500.000 inhabitants	Summa
Austria	1	0	4	5
Hungary	1	0	7	8
Czech Republic	1	0	5	6
Slovakia	0	0	2	2
Poland	1	4	34	39
Romania	1	0	19	20
Bulgaria	1	0	6	7
Moldova	0	1	2	3
Slovenia	0	0	1	1
Croatia	0	1	2	3
Bosnia - Herzegovina	0	0	2	2
Serbia	1	0	3	4
Kosovo	0	0	1	1
Montenegro	0	0	1	1
Macedonia	0	0	1	1
Albania	0	0	2	2
	7	**6**	**92**	**105**

Source: own drafting
Source of data in the table: www.citypopulation.de

From a different point of view the whole region represents a population number of 128,7 million (www.citypopulation.de, 2015), and an economic weight of 1709,2 billion USD nominal GDP (IMF WEO, October 2015) which is already a significant weight for the global market, and specifically for advanced producer services. In the following I explain the studied data and its occurrence in the Central European space.

Table 2 Advanced producer services of research sample

	Consultancy company	**Seat**		**Consultancy company**	**Seat**
1	A Beam Consulting	Asia	31	Kurt Salmon	Europe/ USA
2	AT Kearney	USA	32	L.E.K.Consulting	Europe
3	Accenture	Europe/ USA	33	Logica	Europe
4	AlixPartners LLP	USA	34	KPMG	Europe
5	Altran Technologies	Europe	35	RSM US LLP	USA
6	Arthur D. Little	Europe	36	McKinsey & Company	USA
7	Avasant LLC	USA	37	Mercer, LLC	USA
8	Bain & Company	USA	38	Mott MacDonald Limited	Europe
9	BDO International	Europe	39	Navigant Consulting	USA
10	BearingPoint	Europe	40	Oliver Wyman	USA
11	Berkeley Research Group LLC	USA	41	PA Consulting Group Ltd.	Europe
12	The Boston Consulting Group	USA	42	PwC	Europe
13	Capco (Subsidiary of FIS)	Europe	43	Roland Berger	Europe
14	Cap Gemini S.A	Europe	44	Simon-Kucher & Partners	Europe
15	CGI	Canada	45	Strategy&	USA
16	Cognizant Solutions	USA	46	Tata Consultancy Service	Asia
17	Computer Sciences Corporation	USA	47	Tefen Management Consulting	Asia
18	CEB	USA	48	Towers Watson & Co.	USA
19	Deloitte Touche Tohmatsu Limited	Europe/ USA	49	WS Atkins plc	Europe
20	BAE Systems Applied Intelligence	Europe	50	Slalom Consulting	USA
21	Ernst & Young	Europe/ USA	51	IBM Global Business Services	USA
22	FTI Consulting	USA	52	The Parthenon Group	USA
23	Grant Thornton International Ltd	Europe	53	Alvarez&Marsal	USA
24	Hay Group	USA	54	NERA Economic Consulting	USA
25	HCL AXON	Europe	55	ZS Associates	USA
26	Hewitt Associates	USA	56	CRA International	USA
27	Hitachi Consulting Corporation	USA	57	Gallup Consulting	USA
28	Horváth & Partners	Europe	58	AON Consulting Worldwide	USA
29	HP Enterprise Services	USA	59	Cornerstone Research	USA
30	Huron Consulting Group Inc.	USA	60	Analyses Group	USA
			61	Milliman	USA

Source: own drafting
Source of seat: website of consultancy companies

The data used is from data available on websites of consulting companies. Data comprise the seat of the company, number of consultants employed, number of offices globally, and presence worldwide, and presence specifically in Central European cities.

Among consultancy companies three types are to be identified: strategic, full service and boutique types. Strategic consultancies offer services related to the strategic direction of the companies, usually with global presence, and international office network. The full service providers are global consultancies with a wide-range office network. Boutique consultancies focus either on a specific sector, or a very specialized segmented service. These consultancies have a smaller number, but globally acting office network. Boutique firms work with a smaller number of consultants, about 200 people, strategic firms work with 1000 – 5000 consultants, while full-service providers have generally more than 80.000 employees.

43 advanced producer services have offices in Central Europe out of the examined 60, which is 72%. This ratio is also an index for the weight of the Central European region regarding the location strategies of the multinational business consultancies in relation to the large regions in the world.

Half of the examined companies have their seats in Europe, the other half in the USA, and only three companies in the sample represent Asia, and four service providers have equal seats in Europe and USA.

The number of employees is above 1000 with the exception of five companies, about one third of the examined companies have an employee number between 1000 – 10.000, one-third has 10.000 – 90.000 consultants, and nine service providers have 100.000 – 350.000 employees.

Regarding the size of the network, 40% of the companies have 20 – 90 offices globally, another 40% has more than 100, and in case of 20%, 500 – 700 offices operate around the world. Regarding their presence in a number of countries, nine service providers have offices in 100 – 150 countries, and these companies have also the highest presence in Central Europe. In case of the other examined companies about half – half have offices in 20 – 40, respectively 40 – 60 countries, here no linearity can be identified between global and Central European presence.

Three aspects are discussed in the paper: the presence of the advance producer services in the cities, the weight of capital and other cities, and the relations to the urban networks, as a second aspect the consultancy companies and their location strategies, and as a third aspect the interrelatedness of the nine biggest capital cities, and their network based on the advanced producer services.

When examining the presence of the advanced producer services from the view point of cities, capital cities arise, but not exclusively (Tab. 3.).

Table 3 Central European cities with presence of consultancy companies

	City	Number of inhabitants	Presence of consultancy companies (number)	Position status
1	Vienna	1741246	28	0,459016393
2	Graz	265778	8	0,131147541
3	Linz	191501	7	0,114754098
4	Salzburg	145871	6	0,098360656
5	Innsbruck	122458	5	0,081967213
6	Klagenfurt	95450	5	0,081967213
7	Sankt Pölten	51926	1	0,016393443
8	Gratkorn	7622	1	0,016393443
9	St Anton	2426	1	0,016393443
10	Imst	9827	1	0,016393443
11	Hohenems	15659	2	0,032786885
12	Götzis	11041	1	0,016393443
13	St Florian	3608	1	0,016393443
14	Bregenz	28696	1	0,016393443
15	Eisenstadt	13101	1	0,016393443
16	Dornbirn	47417	1	0,016393443
17	Budapest	1735711	23	0,37704918
18	Győr	128567	1	0,016393443
19	Prague	1268796	24	0,393442623
20	Brno	385913	8	0,131147541
21	Ostrava	296224	5	0,081967213
22	Plzen	170322	1	0,016393443
23	Liberec	102754	2	0,032786885
24	Olomouc	101003	2	0,032786885
25	Ceske Budejovice	93715	1	0,016393443
26	Jihlava	50075	2	0,032786885
27	Bratislava	415589	16	0,262295082
28	Kosice	240164	3	0,049180328
29	Poprad	91352	1	0,016393443
30	Warsaw	1715517	31	0,508196721
31	Krakow	758334	10	0,163934426
33	Lódz	718960	4	0,06557377
33	Wroclaw	631188	11	0,180327869
34	Poznan	550742	9	0,147540984
35	Gdansk	460427	3	0,049180328
36	Szczecin	408913	2	0,032786885

Table 3 (Continued)

37	Katowice	307233	7	0,114754098
38	Torun	204299	1	0,016393443
39	Bucharest	1883425	22	0,360655738
40	Cluj Napoca	324576	5	0,081967213
41	Timisoara	319279	5	0,081967213
42	Iasi	290422	3	0,049180328
43	Constanta	283872	2	0,032786885
44	Sibiu	147245	1	0,016393443
45	Sofia	1212935	12	0,196721311
46	Varna	334688	2	0,032786885
47	Ljubljana	274826	9	0,147540984
48	Zagreb	688163	11	0,180327869
49	Koprovnica	30854	1	0,016393443
50	Sarajevo	393000	7	0,114754098
51	Banja Luka	164200	1	0,016393443
52	Belgrade	1166763	12	0,196721311
53	Pristina	145149	3	0,049180328
54	Podgorica	150977	3	0,049180328
55	Skopje	491000	5	0,081967213

Source: own drafting
Source of data on population: www.citypopulation.de, 2011.
Source of data for presence in Central Europe: website of consultancy companies

The examined 60 service providers have offices in altogether 55 cities in Central Europe. Warsaw has the highest number of presence with 31, Vienna follows it with 28, - 22 companies have offices in both cities. This shows that the weight of Vienna is not overwhelming, it has the second position after Warsaw. On the second level Prague has 24, Budapest 23 and Bucharest 22 offices. Sofia, Belgrade and Zagreb have only offices of advanced producer services which have also offices in the five above mentioned cities. Ljubljana is a more developed country based on economic indicators, however it has the lowest presence among the nine capital cities due to its market size.

There are three consultancy companies in the examined sample in Central Europe that have no seats in either of the four capitals Vienna, Warsaw, Prague and Budapest, these companies have offices in different cities in Poland.

Location strategies of the advanced producer services reflect the urban network of each country. According to city locations in countries with a polycentric urban network - Poland, Austria and Czech Republic - other cities than capital also occur as sites for consultancy companies. However it's Austria within this group where presence of consultancy company in

cities with less than 50.000 inhabitants also occurs. In these cases presence of a multinational production company underlines site location.

Traditionally monocentric country is Hungary (the most monocentric along with Serbia based on this study) with one company in Győr besides Budapest, Slovakia where Kosice and Poprad are on the map, and Bulgaria where Varna occurs marginally besides the capital cities as location sites. The capitals of the small West-Balkan cities also have locations, basically due to the fragmented and rather isolated urban networks of the region's countries.

73% of the cities have more than 100.000 inhabitants, the ratio is rather due to Austria where 11 cities (20% of the examined sample) serve as location sites for consultancy companies with a population below 100.000. Besides, two Czech, one Croatian and one Slovak city represents cities with less than 100.000 inhabitants.

By taking out cities with only one location of consultancy company out of the sample, 37 examined cities remain. The decrease affects Austria most, only 6 cities remain where more than one consultancy company has a location, and among the six only Klagenfurt's inhabitant number is below 100.000, however approaches it. It is only Hungary - besides the West Balkan countries - where only the capital is involved from this point of view.

Location strategy is an important part of multinational companies' corporate strategies. Factors like the number of countries where they show presence, number of offices and resource allocation define their operation and profitability. The most important location factor for the advanced producer services is the location of multinational production companies that outsource majority of strategic functions. Geographical closeness to the general multinational companies ensures the market for consultancy companies. Strategies of the advanced producer services differ regarding number of offices and geographical scope of their offices. Thus different consultancy companies define criteria of closeness differently, and based on it they show denser or sparser presence in a larger region. Taking it globally, the first level of decision is the presence in a large region, like Western Europe, Central Europe, Middle East, Far East, etc. The second level decision is what capacities, resources they allocate on these large regions, and accordingly they position cities. If a decision is met on the number of cities then the advanced producer service provider weighs further aspects, like number of multinational companies, economic indices, and infrastructure of city including communication infrastructure, skilled labour, and density of population.

By studying the data from the aspect of consultancy companies, four groups emerge based on their location strategies (Tab. 4.).

Table 4 Location strategies of consultancy companies

	Consultancy company	Number of offices globally	Number of countries globally with presence	Number of cities with presence in Central Europe
1	Bain & Company	53	34	1
2	Capco (Subsidiary of FIS)	25		1
3	BAE Systems Applied Intelligence	33		1
4	HCL AXON		18	1
5	L.E.K.Consulting	21	14	1
6	Oliver Wyman (Subsidiary of Marsh & McLennan)	50	25	1
7	Alvarez&Marsal	45	18	2
8	Gallup Consulting	30	20	2
9	Milliman	60	24	2
10	Mercer, LLC	180	40	2
11	Cognizant Solutions	70	32	2
12	Arthur D. Little	30	26	2
13	Simon-Kucher & Partners	29	22	2
14	Strategy&	57		2
15	Tefen Management Consulting	8		2
16	Towers Watson & Co.	113	35	2
17	Tata Consultancy Service	230	46	3
18	Accenture	186	56	3
19	Altran Technologies	118		3
20	Horváth & Partners	13	6	3
21	The Boston Consulting Group	80	46	4
22	BearingPoint	64	20	6
23	Roland Berger	50	36	6
24	AT Kearney	61	40	6
25	Hay Group	87	49	6
26	McKinsey & Company	108	60	7
27	CGI	261	36	8
28	Logica		36	8
29	Mott MacDonald Limited	180	50	8
30	Cap Gemini S.A	205	44	10
31	IBM Global Business Services	300	170	11
32	Computer Sciences Corporation		60	13
33	RSM US LLP	110	73	13
34	HP Enterprise Services			15
35	Grant Thornton International Ltd	725	130	20
36	Hewitt Associates		135	24
37	AON Consulting Worldwide	500	120	24
38	BDO International	1450	151	26

Table 4 (Continued)

39	Deloitte Touche Tohmatsu Limited		100	28
40	Ernst & Young	700	150	28
41	KPMG	700	156	28
42	PwC	756	157	37

Source: own drafting
Source of data in the table: websites of consultancy companies

There are six service providers with presence only in one country, these are either boutique firms, or such service providers that consider Central Europe as one macro-region, and offering presence only on this macro-regional level. They characteristically have 20 – 50 offices globally, and concentrate their resources.

The second group comprises consultancy companies which show 2 – 4 presence in the region. The majority is strategic firms but not exclusively, we can find full service companies as well. A great dispersion can be seen regarding their global presence, the number of their offices varies between 10 – 230, and their country presence is between 18 – 56.

The consultancy companies in the third group have offices in 6 – 15 cities in Central Europe, both strategic and full service companies are represented. Characteristically they work with 60 – 300 offices, have a presence in 20 – 70 countries, however there is an outlier data with a presence in 170 countries. As a contrary to the previous group, the number of global offices of consultancy companies in this group is in correlation with the number of offices in the Central European region.

The service provider companies in the fourth group apply the strategy of overall presence, they show a high, 20 – 37 presence in the region. These are mainly full service companies, their strategy is direct market access. These are the companies that characteristically have offices in the West-Balkan countries as well. These companies have globally an average of 700 offices and an average presence in 130 – 150 countries. These companies have significant resources and they offer coverage with local presence on the market.

CONCLUSION

As already discussed before, Warsaw shows the biggest number of presence with 31 companies, Vienna follows with 28 presences. By studying the data it is only the four capital cities, Vienna, Prague, Warsaw and Budapest that are regarded as important locations globally. The four capital cities have a relatively high number of overlapping presence, however it can be seen that consultancy companies decide on presence in these cities on their own right. The conclusion (Tab. 5.) arises that only the mentioned four capital cities are

competitive on a global level, the presence of consultancy companies in other capital cities in the region is related to the strategy of market presence.

Regarding the position of Bratislava, all companies with an office have also one in Prague, which identifies Bratislava as a secondary location due to direct market access. It is also underlined by the fact that not all companies have an office in Bratislava who has one in Prague. All companies having an office in Bratislava have an office also in Warsaw, so there is a strong correlation not only with Prague but also with Warsaw.

Regarding the position of Bucharest, it shows a high correlation with Prague and Budapest, but cannot prove as an independent location factor which is a prerequisite for Bucharest being a competitive site together with the four mentioned capitals.

Sofia, Belgrade, Zagreb, Ljubljana have only offices of consultancy companies that are present in the four first level capital cities. Sofia and Belgrade shows the same presence structure. Zagreb shows a strong correlation with Bucharest, all companies present in Zagreb, are also present in Bucharest.

Table 5 Matrix of cities: overlapping presence of consultancy companies

	Vienna	Budapest	Prague	Bratislava	Warsaw	Bucharest	Sofia	Zagreb	Belgrade	Ljubljana
Vienna	28									
Budapest	20	23								
Prague	20	21	24							
Bratislava	14	16	16	16						
Warsaw	22	21	21	16	31					
Bucharest	18	18	22	14	21	22				
Sofia	11	12	12	11	12	12	12			
Zagreb	11	11	11	10	11	11	9	11		
Belgrade	11	12	12	11	12	12	12	9	12	
Ljubljana	9	9	9	8	9	9	8	8	8	9

Source: own drafting
Source of data in the table: websites of consultancy companies

The paper uses only one indicator, the location strategy of advanced producer services in the Central European region, and the conclusion can be drawn that this factor shows the same results as other researches examining the economically leading cities in the region becoming integrated into the global urban structure. Advanced producer services as indicator of gravity centers in an urban network have a twofold role: they reflect the complex economic relations of the region on the one hand, that is, advanced producer services choose only locations with high economic potential. On the other hand it can also strengthen the results of national urban

policies: advanced producer services can only be found in cities which have at least regional, in some cases a global role. Business service providers concentrate their capacities geographically, and they cover the market from a certain location. The geographical scope of coverage depends on whether it is a full service, a strategically oriented or a boutique type of company. If a critical level of economic potential is at stake in a city, it becomes a potential location for a business service provider, which further strengthens its regional economic role.

A decisive factor is that the Central European urban network is fragmented, it is not an integrated urban network. Further on small countries with cities with low population number is characteristic for the region with the exception of Poland. From this aspect it is even a more emphasized question what happens with the Central European urban structure, how far it can be integrated to global structures, and what will be the new peripheries in this region. Advanced producer services reflect the type of urban structure in a country clearly. If monocentric structure became resilient, and monocentricity resolved, and cooperation among geographically linked cities in neighbouring countries strengthened, location strategies of advanced producer services would adjust to it. Here it might be concluded that a more intensive cooperation among national urban structures could contribute to the strengthening of the economic weight of the macro-region thus attracting more advanced producer services. Presently role of cities cannot outreach borders.

According to the findings, as a result of the location strategies of full service companies all countries in the research space are on the map of advanced producer services. This fact indicates that no regions in the territory is excluded, which is highly important in the future development potentials of the Central European space. However the embeddedness of different sub-state regions is very different. Apart from the four already well-connected capitals (Warsaw, Vienna, Prague, Budapest), the integration of the Central European urban structure is mainly dependant on the location strategies of the strategy type of advanced producer services.

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Original scientific paper

EVALUATION OF VIENNA'S WORLD ECONOMIC POSITION BASED ON GLOBAL AND WORLD CITY RANKINGS

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Abstract

Metropolitan areas play a dominant role in today's economic, social and environmental processes; therefore the scientific interest has also increased related to the global and world cities. They can be considered as key players of the world economy and a very complex competition takes place among them, which crosses the national state borders. Every city tries to reach the most favorable position and this rivalry has helped the birth of several city rankings. This paper has two important aims. Firstly, it explains the term of the world and global city based on the international literature and it is also looking for the answer, whether the Austrian capital belongs to which category. Secondly, it examines the position of Vienna in the different world and global city rankings.

Keywords: global city, world city, Vienna, ranking

INTRODUCTION

The last few decades have seen the world becoming more urbanised (Giap-Thye-Aw, 2014). In the year of 2014, 54 percent of the world's population lived in urban areas, which may increase to 66 per cent by 2050 according to the projection of United Nations Department of Economic and Social Affairs. The importance of national economies is (relatively) decreasing and the economic role of regions and cities seems to grow (Lengyel, 2009). They are facing strong competition for investors, tourists, qualified labour or international events over the last decades (Begg, 1999) and many economic, global players need help to compare the cities from different point of view. So, the comparison of cities can support investors in their choice of location and it can be an important guide for the cities to judge their strengths and weaknesses, moreover to define their goals and strategies for future development and better positioning in the urban system (Giffinger-Haindl, 2009). Therefore, hundreds of city indexes and rankings proclaim which cities are the most global, with the most powerful economies, have the greatest universities, the richest cultures. Some of them are comprehensive, trying to

rate cities as a whole; others specialize, focusing on a city's global financial position, its real estate values or the quality of life (Leff-Petersen, 2015).

The main objective of this paper is to collect the most common global and world city rankings and examine, where the Austrian capital is positioned yearly in them and answer the following question: can we consider Vienna as a real world or global city, and if so, what kind of economic, social, environmental or other factors are able to strengthen its position at global scale? Based on this investigation, the global position of Vienna can be described. The performance of the city in several rankings will present, which factors make strong Vienna in the global space and which are the most critical from the point of view of its competiveness. We are going to see those elements which should be strengthened in order to be more competitive among similar cities. The reviewed time horizon of several city rankings depends on the publicity and availability of data.

Conceptual framework

Large and significant cities have fascinated social scientists and this is indicated by the range of terms used to describe them: imperial cities, primate cities, great industrial cities, millionaire cities, world cities, global capitalist cities, international financial centres, mega-cities and global cities are all well-known designations. This variety in terminology reflects both the diversity in the nature of cities and differences of approach to the study of cities. (Beaverstock-Smith-Taylor, 1999). The term "world city" was firstly introduced by the regional planner Patrick Geddes in his 1915 book "Cities in Evolution, but his comments on world cities were mostly forgotten, however, in part because Geddes became so famous for his work on regional planning (Pearce–Wyly, 2006). Half a century later, Peter Hall (1966) defined world cities as follows: "They are centres of political power, both national and international, and of the organizations related to government; centres of national and international trade and all kinds of economic activity, acting as entrepots for their countries and sometimes for neighbouring countries also" (Hall 1966). Hall's book titled "The World Cities" analysed the attributes (politics, trade, communication facilities, finance, culture, technology, and higher education) of cities at the top of the world urban hierarchy (London, Paris, Randstad-Holland, Rhine-Ruhr, Moscow, New York, and Tokyo) (Pearce–Wyly, 2006). Manuel Castells (1989) described a new urban phenomenon: the informational city. The key issues within his definition are the new communication technologies and

infrastructure, including information technology, telecommunications, air transportation, and the accordingly necessitated infrastructure. Furthermore, he takes financial and economic performance into consideration. The informational city is to be seen as embedded in a global system of networked information flows. Within those networks, the cities are forming a hierarchy, representing nodes and hubs according to their capacities for information exchange and their interactive and innovative performance (Castells, 1989). This approach was taken up by John Friedmann in his essay "The World City Hypothesis" (Pearce–Wyly, 2006). According to Friedman and Wolff, world cities are characterized by the "predominance of financial and service sectors in the economy". They are "closely interconnected with each other through communications and finance and these regions constitute a worldwide system of control over market expansion" (Friedmann—Wolff 1982). The World Bank has classified world cities and identified two main categories: core countries and semi-peripheral countries. Both of them contain primary and secondary cities (Friedmann, 1986). The examined capital in this paper, Vienna is defined as a secondary city in a core country (Tab. 1).

Table 1 The World City Hierarchy

Core Countries		Semi-peripheral Countries	
Primary	Secondary	Primary	Secondary
London	Brussels	São Paulo	Johannesburg
Paris	Milan	Singapore	Buenos Aires
Rotterdam	***Vienna***		Rio de Janeiro
Frankfurt	Madrid		Caracas
Zurich	Toronto		Mexico City
New York	Miami		Hong Kong
Chicago	Houston		Taipei
Los Angeles	San Francisco		Manila
Tokyo	Sydney		Bangkok
			Seoul

Source: Edited by author based on Friedmann (1986)

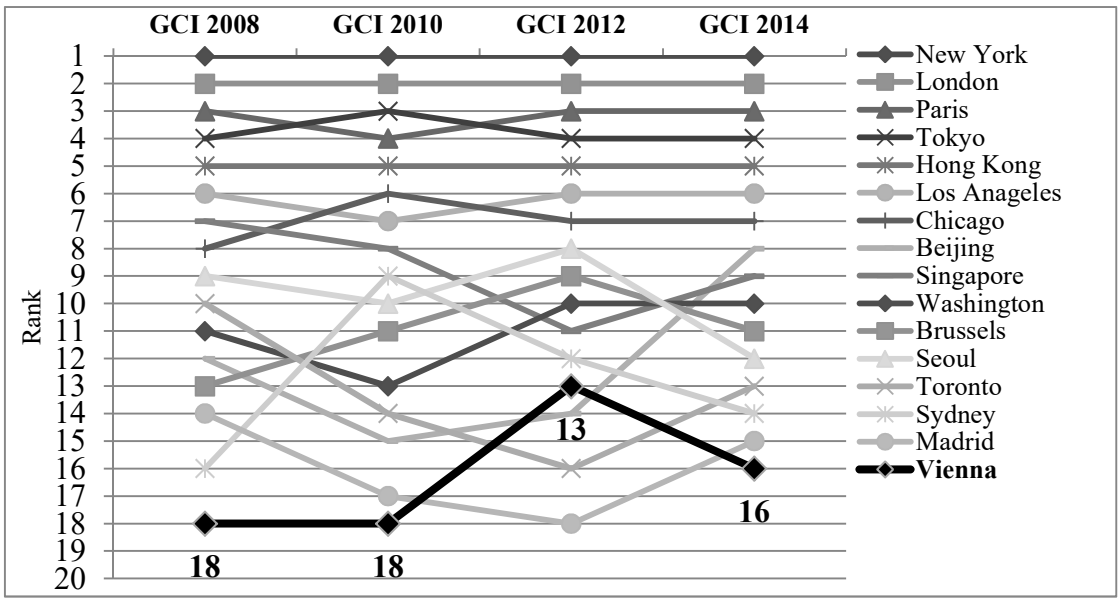
The sociologist, Saskia Sassen coined the other relevant term, the "global city." The global network of cities, she argued, is less about competition than a division of functions; some cities are hubs for finance, others for manufacturing, and so on, but all are important (Leff—Petersen 2015). Sassen defined *global cities* as, "cities that are strategic sites in the global economy because of their concentration of command functions and high-level producer service firms oriented to world markets; more generally cities with high levels of internationalisation in their economy and in their broader social structure." (Sassen 1994:154) Sassen Sassen's work (1991) titled „The Global City New York, London, Tokyo" analysed,

among other factors in these cities in terms of the growth of the high-paying professional jobs and low-paying lower-order clerical work, as well as the growth in part-time and temporary employment (Pearce–Wyly, 2006). But, Vienna was not mentioned among Sassen's global cities. The Austrian capital in wider context can be considered a centre of a cross-border urban region called "Centrope", which involve four countries (Hardi, 2010). In recent years, many case studies have dealt with the questions of "global city" status of individual cities or city systems and have helped to bring light to the debate of global city research. In particular, studies concerning the role of service sectors (Bourdeau-Lepage 2007), local firm networks (Rossi et al. 2007) or the role of cities as gateways (Grosfoguel 1995, Parnreiter 2002) have led to a deeper understanding of the global city network and its global-local tensions. The expansion of a world city database and a great number of case studies based on alternative data sources helped to bridge the gap between the global city theory and empirical research (Musil, 2009). The current paper tries to contribute the defining of Vienna's world economic position based on global/world city rankings.

RESULTS: VIENNA'S POSITION IN WORLD AND GLOBAL CITY RANKINGS

Firstly, *A.T. Kearney's Global Cities Index (GCI)* will be overviewed, which examines a comprehensive list of 84 cities on every continent across 26 metrics in five dimensions: business activity (30%), human capital (30%), information exchange (15%), cultural experience (15%), and political engagement (10%). As in previous years, in 2014, New York and London lead the ranking, followed by Paris, Tokyo, and Hong Kong. Among the top 20 cities, seven are in the Asia Pacific region (Tokyo, Hong Kong, Beijing, Singapore, Seoul, Sydney, and Shanghai), seven are in Europe (London, Paris, Brussels, Madrid, *Vienna*, Moscow, and Berlin), and six are in the Americas (New York, Los Angeles, Chicago, Washington, Toronto, and Buenos Aires) (A.T. Kearney, 2015). According to this index, Vienna stand on the 18th place in the year of 2008 and 2010, after that its position has improved and reached the 13th place in 2012, which has decreased to the 16th in 2014 (Fig. 1).

Figure 1 A.T. Kearney's Global Cities Index (GCI) (2008-2014) (Cities before Vienna)



Source: Edited by author based on A.T. Kearney, 2015

Next analysed city index is the *"Innovation Cities Global Index",* which is the world's leading classification and top ranking of cities potential as innovation economies. Established in 2007, with 22 cities released, which was expanded to 256 cities in 2009, and to 500 cities in 2015. All cities in the index are classified for global innovation based on their potential for innovation performance across 31 segments of their city economy. Every city is analysed with 162 city indicators according to 3 factors: cultural assets of a city from arts to sports industries (1); human infrastructure from mobility to start-ups, health, finance and more (2) and networked markets, the power of a city in a networked world (3) (2thinknow Global Innovation Agency, 2016). Next table presents the results of *Innovation Cities Global Index* related to the TOP 10 cities between 2007 and 2015. The years of 2012 and 2013 form only one category, because the index was published for these two years jointly. During the whole period, Vienna was positioned among the first 6 cities, but its position has decreased between 2007 and 2011 year by year from the first to the fifth place. After that, the Austrian capital reached the 3th place in 2012-2013, the 6th place in 2014 and again the excellent 3th place in the last year behind London and San Francisco-San Jose (Tab. 2).

Table 2 Innovation Cities Global Index – Top 10 (2007-2015)

	2007	2008	2009	2010	2011	2012-2013	2014	2015
1	**Vienna**	**Vienna**	Boston	Boston	Boston	Boston	San Francisco - San Jose	London
2	Boston	Boston	**Vienna**	Paris	San Francisco Bay Area	New York	New York	San Francisco - San Jose
3	Paris	Paris	Amsterdam	Amsterdam	Paris	**Vienna**	London	**Vienna**
4	New York	New York	Paris	**Vienna**	New York	San Francisco Bay Area	Boston	Boston
5	Leipzig	Leipzig	San Francisco	New York	**Vienna**	Paris	Paris	Seoul
6	Prague	Prague	London	Frankfurt	Amsterdam	Munich	**Vienna**	New York
7	Rome	Rome	Hamburg	San Francisco	Munich	London	Munich	Amsterdam
8	Melbourne	Melbourne	New York	Copenhagen	Lyon	Copenhagen	Amsterdam	Singapore
9	San Francisco & Silicon Valley	Berlin	Tokyo	Lyon	Copenhagen	Amsterdam	Copenhagen	Paris
10	Berlin	San Francisco	Lyon	Hamburg	Toronto	Seattle	Seattle	Tokyo

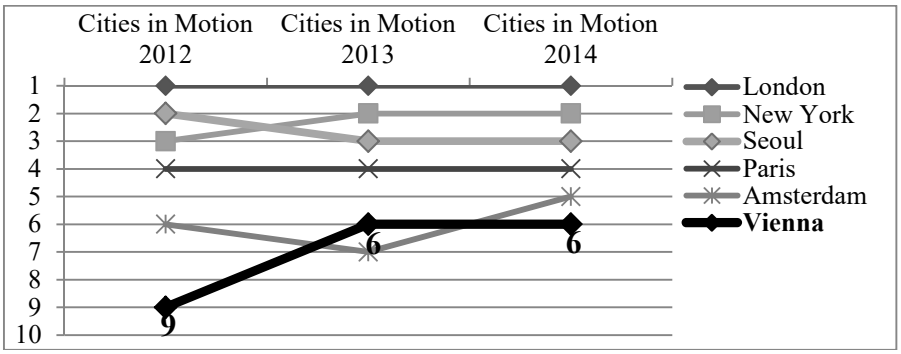
Source: Edited by author based on 2thinknow 2016

Another approach of city comparisons is the "*Smart City*" rankings. The Smart City concept may be one of possible development paths of world or global cities, paying more attention on the sustainability of several infrastructure systems, environmental factors and so on. In the last two decades, the concept of "smart city" has become more and more popular in the scientific literature and international policies (Albino—Berardi—Dangelico 2015). Smart Cities have been characterised and defined by a number of factors including sustainability, economic development and a high quality of life. Enhancing these factors can be achieved through infrastructure (physical capital), human capital, social capital and/or ICT infrastructure (Foley, 2013). In the first international "Smart Cities" ranking, which was published in the online magazine "Co.Exist" in January 2012, Vienna in comparison with other international metropolises is ranked on the first place worldwide (Cohen, 2012). In the 2014 ranking of the top 10 smartest European Cities Vienna improved its rank by one place compared to 2013 and on European level reached third place behind Copenhagen and Amsterdam (wien.gv.at, 2014). Vienna – recognizing the importance of smart city approach – has created the Smart City Wien Framework Strategy (2014), which focuses on the intention of preserving and further evolving the city as a liveable, socially inclusive and dynamic space for future generations. The Viennese smart city approach is based on sparing resource use in order to massively reduce CO2 emissions and dependencies in connection with scarce and finite resources. At the same time, Smart City Wien means to uphold and further increase

Vienna's high quality of living and social participation. It stands for change based on innovation, active organisation and, where necessary, the development of new forms of public and private service delivery. The present Smart City Wien framework strategy is directed at all target groups of the city: Vienna's citizens, enterprises, non-profit institutions and the public sector (Smart City Wien Framework Strategy 2014).

Next overviewed index, *"Cities in Motion Index (CIMI)"* (calculated by IESE Business School University of Navarra Centre for Globalization and Strategy) seeks to evaluate cities considering 10 key dimensions: Governance, Urban Planning, Public Management, Technology, Environment, International Outreach, Social Cohesion, Mobility and Transport, Human Capital and Economy. In 2015, to calculate the CIMI, 148 cities were analysed (IESE, 2015). Vienna ranked at the 6th place in 2013 and 2014, which shows an improvement compared to the year of 2012 (9th place). London, New York, Seoul, Paris, Amsterdam mean the TOP 5 cities according to this index in the last year (Fig. 2).

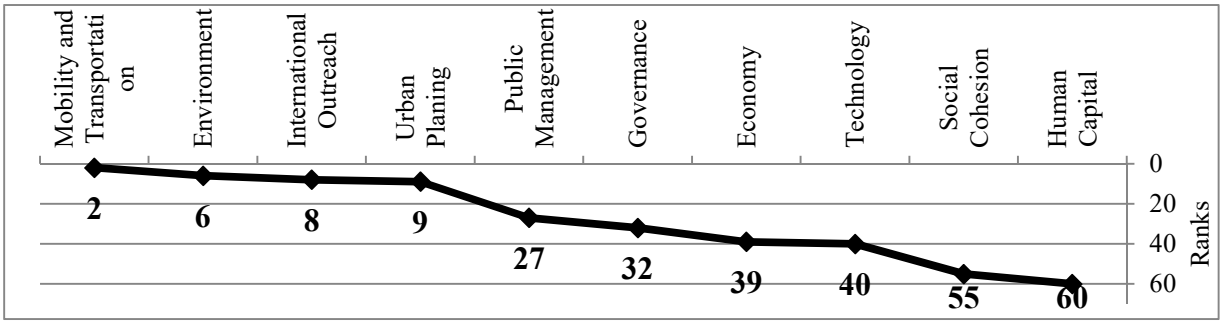
Figure 2 IESE - Cities in Motion Index (2012-2014) (Cities before Vienna)



Source: Edited by author based on IESE 2015

What is more interesting: the ranks of Vienna in the several dimensions of the index. The Austrian capital achieved very good placings in the dimensions of "Mobility and Transportation" (2.); "Environment" (6.); "International Outreach" (8.) and "Urban Planning" (9.), but the city lags in the economic, technological and social factors, such as "Public Management" (27.); "Governance" (32.); "Economy" (39.); "Technology" (40.); "Social Cohesion" (55) and "Human Capital" (60). These ranks give a picture about strengths and weaknesses of Vienna in international city comparison (Fig. 3).

Figure 3 Vienna's ranks in dimensions of Cities in Motion Index in 2014

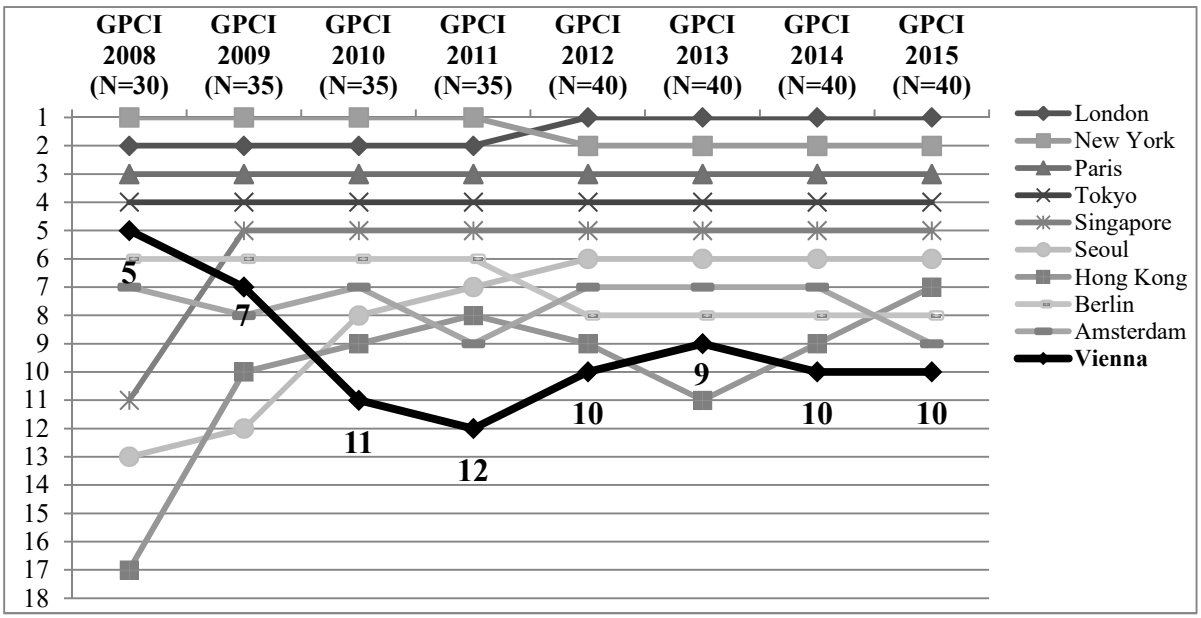


Source: Edited by author based on IESE 2015

Continuing the investigation, the next index is the *"Global Power City Index"* 2015 (GPCI-2015), which evaluates the comprehensive power of 40 of the world's leading cities according to six main functions (Economy, Research and Development, Cultural Interaction, Liveability, Environment and Accessibility). Additionally, the same cities were examined from the viewpoints of four global actors (Manager, Researcher, Artist and Visitor) and one local actor (Resident). The Mori Memorial Foundation's Institute for Urban Strategies first released its GPCI in 2008 and has continued to update its rankings every year based on new research. The GPCI is utilized by numerous administrative, professional, and academic organizations worldwide. Moreover, the Institute has actively engaged in dialogue with leading city experts and exchanged ideas on cities and competitiveness (Institute for Urban Strategies The Mori Memorial Foundation, 2015). In 2015, like last years, London, New York, Paris and Tokyo took the top four spots, in that order (Rubia, 2015). Vienna reached the 9th rank, like in 2012 and 2014 (Fig 4).

In the economy category including gross domestic product, wage level, total employment, corporate tax rate and total market value of shares on stock exchanges, among others, Tokyo topped the list. In terms of research and development, New York is a clear powerhouse followed by Tokyo, London, Los Angeles and Paris. For liveability, Paris emerged as the winner, followed by Berlin, Vancouver, Vienna and Barcelona, while Geneva emerged as the winner in terms of environment, followed by Frankfurt, Stockholm, Zurich and Vienna. In terms of accessibility, Paris earned the highest score, followed by London, Amsterdam, Singapore and Hong Kong. For cultural interaction, cities like New York (ranked second), Paris (third), Singapore (fourth) and Tokyo (fifth) also earned higher scores compared to most global cities (Maceda, 2015).

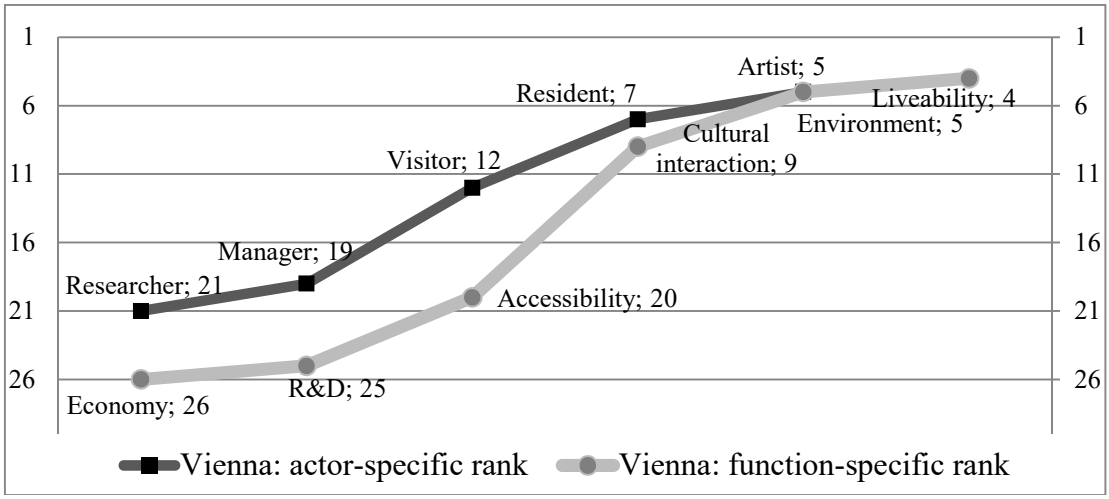
Figure 4 Global Power City Index összesített rangsora (2008-2015) (TOP 10; 2015)



Source: Edited by author based on Institute for Urban Strategies The Mori Memorial Foundation Global Power City Index 2015

Let's take a closer look at the several dimensions of the Global Power City Index in the case of Vienna. According to the actor- and function-specific ranks, Vienna's position is outstanding in the "Liveability" (4.); "Environment" (5.); and "Cultural interaction" (9.) functions. Regarding these factors, Vienna is a leading global city. Besides this, the most important target groups of the city are "Artist" (5.); "Residents" (7.); and "Visitor" (12.). Both of rankings (actor-specific and function-specific) present excellently the strengths and weaknesses of the city in global competition (Fig. 5).

Figure 5 Global Power City Index 2015 – Vienna's position in function- and actor-specific factors



Source: Edited by author based on Institute for Urban Strategies The Mori Memorial Foundation Global Power City Index 2015

"Liveability" is one key characteristic of cities that enable them to attract a disproportionate amount of the globally-mobile resources that are recognised to make positive contributions to economic growth, economic resilience, global political influence, world agenda-setting power, socio-cultural innovation, and international lifestyle impact (Giap-Thye-Aw, 2014). The concept of liveability is simple: it evaluates which locations provide the best or the worst living conditions. Assessing liveability has a broad range of uses. The Economist Intelligence Unit's liveability rating quantifies the challenges that might be presented to an individual's lifestyle in any given location, and allows for direct comparison between locations. Melbourne remains the most liveable location of the 140 cities surveyed, followed by Vienna since the year of 2012. Vancouver was the most liveable city surveyed until 2011, today; it is on the third place. The 140 involved cities are evaluated by 30 qualitative and quantitative factors across five categories: stability; healthcare; culture and environment; education; and infrastructure (The Economist Intelligence Unit 2014) (Tab. 3).

Table 3 Economist Intelligence Unit - Global Liveability Ranking TOP 10 (2011-2015)

	2011	**2012**	**2013**	**2014**	**2015**
1	Vancouver	Melbourne	Melbourne	Melbourne	Melbourne
2	Melbourne	**Vienna**	**Vienna**	**Vienna**	**Vienna**
3	**Vienna**	Vancouver	Vancouver	Vancouver	Vancouver
4	Toronto	Toronto	Toronto	Toronto	Toronto
5	Calgary	Calgary	Calgary	Adelaide	Calgary, Adelaide
6	Helsinki	Adelaide	Adelaide	Calgary	-
7	Sydney	Sydney	Sydney	Sydney	Sydney
8	Perth, Adelaide	Helsinki	Helsinki	Helsinki	Perth
9	-	Perth	Perth	Perth	Auckland
10	Auckland	Auckland	Auckland	Auckland	Helsinki, Zurich

Source*:* Edited by author based on Global Sherpa, 2011; The Economist Intelligence Unit, 2012; Huffington Post, 2013; The Economist Intelligence Unit, 2014; economist.com, 2015

According to the other liveability research, the "*Quality of Living Survey*" released by global consultancy Mercer, Vienna is the most liveable city on the earth since 2009. Mercer performs this survey each year in 223 metropolises. Cities are evaluated across 39 metrics in 10 groups, including "political and social environment," "economic environment," "medical and health considerations," "schools and education," "consumer goods," and "housing" (Forbes, 2015) Overall, European cities dominate the top of the ranking along with major cities in Australia and New Zealand. Zurich, Auckland, and Munich are in second, third, and fourth place respectively. In fifth place, Vancouver is the highest-ranking city in North America and the region's only city in the top 10 (uk.mercer.com, 2015) (Tab. 4).

Table 4 Mercer - Quality of Living Survey TOP 10 (2009-2015)

	2009	2010	2011	2012	2013	2014	2015
1	**Vienna**	**Vienna**	**Vienna**	**Vienna**	**Vienna**	**Vienna**	**Vienna**
2	Zurich	Zurich	Zurich	Zurich	Zurich	Zurich	Zurich
3	Geneva	Geneva	Auckland	Auckland	Auckland	Auckland	Auckland
4	Vancouver Auckland	Vancouver Auckland	Munich	Munich	Munich	Munich	Munich
5	-	-	Vancouver Düsseldorf	Vancouver	Vancouver	Vancouver	Vancouver
6	Dusseldorf	Dusseldorf	-	Dusseldorf	Dusseldorf	Dusseldorf	Dusseldorf
7	Munich	Frankfurt Munich,	Frankfurt	Frankfurt	Frankfurt	Frankfurt	Frankfurt
8	Frankfurt	-	Geneva	Geneva	Geneva	Geneva	Geneva
9	Bern	Bern	Copenhagen Bern	Copenhagen	Copenhagen	Copenhagen	Copenhagen
10	Sydney	Sydney	-	Bern	Bern Sydney	Bern Sydney	Sydney

Source*:* Edited by author based on Frankfurt.de, 2008; Livemint.com, 2009; Malaysia-Finance Blogspot, 2010; Mercer, 2014; Huffington Post, 2014, 2015, Mercer 2015

Some of the world's most liveable cities provide publicly accessible green spaces[7] with physical amenities in the heart of their neighbourhoods. It should therefore come as no surprise that Vienna, which regularly ranks in the top positions for the world's most liveable cities, is one of the greenest cities of over a million inhabitants in the world. 51% of Vienna is classified as green space. For each of Vienna's 1,7 million inhabitants, there are 120 square meters of green space (Baharash Architecture, 2016).

Last examined index in this paper is the "*City Prosperity Index*". In the report entitled "State Of The World Cities 2012/2013", the United Nations Human Settlements Programme (UN-Habitat) has ranked 70 international cities for prosperity.

UN-Habitat has defined the prosperity as *"a social construct that materializes in the realm of human actions. It builds deliberately and conscientiously on the objective conditions prevailing in a city at any time, wherever located and however large or small. It is a broader, wide-ranging notion that has to do with well-balanced, harmonious development in an environment of fairness and justice"* (UN-Habitat, 2013:11).

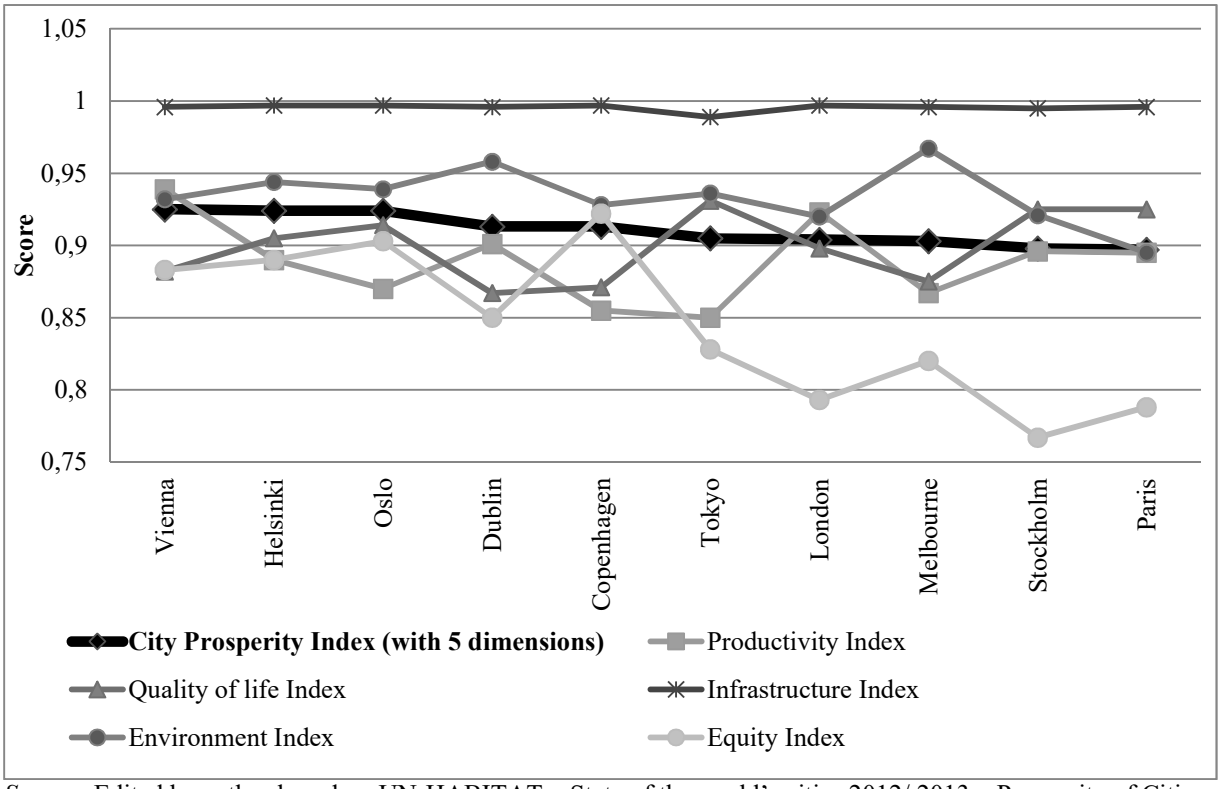
The cities were evaluated by UN-Habitat in terms of productivity, infrastructure development, quality of life, social equality and environmental sustainability. The *productivity index* is measured through the city product, which is composed of the variables capital investment, formal/informal employment, inflation, trade, savings, export/import and household income/consumption. The *infrastructure development index* combines two sub-indices: one for infrastructure, and another for housing. The infrastructure sub-index includes

[7] Accessible green space is considered to be that which is located close to residents' homes, easy to walk to, physically accessible, safe to use, and provides well maintained facilities. [Definition by Public Health England]

the connection to services, waste management, knowledge infrastructure, health infrastructure, transport and road infrastructure. The housing sub-index includes building materials and living space. The *quality of life index* is a combination of four sub-indices: education, health, safety/security, social capital and public space. The sub-index education includes literacy, primary, secondary and tertiary enrolment. The sub-index health includes life expectancy, under-five mortality rates, HIV/AIDS, morbidity and nutrition variables. The *equity and social inclusion index* combines statistical measures of inequality of income/consumption (Gini coefficient) and social and gender inequality of access to services and infrastructure. The *environmental sustainability* index is made of four sub-indices: air quality, CO2 emissions, energy and indoor pollution (UN-Habitat 2013). With excellent credentials in all fields evaluated, Vienna tops this list, outperforming metropolises such as Tokyo, London and Paris (wien.gv.at 2014). Large cities with high living standards such as Vienna did particularly well in the report thanks to their balanced societies. Good government and urban planning as well as appropriate laws and regulations enable cities such as these to offer a living environment which is exceptionally safe and secure. Other important factors taken into account were access to education and life expectancy. According to the study's authors if these preconditions met they will automatically be accompanied by a high degree of equity and equality (advantageaustria.org, 2012) (Fig. 6.).

UN-Habitat transformed the *City Prosperity Index* into a global initiative known as the *City Prosperity Initiative*. This initiative is both a metric and a policy dialogue, which offers cities the possibility to create indicators and baseline information. It also serves to define targets and goals that can support the formulation of evidence-based policies, including the definition of city-visions and long-term plans. UN-Habitat's City Prosperity Initiative (CPI) not only provides indices and measurements relevant to cities, it also enables city authorities to identify opportunities and potential areas of intervention for their cities to become more prosperous. Organized by UN-Habitat, the first Mayoral Conference on the City Prosperity Initiative was held in Vienna with over 100 participants in 2015 (UN-Habitat, 2015).

Figure 6 City Prosperity Index and its components - UN-HABITAT (2012/2013) (TOP 10)



Source: Edited by author based on UN-HABITAT – State of the world's cities 2012/ 2013 – Prosperity of Cities

CONCLUSION

Based on the investigation, the several city rankings are able to highlight on strengths and weaknesses of a given city and can give a picture about the development path of cities if they are published year by year. To answer the main research question (can we consider Vienna as a real world or global city, and if so, what kind of economic, social, environmental or other factors are able to strengthen its position at global scale?) we can say, that the Austrian capital is a world city, because it is a member of the world city hierarchy (Friedmann, 1986), moreover, the city is included into the most world and global city rankings. In the case of Vienna, it can be clearly seen, that the main priorities of the city are related to the needs of local inhabitants and their liveable, sustainable environment. The culture and tourism also play a dominant role in its "Smart City" approach. Based on the results of global city rankings, the Austrian capital can be considered globally underperforming in dimensions of business and financial sector (compared to the liveability, environment and culture) therefore, its global position is much weaker in this point of view. So, the city may have two possibilities for the future: it follows the begun development path and pay more attention on the environment than on economic benefits, or the management of the city tries to strengthen

the weaker factors, such as the business and financial sectors. This type of decision may be important not only for the policymakers of Vienna, but other cities need to face to it, as well.

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Original scientific paper

ENERGY CONVERGENCE OF THE EUROPEAN UNION TOWARD 2020

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Abstract

The European Union set three goals (for energy efficiency, share of renewable energy sources, and greenhouse gas emissions) in the Energy 2020 document emphasising the importance of joint actions. This study investigates the 28 members' progression in the light of these commitments, between 2001 and 2012. Applying the methodology of sigma and beta convergence, we prove the convergence progress across the member states, but the result of gamma convergence modifies it: we conclude that differences remained in the European Union between 2001 and 2012 but the extent of the differences decreased significantly. The renewables ratio shows the fastest convergence rate. With energy intensity and emissions these positive processes are affected negatively by the financial crisis, causing temporary divergence. Calculating convergence clubs raises awareness of differences between the old and new member states.

Keywords: energy, energy intensity, renewables, greenhouse gas emissions, convergence, Energy 2020 strategy, European Union

INTRODUCTION

As 2020 approaches nearer, the European Union should carry out an interim review about the Energy 2020 objectives. Accordingly, in this study we particularly aim to: a) test the assumption that the energy indicators (energy intensity, emissions, and the share of the renewable energy sources) in the member states of the European Union is converging; b) prove that there are significant differences between the old and the new members in convergence processes; c) test our assumption that the members can be organized into convergence clubs.

The question may arise why the convergence analysis of the energy features of the EU member states is important. First, the political decision makers have to know the potential shifts of the energy indicators in the future. This can help to create the conditions for efficient energy management and making forecast models. The topic of decoupling is also very popular nowadays. If the countries with high energy intensity converge to the more developed ones,

the equilibrium value will be lower; at that time with rapid convergence and balanced economic development, suddenly increasing energy use is not expected (Markandya et al. 2006).

Theoretical background

Economics very frequently takes over methods from other academic disciplines, but this can also be observed within economics: the boundaries of the competing topics are blurring, and methods are sometimes applied in another context. Quah (1995, p.5) notes about the application of the convergence calculations that "examples show that convergence is simply a basic empirical issue, one that reflects on - among other things - polarization, income distribution, and inequality. Certainly, understanding economic growth is important. But growth is only one of many different areas in economics where analyzing convergence sheds useful insight." The topic of convergence across economies is a focus in Barro (1991) and Barro and Sala-i Martin (1992). Nowadays not only the researchers of world and regional economics (for example Benedek and Veress 2013, Kocziszky 2011, Szendi 2013), spatial economics (such as Tóth and Nagy 2014), but researchers of energy, environmental and ecological economics focus on it as well (such as Szlávik 2013).

According to Oblath and Szörfi (2008, p.205), "the convergence – in a narrower sense – means the catching up of the real economy performance of the less developed country to the more developed ones". In a wider sense it is the approach of general macroeconomic characteristics. Convergence calculation methods are applied in many research areas as a frequently used tool for the examination of poverty, income inequality, and human development. We can find convergence calculations in energy and environmental economics for less than one decade, but despite this short time period, many studies (Table 1) and new approaches have appeared and serious development can be observed in the data and methodology applied.

Table 1 Energy convergence in the literature

Publication	Examined country group and time period	Indicator	Methodology
Markandya et al. (2006)	EU-27, 1992-2002	energy intensity	conditional β-convergence
Ezcurra (2007)	98 countries, 1971-2001	energy intensity	σ-convergence, other non-parametric methods
Liddle (2009)	22 IEA members, 1960 (1973)-2005	intensity of electricity use	σ és γ-convergence
Liddle (2012)	28 OECD members, 1960-2006	energy intensity	σ, absolut β, and γ-convergence
Mohammadi and Ram (2012)	1971-2007	energy and electricity use per capita	σ and absolut β-convergence
Mulder and Groot (2012)	18 OECD members, 1970-2005	energy intensity	σ and conditional β-convergence
Hajko (2012)	EU-27, 1990-2008	energy intensity	σ, conditional β, and γ-convergence
Burnett (2013)	USA member states, 1960-2009	CO_2 emission	conditional β-convergence, convergence club
Camarero et al. (2013)	23 OECDmembers, 1960-2008	emission intensity, carbonization index (CO_2 emissions relative to energy use), energy intensity	convergence club
Meng et al. (2013)	25 OECD members, 1960-2010	energy use per capita	conditional β-convergence
Adhikari and Chen (2014)	35 Asian countries, 1993-2010	energy productivity (GDP relative to energy use)	σ and β-convergence (absolut and conditional)
Csereklyei et al. (2014)	99 countries, 1971-2010	energy use per capita, energy intensity, income per capita, energy/capita ratio	σ and absolut β-convergence
Moutinho et al. (2014)	Portugal, 1996-2009	emission intensity	σ, β (absolute and conditional) and γ-convergence

Source: own compilation

The study of Mielnik and Goldemberg (2000) launched the application of convergence calculations to the field of energy. They examined the energy intensity of 41 countries between 1971 and 1992. However, their analysis was made with simple description statistics and using diagrams. Markandya et al. examined the energy intensity in the European Union, with regard to the group of the old (15 countries) and the new (those joining in 2004 and 2007) member states. The center of their study is the target of 20% (Energy 2020) and the evaluation of the implementation process. Their results verify their starting hypothesis: the catching up of the new members is successful from the energy perspective. Ezcurra (2007)

found declining convergence across 98 countries between 1971 and 2001 as judged by energy intensity.

Energy intensity is also focused upon in the study of Liddle (2012). The σ, absolute β, and the γ-convergence were verified in the case of 28 OECD countries. In a previous publication (Liddle 2009) not the energy intensity but the electricity consumption relative to GDP was examined for 22 developed IEA members. An interesting feature of this study is that the calculations were made not on the level of the national economy, but on the level of trade, industry, and household sectors.

Moutinho et al. (2014) and Mulder and Groot (2012) conduct their analyses - similar to Liddle (2009) – at the sectoral level as well. In Mulder and Groot (2012) study the σ and the γ-convergence were verified in the service sector and manufacturing industry.

Csereklyei et al. (2014) took a much larger sample compared with the previous studies into consideration. The convergence in energy intensity was proved for 99 countries between 1971 and 2010. However, in some regions (the Middle East and Africa) rather divergence was verified.

As in our analysis, Burnett (2013) and Camarero et al. (2013) determined convergence clubs to prove the convergence in emission rates as well. The study of Hajko (2012) can be considered as a precedent for our analysis. The researcher calculated the σ and the β-convergence in the energy intensity for the 27 members of the European Union. “It is found that even by the rough distinction between the new and the old member countries, the convergence in energy intensity in new member countries can be found” (Hajko 2012, p. 3).

However, our current study goes beyond those limits. On the one hand our most important objective is to analyse and evaluate the achievement of 20-20-20 goals (by the 28 members of the European Union). It is served by the change of the examined time period, which contributes to take into consideration the effects of 2008-2009 financial crises. The applied convergence methods were also expanded to get a much clearer and fuller picture of the current processes.

OBJECTIVES AND METHODS

In this study, convergence is approached in three ways: σ, γ, and β-convergence are calculated and based on the calculations the convergence clubs are determined. Hereinafter the methodology is presented.

Calculating the σ-convergence, we can conclude the convergence or divergence from the dispersion of the national cross-sectional data. If the value of the coefficient of variation (CV) is decreasing over time, the σ-convergence is verified across the countries. Actually, the σ-convergence presents the efficiency of the catching up of the low-performing countries with the developed countries (Liddle 2012). One disadvantage of the indicator is that it is an absolute one, the value even higher when only the absolute size increases. The σ-convergence is calculated with the CV, which is the ratio of the dispersion and simple aritmethric average of the data (Moutinho et al. 2014).

It can happen that the value of the σ-convergence consistently decreases (so the examined territorial units converge), but the position of the nations with the highest and lowest values do not change in the sample. Boyle and McCarthy (1997a, 1997b) worked out the γ-convergence to consider the rank of the nations. The closer the index value is to zero the greater the extent of the mobility within the distribution. The γ-convergence is suitable for the measurement of intra-distribution mobility: the country with lower initial level of the selected indicator – if catching up is successful – moves up in the ranking and overtakes the developed ones (which lose their positions). A lack of γ-convergence coupled with a substantial σ-convergence could be interpreted as indicating that country differences in a selected indicator remain, but that those differences have reduced considerably (Liddle 2012, p.10).

The basic assumption of β-convergence is that countries with low initial levels of a selected indicator tend to grow comparatively faster than those with high initial levels and thus catch up with developed nations (Adhikari and Chen 2014, p.94). In the long run, the low-performed countries catch up with the higher-developed ones. The detailed description (based on the Solow-model) of that is given by Major (2001). If the estimated value of β is negative, this verifiies the presence of β-convergence. But β-convergence is a necessary but not sufficient condition for σ-convergence (Boyle and McMcarthy 1997a, 1997b; Liddle 2012; Hajko 2012).

Table 2 presents the calculation formula and the interpretation of the convergence indexes.

Table 2 Convergence indicators

Convergence indicator	Formula	Interpretation
σ-convergence	$\sigma = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n}}$ $CV = \frac{\sigma}{\bar{x}}$ $CV_t < CV_0$ where: x_i denotes the examined indicator $\bar{x} =$ arithmetric means of x_i σ denotes the dispersion, CV is the coefficient of variation.	If the value of the CV is decreasing over time, σ-convergence is verified across the countries.
γ-convergence	$\gamma = \frac{Variance(AR(I)_{it} + AR(I)_{i0})}{Variance(2 * AR(I)_{i0})}$ where: $AR(I)_{it}$ is the rank position of *i* country in *t* current period, $AR(I)_{i0}$ is the rank position of i country in *0* base period. $Variance = \frac{\sum(x - \bar{x})^2}{(n-1)}$ where: $\bar{x}$ is the mean, *n* denotes the sample size.	The smaller the value of the indicator, the stronger the shift among the examined territorial units.
β-convergence	$\Delta \ln y_i = \alpha + \beta \ln y_{i0} + \varepsilon_i$ where: *y* denotes the examined indicator (such as energy intensity), α is the constant, β is the coefficient, *0* is the base period, *i* is the index of the examined country, ε_i is the error term (the excepted value is zero)	If β is negative, β-convergence is verified across the examined countries.

Sources: Boyle and McCarthy (1997a, 1997b), Nemes Nagy (2005)

The β-convergence concept can be approached in unconditional (absolute) or conditional way. In the unconditional approach, all economies are assumed to converge to a common pattern of energy use (or to any other selected indicator), while in the conditional approach these close to their own steady state (Burnett 2013).

Furthermore, the absolute convergence calculation is applied, because the European Union determined a joint equilibrium value when working out the Energy 2020 document. In this process the energy potentials, structural differences, expected price of the production factors, technological development, and existing regulations were considered as well. The question is whether the member states can approach to this artificially created common steady state?

An additional interpretation is given by the convergence clubs, which denote groups of economies that are classified based on a selected indicator (convergence can be observed within the club). The essence of this theory is that the growth paths of these countries are near each other, so these show quasi homogeneity with regard to social and economic factors (Kocziszky et al. 2014). The objective of these analyses is to create groups minimizing the

differences within the groups and maximizing the differences among the clubs (Szendi 2013). The most important difference between conditional and club convergence is that in conditional convergence the examined economies move toward a common (global), and in club convergence the territorial units of a club move toward a local steady state. In club convergence the convergence process is "determined by the existing, initial conditions (which refer to the group of countries), not by the structural factors" (Gáspár 2010, p.2).

The existence of the club convergence in the European Union – originating from the results of the analysis of absolute β-convergence – is analysed by hierarchical cluster analysis. The applied technique is the Ward method, which is a method of variance based analysis. At the beginning of the process each component constitutes an independent cluster and the method merges compenents at each step. Ward's minimum variance criterion minimises the total within-cluster variance. In our study the data must be standardised because initially these present difference metric sclaes. The mean of the standardised scale is zero, its dispersion is 1 (Sajtos and Mitev 2007).

RESULTS

We utilise the Eurostat (2015) and the World Bank (2015) database to examine the presence of convergence in the 28 members of the European Union. We distinguish between the old[8] and the new[9] member states (in the footnote the codes used by the World Bank are included). On the one hand this is justified by the significant development gap (with regard to the GDP per capita) and the differences in the energy features deriving from the differences in their history. The tested indicators can be connected to the Energy 2020 goals:

- energy intensity of the economy (the ratio of the gross national energy use to the GDP at 2005 market price, unit: koe/1000 EUR – source: Eurostat);
- emission intensity (the ratio of the greenhouse gas emissions to the GDP PPS at 2011 market price, unit: 1t CO_2 equivalent/1000 USD – source: World Bank);
- the share of renewable energy sources to final energy consumption (%) – (source: Eurostat).

The examined time period for the energy and emission intensity is 2001-2012, but data on renewable energy can be accessed only from 2004 in the Eurostat database, so here the analysis includes the 2004-2012 time period.

[8] France (FRA), Germany (DEU), Belgium (BEL), Luxembourg (LUX), Netherlands (NLD), Italy (ITA), United Kingdom (GBR), Ireland (IRL), Denmark (DNK), Greece (GRC), Spain (ESP), Portugal (PRT), Austria (AUT), Sweden (SWE), Finland (FIN)

[9] Cyprus (CYP), Malta (MLT), Estonia (EST), Latvia (LVA), Lithuania (LTU), Poland (POL), Czech Republic (CZE), Slovakia (SVK), Hungary (HUN), Slovenia (SVN), Romania (ROM), Bulgaria (BGR), Croatia (HRV)

Similar to the study of Adhikari and Chen (2014) we tested the inverse of the energy intensity and the ratio of the greenhouse gas emissions to the GDP in the β convergence, because this avoids the situation where the increasing indicator actually shows deterioration (so the rise in the energy intensity index shows a decrease in energy efficiency, meaning the higher the indicator, the worse the use of the energy sources). Applying the inverse of these, the increasing index shows development and better performance. Furthermore, the inverse of energy intensity is called energy efficiency, and along this analogy the inverse of the ratio of the greenhouse gas (GHG) emissions to the GDP is the inverse of emission intensity.

Table 3 Main statistical data of the old and new European Union member states

		Energy intensity (koe/1000EUR)		GHG emissions (1990=100%)		Share of renewable energy sources to final energy consumption (%)	
		2001	2012	2001	2012	2004	2012
mean	EU-28	298.87	221.86	94.10	86.08	11.38	16.87
	EU-15 (old member states)	159.91	136.49	109.07	93.50	11.98	18.44
	New member states	437.82	307.23	79.14	78.67	10.79	15.31
median	EU-28	197.40	166.35	98.73	84.25	7.65	13.65
	EU-15 (old member states)	159.60	139.65	104.68	89.59	7.60	13.65
	New member states	432.85	295.15	77.64	65.51	8.30	13.75
minimum	EU-28	103.30	82.80	40.50	42.92	0.30	2.70
	EU-15 (old member states)	103.30	82.80	85.26	76.55	1.20	4.20
	New member states	147.40	133.80	40.50	42.92	0.30	2.70
maximum	EU-28	1040.10	669.90	144.72	156.90	38.70	51.00
	EU-15 (old member states)	234.80	204.00	137.88	122.48	38.70	51.00
	New member states	1040.10	669.90	144.72	156.90	32.80	35.80
dispersion	EU-28	217.35	132.98	29.20	28.53	10.11	11.51
	EU-15 (old member states)	36.19	32.83	15.65	14.94	11.50	13.52
	New member states	235.00	141.26	32.30	36.72	8.91	9.32

Source: own compilation using Eurostat (2015)

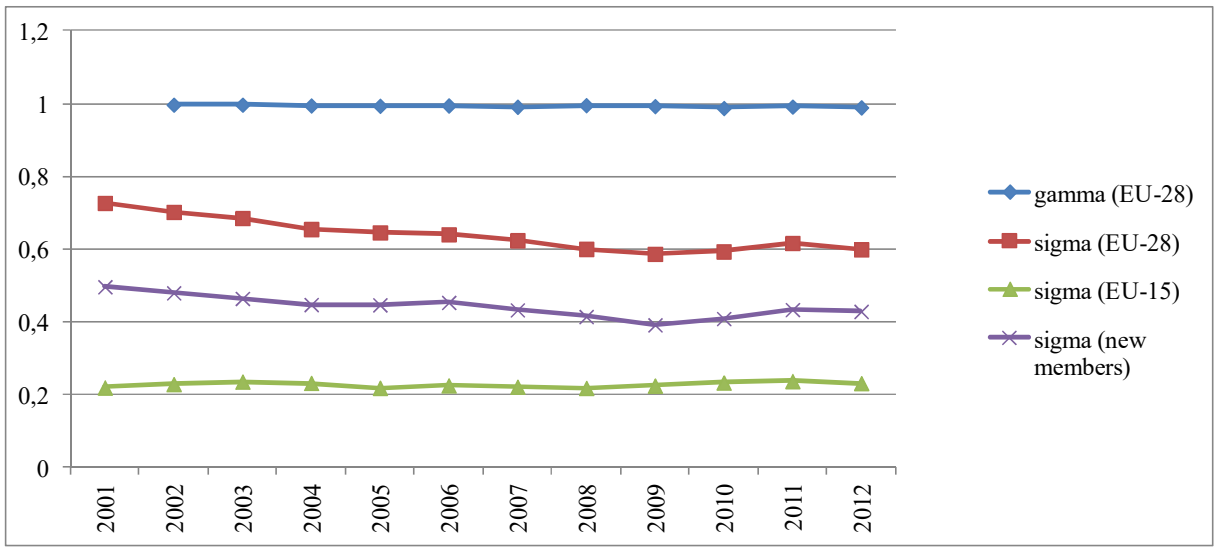
Table 3 shows with simple statistic description the trends of the three selected indicators between 2001 (2004) and 2012. Significant development in the energy intensity can be observed, with the index improving in the old and in the new members as well. In the case of greenhouse gases Energy 2020 sets the goal with regard not to the intensity but to the emissions of base year 1990. Currently, we examine this indicator, but being a fixed-base index we can not take this into consideration in the following analysis (so we focus on the

similar emission intensity). The emission data generally improved according to descriptive statistics (but more slowly than the energy intensity); however, the minimum and maximum values worsened (the minimum value was for Latvia, the maximum Malta and Cyprus). This affects the dispersion of the new members, which show a high increase, more than 13%. The share of renewables developed in spite of the increasing dispersion of the member data.

Convergence calculations in energy intensity

The σ-convergence in energy intensity is verified until 2008 in the whole integration and in the new members as well. But in 2009 these positive process turn back, a slight divergence can be observed and the country differences increase. The main reason is that the energy intensity of the economy deteriorates in 10 members, while in the others it develops. One year later (of these 18 developing members) only Greece, Spain, and Cyprus are able to improve efficiency, but we note that this is almost certainly due to the economic downturn. However, this tendency is only temporary; after 2011 these trends cease, and energy efficiency becomes general in Europe. Among the old members the data dispersion does not change, the disparities become permanent. The presence of γ-convergence can not be verified in the integration (it can be explained by the short time period), so it can be stated that the differences across the tested units remain (the extent of mobility within the distribution is not significant), but the size of the differences decreased between 2001 and 2012 (Fig. 1).

Figure 1 γ and σ-convergence in the energy intensity



Source: own compilation

With regard to the investigated 12 years there is negative relationship between the initial energy efficiency and the changes in it, so the calculated β coefficient obtained from the regression equation shows the catching up of the lower-performing countries in the integration and also in the new members (the β-convergence is verified). This relationship is much stronger in the nations that joined the European Union in 2004, 2007 or 2013 than in the whole integration. Among the old members the β coefficient is not significant (Table 4).

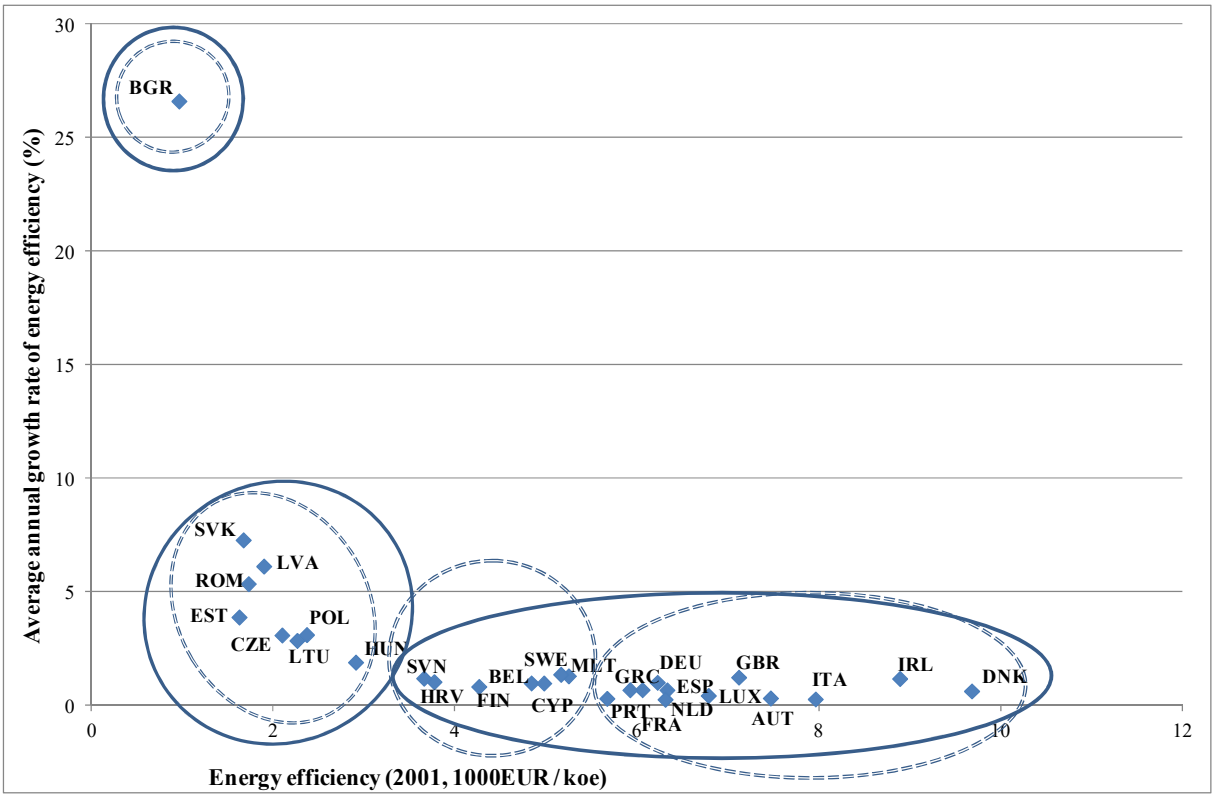
Table 4 β-convergence in the energy efficiency of the EU-28

		Value	t-statistic
EU-28	**constant**	8.23806	0.0001***
	β-coefficient	−1.15462	0.0023***
	adjusted R^2	0.277422	
EU-15	**constant**	0.987372	0.0523*
	β-coefficient	−0.0366974	0.6023
	adjusted R^2	-0.053797	
new members	**constant**	13.1675	0.0046***
	β-coefficient	−3.02221	0.0333**
	adjusted R^2	0.290387	

Source: own compilation

Because the presence of β-convergence is proved in the integration between 2001 and 2012, we identified the convergence clubs. The calculations were made for both three and four clusters (Fig. 2 shows results for both). In both cases Bulgaria forms an independent cluster, because its energy efficiency was really low in 2001, but it performed very well (we note that it is much easier to develop from a low initial level). The second cluster includes Romania, the Czech Republic, Hungary, Poland, Slovakia, Estonia, Latvia, and Lithuania. These nations are characterised by low initial energy efficiency (the index of GDP to energy consumption is lower than in the next cluster) and the shift is only slight. The following cluster can be divided into two subclusters (depending on the optimal number of the clusters): one of the subclusters includes Belgium, Finland, Sweden, Cyprus, Croatia, Malta, and Slovenia, while the other contains Ireland, Greece, Spain, France, Italy, Luxembourg, Netherlands, Austria, Portugal, United Kingdom, Denmark, and Germany. The energy efficiency of the former countries show better values compared to the first and second cluster, but the size of the shift is lower. The members of fourth cluster are the best performing countries, but we can observe stagnation.

Figure 2 Convergence clubs in energy efficiency



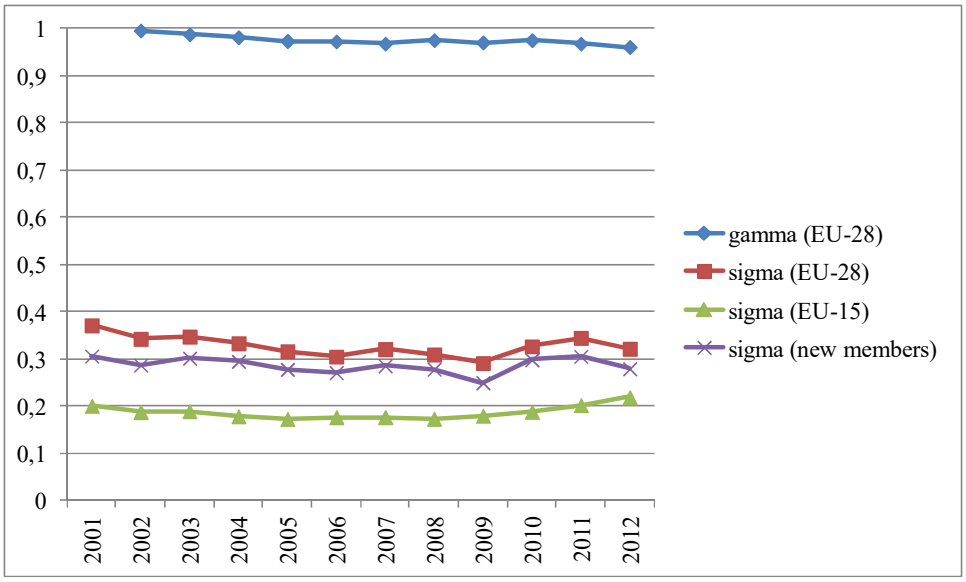
Source: own compilation

Convergence calculations in GHG emissions

A declining tendency can be observed in the trends of the emission intensity dispersion (σ-convergence) between 2001 and 2008, which suggests that the disparities decreased for the current period, so there is convergence. From 2009 these promising processes turn back and the divergence becomes stronger, but it is only a temporary time period. In this short time period (2009-2010) 10 members are able to improve the indicator in spite of the economic crisis. In the others in almost one year the index increases. However in 2011 in Bulgaria, Greece, Spain, and Portugal the emission intensity continues to deteriorate. The main reason is that in these countries the rate of decline in the GDP has exceeded the decline in greenhouse gas emissions.

The presence of γ-convergence can be verified, but the process is weak, and the mobility of distribution is restrained in the 12-year time period (Fig. 3).

Figure 3 γ and σ-convergence in emission intensity



Source: own compilation

For the β coefficient of the regression the countries with worst initial emission intensity tend to converge faster to the long-term steady state, so the growth rate of the poorly performing nations is higher, which confirms the occurrence of convergence in the European Union. This result is fit for the consequences of σ-convergence mentioned above. With the new members these trend is much stronger, but among the old members the β coefficient can not be interpreted (it is not siginificant even at the 10% level), as in the case of energy efficiency (Table 5).

Table 5 β-convergence in the emission intensity of the EU-28

		Value	t-statistic
EU-28	**constant**	9.69192	0.000***
	β-coefficient	−2.43910	0.000***
	adjusted R^2	0.614274	
EU-15	**constant**	3.60041	0.0026***
	β-coefficient	−0.519040	0.1138
	adjusted R^2	0.118070	
new members	**constant**	14.0096	0.000***
	β-coefficient	−4.51093	0.000***
	adjusted R^2	0.833848	

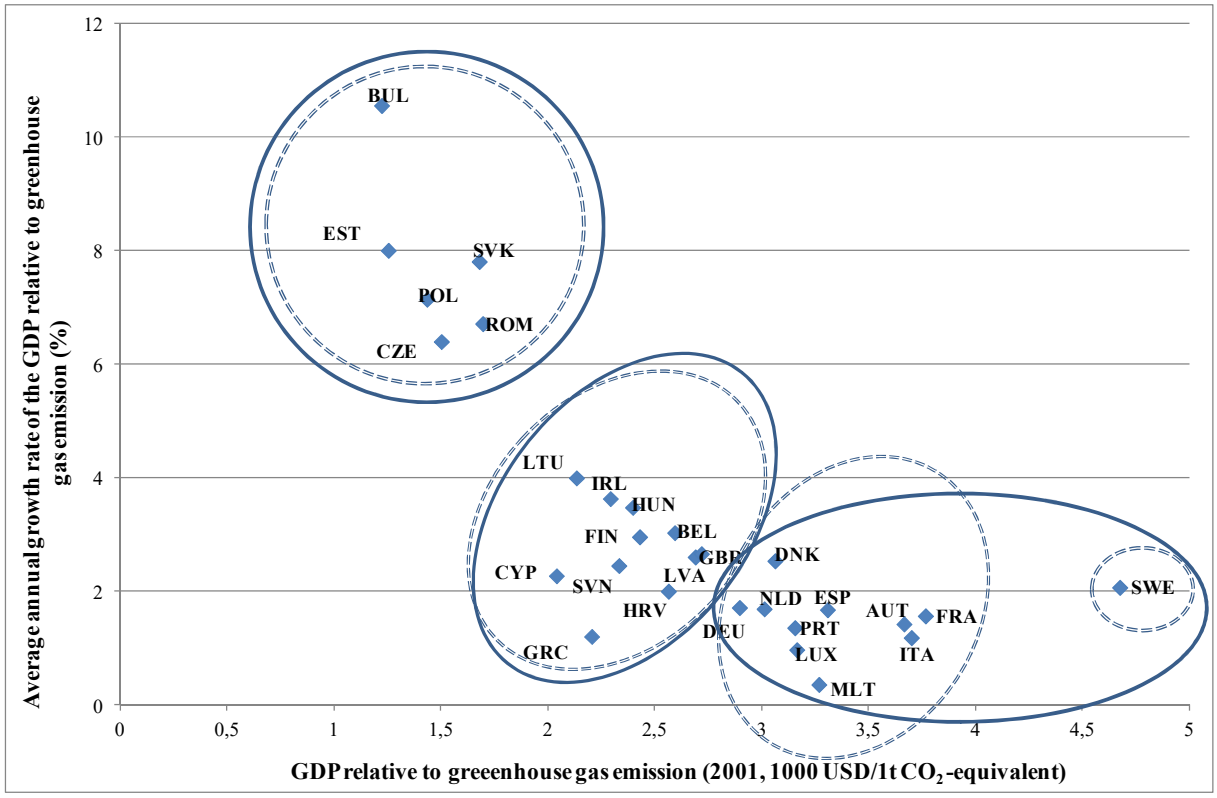
Source: own compilation

We calculated the convergence clubs to the inverse of the emission intensity, similarly to energy intensity. Three and four clusters were created. Sweden forms an independent group in both cases, because here the greenhouse gas emissions to GDP are extremely low, and furthermore continous development can be observed in the 12 years under investigation. The

second club (if we determine four clusters) includes Denmark, Germany, Spain, France, Italy, Luxembourg, Netherlands, Austria, Portugal, and Malta. The emission intensity of these countries is very good and it improved slightly over the period.

The members of the next club are: Belgium, Ireland, Greece, Finland, United Kingdom, Cyprus, Croatia, Latvia, Lithuania, Hungary, and Slovenia. The emission intensity of these countries is moderate, but it is coupled with significant improvement. Poland, Slovakia, Estonia, Bulgaria, Romania, and the Czech Republic belong to the group of best performers: these countries started from a very low intial level but they are in the forefront in 2012 (Fig. 4).

Figure 4 Convergence clubs in the inverse of the emission intensity



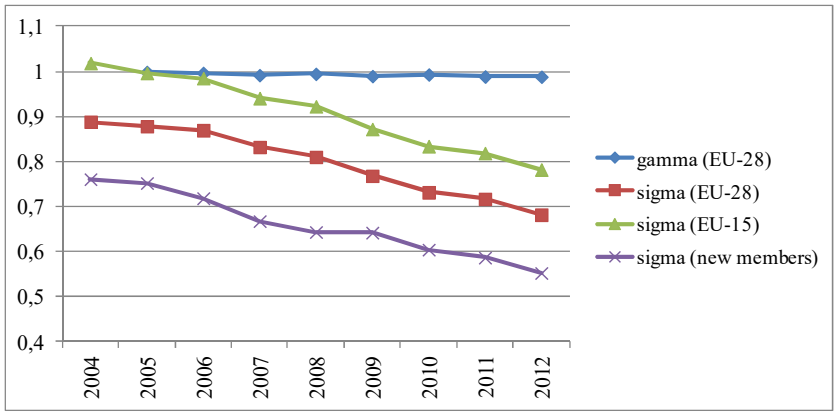
Source: own compilation

Convergence calculations in the share of renewable energy sources

Of the three selected indicators in this study, the convergence in renewable energy sources is the strongest, the decreasing in the differences here is the highest. It is interesting that the 2008-2009 financial crisis has not caused – unlike the other two indicators – a downturn or divergence in the European Union. One reason is likely to be that the already installed capacity continued to operate. On the other hand, this index can increase if the final energy consumption decreases and the energy use from renewables stagnates. The market of

renewable energy sources – indirectly, through many other factors – is influenced by the oil prices and its effects on other instruments (for example the prices of gas prices and electricity highly depend on oil prices). In the summer of 2008 the oil price was at a record-breaking high (the WTI crude oil price exceeded 146 USD/barrel limit). In this market environment many oil and gas fired power plantsthat produced electricity expensively and inefficiently were shut down (such as Tisza II power plant in Hungary). At that time the payback period had become shorter for investments in renewables, which affected positively the installation of new capacity not only in the European Union, but in the whole world as well (the value of investments increased by 62% from 2006 to 2008, according to the UNEP data). Thanks to the crisis the final energy use declined significantly (especially in the transport and industry sector), which accelerated the shutdown process of the old fossil-fuel power plants. Meanwhile renewable capacities have remained in operation, which strengthened the convergence of the European Union members (Fig. 5).

Figure 5 γ and σ-convergence in the share of the renewable energy sources



Source: own compilation

Similar to the energy intensity, the presence of γ-convergence cannot be proved, so it can be stated that differences remain but their dispersion decreased between 2004 and 2012.

The β coefficient is negative in all cases, which confirms convergence. Countries with low initial values tend to grow faster, so the countries keep toward a common pattern of renewable energy use. With regard to the t-statistics, the factors are significant at the 1% level in the regression model (in the old and new members and in the whole integration). The value of adjusted R^2 is moderately strong (Table 6).

Table 6 β-convergence in the share of renewable energy sources in the EU-28

		Value	t-statistic
EU-28	**constant**	9.90199	0.000***
	β-coefficient	−0.394818	0.0010***
	adjusted R^2	0.330500	
EU-15	**constant**	12.4832	0.0002***
	β-coefficient	−0.459776	0.0110**
	adjusted R^2	0.357341	
new members	**constant**	5.15710	0.000***
	β-coefficient	−0.200077	0.0009***
	adjusted R^2	0.650723	

Source: own compilation

Malta and the United Kingdom performed very well with regard to the ratio of consumption of renewables to total energy, so they form an indepent cluster. But we note that these countries had the lowest basic values (in Malta in 2004 the share of the renewable was only 0.3%, in the UK 1.2%), from where they could easily develop. The following group contains Finland, Latvia, and Sweden. These countries are generally environmentally conscious, and their renewables capacity was already remarkable in 2004. Their growth rate does not seem to be high, but in spite of that the capacity rise is serious (because of the high initial level).

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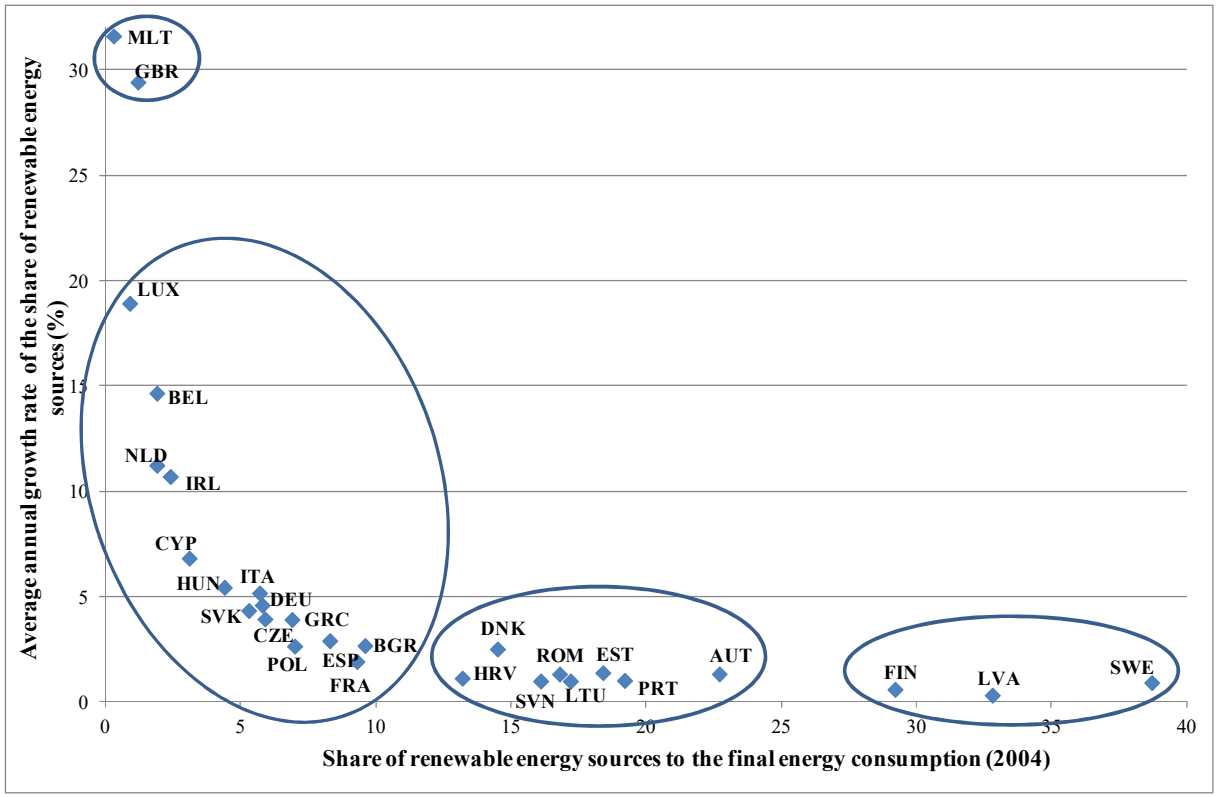
Denmark, Austria, Portugal, Estonia, Croatia, Lithuania, Romania, and Slovenia form the third cluster. The basic value of these countries is about 15-2% in 2004, an increase of 5-10 percentage point to 2012.

The last cluster has the largest number of elements: it includes Belgium, Ireland, Germany, Greece, Spain, Luxembourg, the Netherlands, France, Italy, Bulgaria, the Czech Republic, Cyprus, Hungary, Poland, and Slovakia. This cluster is characterised by a low initial level coupled with a high growth rate (Fig. 6).

Figure 6 Convergence clubs in the share of renewable energy sources



Source: own compilation

CONCLUSION

The 20-20-20 goals for energy intensity, share of renewable energy sources and the emissions complement each other very well, but examining progress being made toward meeting the goals is extremely important not only for decision makers, but for economic players as well. With adequate feedback the applied toolbar can be developed and expanded, and its effectiveness can be measured. In this study the presence of sigma, gamma, and absolute beta convergence was examined for these three energy indicators in the 28 member states of the European Union between 2001 and 2012. Furthermore, convergence clubs gave a useful additional perspective.

After carrying out the analysis we can make the following statements: 1) Sigma convergence can be proved in all of the examined indicators in the European Union. However the extremely weak presence of gamma convergence can be verified only in emission intensity. This means that the country differences remain between 2001 and 2012, but that those differences have reduced significantly. 2) The sigma convergence calculations in energy and emission intensity indicate the year 2009 to be a turning point, a so-called structural break. Convergence is replaced by divergence, but only temporarily (for 2 years). 3) Beta

convergence indicates that the countries with low (poor) initial levels of the selected indicator are catching up to the better performing countries. 4) The results of sigma and beta convergence call attention to the significant differences between the new and old member states. In the energy and emission intensity convergence calculations it was found that the sigma and beta convergence is much stronger for the new members than in the whole integration. At the same time, in the old members the β coefficient is not significant by these cases and the sigma convergence shows the persistence of the disparities. So those countries that have a weak initial level of energy efficiency and emissions (the new members) tend to grow comparatively faster than those with high initial levels (the new members). 5) The sigma and beta convergence calculations support the finding that the convergence in the share of the renewable energy sources is the strongest of the three examined indicators. 6) In the convergence club calculations the groups formed are arranged into the old and new members. 7) The convergence calculation methods are appropriate to control the national environmental processes. It can be stated that differentiated environmental policies should be applied with regard the old and new members.

The results should be taking into account when the European Union countries set up the new climate and energy objectives to 2030. Especially the members' clusters (the results of the convergence club calculations) should be considered and it is appropriate to determine the national target numbers (and the related national environmental and energy policies) with regard the cluster groups.

It is important to note that long-term conclusions about the energy convergence need more than 12 years of data, and the analysis of the conditional beta convergence is necessary. We set the objective to do this in the near future, in the next phase of our study. However, the current analysis can provide insight into the current processes, thus helping to monitor the progress towards the the 20-20-20 goal and to give feedback.

Acknowledgement

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Original scientific paper

DEMOGRAPHIC CHANGES AND THEIR SPATIAL-SETTLEMENT CONSEQUENCES: LESSONS FROM EAST GERMANY AND HUNGARY

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Abstract

Demographic shrinkage has created 'new' challenges in the spatial and urban development of the developed world and its semi periphery for nearly three and a half decades and it requires a different way of thinking and different solutions as well compared to previous development practices. Theoretical research and development activities in practice are further aggravated by the mono-minded mentality of society, economy and politics fallen a victim to charms of 'growth'; the slow recognition of the fact of spatial-urban shrinkage and the reluctance to deal with the problem (especially on the semi periphery). In this paper I would like to outline the settlement and spatial problems of demographic shrinkage and suggest certain theoretical solutions being aware of the fact that there is no universal solution for shrinkage; each and every settlement has to find and carry out their own solution – emphasising the mobilisation of the endogenous resources of the given region or settlement.

Keywords: demographic shrinkage; new philosophy of spatial and urban development; 'controlled re-construction'; mobilization of endogenous resources; 'sailboat'-model

INTRODUCTION

A new direction in urbanisation: shrinkage both in the west and east

1984 is not only a symbol in world literature: that year was a turning point concerning the perception and assessment of changes in urban and spatial processes on Earth – by that time, besides the booming *urban growth*, characteristic of the developed world from the second half of the 20th century, it was necessary for urban developer professionals in Rotterdam to record another, opposite urbanistic process. That was the *demographic shrinkage (Schrumpfung*) of some (big) cities in the centre regions (developed regions of Europe, certain urban regions of the USA), i.e. the *reduction of population*, including its complex social, economic, infrastructural, environmental and spatial consequences.

Almost half a decade later, the regime changes in Eastern and Central Europe in 1989/1990 expanded this process further in space, i.e. a significant part of the European semi periphery[1] also 'joined' the regions hit by the demographic shrinkage (Tab. 1), accumulating the transformation processes which had severe social-economic consequences themselves.

Table 1 Changes in the population (head) in certain Eastern-European countries since the regime change

	1989-1993	1994-1998	1999-2002	2003-2006	2007-2009	2010-2015
Bulgaria	8 669 269	8 384 715	7 928 901	7 718 750	7 606 551	7 202 198
Estonia	1 567 749	1 425 192	1 366 959	1 351 069	1 363 310	1 313 271
Latvia	2 667 870	2 501 660	2 364 254	2 319 203	2 270 894	1 986 096
Lithuania	3 701 968	3 615 212	3 486 998	3 426 678	3 366 357	2 921 262
Poland	38 183 160	38 609 399	38 242 197	38 173 835	38 135 876	38 005 614
Hungary	10 373 153	10 321 229	10 198 315	10 097 549	10 045 401	9 849 000
Romania	23 192 274	22 656 145	22 430 457	21 658 528	21 498 616	21 431 298

Source: own compilation based on EUROSTAT 2015

During *peace time* in the developed world neither theoretical researchers, nor regional and spatial developer professionals in practice met this phenomenon, let alone politicians. Yet from then on, they were forced to represent a significant change in their way of thinking: urbanisation and the development of the regions concerned (including towns as central places) should have been seen, planned and instructed according to a new paradigm. They were supposed to realise that instead of chasing 'controlled-led growth' they had better apply the process of 'controlled reconstruction', but actually it was/is very difficult even in the developed west, especially for the politicians believing solely in the fetish of 'growth' – the semi peripheral east showed a kind of fragmentation and lateness, as usual.

Problems, characteristic features, reasons and consequences of urban and spatial shrinkage

The process defined as a *demographic crisis* appeared in Europe as one of the basic problems of post-industry societies: it means the decline in childbearing, aging population, smaller

[1] In Southeast-Europe urbanisation also stopped in the early '90s, however was not the same de-urbanization process as in Western Europe, the driving forces were different. The Yugoslav wars also meant a breaking point for several towns (Hajdú – Rácz 2011, Rácz 2014).

society, all in all we can record the new model of urban and spatial development, i.e. '*falling population – falling abilities'*. In addition, certain regions and their towns – not exclusively, but partly as a consequence of deindustrialisation or de-economisation – possess weakening economic abilities, decreasing attractions and narrowing social-economic opportunities which (among others and including dangerous further effects) might lead to the comprehensive impairment of the local society, further increasing the regional, social-economic-cultural and environmental problems of the settlement, generating a downward spiral of urban-spatial regression.

Taking into account the above mentioned facts the reasons for shrinkage in detail are the following:

- structural weaknesses of the economy, lack of work and training places
- moving of young qualified workforce (long distance migration)
- moving of those with high(er) income (short distance migration/suburbanisation)
- permanent vacancy of flats, depreciation
- lack of rental incomes (flat owners)
- permanently low occupancy of infrastructural establishments (e.g. schools, nursery schools)
- increasing poverty
- aging population
- decreasing purchasing power (trade, enterprises)
- decreasing tax incomes
- increasing social expenditures (e.g. benefits)
- negative image
- low or missing willingness to invest in
- further increase of structural weaknesses of the economy (Hannemann 2003, based on Beer 2001).

Reactions given to shrinkage in the centre and on the semi periphery

It is a fact to welcome that focusing on the problem, within the centre regions (USA, Western Europe) there has been an increasing number of researchers and bibliography studying this issue (e. g. Bernt 2009; Bernt et al. 2012; Couchet al. 2012; Martinez-Fernandezet al. 2012; Neill – Schlappa 2016; Reckien – Martinez-Fernandez 2011, etc.), together with practical

experiments over the past decades. However, it is still not paid appropriate scientific and pragmatic attention (nor its adequate way of handling it) to the topic of demographic shrinkage on the delayed semi periphery (e.g. in Hungary), although the problem of shrinkage can be felt by science (e. g. Gál et al. 2013; Turok– Mykhnenko 2007, etc.), politics, media and society increasingly.

It is a significant difference that the phenomenon has had a more extensive and thorough bibliography and experience concerning its pragmatic handling and realisation since the beginning of 2000 in the west (especially in Germany we are focusing on), whereas in Hungary there are only seeds of spatial-settlement analyses and pragmatic development activities carried out *particularly from the point of viewof demographic shrinkage* (e.g.Pirisi – Máté 2014).

As we see it, to accept the problem after perceiving it and the difficulty of working out the different ways of handling it can be rooted in the following: for societies charmed solely by 'growth' it is very difficult at present to accept and handle this shrinkage mentally, they are not able to change their mentality, i.e. to go for 'planned redevelopment', a kind of 'regimented backdown' instead of chasing growth, as they can interpret these terms as loss and defeat.

In this paper I outline the settlement and spatial problem of demographic shrinkage drafted above and suggest some theoretical solutions being aware of the fact that there is *no 'universal solution for shrinkage'*: each and every settlement has to find and realise it (studying the examples you can reach at several places, mostly in the west), acting as a kind of Baron Munchausen, pulling themselves out of the problems of spatial and settlement development caused by demographic shrinkage.

OBJECTIVES AND METHODS

The aim of my research and its geographical dimensions

Based on the problems outlined in the introduction my main *aim* is to draw attention to the *demographic decline* of certain rural regions (including their settlements), the *root causes* (which might be different in different regions, though there are general characteristic features as well) and the potential *ways of solutions*. All in all, this theoretical reasoning is to examine the main aspects of the *problem of* spatial-settlement *population shrinkage* and to show the *potential development policy* (spatial and settlement) *reactions* related to them.

The theoretical research (the geographical target regions of which were the East German state of Saxony-Anhalt and the Hungarian Northern Great Plain) can be found on the borderline of social geography and spatial development. Regarding the approach and processing we can see traditional sociography and the tools used in modern spatial development.

RESEARCH METHODOLOGY

The *methodology* I used was rather complex – due to the complexity of the subject matter itself (in this summarising paper I mention mostly the secondary, theoretical ones):

- processing English, German and Hungarian literature
- analysing East German and Hungarian normative controls
- collecting, analysing and applying the related Hungarian and German central, regional and settlement statistical data
- interviews
- 'experienced geography'– 'being among people' (I took part in professional meetings, workshops, conferences on spatial development, urbanisation and rural/agricultural development, civilian meetings both in Hungary and Saxony-Anhalt).

Due to the above mentioned methods, besides applying the too 'antiseptic' mathematical-statistical data, often distorting or covering geographical differences, I was able to gain a lot more differentiated and realistic picture with the help of these social geographical 'snapshots' during the theoretical study of shrinkage.

Tasks related to settlement and spatial shrinkage

Studying the shrinkage processes of rural regions and settlements it was shown by the East German and Hungarian research of the given problem that during the process of finding answers to the problems raised by negative demographic processes the following *tasks* arise– in each type of the region:

- introduce the appearance of shrinkage at relevant regional levels
- denote reasons which might be different in different regions and
- outline potential steps/introduce steps taken, which must be different in different regions (e.g. in a big city compared to a rural region).

Shrinkage Everywhere – Differences in Regional-Settlement Levels; Reasons, Consequences, Tasks

Accomplishing the above drafted tasks, based on the conclusions of my research I would like to highlight the *differences between the given levels* briefly, evaluating shrinkage processes:

- *world-city, metropolis-region* ('Gamma level cities' according to GaWC – Erdősi 2003) (e.g. Budapest, Berlin)
    - *reasons*: comprehensive, increasing social-economic changes: global, continental (and national) realignment of economy, production and services and international division of labour (global and continental transformation of centre-periphery relations); increasing competition in international markets; production plants leave cities; post- (de)industrialisation, de-economisation (i.e. the total economic decline of the region – Hannemann 2003) in developed (and moderately developed) regions are on the increase, breathlessness of growth (quantity), difficulties of development transfer (quality); new economy, offering new types of business sites; info technology on the increase, expansion of the virtual world, reduction of being forced to live on the same place, be fixed; over-crowdedness of the core of the city; suburbanisation; extreme individualisation among metropolitan population, change of consuming habits, undiscerning, very often superfluous and prestige consumption; change in female roles; pursuit of career and experience, extension of the time for having children, in addition to the decreased willingness, being single as being trendy
    - *consequences*: transformation of city economy, devaluation and destruction of classical industrial zones (within cities, occupying a large area); partial depopulation of buildings, streets, districts; slums on the increase; impairment of real estates; inadequate number of good-quality, yet reasonably priced flats; degradation of man-made environment; the more and more expensive sustainability of the infrastructure; migration of highly-qualified, young(er) population into more developed countries; increasing social inequalities, total marginalisation of certain social layers, social decline, segregation, threat of emerging ghettos

- *action to be taken/steps already taken*: creating a new way of mentality and town planning; defining the town as a national or continental pole to be developed; strengthening tertiary and quaternary sectors (R+D+I); enhancing the role of knowledge centres; attracting services providing high added value; partial or total demolition of buildings; promoting rehabilitation functions of buildings (e.g. forming a new conference centre from an old industrial hall), creating new social places; increasing green areas of the region, ecological corridors in cities, green lungs, establishing a higher-level habitat; social appraisement of the region; together with the revitalisation of the physical environment; aimed social marketing

- *large city region* (with population more than 100 thousand peoplee.g. Magdeburg (earlier), Miskolc, Pécs)
  - *reasons*: crisis and collapse of traditional (large-scale)industry; relocation of certain firms to the countryside from towns; partial or total closure of production or processing sites in towns; increasing unemployment; extracting effect of other cities (capitals) on mobile workforce; suburbanisation; sudden political change after the change of the regime (relative unpreparedness for operating local governments), occasionally ill-thought decisions on spatial arrangement (e.g. residential or industry-region allotments for suburban or extra-urban places for building flatsor for greenfield investments, which have become partly crisis areas today)
  - *consequences*: partial depopulation of city centres, city expansion, riving of the city fabric; threat of creating fragmented city structure; increasing number of commuters, degradation of man-made and natural environment in cities; deterioration of the quality in infrastructure, increase of the costs to sustain it; decreasing rate of active people compared to the growth of those being non-active; social imbalances; migration of the young towards the more developed regions or countries; aging population of cities; segregation; BUT! less dense city population can open new, free horizons for changing lifestyles, there might be fewer social conflicts, less waste of resources, there can be a decreasing tendency in nature utilisation
  - *actions to be taken/steps already taken*: creating a new way of thinking and town planning; defining the town as a regional pole to be developed, its

complex development in this direction; quality development of trainings and (higher) education (strengthening lifelong and lifewide learning); promoting transformation in economic structures; enhancing R+D+I; revitalisation of the city centre, its renewal in extending functions, protection of historic buildings, revival of the city; appreciation of buildings by wrecking and clearing; forming family-friendly city centres; social town development; accessibility, modernisation of social transport

- *small town region* (with population of about 10-25 thousand people, e.g. Kisújszállás and its surroundings; Salzwedel and surroundings)
    - *reasons*: decline of agriculture, ceasing of farmers' cooperatives, closures of industrial plants (e.g. light industry, food industry), re-organisation of the remaining plants, employing far less labour force, lack of adaptability to new circumstances among the major part of population; inadequate individual and community responses to new challenges (lack of social motivation: 'reducing population – reducing abilities')
    - *consequences*: increasing unemployment; increasing number of abandoned, unmarketable real estates, their destruction; degradation of townscape, deterioration of the quality of physical environment in towns; threat of fragmented town structure; social instability; disruption of town society, crack and disappearance of the 'middle class', backsliding of the majority of lower layers, those whose existence becomes totally impossible are forced to move to the country
    - *action to be taken/steps already taken*: strengthening activities of agriculture and forestry based on local capacities (focusing mainly on organic farming, producing biomass), creating processing industry based on them; changing consumer culture ('Buy local food from local producers – it is more environment-friendly and creates local workplaces'), development of accessibility of (micro)regions; intensive formation of social consciousness, enhancing of community cohesion
- *peripheral rural region* (certain parts of Nagykunság [Great Cumania]; Altmark – those regions beyond the strictly statistical data of 120 head/km^2: peripheral state, undereducated human resources, incomplete, structurally retarded supply of

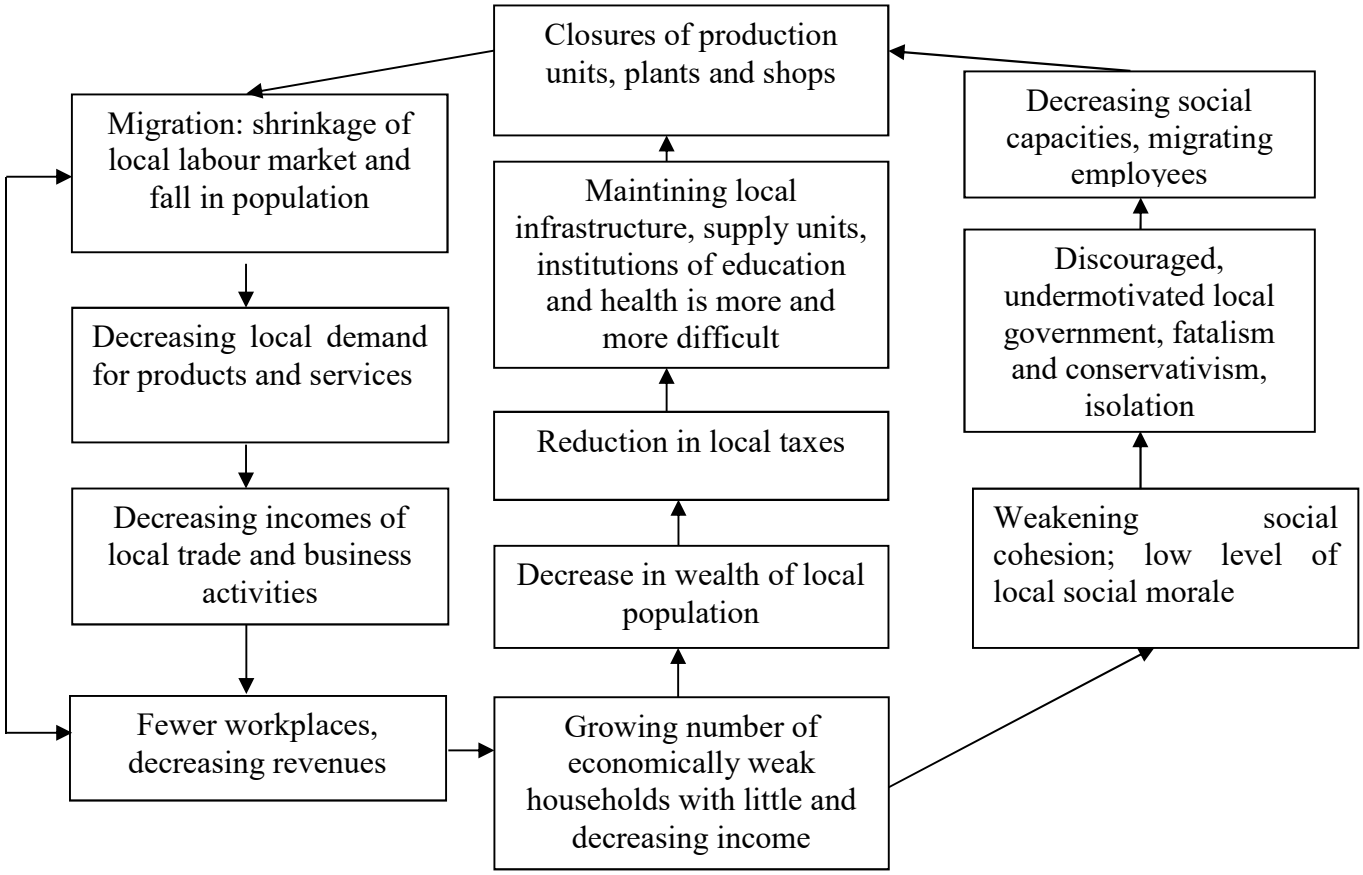
workplaces, unfavourable employment conditions, the dominancy of agricultural structures, less advanced infrastructure, weak economic potential, migration, etc.)

- *reasons*: social-economic (semi) peripheral state; general crisis of the agriculture; migration of young, educated age group to (large) towns; exclusion of the poorest layers from the town, their moving to the countryside, social degradation, pauperisation, exporting deviance to the countryside
- *consequences*: spaces becoming empty, more and more expensive infrastructure and services, (their ceasing because of insolvency), more and more difficult conditions of everyday existence; aging, impoverishment, degradation and pollution of man-made, natural and spiritual environment
- *action to be taken/steps already taken*: utilisation of abilities and capacities specific to the region, focusing on specialisation; development of education and trainings (restoration of the respect of manual jobs); 'rediscovering the country', restoring the traditional multifunctionality of work-living-free time; generating and using renewable energies; eco and organic farming, labour intensive production and employment; improvement of accessibility of regional centres, access to services; providing commuting and utilising modern information and communication technologies; development of rural tourism in a complex way; extending cultural supply; providing the possibility of taking part in local public life (make people feel they are able to form their lives); addressing and settling the young, inspiring them to have children.

RESULTS

As a summary of the above mentioned, a 'model of shrinkage' can be formed for all town categories and rural regions concerned – i.e. the social-economic *degradation spiral* threatening the shrinking towns (and as a result, the rural regions providing homes for them, too) usually is like the following (Fig. 1).

Figure 1 Cumulative causal chain of regression in towns and regions



Source: Mayer – Knox 2009, 209

According to the above statements, *experiments for solving* the problem may be very complex, thus one comprehensive and *beneficial development scheme* or model for everyone and everywhere *cannot be formed*. However, towns facing the problem of shrinkage might consider the following points in their development (and in time relating the direct region as well), starting from the actual steps to the general strategic tasks (knowing and accepting the fact that *shrinkage can mean the new way of the urban and regional development*):

Concerning *empty buildings* the following transformation strategies can be applied in towns:

- planned demolition of buildings
- creating inner city green areas, green corridors, green lungs
- 'naturalisation', 'resuscitation' of nature in towns
- further utilisation of the remaining old buildings and the new spaces being formed due to demolition by a functional change, appropriate conversion for new target groups, e.g.

- creating newly-built inner town buildings for new target groups (e.g. for young families)
- rehabilitation by functional change (e.g. converting old industrial areas/buildings into flats, art studios etc.)

Besides the actual physical intervention it is essential to 'rethink towns' (as they are not only enlarged sets of buildings but do have souls), i.e. the challenges of *town development* and *town planning* require a *different approach*, according to the following:

- it is necessary to reinterpret the term of urban space (both in philosophical and physical sense)
- it is urgent to rethink the term of the town in cultural, social and economic sense and also concerning space and utilisation, i.e. the paradigm shift of town development/planning is inevitable (from 'controlled growth' towards 'regimented back-down')
- strengthening and stimulating urban creativity is a must (rethinking, giving up routine activities, cooperation, communication)
- determination and courage are needed to define the differences between towns, to find, conceive, communicate and sell the unique features and specialities of settlements
- shrinkage has to be interpreted and applied as free physical and mental space
- once rethinking local society and culture, shrinking settlements have to be defined asspecial and peculiar laboratories of future economic development (www.iba-stadtumbau.de; www.leipzigeragenda21.de).

As I see it, the above mentioned facts are essential and important conditions of handling the problem of shrinking towns and their regions, where special attention must be paid to the *endogenous resources*, the inner development potentials inherent (or absent) in local societies. This can be seen clearly in the case of Hungary, where huge amounts of EU aids have been streaming into since 2004, but especially since 2007, for different regional and settlement development projects (Hungary's net position in absolute value will be about 25 billion euros during 2014–2020, being the third in the ranking of member states, after Romania and Poland. The net position per head is improving from 2333 euros/head to 2513 euros/head, compared to the period of 2007-2013, Hungary being the second after Lithuania. In the ratio of GNI it means a +3,6% net position, being also the second in the ranking, following Bulgaria – Hetényi 2013), yet *despite these figures* a real breakthrough can be recorded neither socially

nor economically (let alone sustainability or environment protection). What is the reason for my being so sceptical? Having theoretical and pragmatic experience of many years in the field of spatial and settlement development I dare to state that the very essential development base, starting point, i.e. *developing* the above emphasised *human resources* is still considered as secondary in Hungary. There are certain initiations and projects for the development and research of human resources: a recent example of it is the Research Group for the Development of Regional Economy, operating at Eszterházy Károly University. The group – realising the problem and its significance – launched a research project in 2016 entitled 'Local capital, local knowledge, local employment in Heves county'. (The main aim of the project is to reveal how successful it was to enlarge the number of workplaces in different settlements of the region, using local sources, and to introduce those efficient methods which resulted in significant enlargement in employment. These initiations are far behind the required level, although their importance does not need any special explanation. As I see it, the inner, local-regional resources should be mobilised in the field of spatial and settlement development – knowing the fact that the generous donations of the EU will be likely to change (decrease) significantly since 2021, thus from then on the developments based on endogenous resources have to be in the forefront. The question is whether Hungary will be able to do that.

These questions raise the demand (or the lack of it) for social innovations of different regions and their settlements and the abilities to realise them. Social innovations typical of the rural regions (the ones I examined in East Germany and in Hungary) can be deduced from the following characteristics of the countryside (G. Fekete, 2014):

- low concentration (of population, enterprises, buildings): low concentration led to inadequate extension of services when applying principles of economies of scale too strictly
- being close to nature, which can be used as a resource and it requires taking responsibility as well
- distance from the centres, meaning a digital, informational separation, helplessness, inadequate accessibility of higher-level services
- slower cultural changes, which can be favourable for the preservation of cultural values, yet slow down the spread of innovations, too (G. Fekete 2011, 77).

Based on the above mentioned, we can compose the characteristic features of the rural regions, the aims to be achieved at the given places and their settlements, in addition, special tasks to be performed as follows (Tab. 2):

Table 2 Potential fields of social innovation in rural regions

Rural specification	Social aim	Special tasks
low concentration	reducing deprivation / promoting catching upby projects of developing human resources	introduction of alternative (small-scale) ways of services: education, culture, health, social care, public utilities
	regional and social integration	arranging co-operations and integrations, creating inner networks, improving horizontal transport
being close to nature	providing healthy living environment for future generations	strengthening environmental sustainability: nature protection, land management, forestation, use of alternative energy sources, waste disposal, modernisation of flats, settlement-maintenance
	providing living, inspiring autonomy, settling the young	utilisation of local (natural and cultural) resources: production of region-specific food, extending recreational opportunities, offering real estates
slower cultural changes	promoting the connection to the knowledge society	enlargement of knowledge supply: development of local and professional knowledge, computer-literacy (trainings)
	preserving identity, enlarging resources	preservation of cultural heritage, cultivating traditions: collecting, introduction of exhibits, a 'fair' marketization of this heritage
	reaching direct participation, extending capacities	adequate governing: strengthening communities
physical and mental distance from the centres	moderation of regional drawbacks	strengthening urban-rural relations: promoting commuting, arranging markets and providing access to them, creating (physical, informational, social) networks, being present and representative in opinion-forming and decision-making process of the town and the region

Source: G. Fekete 2014, 77

DISCUSSION

Demographic shrinkage together with its complex spatial-settlement impact system and consequences is inevitable (at least in the case of my theoretical research in the state of Saxony-Anhalt and Northern Great Plain in Hungary). However, it is still problematic to perceive, interpret and analyse the whole issue and work out potential solutions, let alone their realisation. In addition, concerning these facts – besides significant differences – west and east show certain similarities as well, since the differences in the mentality of politics, science and those of practical developers can be recorded there and here, too, certainly, taking into account the differences in specifications according to countries and places.

The opposition can be seen well in the following: the task of science is to observe and demonstrate facts; it has changed (urban) life over the past centuries based on empiricism. Without science it is impossible to maintain either present living conditions, or providing them in the future (very often it seems it is not possible even with it, or because of it, yet it can be the subject of another article). That is the reason why politics – at least in theory – is dependent on scientists' suggestions. However, it is rather thought-provoking that once the commitments of scientists are proclaimed, they are questioned by many from the realm of politics: saying, they are not realistic, would cost too much, not feasible, not compatible with other issues, all in all, due to current circumstances impossible to realise. Politicians or representatives being concerned in the procedure and those supporting them in different parties and economic hinterland – very often do not pay attention even to obvious facts. Their attention is seized by other 'facts', tending to people's short-term general feeling and finding the possibilities of obtaining political power and their personal positions (incomes), instead of the issues in the middle and the long run, which would require complex and difficult solutions and go well beyond the period of elections.

Knowledge sets of sciences and politicians are obviously different. What scientists consider a 'fact' to be justified, politicians refer to as simply opinions of those politically incompetent, while they consider the things explained to the voters as 'political (and therefore real)' facts. Because of these I find it very difficult to channel such a phenomenon like social-economic and spatial-settlement shrinkage and its consequences into the public: researchers have to study, argue, consult, convince politicians and their voters – yet they should be communicative, be able to handle the media: it is a difficult, complex and dicey challenge; perhaps not totally hopeless.

We are convinced, however, that despite the difficulties, this issue, i.e. the *challenges of development policy forced by demography* will be more and more in the forefront of the Eastern European, including the Hungarian professional, scientific and everyday scope of interest in the following years, as our everyday life and its quality, our social-economic, political and environmental relations will be influenced by them – whether politics and society like it or not.

CONCLUSION

Taking into account the differences, we can state generally that *solutions have to be unique, specific to the given regions or towns*, but basically the following should be taken into consideration when analysing and developing:

- challenges happening due to demographic changes must be taken into account
- the issue of the system of central places has to be dealt with thoroughly
- together with shaping of technical infrastructure and also
- the issues of a complex and sustainable development of society, economy and environment.

In my present article I have demonstrated (and hopefully have proved as well) that in some countries, regions and settlements of Europe (especially in East Germany and in Hungary) spatial and settlement development processes will be defined by demographic shrinkage, which will be felt actually in every field of life. Handling the problems will be inevitable, at local, regional and the topmost levels, as the government should have an important function in consolidating the shrinking regions, it might moderate or partly balance the emerging and ever increasing drawbacks of certain shrinking regions when allocating the decreasing, yet still available sources.

As a conclusion of the analysis of the East German and Hungarian situations, the importance of the tight, continuous and sustainable *partnership* must be pointed out, which besides the decreasing material opportunities could show a new, strengthening and increasing direction of population participation for development policy, as future developments can be the results of only an efficient, effective local and regional partnership, maintained in the long run.

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Original scientific paper

CHANGING POSITION AND CATCHMENT AREA OF THE UNIVERSITY OF MISKOLC, FACULTY OF ECONOMICS

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Abstract

The last decade brought a structural transformation in the Hungarian higher educational system. The main drivers of the change are the followings: the credit system was introduced; the traditional educational structure was replaced by the new, Bologna one with BA and MA programmes. Besides the number of students in the secondary schools stagnated, reduced, which could be just partly counterbalanced by the foreign students and elder population. Finally tuition fee has to be highlighted, which became mass in the cases of economic programmes. In the paper the national and international positions of University of Miskolc, Faculty of Economics are investigated with special focus on the catchment area and the demographic conditions.

Keywords: higher education, University of Miskolc, Faculty of Economics, local and regional positions, catchment area

INTRODUCTION

The Hungarian higher educational system has gone through an essential transformation since the Millennium. The main drivers of this fundamental change can be grouped into three: demographic-social, economic-financial, and legal.

The unfavourable demographic tendencies (reducing number of population and students), the more intensive internal and external migration of youth are influential social elements.

The presence of new financial sources, programmes (national, EU, international ones) widened the fiscal frame of universities and made their portfolio more diversified, simultaneously the negative effects of economic crisis (since 2007/2008) and budget reductions limited the management.

The EU accession (more precisely integration into the cultural and educational joint policies, programmes) brought the need for modification, harmonization of the regulation and legal background of domestic system. The introduction of Bologna system, and structure (with two tiers: BA and MA levels) is by far the most important element, which segmented

the educational programmes. Another important step was to launch tuition fee in many BA programmes, especially in the field of economics and management.

These changes and effects opened up the educational market for the universities, but simultaneously increased the competition among the institutions.

The investigation and understanding of this transformation generated a number of empirical studies, which we intend to contribute to, regarding our Faculty (Faculty of Economics, University of Miskolc - UoM), the so-called 'Alma Mater'.

OBJECTIVES AND METHODS

In the paper we explore the position and catchment area of the University of Miskolc, Faculty of Economics during the interval 2002-2014, using the felvi.hu and internal databases.

First Hungary is placed among the EU (European Union) countries in the frame of a simple benchmark analysis based on the educational performances and outcomes. The EU and OECD (Organisation for Economic Cooperation and Development) datasets and publications (series of EUROSTAT and "Education at a Glance") offer an excellent ground for this purpose.

The basic interdependence between economic growth and population's educational level is known and already proved on many samples.

Table 1 Correlation coefficients (pair wise Pearson correlation) of GDP per capita and educational level of different age groups (tested on the sample of the EU countries)

Educational Level	GDP/capita	Educational Level	GDP/capita
Share of tertiary educated (25-34)	0,348	Share of tertiary educated (35-64)	0,490
Share of secondary educated (25-34)	-0,032	Share of secondary educated (35-64)	0,095
Share of primary educated (25-34)	-0,231	Share of primary educated (35-64)	-0,297

Source: Own compilation based on OECD data

According to the results a positive, moderate strong correlation can be stated between the GDP per capita and tertiary educational enrolment in all cases, while similar but less strong and negative connections can be observed between the GDP per capita and primary educational enrolment. It has to be stressed that even stronger positive correlation can be observed in the case of Hungary than in other European countries between the GDP per capita and tertiary education. (Polónyi 2002)

Secondly the Hungarian demographic tendencies in relation to the number of admitted are shown and some consequences, lessons are drawn from the data.

Thirdly the position and catchment area of the University of Miskolc, Faculty of Economics are mapped and evaluated.

In the current state of the research the 'customer counts' method is applied for limiting the catchment area. (Beluszky 1981) During the further investigations other considerations can be taken into the account, like the attractiveness of other higher education institutions (both domestic and foreign), or other factors like the characteristics of transport networks (Simon – Tánczos-Szabó 1978).

In a study of a catchment area it is essential to explore the main socio-economic characteristics of the region (Bujdosó 2004). Thus we made an attempt for that in the case of UoM. Finally the main segments of catchment area are described using micro region data (at LAU1 level from TeIR System).

THEORETICAL AND EMPIRICAL BACKGROUND

The concept of catchment area is frequently used in geography and regional science, but there are different definitions for the expression (Bodor – Pénzes 2012). Catchment area refers to a territory which is served by a central settlement. The extension of a catchment area depends on the size of the centre, the number and level of available functions, accessibility and the surrounding network of settlements (Lengyel – Rechnitzer 2009). The catchment areas usually have centres which provide useful services for the surrounding communities (Hajdú – T. Merey 1985).

For the investigation of the spatial socio-economic processes it is essential to explore the connections among centre and its catchment area (Benedek 2000). The boundaries of catchment areas can be difficult to determine due to the overlapping parts. The dimension and intensity are consequences the investigated functions. (Bujdosó 2009) Recently a number of researchers already started the exploration of catchment areas for settlements and institutions (Szoboszlay – Wiener 1978).

The size of a catchment area and the intensity of the connections are primarily dependent on the functions and the institutions of the central settlement, since the institutions create and represent stable and permanent relations to the surrounding communities (Bujdosó 2009). That's why the concept of catchment area is regularly adapted to institutions in general, especially on higher educational institutions. As they provide wide range of services which attracts the population from a certain area (Süli-Zakar, 2003).

The applied definition (which can be easily adapted to higher educational institutes) of the catchment area is a territory where clients, actors of a central institution are concentrated. The weight of a higher educational institution is often demonstrated by its size and extension. Nowadays there is a sharp competition among the institutions for students and resources. Thus there is a need mapping domestic and international catchment areas (M. Császár – Wusching 2014). There are great and expanding variety of functions offered by universities and colleges. It is not containing the traditional education and research activities only, but other social and business services as well (Kocziszky 2008).

In the case of higher education institutions various dimensions of the attractiveness can be interpreted; various territorial levels can be adapted depending on the used focus: either the entire institution or just any part (institution, faculty, and department) is analysed.

Table 2 Attributes of selected literatures related to the topic

Author(s)	Analysed university	Time horizon	Used method and indicators
M. Császár –Wusching	University of Pécs	2004-2013	number of students, students per inhabitants, grouped, visualized by residence
Kovács – Sipos – Mucsi - Mezősi	University of Szeged	2006-2008	number of students, grouped, visualized by secondary schools
Hardi	Széchenyi István University	-	number of students, students per inhabitants, grouped, visualized by secondary schools, included more universities
Teperics	University of Debrecen	1997-1998	number of students, students per inhabitants, grouped, visualized by secondary schools, included more universities and foreign students
Bán – Havellant	College of Dunaújváros	1999-2006	number of students, students per inhabitants, grouped, visualized by residence

Source: Own compilation based on different papers

From the mid-nineties the topic created a large number of examinations and researches in Hungary (Teperics 2005, Bán – Havellant 2007, Hardi 2007, Kovács-Sipos-Mucsi-Mezősi 2010 & 2012, M. Császár – Wusching 2014). These works were mainly dedicated to the most populous universities of Hungary, and aimed to map and recognize the catchment areas. In some case the maps have been designed according to the students' residences, while in other

cases the most relevant and important secondary schools have been visualized as sources, origins.

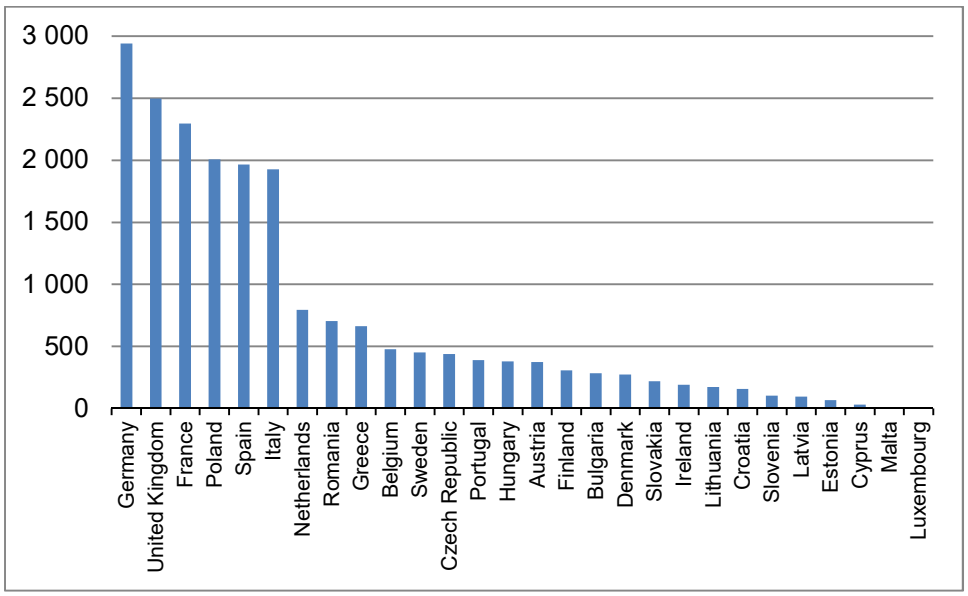
The above listed papers have been gathered and reviewed, which concern the universities located in the regional centres of Hungary. However our limitation for such units may differ from the categories used by others like Kozma (2002) and Mezei (2007). In the recent years the universities located in Budapest became the main competitors for the rest of higher educational institutions. (Hrubos 2004; Rechnitzer – Smahó 2007) We followed a geographical logic to limit the scope of our comparison, thus we contrasted the University of Miskolc with the institutions located in East Hungary. The College of Dunaújváros has been added as a former institution of University of Miskolc.

DISCUSSION

International and national positions of Hungary with University of Miskolc

The European Union (EU) with 3 300 higher educational institutions and more than twenty million students enrolled in the tertiary education system is determinant actor of the global market. The Union's capacities and results are more than a simple aggregation of the 28 member states. In the Academic Year 2012/2013 almost 12 million students studied at Bachelor and 5,5 million at Master level; roughly a million (700 thousand) participated in some kind of PhD program.

Figure 1 Number of students in the tertiary education, 2013, in EU28 (thousands)



Source: Own compilation based on EUROStat data

According the number of students Hungary is a mid-sized country with ca. 381 thousand population (in 2013). By the number of universities Hungary possesses around 2 percentage share in the Union. In 2013 altogether sixty-six institutions (including universities, colleges, and academies) were registered and operating in the country, of which 28 were managed and owned by the state, 25 by churches and 13 by foundations (Oktatási Hivatal 2015). The UoM was ranked as the tenth most populous among the nineteen state universities (both by the number of students and staff as well).

Table 3 Number of students and staff at the major universities of Hungary, 2013 (capita)

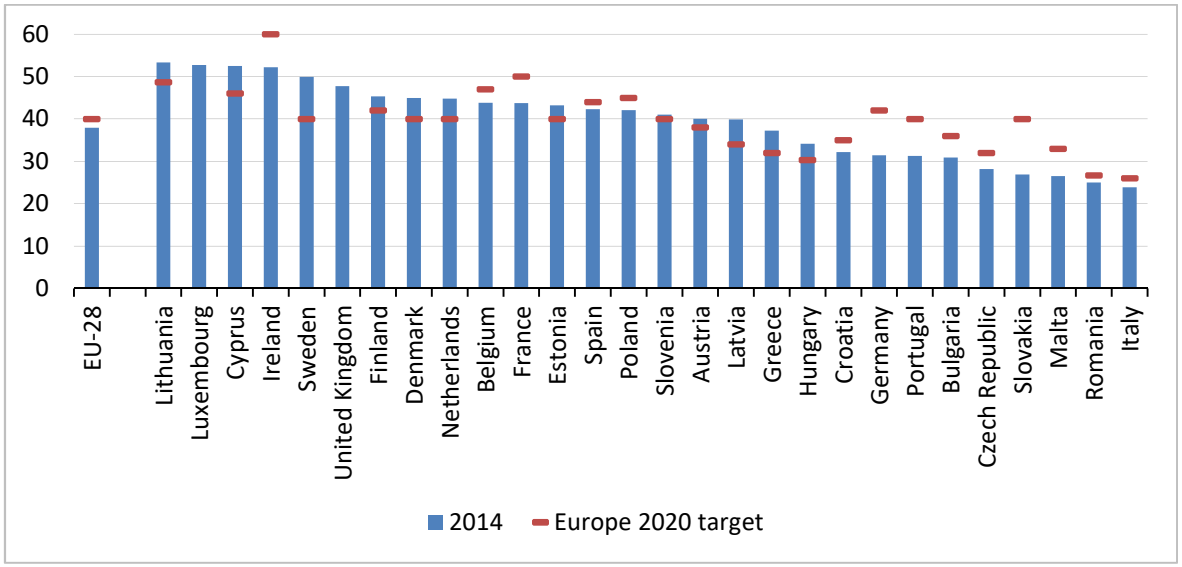
Name of University	Number of students	Rank	Number of staff	Rank
University of Debrecen	31 021	1.	1 530	4.
Eötvös Loránd University	29 010	2.	1 857	2.
University of Szeged	25 278	3.	2 184	1.
Budapest University of Technology and Economics	24 166	4.	1 245	5.
University of Pécs	24 031	5.	1 789	3.
Szent István University	16 111	6.	789	7.
Corvinus University of Budapest	14 522	7.	676	8.
Semmelweis University	12 679	8.	1 179	6.
University of Óbuda	12 528	9.	406	13.
University of Miskolc	12 278	10.	595	10.
University of West Hungary	11 693	11.	644	9.
Széchenyi István University	11 118	12.	405	14.

Source: Own compilation based on Oktatási Hivatal (2015) data

Eleven institutions had faculty accredited in economics and offered economic or business educational programmes (2013).

In Hungary approximately one third of the total population aged 30-34 has tertiary degree; this figure was lower than the EU's average (38%). The other three Visegrad partners showed a diverse picture: Poland was placed in a significantly better position, while Czech Republic and Slovakia were lagged behind.

Figure 2 Share of population with tertiary education in the EU countries (age group 30-34), 2014 (%)



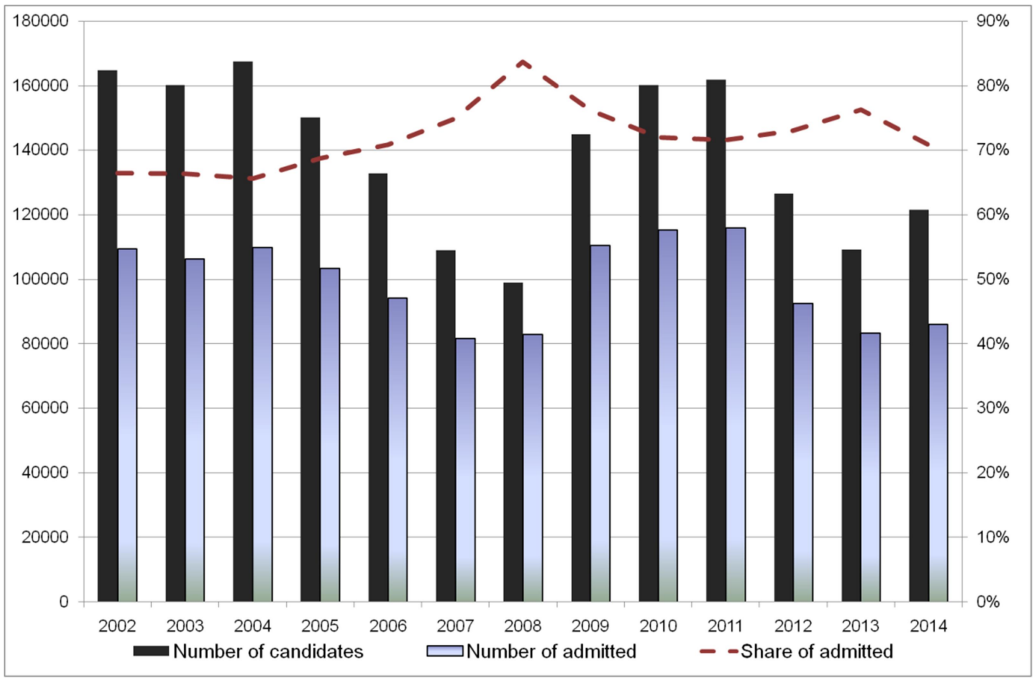
Source: Own compilation based on EUROStat data

Demographic and educational tendencies in Hungary and the domestic position of University of Miskolc

The number of students applied for admission into any higher educational institutions varied significantly during the investigated period. Besides the fundamental demographical tendencies political decisions and financial conditions influenced the participation in higher education. (Kreiszné – Varga – Várpalotai 2015) The tuition fee (introduced in 2006 and in 2012) obviously reduced the number of candidates. In the recent years other political measures (such as quotas) and the crisis with its negative effect on disposable income level lowered the number of applicants (close to the threshold of one hundred thousand).

The so-called “golden years” were those from 2002 to 2004, and from 2010 to 2011, when the number of candidates were higher than one hundred and fifty thousand. In the worst years this volume was a third lower. Such fluctuations in number of students have been never recorded in the Hungarian higher education system.

Figure 3 Number of candidates (capita) and admitted students (%) in the higher education (Hungary)



Source: Own compilation

Similar volatility can be experienced in the tendencies of University of Miskolc. Usually the institution has a moderate, 3% share on the national higher educational market (2002-2014).

Table 4 Time series of main indicators of University of Miskolc, Faculty of Economics

Year	Number of admitted	Number of admitted (economics)	Share of total (economics)	Number of admitted (UoM)	Share of total admitted (UoM)	Number of admitted (UoM, FoE)	Share of total admitted (UoM, FoE)	Share of admitted (FoE at UoM)
2002	109 470	28 552	26,1%	1988	1,82%	488	1,7%	24,5%
2003	106 376	27 105	25,5%	1757	1,65%	444	1,6%	25,3%
2004	109 851	25 584	23,3%	2022	1,84%	801	3,1%	39,6%
2005	103 364	22 141	21,4%	1946	1,88%	781	3,5%	40,1%
2006	94 142	19 050	20,2%	1923	2,04%	619	3,2%	32,2%
2007	81 637	16 440	20,1%	1635	2,00%	584	3,6%	35,7%
2008	82 913	21 310	25,7%	1984	2,39%	556	2,6%	28,0%
2009	110 360	21 760	19,7%	2321	2,10%	768	3,5%	33,1%
2010	115 224	21 801	18,9%	2366	2,05%	812	3,7%	34,3%
2011	115 841	21 338	18,4%	2351	2,03%	775	3,6%	33,0%
2012	92 475	15 943	17,2%	2030	2,20%	545	3,4%	26,8%
2013	83 354	17 959	21,5%	2623	3,15%	501	2,8%	19,1%
2014	86 032	18 719	21,8%	2453	2,85%	497	2,7%	20,3%

Source: Own compilation

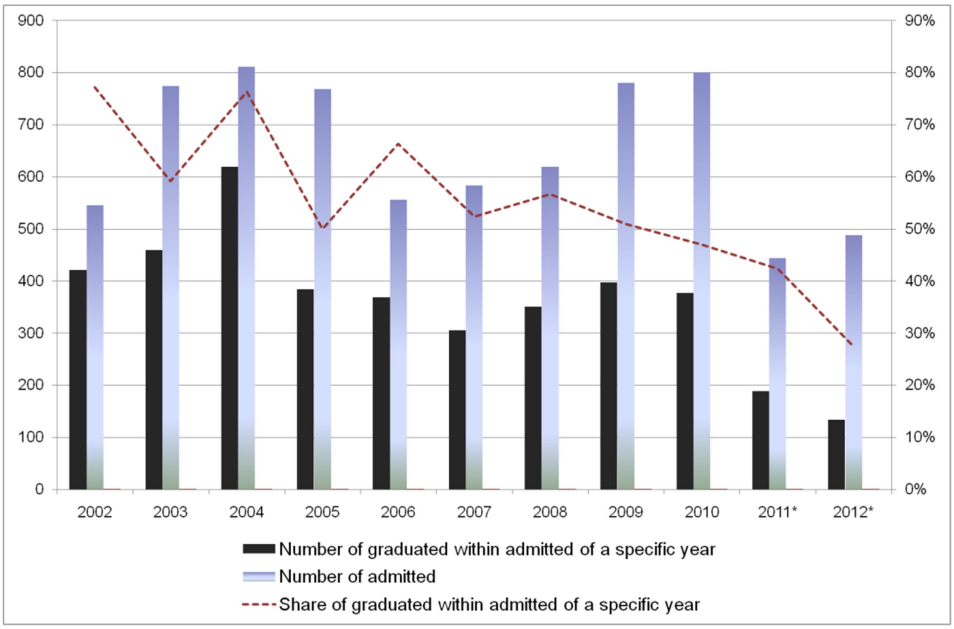
2002 and 2003 were outstanding years for economic faculties, because the economic programmes proved to be very attractive. It is mainly due to favourable economic conditions,

positive international condition (EU's accession) and such fact as the compulsory military service (which pushed a great mass of men to the undergraduate and post-graduate courses). But this influencing factor eliminated in November 2004, when the compulsory military service was ended.

The negative tendencies (in 2007 and in 2012) mainly can be explained by the introduction of the Bologna system, which changed the whole structure, besides the appearance of tuition fees especially at Bachelor level in economics. While other factors like decreasing number of students in the tertiary education and growing number of emigrants group stated to be more significant.

In spite of the massive political (governmental) interventions and disadvantageous circumstances ca. twenty percent of the candidates still study at the Faculty, UoM.

Figure 4 Number (capita) and share (%) of already graduated students within the total admitted, Faculty of Economics, University of Miskolc



Source: Own compilation

The Faculty of Economics (UoM) could significantly strengthen its position during the period 2002-2005. The introduction of the Bologna system (similarly to other regional higher education centres) set back the number of applicants. Additionallly a significant proportion of BA graduates started to work or chose foreign higher education institutes to continue their tertiary education, which contributed to the reduction of numbers.

The launch of credit system worsened the situation as well, since it enlarged the number of students finishing their studies without getting degree. Without Bachelor diploma there is no chance, option for further (master, postgraduate) studies.

These are the reasons why tendencies changed in the case of the Faculty of Economics. After the periods with increasing number of students the widely introduced tuition fee caused reduction in many dimensions. At the same time approx. 20% of the students at the University of Miskolc are studying economics, which provide a stable and significant position within the University.

The programmes at the Faculty of Economics are traditionally preferred by females than males.

Figure 5 Share of admitted and graduated women (%)

Source: Own compilation

The share of admitted women shows slightly lower values, as there are significant variations within the Faculty. The share of graduated women is definitely higher than the admitted. The freedom of credit system led to an unexpected effect, namely the are likely to give up their studies without final degree or diploma. Males can be easier sent to universities far from their residence. Decreasing income forces the parents to send their children to closer universities which definitely can be observed in 2008.

Territorial analysis of catchment area of Faculty of Economics

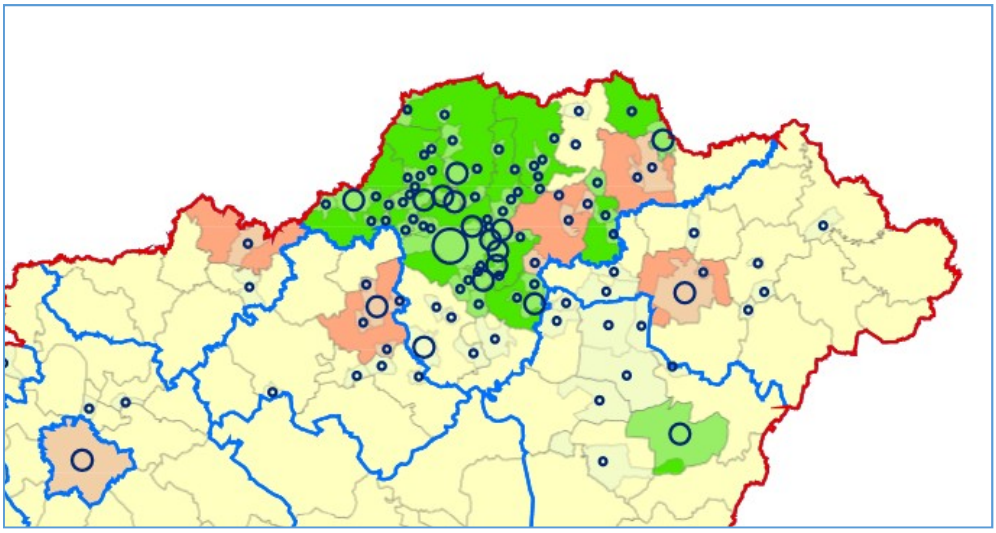
The University of Miskolc, Faculty of Economics is traditionally a regional higher educational centre for North and Northeast Hungary. This catchment area and geographical orientation can be proved, if the residences of admitted students are mapped, visualized. The majority of the students came from Borsod-Abaúj-Zemplén County, Miskolc and its agglomeration, but the large and middle-sized cities of North, Northeast Hungary also play

significant role (Debrecen, Kazincbarcika, Ózd, Sátoraljaújhely, Edelény, Mezőkövesd, Tiszaújváros, Szerencs, Eger, Nyíregyháza). Year by year these settlements with Budapest give ca. two thirds of the total admitted population.

The weight of Borsod-Abaúj-Zemplén County increased during the interval 2002-2014, i.e. the geographical scope of enrolment tended to be more concentrated. Currently this part is the main catchment area for the Faculty. In this territory there is no significant competition with other faculties, because the Faculty of Economics (UoM) realizes spatial advantage (in accessibility).

Altogether eleven micro regions play an important role of enrolment. They are likely to give the majority of students in the future as well. Their demographic tendencies basically determine the prospective status of the Faculty.

Figure 6 Change of catchment area (Faculty of Economics, University of Miskolc)



Explanation: green - increasing number of students (2010/2002), red – decreasing number of students (2010/2002); circles – number of admitted students (2014)

Source: Own compilation

Some key demographic figures were collected on the selected micro regions which dominated the Faculty's recruitment. The percentages in the following table show the changes from year 2002 to 2010 by different indicators.

The figures inform about the unfavourable demographic situation, which does not differ from the national trends. With the exception of Nyíregyháza and Debrecen each territory has declining population. The number of live births was lower in almost all cases compared to 2002, while all had negative migration balance (with the exception of Debrecen). In 2010 compared to 2002 all sub regions had less students in primary schools, predicting further decline in number of candidates for the higher education even in the near future.

Table 5 Main population statistics of the most relevant micro regions (2010/2002)

Micro regions	Population	Live births	Live births /deaths	Immigration/ outmigration	Number of pre-schoolers	Number of students in primary edu.	Number of students in secondary edu.
Debreceni	99,6%	95,5%	86,0%	107,7%	97,5%	79,0%	114,7%
Kazincbarcikai	92,9%	78,3%	59,7%	84,0%	108,6%	76,0%	111,0%
Ózdi	92,1%	75,7%	66,8%	75,1%	103,3%	82,3%	105,8%
Sátoraljaújhelyi	91,2%	72,8%	53,1%	82,0%	133,4%	76,9%	94,2%
Edelényi	95,2%	90,0%	86,2%	85,8%	97,1%	85,6%	87,3%
Miskolci	95,4%	91,0%	68,5%	87,8%	101,7%	78,0%	106,8%
Mezőkövesdi	94,2%	80,5%	47,8%	80,6%	113,7%	73,9%	103,9%
Tiszaújvárosi	98,5%	98,2%	84,5%	88,7%	100,9%	81,4%	87,7%
Szerencsi	94,5%	91,5%	76,9%	68,9%	103,8%	78,5%	121,6%
Egeri	98,4%	91,5%	69,4%	97,2%	96,2%	84,8%	105,1%
Nyíregyházi	100,8%	93,5%	85,9%	97,3%	102,7%	83,1%	111,2%
Hungary	*99,3%*	*93,1%*	*68,8%*	*100,0%*	*98,1%*	*81,3%*	*103,0%*

Source: Own compilation based on CSO data

The demographic tendencies are likely to increase the competition among universities for their students.

CONCLUSIONS AND RECOMMENDATIONS

The post-Millennium period was a really diverse one for the actors of domestic higher education. Major events considerably influenced the trends, causing both positive and negative, unexpected effects. These effects contributed to a diversification among universities, colleges, academies. Indisputable, that Hungary is a part of higher educational market of the developed world (EU and OECD), but its share and performance is still limited and moderate. The University of Miskolc, as the tenth most populous state university in Hungary, is among the 3 300 institutions of the EU.

These effects greatly influenced the development of the University of Miskolc, naturally the Faculty as well (measuring not only the number of students). But the Faculty of Economics could keep its national and regional positions during the very varying period of 2002-2014, and remained an important educational centre. Looking at the transformed catchment area of the statements is still valid, namely the Faculty is providing its services for the cities and villages in North and Northeast parts of the country. The University of Miskolc provides substantial services for development in such territory, which is one of the most disadvantageous in Hungary. (Fábián – Tóth 2013)

Many measures, steps were made at the University of Miskolc for widening the functions, thus strengthening the attractiveness. These could help to keep the dominance in the

catchment area. After the Millennium new post-graduate courses were launched, following the Bologna system, which resulted a more diversified portfolio (bachelor, master courses, programs, PhD programs).

Courses were started in cooperation with large companies (e. g. LEAN management with Bosch Foundation) and dual training courses announced.

Cooperation with major domestic institutions (Hungarian National Bank, State Audit Office, CSO), English-language MBA (full-time and part-time) and PhD programmes were developed. The ERASMUS programme gained priority again (with growing number of students and teaching activities).

Increasing number of international cooperation (European Union, Central and Eastern Europe, China, Latin America) were launched and the Faculty has started to participate participation in EU2020 research projects.

Despite the peripheral location, the Faculty of Economics was able to manage the most important institutional and managerial changes for the future, although the catchment area is concentrated more on Miskolc, and its surroundings.

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Original scientific paper

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Abstract

I think that the equal opportunity and the underprivileged marginal labour-market layers' significance play an important role in the economics of our days, so the women's labour-market participation. Analysing the Hungarian data lines, we can see that the women's labour-market participation significantly lags behind the men's. I wish to prove with a questionnaire survey that in the North-Hungarian region the women's labour-market situation and the career opportunities of the researcher women lags behind the men's slightly. Based on my research, beyond the women's traditional home tasks have appeared the claims for work derives from the employment, so the double burden is put into practice, too. we can explain with the difficulties of the compatibility of childbearing and the work, the undertaking extra limited tasks of the workplace, providing extra performance which is sensible for the women, that in the North-Hungarian region the female career path move more slowly than the men's.

Keywords: labour - market, women, equal opportunities

INTRODUCTION

The economics for a long time was considered as a neutral zone from a genital viewpoint – since it works with facts and data – therefore apparently it cannot bring into any kind of gender – based assays. The questions asked by the feminist economics put the economic questions into reasonable context. According to them, it would be necessary to put the emphasis from the market consumption onto the caring of the outside market, leading back the feminine values into the society (Michalitsch, 2011).

In the study I tried to find answers to: (1) what kind of chance disadvantages reach the women and the mothers with children in the scientific life, (2) how much the gender discrimination makes their professional career harder, (3) on what kind of degree prevails the glass ceiling effect, (4) whether the childbearing slows down the women's scientific career?

The aim of the study is to present the career opportunities of women and their labour-market judgement. Empirical (questionnaire) survey was carried out to answer the research questions in the higher education institutions of the region of northern Hungary.

Women in the research sector

More women take part in the education and the research worldwide, but the leading positions are occupied by men. The European Commission expert group in Central and Eastern Europe and in the Baltic countries examined the women's research activities in the mid – 1990s and concluded that the academic career is rather typical of men. The equal opportunity structure was not created in the organisations, which would support the women entering the male – dominated leadership layer. In our country the L'Oreal and the Hungarian National Commission for UNESCO are exceptions, who are specifically looking for women's labour force for research activities. It was intended to draw the attention of the economy to the marginalization of the results of the talented female researchers. (www.mindentudas.hu).

The number of female researchers is the least on the area of technical science, the physics and the mathematics. On the area of the sociology, the neurology and the chemistry the female researchers' number are less than the men's. Women are very receptive for the new problems, they have good problem-solving ability, and therefore they often obtain high doctorate title in the last three areas. The European Union has not been dealt with the women's situation; only in 1982 a decision was formulated, what brings the women's fate to the fore on the area of the career, the family and the education (Koncz, 2008).

The level of education also significantly influences the participation on the labour-market because these two have higher qualifications would prefer to work and develop career. Today, the majority of women have higher educational attainment, but in the area of science men are more acknowledgements (Kissné, 2002).

Considering the qualification from the beginning of the 1990s, young people increasingly gained higher qualifications, which has a significant effect on their future employment opportunities. Today, there is hardly an area where women are not reached, so the situation from the aspect of training can be said relatively satisfying. Globally we can relate that the postgraduate training contributed to the large increase of the participant students' number in the higher education.

It is not possible to make discrimination based on the Hungarian laws, but in practice it is not always the case. In sectors, mainly employing women, the number of layoffs is not as big as in the case of men, but despite of it women's salary is lower.

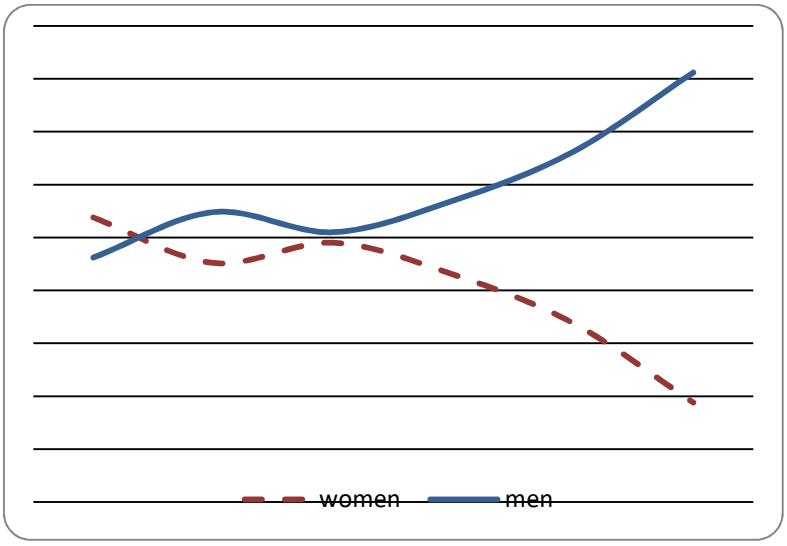
Due to the social changing roles, women appeared increasingly appeared on the labour-market, but this big jump did not automatically lead to equality between the woman and the

man, and to the equitable division of labour. The employment does not set free the women from the housework. In general, men do not have another task after the completion of their work, they often sit down to watch TV, while women are cooking, washing, cleaning up, and of course there are exceptions. Based on time balance's data for all countries the statement is right that the women generally do more housework with 2-3 hours per day than men. In our country, this difference could be 4-5 hours. In the dual-earner households it can be experienced that the women's working hours is less with 3-10% from the men's, but at home they work twice as much, thus overall women work more with 30% than men. With regard to the time of women spent on doing housework and child care (Polónyi-Tímár, 2001).

The aim of the International federation of Graduated Women is to encourage more women to participate in university education. The organization now operates in 65 countries, including Hungary and altogether consists of about 162.000 members. In addition to the general improvement of the situation of the women, the association pays special attention to proper education, human rights, equality between women and men. The World Conference, organized every three years and the regular regional meetings and cooperation create opportunities for women with different nationality and occupation, who has had graduated.

Csőke (2013), drew the attention to a very interesting result, who proved the hypothesis during his research that women are moving behind the men in the scientific life, and the glass ceiling effect prevails in the filling of university positions. Based on the Fig. 1, the women's participate proportion continuously decreases by the progress of the hierarchical level in the university hierarchy. "While in Hungary, between the graduates, the proportion of women is 55% , in the case of the university students the proportion equalize between women and men, the same can be experienced in graduate schools. However, among the Ph.D. course graduated, women are only presented only in 37%, among those who have academic doctorate (D.Sc.) 13.5% in 2008 (Csépe, 2008), 16.5% in 2013 (Csőke et al., 2013). Among the professors men, while among the assistant professors women are over – represented (Schadt, 2011). Among the full member of MTA 4.4% are women, and 15.2% are women in the corresponding members" (Kereszty, 2014).

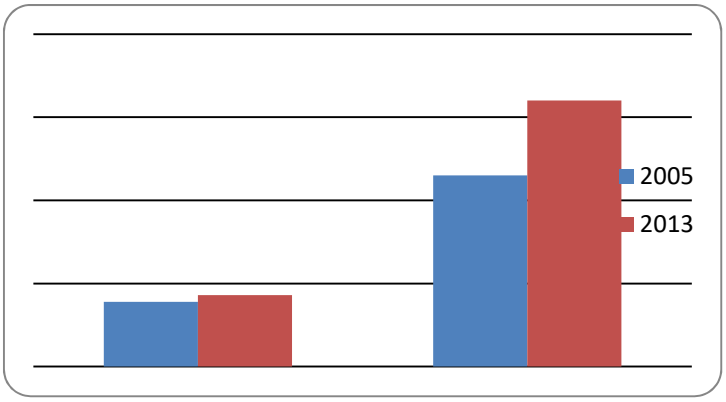
Figure 1 Distribution of men and women between the individual positions of the university hierarchy



Source: Kereszty, 2014 (citing: Csőke et al., 2013 of his work)

The proportion of women among academics is very modest, only 4% was in 2013, and shows the unpleasant situation that hardly any progress has been made compared to 2005. In the case of Doctor of Sciences and the Hungarian Academy of Sciences 5% points increase could be observed in 8 years, but the reached 16% is still quite low in 2013 (Fig. 2).

Figure 2 The proportion of women in the academy doctors and doctor of sciences (in 2005 and in 2013, %)

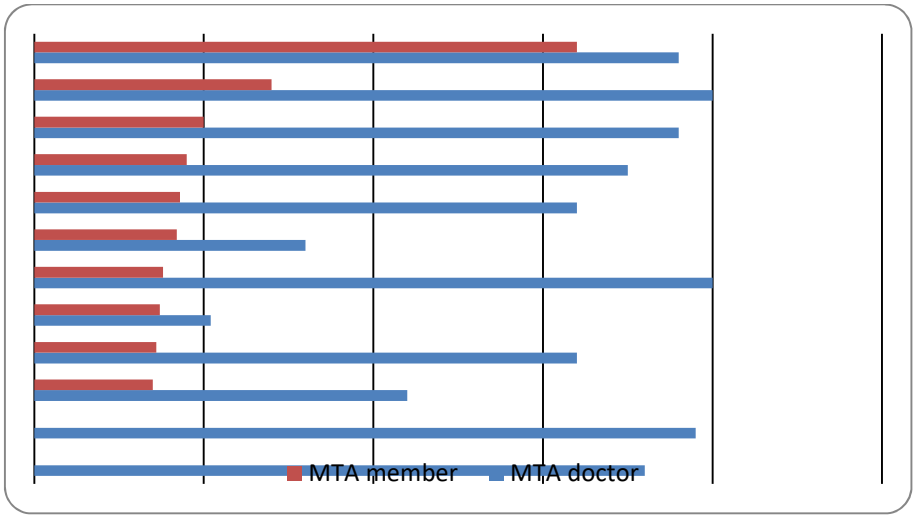


Source: Csőke et al., 2013

Csőke and his co-authors drew the attention for thought-provoking results for the proportion of women between the doctors of the Hungarian Academy of Sciences and the full members of MTA on the area of science. There is no full female MTA member in the agricultural sciences and language and literature sciences, in the rest of the areas is also

negligible, in the case of the philosophy and history of science there is the maximum value of the data line between the MTA full members, which is 16% (Fig. 3).

Figure 3 The proportion of women among the the doctors of the MTA and the MTA orinary members (2013, %)



Source: Csőke et al., 2013

More studies go into detail about the question of the double burden and associated with the role (Pilcher – Whelehan, 2004:31), so a forced choice appears for the women, which is basically determining their advancement in their career. In the research sector even more increased problematic question is “the right time” of having children. The women are rather closer to 32-33 years at the birth of the first child than the end of their 20s. To the parenthood it is necessary to survey the material sources, in the doctoral training – otherwise in an ideal childbearing age – only a small proportion of women want a child (based on the experiences observed around me). Most of them have children during the period of doctoral procedure or after the acquisition of Ph. D. degree. In the first case the biological risks of late childbearing appear due to the protracted process of doctoral. In the second case a very lengthy grade acquisition may occur due to the childbearing. The teacher assistant or scientific assistant position following the Ph.D. student status and the modest wage levels associated with it in some cases it also can be a hindering factor in deciding to have children. It is essential to have a strong family support, both material and psychological support. In this situation, the application of a typical employment with a bigger proportion can give a solution in the higher education. The part-time jobs or tasks performed in outwork would mean a great help for mother with a baby, particularly on the research area, the home atmosphere may mean more

fruitful researcher work (of course, depending on the scientific fields, for a researcher woman dealing with nanotechnology, making experiments, who spend long hours, days in a laboratory), but the process of the creative work would be feasible in part-time job. Csépe Valéria has the same opinion, too (2008).

OBJECTIVES AND METHODS

I made a questionnaire survey among students and working teaching colleagues in 2015 in the North-Hungarian region (the University of Miskolc, the Károly Róbert College in Gyöngyös, and the Eszterházy Károly College in Eger teachers and students formed the base of the sample). I was curious about the men's opinion among the respondents as a control group. A higher proportion of responses came from the University of Miskolc; independently from this I considered the results valid and acceptable from the other two institutions, as well. Considering the structure of the questionnaire the following topics are included: (1) personal data (age, educational level, monthly earnings, residence, marital status), (2) decision options after the high-school years, (3) equal opportunities, group of questions dealing with a labour-market position, (4) questions relating to forward advancing possibilities, and career opportunities.

In the case of the questionnaire we cannot talk about sampling because the survey was targeted delivered to the target group (all three institution of higher education through the Neptun study system, all instructors, students and administrative staff received the web accessibility to which was necessary to the electronic filling.

THE RESULTS OF THE QUESTIONNAIRE – PERSONAL DATA

Considering the received answers (Tab. 1.) altogether 565 people filled out the questionnaire, of which 85% are the citizens of the University of Miskolc, 11% from the Eszterházy Károly College and only 4% from the Károly Róbert College was the proportion of the arriving responses. The overall proportion of men was 23%, which is an appropriate control group.

Table 1 The number of respondents on the basis of the mother institution and the gender

Institution	men	women	total
Eszterházy Károly College	10	50	60
Károly Róbert College	0	22	22
University of Miskolc	119	365	483
Total	129	437	565

Source: own editing

University / college docents formed the tutorial circle in a bigger proportion in 37% (27 people), from them 14 people were men respondents. The number of university / college assistant professors was also high in the sample, 17 people (19.8%), from them 4 people were men respondents. The university / college teaching assistants appear in 14% (17 people) among the respondents, from them 7 people are men. The university / college teachers and other researchers work in other research position was 15 people, 3 of them were men.

Table 2 The number of instructors based on the scope of their activities

Institution	Gender	assistant lecturer	assistant professor	associate professor	professor	other
Eszterházy Károly College	men	2	2	5	1	0
	women	3	0	0	2	0
Károly Róbert College	women	0	2	4	1	1
University of Miskolc	men	5	4	14	2	0
	women	7	9	14	2	6
Total	men	7	6	19	3	0

Source: own editing

Based on the data of the students' number, participants in the basic training gave the answers in the largest proportion in 58.9% (275 people, 72 of them were men), then the number of participants' proportion was also high in the master training, it was 24.5% (114 people, from them 18 people were men). 3 students from the higher professional training appeared in 6.9% between the respondents (32 people, from them 0 was men). Ph.D. students appeared in 3.4% (16 people, 5 were men of them). (Tab. 3.)

Table 3 The number of students based on the level of training

Institution	Gender	higher professional training	BA/BSc studies	MA/MSc studies	Ph.D. studies	postgraduate studies
Eszterházy Károly College	men	0	7	0	0	0
	women	10	18	6	0	2
Károly Róbert College	women	1	6	1	0	0
University of Miskolc	men	0	65	18	5	6
	women	21	175	89	11	22
Total	men	0	72	18	5	6
	women	32	199	96	16	24

Source: own editing

From the respondents, 178 people have high school graduation certificate (since the largest proportion of respondents are BSc students), another 116 people have a bachelor's degree, 89 people have master's degree and 57 people have Ph.D. degree. 19 people are male respondents from the Ph.D. degree holders from the University of Miskolc (Tab. 4).

Table 4 The respondents' highest educational level by institutions

Institution	Gender	BA/BSc degree	high school graduation	MA/MSc degree	Ph.D. degree	vocational school graduation
Eszterházy Károly College	men	2	4	1	0	0
	women	10	8	7	8	7
Károly Róbert College	women	6	1	4	5	1
University of Miskolc	men	17	37	19	19	14
	women	81	128	58	25	44
Total	men	19	41	20	19	14
	women	97	137	69	38	52

Source: own editing

I asked the respondents' about their marital status, 41.4% of them live in partnership (234 people), further 136 people (24.1%) are married. 28.1% of the respondents are single and further 5.7% are divorced (Tab. 5).

Table 5 The respondents' marital status by the area of science and institution

Institution	Disciplines	single	divorced	married	live in partnership	widow
Eszterházy Károly College	Law Sciences			2		
	Arts	1	1	3	1	
	Earth Sciences	1		1		
	Economics Sciences	7	2	13	17	
	Engineering Sciences				2	
	Social Sciences				4	1
	Natural Sciences	1	1	1	1	
Károly Róbert College	Agronomics		1	1	2	
	Arts		1		1	
	Economics Sciences	5	1	8	2	
University of Miskolc	Agronomics				1	
	Law Sciences	17	9	28	39	1
	Arts	19	4	21	25	
	Health Sciences	10	1	3	19	
	Economics Sciences	44	7	29	67	1
	Engineering Sciences	51	2	24	49	1
	Social Sciences	2	1	2	1	
	Music	1	1		3	
Total		159	32	136	234	4

Source: own editing

I handled the women's and men's opinion separately after the general questions. The age structure of the respondents (Tab. 6.):

- 31.5% among the 18-22 years
- 24.6% among the 23-27 years
- 9.7% among the 28-32 years
- 11.2% among the 33-37 years
- 10.1% among the 38-42 years
- 5.1% among the 43-47 years and it is 8% in the case of 48 years or above.

Table 6 The respondents' age by gender and institution

Institution	Gender	18-22	23-27	28-32	33-37	38-42	43-47	48-
Eszterházy Károly College	men	3	2	2		2		1
	women	13	9	4	8	5	7	4
Károly Róbert College	women	0	5	1	6	7	2	1
University of Miskolc	men	28	39	11	13	14	5	9
	women	134	84	37	36	29	15	30
Total		178	139	55	63	57	29	45

Source: own editing

THE RESULTS OF THE QUESTIONNAIRE – LABOUR-MARKET DATA

I was curious what the respondents' opinion about the feminisation of the labour-market opportunities and disadvantages, so I drew three statements, from which they had to mark that one, with which they mostly agreed (Tab. 7). 380 people (67.3%) agreed with that in certain positions could occur chance detriments, while 163 people (28.8%) accepted that the women unambiguously are in disadvantage at the labour-market, and only 22 people (3.9%) agreed with that there is no disadvantage for women at the labour-market.

Table 7 The respondents' opinion about the chance detriments of women at the labour-market by gender and institution

Institution	Gender	Women none in a detriment position at labour market	In certain positions have chance detriments	Women are clearly in detriment at labour market
Eszterházy Károly College	men	1	8	1
	women		31	19
Károly Róbert College	women	1	7	14
University of Miskolc	men	11	88	20
	women	9	246	109
Total		22	380	163

Source: own editing

We receive interesting results if we summarize the opinions according to genders. The 9.3% of men agreed with the fact that women did not have chance detriments in employment, while only the 2.3% of women accepted it. 74.4% of men agree with the statement that disadvantages affecting women can occur at certain occupations, and 65.1% of women agreed with it. 16.3% of men accepted that the women are clearly in a disadvantage at the labour-market, while 32.6% of women agreed with it. The answers confirmed my hypothesis that women form a much stricter judgement about their own labour-market situation.

I formulated as an open question if there is chance disadvantage concerned the women at the labour-market, what factors cause them. The received answers contained in high proportion (nearly 80%) the childbearing and the discrimination, as hindering factors. "If you are young, it is because you will give birth at once. If you have already given birth because your children will be ill." Or according to another opinion: "Itself, because the female sex as a protected feature and because of the stereotypes rooted in the typical traditional family concept." Additional interesting opinions: "I think that a woman can be successful as a man.

Actually, I could not mention any chance detriments. In my opinion, childbearing is important and I would not like to speak as a disadvantage if someone brought up a child, because it is very important. Maybe, I think a disadvantage is that a man has much more hatchet-face than a woman, and it probably helps them better, and I think a man communicates better than most of the women, but according to me it depends on the person." It was interesting that many respondents wrote that they did not experience any kind of negative discrimination in science, but positive one was (I experienced marriage as a benefit). The safe family background greatly enhances the implementation of the scientific career."

68.5% of the respondents do not know the term of glass ceiling effect and only 31.5% is familiar with it. It surprised me, because I assumed that they know the best-known theoretical model, definition of the obstacles of women's career paths. Among the respondents, who said yes, 24.7% were men, while among those who do not know it 21.8% were men (Tab. 8). Those, who know the glass ceiling effect, they are largely instructors and administrative staff, and this term is les-known among the students.

Table 8 The knowledge of the content of the glass ceiling effect by gender and institution

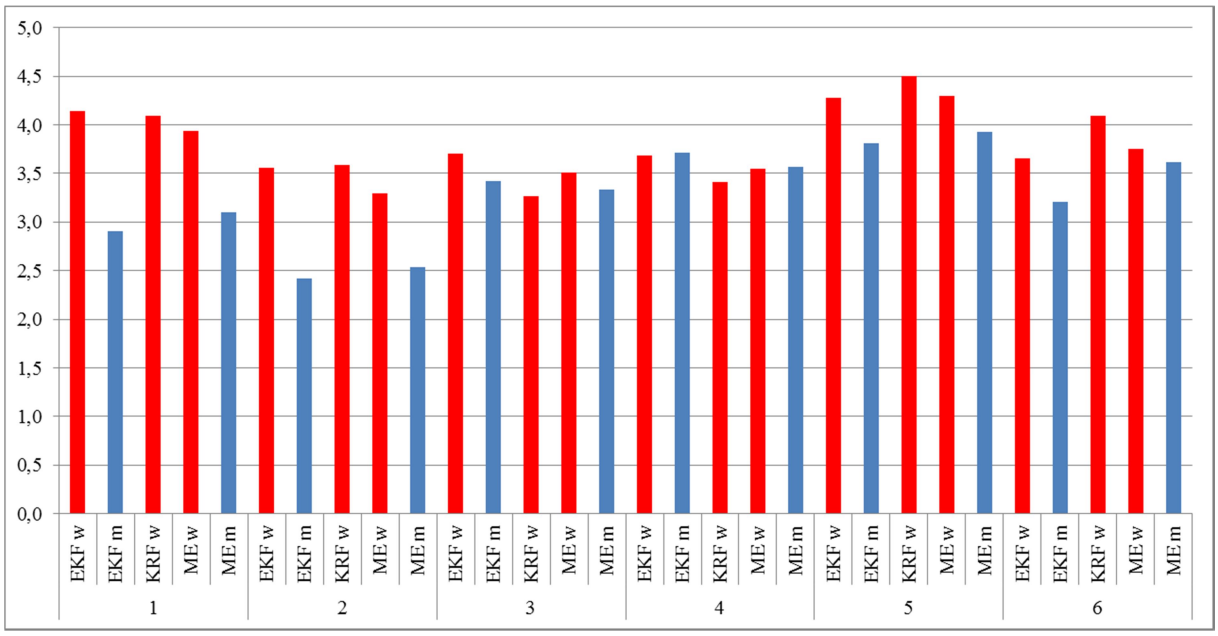
Institution	Gender	yes	no
Eszterházy Károly College	men	5	5
	women	18	32
Károly Róbert College	women	12	10
University of Miskolc	men	39	80
	women	104	260
Total		178	387

Source: own editing

I also formulated statements for the labour-market success, which the respondents had to be assessed from 1 to 5 (Fig. 4). To the statement that men can get on well on the labour-market, the women gave 4.06 points, men gave 3.01 points. To the statement that women are in a disadvantage on the labour-market, because of the gender discrimination, the women gave 3.48 points, and men gave 2.48 points. To the statement that childbearing slows down the women's career path, but it does not hinder them, the women gave 3.49 points, and the men 3.38 points. To the statement that a woman with many children can also be as success as a man, the women gave 3.55 points and men 3.67 points. To the statement that leading positions are mostly filled by men, the women gave 4.36 points and the men gave 3.87 points.

For me, the family is more important than the career statement, the women gave 3.83 points, and the men 3.42 points.

Figure 4 The respondents' opinion about getting on the labour-market by gender and institution



Source: own editing

Legend:

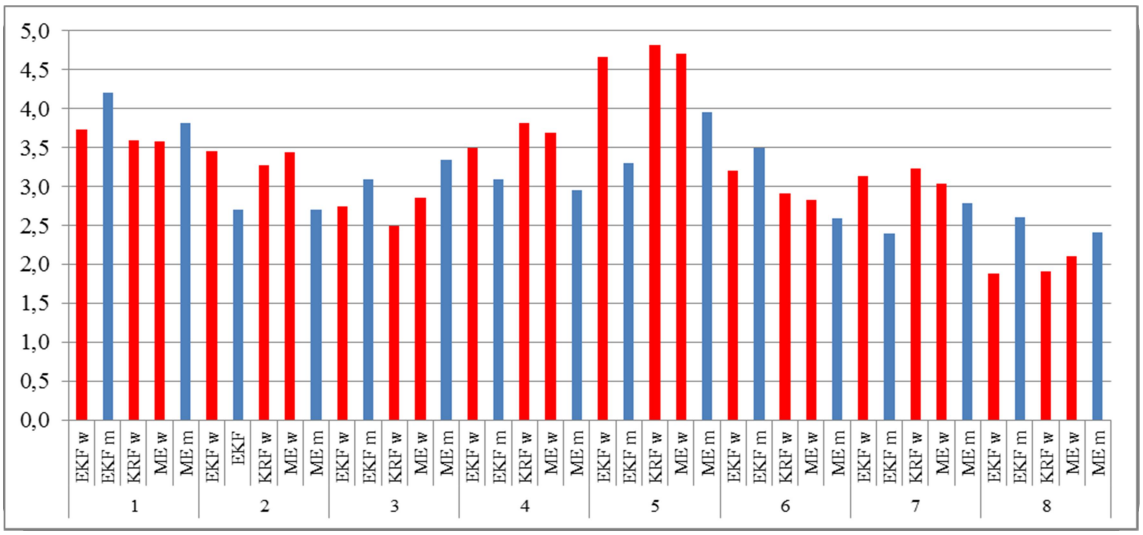
1. The men can getting on well on the labour-market
2. Women are in a disadvantage on the labour-market which can be traced back to the gender discrimination
3. Childbearing slows down the women's career path, but it does not hinder it
4. A woman with many children also can be as success as a man
5. Leading positions are mostly filled by men
6. For me, the family is more important than the career

THE RESULTS OF THE QUESTIONNAIRE – CAREER DATA

I was curious about the respondents' opinion from the career opportunities concerning the women and the participation in the higher education (Fig. 5). I summarized the given answers and I averaged the points from 1 to 5. I handled the women's and the men's opinion separately. Significant difference could not be observed between the answers arriving from the institutions, so I took the average of the scores of the institutions in the text evaluation. To the statement that women are in a disadvantage in higher education, the women gave averagely 3.64 points, and the men gave 4.01 points. To the statement that a negative discrimination concerns women better than men during the job interviews, the women gave 3.39 points and men 2.71 points. To the statement that women have the same opportunities in

the academic life as men, the women gave 2.7 points and the men 3.23 points. To the statement that a higher proportion of men with research scholarships, the women gave 3.67 points, and the men 3.03 points. More tasks fall to the women after founding a family statement, the women gave 4.73 point, and the men 3.73. To the statement that in the higher education there are more women than men independently from the area of science, the women gave 2.98 points and the men 3.05. To the statement that men are much more career oriented than women, the women gave 3.14 points, and men gave only 2.6 points. The principle of an equal wage for equal work comes true in our country, the women gave 1.97 points, while the men gave 2.51 points to this statement.

Figure 5 The respondents' opinion about the career opportunities concerning the women by gender and institution



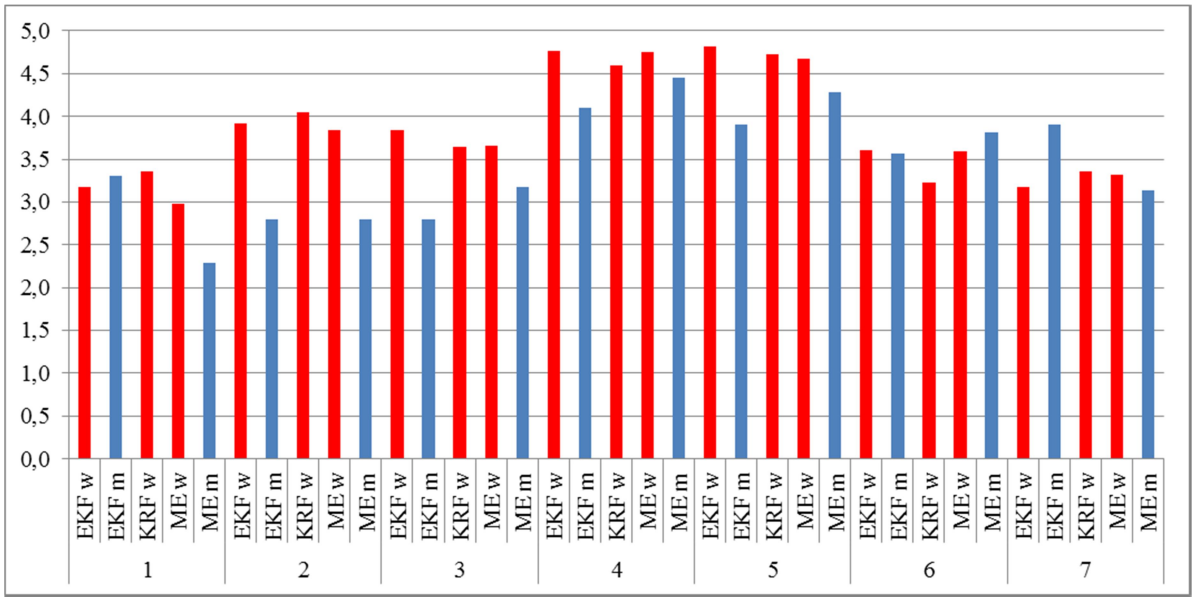
Source: own editing

Legend:

1. In higher education, women are not at a disadvantage
2. During the job interviews, women are more affected by negative discrimination
3. Women have the same opportunites than men in the academic life
4. The higher proportion of men win research scholarships
5. The women have more tasks after founding a family
6. In higher education, there are more women than men, independently from the area of science
7. Men are much more careeer oriented than women
8. The principle of equal wage for equal work comes true in our country

I also worked out statements for the measure of discrimination against women and prevailing in the researcher sector, which ones the respondents had to mark from 1 to 5 (Fig. 6).

Figure 6 The respondents' opinion about the discrimination affecting women by gender and institution



Source: own editing

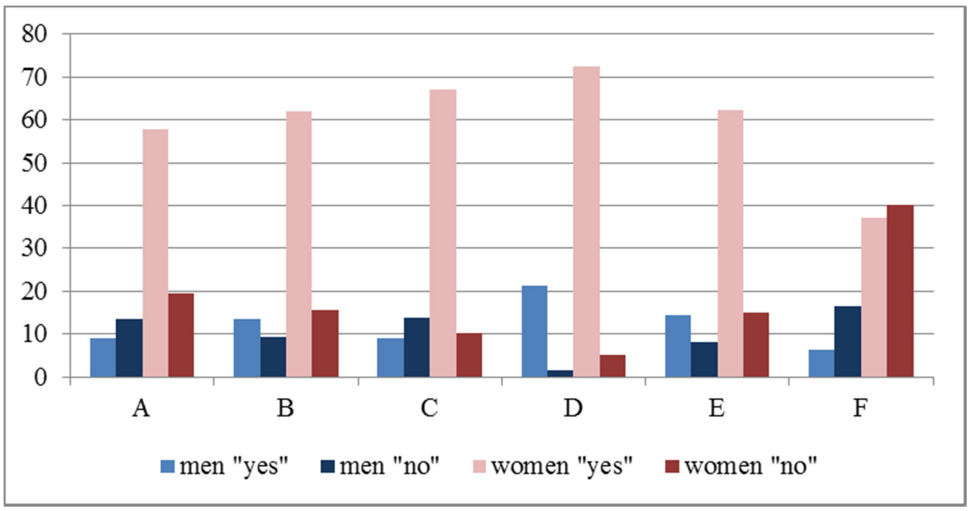
Legend:

1. Based on my experience, I have already felt discrimanted because one of my characteristic (ex. gender, religion, etc.)
2. It seems that men are more easily able to succed in the labour-market
3. In the research sector, there are more men than women
4. The acquisition of degree is / was important for me
5. Knowledge acqired during the studying, is important for me
6. First, I would like a well-paid job then I would have a child / I would found a family
7. I would work in a typical employment form with pleasure (outwork, part-time, work at home)

On the figures the average values are represented by institution and gender, as significant difference cannot be observed. To the statement that I have already felt -based on my experiences- discriminated, on the basis of my characteristics (ex. gender, religion, etc.), the women gave 3,17 points and the men gave 2,8 points. It seems that men are more easily abée to succed in the labour-amrket, women delivered 3,94 points and men 2,8 points to this statement. There are much more men in the research sector than women statement, the women point was 3,71 and the men gave 2,99. The acqusition of the degree is / was important for me, the women averagely gave 4,7 points and the men's point was 4,28. To the statement that the knowledge acquired during the studying is important for me, the women averagely gave 4,74 points, and the men gave 4,09 points. To the statement that first, I would like a well-paid job and then I would have a child / I would found a family, the women gave 3,48 points, and men 3,69. I would work in the typical employment forms with pleasure (outwork, part-time, work at home) women delivered only 3,29 points and men gave 3,52 points to this tatement, Overall, both for women and men are very important to get a degree and expand their knowledge, this recevied the highest point from all the statements.

I formulated statements for the role of women in the scientific life and i was curious how the women and men agree with these statements (they had to answer ‘yes’ or ‘no’) (Fig. 7.) with statement that women are at a more disadvantage situation compared to the men in the scientific research and opportunities of career, altogether 51 men agreed with it and 76 people did not. From the women 323 people agreed with the statement, and 109 not. Those women are in a disadvantage situation who hav children or they are marred, with this statement 13.35% of men agreed, and 61.92% of the women also agreed; and 9.25% of men and 15.48% of women did not agree with this statement. Women have to provide bigger performance to get the same acknowledgement as men, with this statement agreed the 8.88% of men, and 66.965 of women agreed. Disagrred the 13.855 of men and the 10.3% of women. Between some areas of science, the distribution of men and women is different, 21.14% of men and 72.475 of women agreed with this statement; and disagreed 1.42% of men and 4.97% of womwn. To the statement that there is a significant difference between the women’s and men’s career path, 14.54% of men and 62.23% of women agreed; and the 8.14% of men and the 15.07% of women did not. The women evaluate their own performance less than men for adjustment 6.21% of men and 37.06% of women agreed; the 16.49% of men and the 40.25% of women disagreed.

Figure 7 The women’s role in the scientific life (%)



Source: own editing

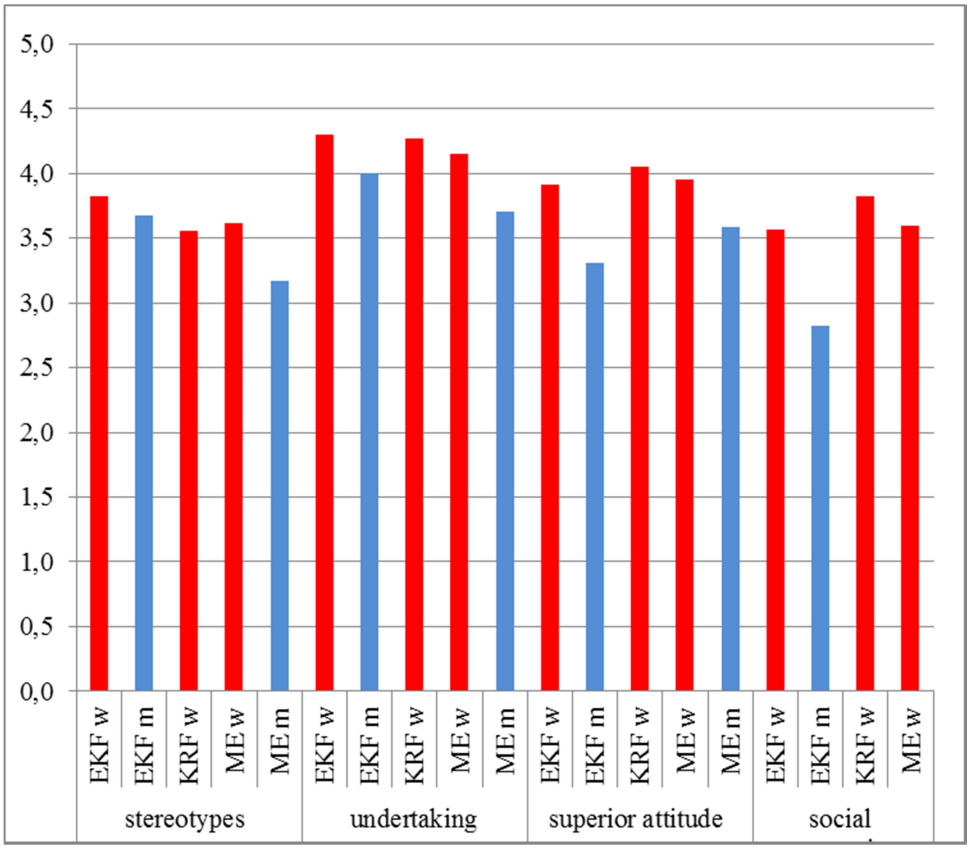
Legend:

A Women are in a more disadvantage situation than men in the scientific research and career opportunities
B Those women are in a disadvantage who have children or married
C Women have to provide more performance to get the same ackowledgement as men
D The distribution of men and women is different in some areas of science
E There is a significant difference between male and female career paths
F Women value their scientific performance less than men

I was curious about the respondents' opinion what the success depends on in the scientific life. Several factors were enumerated, and the respondents selected the one according to pleasure, with which they agree. Most of them identified the success with the professional contacts (461 responses), the achieved results (455 responses), the language knowledge (341 responses), with the professional career (339 responses), with a workplace support (287 responses), supporting family background (240 responses), the circumstances (224 responses), with the position (203 responses), and finally with the won scholarships (152 responses).

I was also curious how the respondents evaluation the hindering factors of women's career (Fig. 8). Women marked the childbearing with the highest score (4.24 points), then the superior's attitude (3.97 points), the social expectations and stereotypes got to the third place (3.66 points). The ranking was formed differentéy in the men's case. According to them the mostly hindering factor is childbearing (3.85 points), the stereotypes and the superior's attitude (3.45 points), and the social expectations (3.01 points).

Figure 8 The given average points to the factors hindering women's career by institution and gender



Source: own editing

The questionnaire survey gave interesting results, basically confirmed my belief that women judge much harder their own labour-market chance disadvantag, than men and many times I had the impression during the reading of the opinions, that the women see the opportunitiess more groomilythan it would be reasonable or the real situation it is. It was surprising that the women's majority have already experienced some kind of discrimination. It is nicely outlined in the researcher sector that career opportunities are limited for the women in the higher educational institutions of the region. Women also evaluated with an extremely high score the statement that they have to accomplish, work for the acknowledgement than the men.

CONCLUSION

The aim of the study was to present the women's and women's working in the researcher sector career opportunities and their labour-market judgement.

During the research the following question and as the results of the questions the following answers have been formulated:

(1) What kind if chance detriments reach women and mother with children in the scientific life, and in higher education?

I established on the basis of the results of the literature overview and the questionnaire survey that the previous gender roles reinterpreted as the result of the historical proccesses, the Hungarian political system and the economic restructuring. Demands are appeared from the employment beyond the women's home tasks, so the double burden puts into practice, as well.

(2) How much does the genital discrimination make harder their career achievement?

Women are affected by both the vertical and the horizontal segregation in the labour-market, and further consequence that women are more frequently employed in part-time jobs, or in any other " precarious" forms of employment (public employment or illegal work, as well).

(3) On what kind of degree applies the glass ceiling effect?

The results of the questionnaire survey absolute supported the thesis expressed also by the researchers, that the difficulties obtaining the higher positions women defined the female genital endowments and the family tasks. Furthermore, the glass ceiling effect and the lack of chance awareness are also a career hindering factor.

(4) Why does the women's career path move more slowly in the scientific life?

We can explain with the difficulties of the compatibility of the children and the work, the accepting of restricted extra work tasks and providing excess capacity by the women that in the North-Hungarian region. Almost sas an irresolvable paradox can be mentioned that the proportion of women with higher qualification continuously increasing in our country, but men are occupy in the higher positions.

On the whole, we can set out that the research sector provides career opportunities and promotion opportunities for women and mothers with small children, but a highly-efficient work-family role reconciling is needed, and the family's support not only from the circumstances viewpoint (I think of the existing wage differnces), but also in the form of psychological support.

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Original scientific paper

GEOSTRATEGIC CONTEXT OF NETWORKING OF NATIONAL MINORITY COMMUNITIES IN TERRITORIAL COOPERATION PROGRAMMES OF THE EU

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Abstract

The participation of Hungary and Hungarian regions outside of Hungary in transnational and interregional programmes within the framework of the third objective (European Territorial Cooperation) of the European Union's Cohesion Policy 2007-2013 is an indicator suitable for analysing the international networking activity of Central European national minorities. These programme areas are very well in alignment with the settlement areas of Hungarians and thus it provides a great opportunity for cooperation in the field of regional developments. The study on the participation of Hungarian organizations in and outside of Hungary in the programming period of 2007-2013 shows; however, that Hungarian organizations outside of Hungary only partly utilize their networking potential and they worked with organisations of the mother country in only a few projects. Policies on cooperation may contribute to further utilize this networking potential.

Keywords: European Territorial Cooperation, minorities, international relationships, Central Europe, geopolitics, networking

INTRODUCTION

This study analyses the networking potential and performance of Central European national minority[11] communities through their project activity in transnational and interregional territorial cooperation programmes of the EU[12].

Central Europe has an especially colourful native population comparing to other macro-regions of Europe. In the seven Central European countries east from Germany (Austria,

[11] Although the Central European minorities cannot be strictly divided into groups based on their history, territory, language or identity, national minorities are understood here as minority groups who have national collective consciousness and this is considered as crucial component of their community forming (Szarka, 1999).
[12] Territorial Cooperation Programmes of the EU Cohesion Policy 2007-2013:
- Hungary was involved in two transnational cooperation programmes: Central Europe Programme; South East Europe
- Interregional cooperation programmes (every EU Member States were involved): Interreg IVC, ESPON 2013 and URBACT Programmes

Czech Republic, Poland, Slovakia, Hungary, Slovenia, Croatia) and in the three culturally, historically connected regions (Transcarpathia, the westernmost part of Ukraine; Transylvania, the western part of Romania; Vojvodina, the northern part of Serbia) there are 107 national, ethnic minority groups with more than a thousand people (Szarka, 1999). Typical of majority ethnic groups of certain countries that they appear in the macro-region's other countries as national minority groups. All these minority groups are native; they are not related to recent migration processes.

European integration has opened up a new and unique opportunity for the cooperation of the same ethnic groups living in different EU member states. As a result, it is worth examining what kinds of international relations are formed among the same ethnic groups in Central Europe where the national minorities are closely attached to their cultural identities.

The territorial cooperation programmes of the EU, inter alia, are those programmes that create opportunities for this kind of cooperation because the main objectives of territorial cooperation as defined by the EU are overcoming the negative effects of borders, maximising synergies and promoting joint solutions to common problems.

Spatial patterns of populous Hungarian minority communities in countries neighbouring Hungary are probably the most typical representation of this colourful Central European national mosaic. Therefore, the research outlined in this paper investigates the networking ability of Central European minority groups through the case of Hungarians.

OBJECTIVES AND METHODS

Objectives of this study

Analysing European policies and evaluations of territorial cooperation programmes, a high networking potential can be assumed in case of Central European national minority communities living in different countries. Some territory-related European policy intentions support their cooperation implicitly. Logics and experiences of existing European territorial cooperation mechanisms also imply their intensive networking possibilities.

This study aims to examine the potential and performance of territorial cooperation of national minorities living in different Central European countries. An intensive international cooperation potential can be hypothesized among minority communities sharing a common ethnic background but living in different countries. This networking potential shall be relatively higher than the one detected among different groups without an ethnic consciousness.

Methods of this study

This research investigates the activity of Central European national minorities in the territorial cooperation programmes of the European Union.

A special understanding of 'Central Europe' and a narrow geographical scope of investigations had to be applied because of the objectives and methods of this research. In this paper the term of 'Central Europe' represent European Union member states joining EU between 2004 and 2013, and additionally Serbia and Ukraine. However, the investigations outlined in this paper are focused only on countries neighbouring Hungary. This territory is the Carpathian Basin, where the subjects of our study, the Hungarian minority communities are located.

In this paper networking ability of Central European national minorities were investigated through the case of the most populous Central European minority group, the Hungarians. These investigations on Hungarians can be considered as an introductory case study to get closer to general networking features of Central European minorities. This study maps the activities of and cooperation among Hungarian groups in the EU territorial cooperation programmes.

Several arguments can be set up why Hungarians represent suitable subject for this kind of investigations. Hungarians live in great numbers as minorities in countries out of Hungary. According to the latest census in 2011, 11.95 million Hungarians live in the Carpathian Basin. Notable size of Hungarian minorities live in Romania (Erdély/Transylvania) (6.5% of the population of Romania in 2011), in Slovakia (Felvidék/Upper Hungary) (8.5% of the population of Slovakia in 2011), in Serbia (Vajdaság/Vojvodina) (3.5% of the population of Serbia in 2011) and in Ukraine (Kárpátalja/Transcarpathia) (0.3% of the population of Ukraine in 2001). (There are Hungarian communities living in Austria, Croatia and Slovenia but in a much smaller number and proportion as compared to the previous countries.) It is estimated that about 2.4 million Hungarians live in the former four countries, about 50% of them in Romania (Kapitány, 2015).

In Slovakia and Ukraine most of the Hungarians live alongside the Hungarian border in a narrow range. In Romania and Serbia, the Hungarian minorities live in larger areas. Also unique in Europe is the settlement area of Székely/Szekler Hungarians living in an ethnic block. This relatively populous and large area with Hungarian majority is located several hundred kilometers far from Hungary in which the majority of population is Hungarians. Approximately 38% of the Hungarian minority in Romania lives there in Szeklerland (Kiss – Barna, 2012).

The populous and geographically broadly scattered Hungarian communities could establish institutional structures in many countries with a potential for taking part as partners in projects financed by the above mentioned European programmes.

The Hungarian language is fundamentally differs from other Central European languages, similarly to the Hungarian naming traditions. Therefore, project partners suspected to be related to Hungarian minority communities are effectively and confidently identifiable in project databases not requiring extended field studies.

The territorial cooperation programmes support three types of cooperation: cross-border, transnational and interregional projects. The transnational and interregional programmes provide a great opportunity for the Hungarian communities for strengthening the cooperation as the programme areas are very well in alignment with the settlement areas of Hungarians. They are fully or partly cover the eight countries and the potential beneficiaries include any public institutions representing the participating countries. It is of special importance that the main decision-making bodies of the programmes are Monitoring Committees consisting of delegates from every Member State which serves the objective character of decision-making.

In the absence of previous similar Hungarian or European studies this study developed its own data base and methodology. The data base developed by the study is based on the data of KEEP elaborated by the INTERACT programme of the EU (downloaded: April 2015). In the database involving two relating transnational programmes (Central Europe and South East Europe) where Hungary is involved and every relevant interregional programmes (ESPON, URBACT, INTERREG IVC) the following types of data have been available for each project: project's name, lead partner's and partners'name, their address and the project budget. Based on these data the main target group of the research can be confidently identified, i.e Hungarian project partner organisations of the neighbouring countries related to Hungarian ethnic communities. The analysis is also limited by these types of data of the European database (e.g. budget for each project partner is not available).

Data base of this study was analysed mostly through simple quantitative data comparison. In case of some projects with partners suspected to be related to Hungarian minority communities, qualitative information purchasing was applied as well to verify their relevance.

European territorial policy context of development cooperation of national minorities

However there is no European development policy message addressing explicitly native national minorities, there are some territorial policy logic that can effect on development cooperation of these minorities.

The *Territorial Agenda 2020 of the European Union* (TA2020) identifies cultural heritage as part of territorial capital and identity as well as cultural assets as crucial factor for well-being and economic prospects which offer unique development opportunities. The policy document also emphasizes that improvement of regional and local identity by strengthening awareness and responsibility of local and regional communities towards their cultures and other unique values is of great importance. According to *Territorial Agenda 2020*, territorial cooperation can create a critical mass for development, decreasing economic, social and ecological fragmentation, increasing mutual trust and strengthening social capital. From this point of view, Central European minority ethnic groups possess great development potential because of their strong regional and local identities with a special spatial dimension of living in different countries.

Common cultural heritage crossing borders is also an important feature of Central European national minorities. *TA2020* calls for local, regional and trans-regional management of cultural heritage of regions. Third objective of *Cohesion Policy* in 2007-2013 can also be considered as a tool for the management of cultural heritage on these scales, especially for the trans-regional scale. The transnational and interregional cooperation can provide new development perspectives by the utilization of cultural diversity and also the reunification of common cultural assets (Radvánszki-Sütő, 2011).

Evaluating European territorial cooperation in relation to national minorities

Most relevant literature on the performance of European development networks shall be found among evaluation studies of European territorial cooperation programmes. These programmes became widely accessible for Central European countries in the 2007–2013 programming period, after the EU enlargement. Obviously, overarching assessment including all the projects of 2007-2013 are expected after the closure of the programme period. Research related to the period 2000-2006 have been conducted can also be relevant for investigations outlined by this paper. Spatial pattern of native Central European national minority communities is not concentrated only on border zones where cross border cooperation is available. These communities frequently occur far away from state borders. However the most numerous minority group, the Hungarians, live historically close to the border of Hungary, even in this case of a significant proportion of Hungarian minority population is located far away from border zones. Therefore, evaluations of so called European interregional and transnational programmes with a programming area encompassing all territories of Eastern and Central European countries can provide this research with most

relevant networking experiences. (There are some other reasons why these latter programmes can serve as suitable context for realising objective investigations on the performance of minority networking. These reasons are related first of all to the decision making mechanisms of these programmes.) It is not really favourable from the point of view of this research that considerably more articles deal with analysing cross-border cooperation of border zones than with transnational and interregional context (a reason for that can be the highest share of resources of Territorial Cooperation Objective allocated to cross-border cooperation).

The networking performance of territorial cooperation programmes were examined in the last ten years by several research projects but none of them indicated ethnic correlation (Jančič, 2005, Davoudi, 2005; Böhme, 2005; Zaucha – Szydarowski, 2005; BBR, 2009; Tatasciore, 2007; Kochanska, 2009; Mirwaldt-McMaster-Bachtler, 2009; Ploszaj, 2013). However, according to Böhme (2005), cooperation are characterised by interdisciplinary and transnational diversity which involves working within the constraints of one or more foreign languages and the cultural diversity of the team.

Networking of same national minorities living in different countries means networking without language barriers. This can result in a high networking potential of national minorities.

One of the most overarching assessments of territorial cooperation programmes of the period 2007-2013 conducted in the framework of one of the interregional programmes called ESPON 2013 can also be relevant in case of networking of national minority communities. The main objective of the ESPON TERCO project was to assess the relationship between territorial cooperation and the socio-economic development of EU and neighbouring regions (ESPON TERCO, 2012). It highlighted the possible links between territorial cooperation and territorial development, while showing that more research is needed to establish this link. ESPON TERCO report underlines the role of globalisation which has led to the weakened state control over national economies by ever increasing interconnections. Although this process of ‘de-territorialisation’ means national borders becoming more permeable, territory remains an important determinant factor of people’s cultural identities, of economic development and living standards and of political decision-making. Reduced role of national scale results in a shift to other territorial scales such as supranational (e.g. the EU), subnational (regions or municipalities) and even transnational (crossing national borders).

Spatial patterns of Central European national minorities are represented typically on these latter scales having an emerging importance.

ESPON TERCO report also describes bottom-up approach on cooperation between cities and regions of different countries. Contact and networking features of cooperation lead the scientists to the concept of 'paradiplomacy' which means the involvement of subnational governments in international politics (Keating and Hooghe, 1996). The study refers to an example of French and British towns as first forms of bottom-up territorial cooperation developed mainly as a result of municipal activism in the postwar period. They have been engaging in their own foreign diplomacy since the 1940s in the framework of town twinning. According to experts, European integration provides subnational actors with many opportunities to achieve their political or economic objectives independent of national channels. Assuming regional politicians are autonomous actors, territorial cooperation can be described as a bottom-up initiative where regional actors aim to cooperate because it serves their interests (ESPON TERCO, 2012).

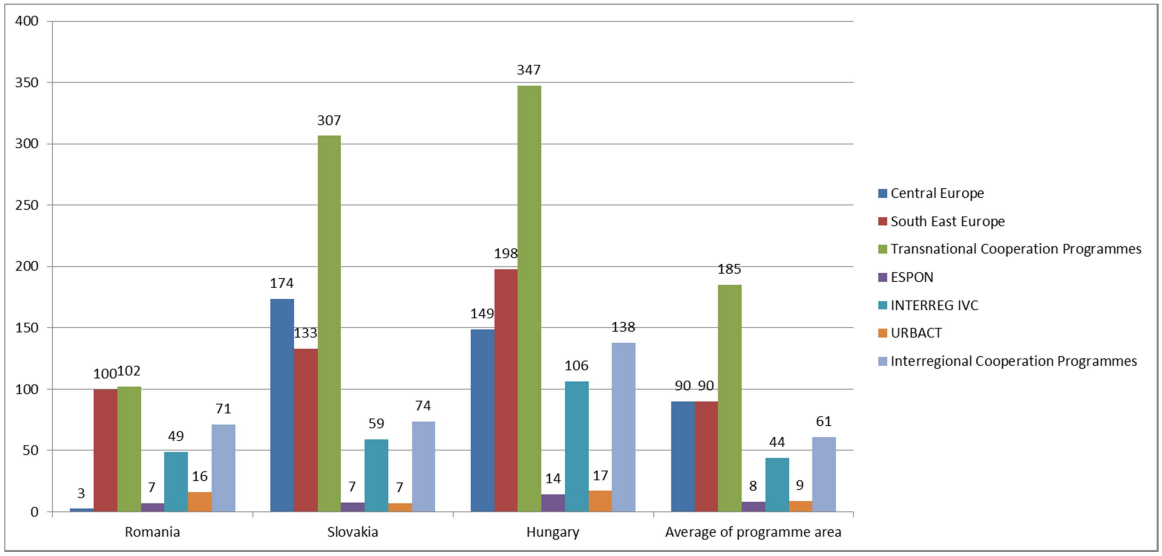
Central European national minority communities provide excellent opportunities to realise such cooperation. Networking of groups sharing common ethnic background in different countries can stimulate other actors of these countries to get into contact each other. This latter process can also be supported by multiple national identities occurring frequently among Central European national minority communities (Szarka, 1999).

RESULTS

General networking performance of Hungarian minority communities

Exploring the overall programme activity of the countries hosting the Hungarian minority groups helps to evaluate further the performance of Hungarian minority communities. Concerning the activity of the neighbouring countries the performance of Slovakia measured by number of partners per population is above the average, that value of Romania is around the average. The value of relative participation in transnational programmes is higher than that in the interregional progammes for the three countries examined (Fig. 1).

Figure 1 Number of partners per population in those transnational and interregional territorial cooperation programmes where Hungary is involved (per 10 million inhabitants) (2007-2013) Romania, Slovakia and Hungary



Source: by Péti – Hoffmann, 2016 (source of data: www.keep.eu)

The proportion of Hungarian participants remained below the proportion of the Hungarian minority in the given neighbouring country in case of every examined country (Tab. 1). While the participation rates of organisations of the neighbouring countries related to Hungarian ethnic communities in Romania were 4% and in Serbia 1.5%, those in Slovakia was quite low and there was no Hungarian participation in Ukraine.

Table 1 The proportion of Hungarian population and participation of organisations of the neighbouring countries related to Hungarian ethnic communities in those transnational and interregional territorial cooperation programmes where Hungary is involved (2007-2013)

	Romania	Serbia	Slovakia	Ukraine
Proportion of Hungarian minority population in the given country (%)	6.5	3.5	8.5	0.3
Number of project participation of organisations of the neighbouring countries related to Hungarian ethnic communities in the total participation of the given country	14 (4%)	2 (1.5%)	1 (0.5%)	0

Source: by Péti – Hoffmann, 2016 (source of data: www.keep.eu; Hungarian Central Statistical Office)

This low-intensity Hungarian participation was highly concentrated. There were some experienced partners participated in more projects in this type of projects for example the Council of Harghita County. There were 17 projects which involved Hungarian partners from the neighbouring countries and that was implemented by only 11 partners. None of the Hungarian partners from outside of Hungary (not even the experienced ones) were lead partners in the projects.

Networking of Hungarian communities in the framework of territorial cooperation programmes

Number of projects involving Hungarian partners from both Hungary and outside of Hungary represents an extremely low proportion of all the projects involving Hungary (Tab. 2), however the programme areas, especially the South East European, fully cover the areas of the Carpathian Basin where Hungarians live. In this sense these programmes could be suitable for Hungarian-Hungarian cooperation especially because they are not limited geographically like the cross-border cooperation.

Table 2 Projects with the participation of Hungarian partners from Hungary and organisations of the neighbouring countries related to Hungarian ethnic communities by programmes

Programmes with Hungarian-Hungarian cooperation	Number of projects with Hungarian-Hungarian cooperation	Propotion of projects with Hungarian-Hungarian cooperation (%)	Total number of projects with participation from Hungary (=100%)
South East Europe	11	5.5	196
Interreg IVC	2	2	105
URBACT	1	5.9	17

Source: by Péti – Hoffmann, 2016 (source of data: www.keep.eu)

Hungarian-Hungarian cooperation[13] projects only occurred in the South-East European programme area, but even there only 5% of the projects could be considered that type. It is only one project (SEEMIG) implemented in the South East European programme which involved Hungarian partners from more than two countries: Hungary, Serbia and Romania. Otherwise only bilateral Hungarian connections were observed in projects, and Hungary (partners from Hungary) represented always one of the countries in these bilateral contexts.

[13] Hungarian-Hungarian cooperation can be desribed as cooperation between a Hungarian partner from Hungary and a partner from the certain neighbouring country who is related to its Hungarian national minority

Still, surprisingly, partners from Hungary have worked together more frequently with non-Hungarian partners coming from the neighbouring countries than with Hungarians (Tab. 3.).

Table 3 Participations with the cooperation of Hungarian partners from Hungary and organisations of the neighbouring countries related to Hungarian ethnic communities (%)

	Romania	Serbia	Slovakia
Number of participations interpreted as Hungarian-Hungarian cooperation	12	2	1
Proportion of participations interpreted as Hungarian-Hungarian cooperation (%)	8.5	2.9	0.9
Total number of participations with the partnership of Hungary and the given country (=100%)	141	69	109
Proportion of Hungarian population in the given country (%)	6.5	3.5	8.5

Source: by Péti – Hoffmann, 2016 (source of data: www.keep.eu)

Only 4.7% of the projects had Hungarian-Hungarian cooperation which means the cooperation of a Hungarian partner from Hungary and a partner from a given neighbouring country related to its Hungarian national minority. In case of some countries that percentage reaches the proportion of the Hungarian population, but never significantly exceeds that as would otherwise be expected. The Hungarian-Romanian cooperation projects produced the best results in that regard: 8.5% of all the projects had Hungarian-Hungarian cooperation, but even that is just two percentage points higher than the proportion of the Hungarian population (this is caused mainly by the active participation of Council of Harghita County). The Hungarian-Hungarian cooperation was present in just 0.9% of all the Hungarian-Slovak cooperation projects, which is far lower than the Hungarian population ratio in Slovakia. The Hungarian-Hungarian cooperation was present in 2.9% of the total Serbian-Hungarian projects which is also lower than the Hungarian population ratio of 3.6%. No such projects could be identified in Ukraine.

In Hungary there were no institutions specialized in Hungarian-Hungarian cooperation. This is confirmed by the fact that the 36 project participation involved nearly the same number of partners from Hungary (which means that one partner participated in only one

project). As opposed to Hungary there were institutions specialized in Hungarian-Hungarian cooperation in the neighbouring countries, illustrated by fact that the 16 project participations were carried out by just 10 Hungarian partners (e.g Council of Harghita County).

Nearly half of the projects with Hungarian-Hungarian cooperation were led by an institute from Hungary (7 lead partnership roles). In these cases networking among institutes using the same working language (Hungarian) could contribute to creating project proposals. However this could not be a guiding principle of generating these projects, as the vast majority of their partners were not from Hungary and had no Hungarian minority background.

The participation of Hungarian national minority communities was probably entirely initiated by other project partners from Hungary. Partner organisations of the neighbouring countries related to Hungarian ethnic communities only participated in projects having also partners from Hungary (with only one exception).

DISCUSSION

In order to understand the results better it is worth taking a closer look at policy context of these programmes in Hungary. Although the participation of partners from Hungary in the analysed programmes is outstanding in European comparison, the participation rate of ministries and central institutions – also by European comparison – low (rate of central institutions among partners from Hungary: 4.1%; the same in case of Austria: 7.4%; Romania: 8.3%; Slovakia: 6.7%). Among the projects having Hungarian-Hungarian dimension there were projects both with and without the participation of central administrative partners. In the examined programming period no significant policy on stimulating Hungarian-Hungarian partnerships in these programmes can be identified. In this manner results above reflect an objective overview on the organic participation and networking abilities of minorities. As a consequence, the Hungarian-Hungarian cooperation analysed can be definitely interpreted as bottom-up initiatives and thus they are a more "paradiplomacy" type of collaboration.

According to the results, communities in countries of national majority (in our case Hungary) are the ultimate drivers of organising the cooperation among the same national communities of different countries. Hungarian minority communities were only able to take part in projects with a partner from Hungary, from a country where Hungarian consist majority.

Networking among communities with a same national background living in different countries is not really an important driver of project planning in the examined programmes.

At least it was the case at the populous Hungarian communities and in Hungary: choosing a Hungarian partner was not as frequent as to choose a partner with other national and language background from the same country. There was no partner in Hungary specialized in involving partners from Hungarian minorities. Even out of Hungary only one experienced partner institute could be identified with a kind of specialization in taking part projects possessing also a Hungarian-Hungarian dimension.

Summarising results, the detected networking activity of Hungarian communities in the examined programmes can be considered lower from certain aspects than it could have been expected according to great cooperation potentials of this population. This is even more surprising by taking into account the significantly high activity of partners from Hungary.

The sociogeographical context of the Hungarian minorities can be an explanation for these figures. A really significant, even dominant proportion of the Hungarian minorities live in rural communities (Péti – Szabó, 2015). International networking ability of rural community's institutions are obviously lower than the average. This is especially the case of Hungarians living in Slovakia, where the relatively lowest programme activity was identified.

Reasons behind the detected performance shall obviously be very various requiring further investigations, first of all in fields of institutional and financial ability, national identity attitudes in Hungary and outside, decision making procedures of programmes and the timeline of the networking activities. The performance of other Central European national minorities would be worth investigating as well.

In spite of the needs for further investigations, the current results can unambiguously verify the importance of building policies and development actions more intensively and strategically on the existing networks of national minorities. The possibility of cooperation among national minority groups should be utilized in these programmes which could be supported by direct national and European policy as well.

CONCLUSION

In Central Europe many native communities share the same national and language background and live in different countries. These Central European national minorities can have a high potential in building development networks among countries, possibly higher than communities without this special feature. According to the research of this study, networking of Hungarian communities of different countries in projects financed by territorial cooperation programmes of the EU is not significantly high, it can also be considered relatively low from

some aspects. Policies and development actions shall more intensively and strategically be built on the existing networks of Central European national minorities.

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Original scientific paper

RESEARCHING THE SPATIAL ASPECTS OF THE ROMANI-HUNGARIAN COEXISTENCE BY THE MEANS OF MENTAL MAPPING

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Abstract

In our study we shall analyse the spatial aspects of the Romani-Hungarian coexistence based on the field research results of the village seminar workshop organized by the Szent István University (Gödöllő). We present two different situations: one segregate analysis using Baks as an example, where we find a settlement considered as majority, and a Romani segregate; and provincial ghettoization using Átány as an example, where due to a previous site termination the Romani people dispersed over the whole village area. We conducted surveys in both settlements in order to find out the local residents' opinion on the development of the value of the inhabited area. Our goal on the one hand is to present the method of ethnicity analysis by mental mapping in rural areas, and on the other in addition to offering methodological practices is to point out a few important takeaways of the spatiality of the Romani-Hungarian coexistence based on our actual experiences.

Keywords: mental mapping, Romani-Hungarian coexistence, segregate, ghettoizing

INTRODUCTION

Though the method of mental (cognitive) mapping was not particularly developed for researching the coexistence of various social groups, still it is able to deliver useful information. When performing mental mapping, we always gather information regarding the space that surrounds us in a way to understand how it is viewed and perceived by the individual / examined group. The purpose of these kinds of researches is to receive deeper knowledge about the examined group's own internal world and surrounding external world. As said by Roger M. Downs and David Stea (1973): cognitive mapping is an abstraction which includes all cognitive and mental abilities, with the help of which we are able to collect, arrange, store and map the information regarding the space that surrounds us. Therefore a mental space generated by mental mapping is sort of a conscious image of the reality, and various associations are attached to these mental spaces (Letenyei, 2006) when

they are created. Mental researches can just as well identify psychical actions as spatial processes. The purpose of this study is to get to know a social phenomenon (Romani-Hungarian coexistence) with spatial dimensions.

Mental mapping and analysing ethnicity in Romani-Hungarian coexistences

The application of mental mapping in spatial researches enabled us to realize that a settlement (or even a larger region) is made up by various mosaic pieces, or special areal units divided by borders. These confines are not necessarily the same as the lines marked on a map, but they definitely separate areas which are clearly characterized by their own special social-cultural atmosphere. In this field, we have a rather large experience regarding urban researches, which knowledge can become useful in practice as well, if these experiences are incorporated in the practices of urban planning and urban marketing.

There is no single method for performing mental mapping. There are quantitative data recordings, with the purpose of measuring the recognition of certain elements of the space which are perceived objectively, completed with the stereotypes of respondents. Qualitative-based mental mapping is a soft method, which is mostly based on participant observation. It is possible to use ready-made maps or photos as a start, but making participants draw a map is also part of the mental mapping practice. Ferencz G. (2013), referring to Kevin Lynch (1960) believes that performing an analysis on the name and extension of the examined space (spatial units), researching fracture lines and borders, and understanding orientation points, routes and junctions all deliver important information for mental mapping, depending on the emerging problem/phenomenon.

Compared to mental researches performed in urban areas, mental mapping conducted in rural areas are limited by the fact that the space is much more uniform in terms of its social, economic and technical parameters. Another distinctive characteristic is that the general everyday space of activities and the cognitive space are both much smaller than in urban areas. (Cséfalvay, 1994)

This study demonstrates how an ethnicity-analysis can be performed by the means of mental mapping in rural areas. But first, what do we mean by the phrase ethnicity? By following the definition of Clifford Geertz (1973), it is a commonly agreed upon and publicly expressed personal identity, resulting in a coexistence which is not fixed, but depends on the actual situation, and appears differently in various social interactions (Kovács, Vidra, and

Virág, 2013). Since ethnicity has a social imprint (Jenkins, 1997), its "visible and invisible confines" are also clearly laid out. We agree with the thought of Kovács, Vidra, and Virág (2013) that "… the fact whether these borders are occasional or permanent, clear or blurry, passable or impassable, and the extent to which they determine the village and its environment primarily depends on the current self-reproduction opportunities (ecologic and economic conditions) and abilities (available practices and knowledge) of the specific local society." (Kovács, Vidra, and Virág, 2013: 80). Our goal is to interpret it within the Romani-Hungarian coexistence. The examination of this phenomenon is relevant, and understanding the operation of such borders greatly contributes to the prevention of an outcome possibly resulting in conflicts.

OBJECTIVES AND METHODS

Throughout the field work, we started off with the fact that the spatial arrangement of the Romani minority also has an effect on the *value* of the settlement as a space. For the mental mapping analysis we have personally conducted a questionnaire survey, with the objective of having a sample from about every fourth household (from every street of the two selected settlements, in proportion to the number of their population). In case of Átány we have managed to fill out 107 questionnaires, and at Baks, the number was 155. The questionnaire survey was performed within the frame of the Village-seminar activity of the Szent István University and its summer field research. One of the two examined locations was Átány (Heves county) which we already visited in 2014, and the other settlement was Baks (Csongrád county), where we conducted our survey in 2011.

As to the selection of the research locations for this present study, our principle was to have one example on a segregation of the Roma population, and another where the Romani-Hungarian coexistence is characterized with a spatially scattered position of the Roma people. Baks was selected to fit the former, where the segregation of the Romani population is a part of the settlement with a specific name (Máriatelep), which though was not always a segregate, however currently 90% of the Roma population of the village lives there. Átány on the other hand is an example for the spatially dispersed coexistence of Romani and Hungarian people. Decades ago, the local Roma community lived at the Mákos-telep part of the settlement: though spatially divided, still in symbiosis with the majority of the society. However, based on the decree of the Hungarian Socialist Worker's Party Political Committee accepted on the

20th June 1961 about "Various tasks intended to improve the situation of the Roma population", the Mákos-telep site has been terminated. The authors Fél-Hofer recite that there were a number of incentives offered by the state for the Roma population at Átány as well to move into the village. One of the most important of these incentives was the long-term interest-free government loan, which people could apply for if they "planned to build a permanent Hungarian-style house in the village". As a result of these supports, in 1964 there were five houses owned by Roma people, where eleven family lived, and as the authors observe, "the living conditions (…) were not that much different from the crowdedness of the "gipsy-like" habitats" (Fél and Hofer, 2010: 258). Earlier, the majority of the Roma population did not live in the village, but at a site located in the outskirts of the village. By 1975, with the help of government aids, these Roma people who had been living in a ghetto-like environment were re-settled in the village. Concerning site terminations Virág (2010: 64) explains that as their result „two groups, which interact with each other within the society of the settlement, but are very different in both cultural and demographic aspects, have been placed very close to each other spatially". This caused an intensified population exchange, forcing a part of the former community to all but flee, and as a result it launched the ethnic homogenization ("gipsyfication") of these parts of the settlement (Cserti Csapó, 2011). Durst (2010) – drawing a parallel between the site terminations of the 1970s and the 2000s – presents the example of the small village of Lápos, Borsod-Abaúj-Zemplén County: „in the name of the integration of the Romani populace they managed with government funding to convert Lápos into a village exclusively populated by Romani people" (Durst, 2010: 34).

As to the size of the two settlements: Baks is inhabited by 2300 people, and Átány has a population of 1500. Regarding the Romani-Hungarian coexistence, their history goes back to centuries in both cases. Another common feature of the settlements is that the two types of population have two different age-structures. The Roma population is basically of a young age-structure, while the majority of the society is ageing. There is a difference however in the numbers regarding the Roma population (their proportion within the population). Hereby I would like to note that in Hungary there are no valid, useful statistical data available on the Roma population, since they are based on self-certification. Therefore at both locations we started off using the opinion of the management of the settlement, and the estimates provided by the background documents of regional development concepts. In case of Átány, the ratio of the Roma population should be about 40%, and in case of Baks, it is about 25%.

The question we have used in order to examine the changes within the value of the space and its ethnic relevance in case of Baks (where there is an independent Roma segregate) was: *"Is there a difference between the various parts of the settlement? In what ways are they different?"*. And in case of Átány, where the Roma population lives dispersedly in the settlement, the questions was: *"In which parts of the settlement would you prefer to live / would definitely not want to live? Why?"*

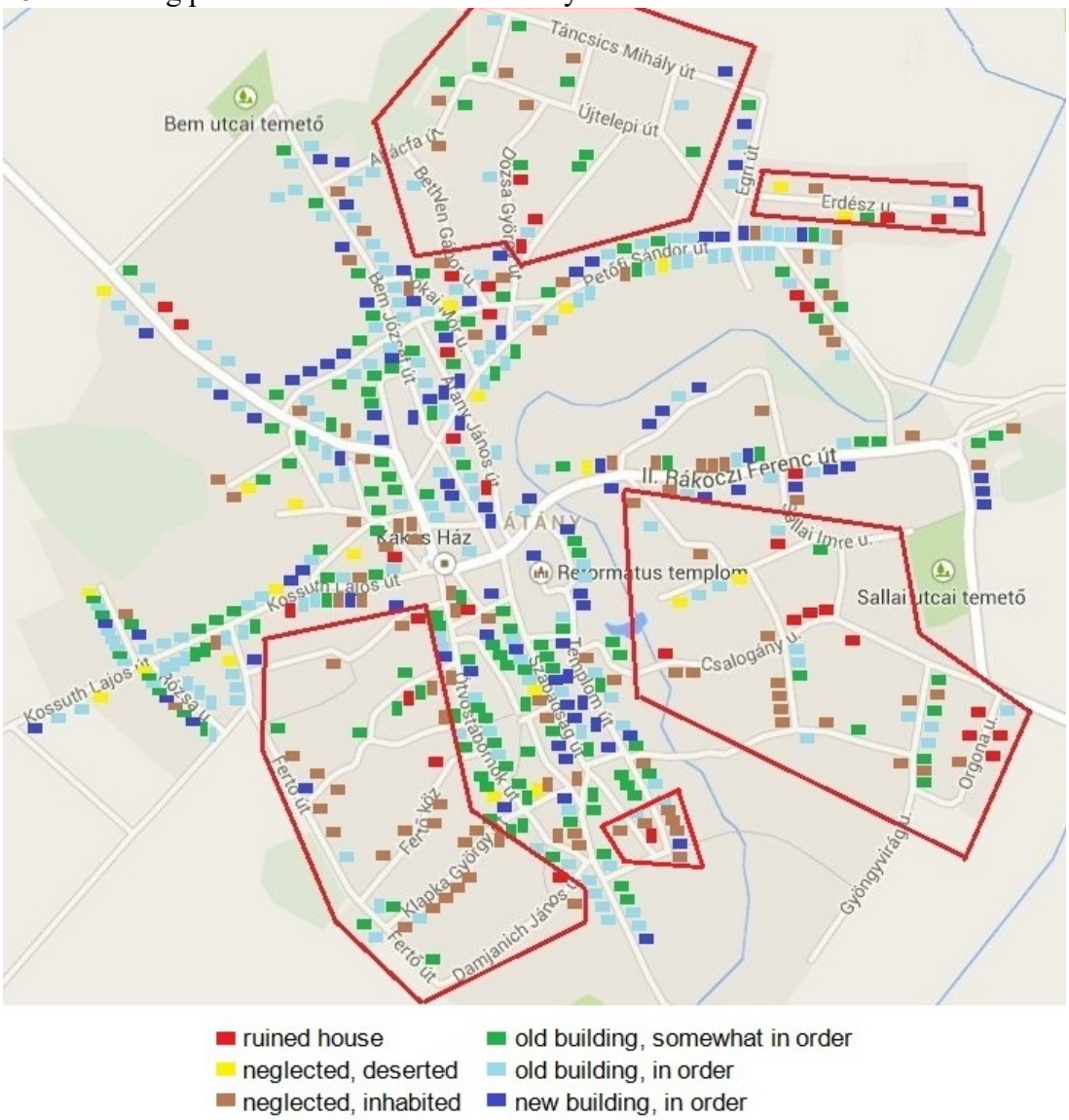
RESULTS

Átány and the spatially dispersed Roma ethnicity

In the past decades, the previously neat image of the village vanished; the amortisation of the built environment obviously demonstrates the decaying process of the village. For its examination, we have evaluated the residential real estates of the village based on a field research performed in 2014. (Vitéz, 2014) It was apparent that the state of the properties located at the centre of the village is better, newly renovated and built houses can also be found here. However as shown on Fig. 1, there are more parts of the settlement which are scarcely habited. It is typical in case of these perishing zones that empty and deserted estates became the victim of illegal house demolition. In the past decades more than 150 houses had the same fate, which means that entire streets disappeared.

The amortization of the houses shows a correlation with the spatial condensation of the local Roma community, meaning that these perishing parts of the settlement are also becoming ghettos. It is worth mentioning that the mayor reports on 15 ghettoizing parts within the settlement. Based on the results of our field researches, these are also forming blocks: their numbers become lower, but they transform into ghettoizing parts of the settlement of larger size. (Fig. 1) It is probable that should we be able to view a similar street-image analyses from the beginning of the 2000's, we would see a greater number of ghettoizing points, which have since transformed into blocks. Unless this process is stopped, the amortization of the village will continue, and other streets and houses will keep on perishing.

Figure 1 Perishing parts of the settlement at Átány

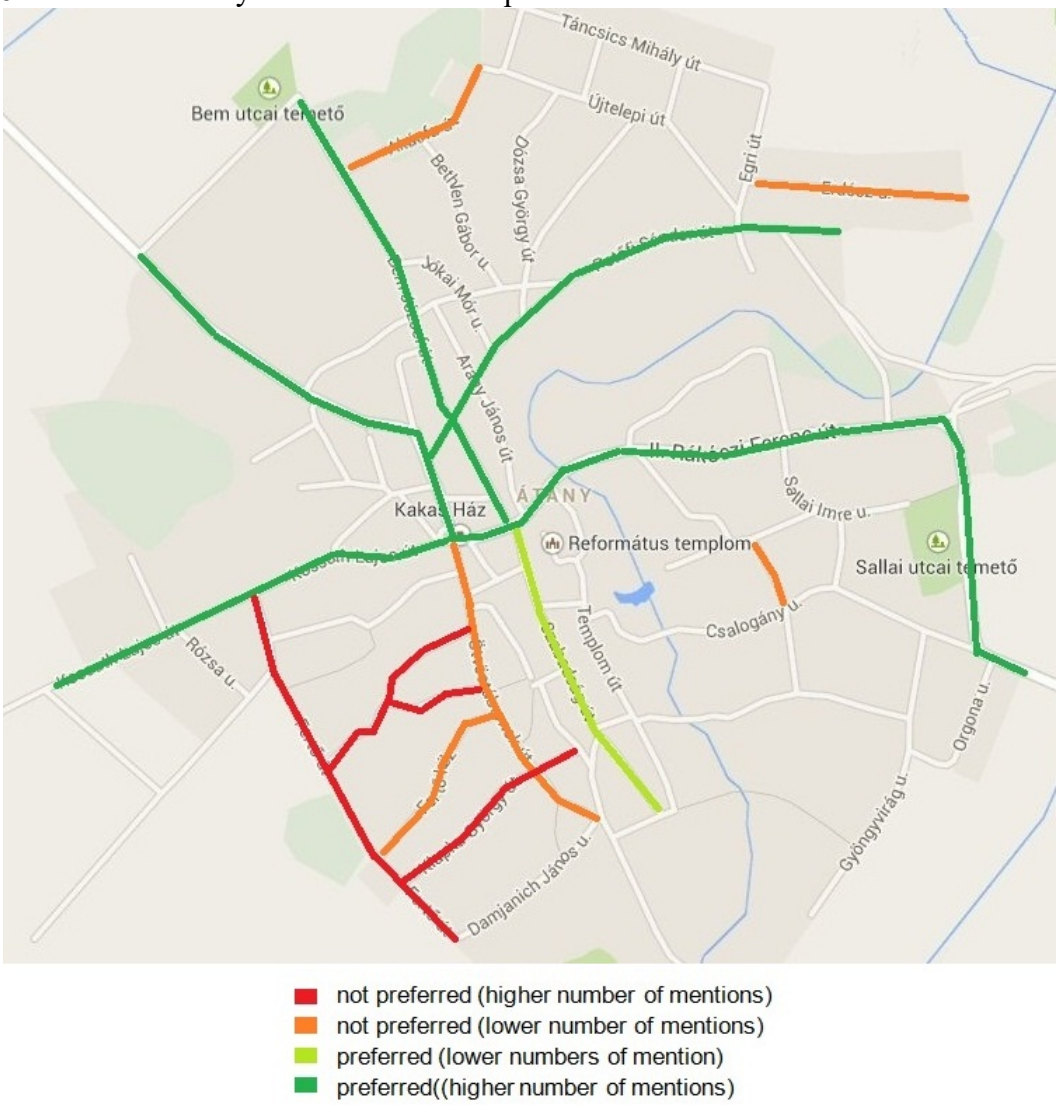


Source: Prepared by Vitéz - Bogárdi

The result of the mental mapping of Átány

During the questionnaire survey we have examined the parts of the settlements where respondents would prefer to live, and where would they not prefer at all.

Figure 2 Streets in Átány where residence is preferred and where it's not



Source: Prepared by Bogárdi

We can see that the most preferred streets are located in the centre. Among the 98 mentions we received from 60 respondents the most popular was Bem street (23 mentions), while 18 respondents selected Rákóczi street as a positive example (which is the main street of the village). Petőfi street was mentioned 15 times, and Kossuth 11 times. Szabadság street was mentioned by 7 respondents (Fig. 2). It is important to note here that some of our respondents were not able to name streets, they only mentioned that the centre of the village is a preferred part of the settlement, it is in a better situation. We also believe that it was important to explore the reasons why respondents would prefer/not prefer to live in certain streets of the village. Based on the arguments in relation to the preferred streets, it is clear that the major reasons are the relatively good public safety, emotional attachment and the lower proportion of the Roma population.

The zones marked with red and orange borders (not preferred zones) were established based on 104 mentions from 45 respondents. 34 other mentions featured parts of the settlements which are hard to exactly determine (such as "the edge of the village" or the "Kömlő part", while others said the "neighbourhood" of a not preferred street). We recorded 14 unintelligible answers as well, those respondents would not prefer any part of the village, saying "everywhere is bad", "there is trouble everywhere" or "none of the streets are liveable". The most people who talked about non-preferred streets selected the Klapka and Fertő streets (10 mentions each), and the Ötvöstábornok street (9 mentions). Árpád and Dobó received 7-7, Gyöngyvirág (formerly Lenin) 6, Bem and Csalogány 5-5, and Erdész street received 4 mentions in total. Reasons for not preferring these streets clearly demonstrate that respondents would not want to live in streets habited by the Roma population, they have a problem with public safety, and the decay and destruction of the built environment.

Besides mental mapping we carried out problem perception analysis as well. Among the 107 respondents 101 people could name a problem with the settlement. Among the 151 answers made by them 54 were connected to public order and safety, which were followed by 34 mentions of the Romani populace, and 32 of unemployment. Thus it is clear that within the set of problems prominent are the disadvantaged situation of Átány, social exclusion, and the issue of ethnicity perceived as the originator of these problems.

We also conducted vision-analysis to supplement the results and experiences of mental mapping. According to Győri-Nagy (2003: 7) its importance lies in the fact that „The vision of the local residents - despite the fact that the local population is unlikely to break out from its structural captivity on their own – is decisive regarding the future of the village and the area", since „the whole settlement's capability of future and the solution models and levels of its accumulated problems are decided by the quality of the actual or possible intellectual bases and reserves of the given settlement".

Regarding vision we asked the respondents the question „How do you imagine Átány 20 years from now?". The results painted an extremely pessimistic picture, only every 10th respondent were hopeful regarding the future of Átány. The majority of the respondents expect continuous social exclusion and ghettoizing in the future of the settlement and the area:

- „the gipsies will be here, the Hungarians will vanish"
- „it's a gipsy camp, the old people will die out, and that's it"
- „only gipsies will remain"
- „nothing will be here; gipsies, that is"
- "Nothing will be here only a slum: the same will happen what happened with Kömlő and Tiszanána on the account of the gipsy population."

- „gipsy village; the area and Heves County both”

Or in other words the majority of the respondents mentioned intertwined social, economic and environmental erosion, while others saw depopulation in the near future. (However, this latter scenario is unlikely. Despite the drastic depopulation experienced over the last 80 years, the Romani population’s inclination to childbearing and high birth rate makes this possibility rather implausible.) Thus instead the withering away of the village a ghettoizing process can be predicted in the future based on the demographic data.

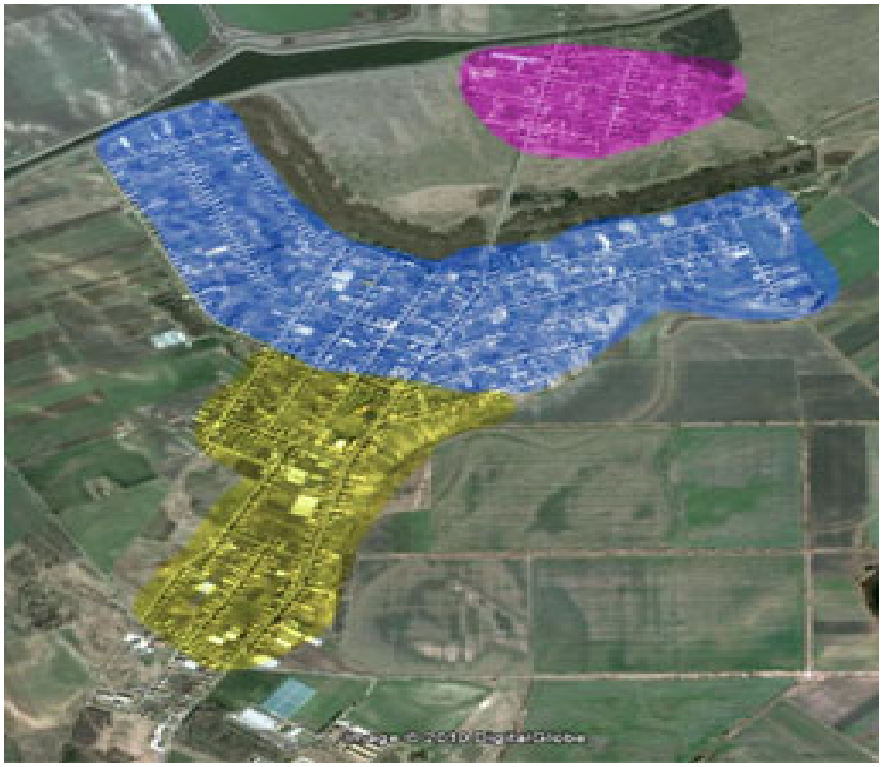
Baks and the Roma segregate: The spatial characteristics of the local segregate

Baks is a village which consists of three individually named parts, which are: Major, Szőlő, Máriatelep. The fact that these three parts of the settlement also appear as separate parts in terms of local identity is well demonstrated by the answers provided by the 155 households: 71% of them clearly identified (and explained its reasons) that there are differences amongst the various parts of the settlement.

The centrally located part of the village: *Szőlő.* This represents the “centre” of the village, in a geographical and functional meaning as well. Practically all institutions are located here, and the service providing sector is also established here the best. The most important institutions and facilities can be found here: elementary school, village house, mayor’s office, marketplace, central bus station, church, a number of general stores, restaurants, ice cream parlours. This place is considered to be the spatial junction of villagers. It means that the majority of Baks residents practically turn up at this place every day, irrespectively to where they actually live. The developments of the past years are also the most apparent in this part of the village: the establishment of a playground, a park and a parking place, the renovation of the elementary school, and the construction of a catholic church. The other part of the village, the *Major* is also in a good situation, however its noteworthy sites only include the gas station and the cemetery. However, it has its own bus stop. *Máriatelep* does not even have one, it is an area with a totally different image. The road leading there is also a dead end. Only those people go there who has business to do there. There is no trespassing traffic. It is also separated physically from the other two parts of the village, as there is about a one and a half kilometre long uninhabited zone dividing it from the centre of the village. (Naturally there are geographic reasons for being so distinctly far away from the centre. Between the parts Szőlő and Máriatelep there is a reedy swamp field called Dongér, which is unsuitable for habitation.) In this part of the village there is only one store. There is no public transportation, no drainage canal system or sidewalks. The majority of roads and streets are not even paved with concrete. Its separation is further enhanced by the concentration of the Roma minority in

this area. About 95% of the current population of the minority residing in the village lives here. (Kistamás- Molnár, 2011) (Fig. 3)

Figure 3 The structure of Baks



Note: yellow: Major, blue: Szőlő, pink: Máriatelep
Source: Prepared by Molnár

The result of the mental mapping of Máriatelep

The perception of *Máriatelep* is summarized in Tab. 1. The opinion about this part of the village is quite unanimous in case of both those who live at Máriatelep and those who live elsewhere: the situation is critical. For the "outsiders" this part of the village basically represents the site for being the "problematic" part of Baks, however mostly the same opinion appears in the answers of those who live at Máriatelep. In relation to judgments with social relevance it must be noted that people who live at Máriatelep perceive their own community in a less objective way. Though it has been mentioned that there is cohesion in this part of the village, yet its opposite was emphasized at least to the same extent in the opinions received. The reason why it is important to point this out is because poverty and a neglected environment do not necessarily have to result in a contradicting, fractured society. Certain opinions from Máriatelep claim that this was not always the case there. The place was characterized by a smooth coexistence between the Roma and the Hungarian people for centuries. From the discussions conducted with relevant people it was revealed that conflicts

first appeared within the community when new families appeared from "elsewhere" (not from Baks), who were not familiar with the traditional social norms.

Our researches clearly show that the perceived image of Máriatelep according to those who live at Szőlő or Major can be described with the following characteristics.

- for "outsiders" Máriatelep represents the site for being the "problematic" part of Baks
- the problem is not only triggered by the lack of infrastructure, but by the structure of the society as well, meaning that the Roma community is concentrated there.

By analysing the opinions from mainly Roma people at Máriatelep separately, the following conclusions can be made

- the perception of the residents of Máriatelep about themselves and their own living environment is quite mixed (there are positive and negative elements as well).
- the once peaceful coexistence of the Roma and Hungarian people at the site was upset by the arrival of outsider families who *disregarded* the social norms.

Table 1 Opinions about Máriatelep

What residents of Máriatelep think about Máriatelep	**What residents of Szőlő think about Máriatelep**	**What residents of Major think about Máriatelep**
Evaluation from the aspect of infrastructure		
The least developed part Lack of parks Neglected Application for aids from a disadvantaged situation No playgrounds Poor selection at the store, and high prices No entertainment opportunities Houses are not renovated The most untended No establishments Separate part The local government fails to perform public duties: no ditches, snow is not ploughed Lack of pavement Slow development Earlier it was not ugly or something to despise	Separate from the other parts Gardens are untended Backwards, poor part of the village Far from the centre Less attention on it End of the village Neglected Poor infrastructure Waste management is almost unresolved Many new houses are built here Eroded Not enough stores Much more garbage The most disadvantaged part, because of the Roma community A waste land, far from the centre I would not want to live there	It is eroded Backwards, poor part of the village

Table 1 (continued)

Evaluation from the aspect of society		
Oppressed people live here There is cohesion Young people should be better supported Roma people live here It is separated They don't help people, the local government doesn't help Roma minority is in majority Crowded No privacy Children are neglected (no playground, toys) Empty, no life No traces of civilization Oppressed Exclusion People are not cared for Roma ethnicity People stick together No difference between Hungarians and Roma people, they get by well There is trouble only since outsider Roma families moved in,	They only care about themselves Poverty A lot of Roma people, but they get on well People are friendly, and stick together Reservation Poverty is concentrated to this part of the village The minority has better life here They are in a disadvantaged situation The Roma community lives here, this is why it is separated from the settlement There is great cohesion Site for Roma people It is governed by the "Roma mob" Many thefts, people are afraid This is a gipsy colony	The minority lives here They are less educated Poorest, there is deep poverty Everyone knows everyone here There is no problem with the Roma of Baks The tension between the Roma and Hungarian people is generated from the top Earlier it was not inhabited by gipsies Frightening Many gipsies, hovels

Source: Kistamás T.- Molnár M. (2011, 87)

CONCLUSION

Our field research experiences in relation to the coexistence of Romani and Hungarian people demonstrate that streets, parts of streets or parts of the village of negative and positive value are separated in the minds of people. Negative values are closely linked to the spatial location where the Roma community resides. In regions where the two ethnic groups are separated visually as well (in case of Baks there is a one and half kilometres long uninhabited barren land), the physical separation always results in mental segregation.

If we analyse the opinion of the majority of the society and of the Roma community regarding their coexistence, experiences show that generally the majority of the society perceives the space inhabited by Roma people to be quite alike in their own internal thoughts. They do not think that the space inhabited by Roma people can be actually different even if the living conditions are visibly not alike everywhere. The majority of the society uniformly perceives the area where the Roma community resides in a *negative way*, coupling it with words such as "misery", "poverty", "crime". There are however a few important differences between the Romani-Hungarian coexistence in the segregated area and in the dispersed situation. In case of the dispersed situation, the majority of the society expands the actual

borders of the ethnic space with a *buffer-zone* - or a temporary space, after Németh (2015). It means that they project their negative judgement to areas which are not inhabited by Roma people, but confine with them. In case of a segregate it frequently occurs that the majority of the society forms an opinion about the living conditions of the Roma community without having actual experiences. Indeed, in many cases they had never been there, or not since years.

When analysing the opinions of the Roma community about the micro-world that surrounds them, experiences show that they sense that the judgement of the settlement is not homogenous. Similarly to the answers provided by the majority of the society, the Roma community also paints a "negative" image about their own living space. However they do not consider their living space to be uniformly negative at all. It is a general truth that everyone evaluates their own habitat in a better way. We also experienced that the Roma community do not perceive their own habitats to be uniform, because they do not perceive their community as a single unit.

According to our experiences, the commencement of the process of ghettoization is usually facilitated by spatial segregation, however it must be noted that *not all segregates become automatically ghettos*. It actually depends on a number of ecologic and economic factors (Kovács, Vidra, and Virág, 2013). Another fact learned from experiences is that a ghetto can not only form in a segregate. A spatially dispersed Roma ethnicity can also create a ghetto, if they form a mass block and result in a large social, economic and environmental destruction-zone.

Finally, we learned that an ethnic space is not only drawn up by the visual borders of habitats. It appears on other levels as well regarding everyday contacts. For example in school life, or in the formation of the clientele of a store. The latter also means that some of the service providers (especially general stores) specialize in servicing Roma people, frequently completing their activities with offering loans or usury. In schools, the confines of ethnic spaces are apparent in "Roma classes". At Átány, the ever growing ratio of the Roma population within the local youth also contributed to the fact that the leadership of the village approved of the establishment of another school besides the existing public school, which serves as a viable alternative for active well-to-do families with young children. An option which helps them to avoid having to send their children to the socially degraded, dangerously conflicted public school or to neighbouring settlements. It is a church school, which though do not exclude the enrolment of Roma children, on account of having to pay an allowance to the church and of the obligations specified in a strict policy, in the end it resulted in a church

school which in most cases cannot be afforded by Roma people (Kassai, 2014). (Naturally, not only Hungarian children can be enrolled into this school. Children with better abilities of both Hungarian and Roma origins are enrolled in the Reformed school by their parents).

Visible and invisible confines come in various forms. Furthermore, they appear differently in each case. We must take note of their existence and operation, since they define the extent to how the community of a settlement is able to create a viable environment in the present and in the future.

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Original scientific paper

THE CRITERIA OF SITE SELECTION FOR FARMERS' MARKETS

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Abstract

Over the past few years the number of farmers' markets in Hungary has considerably grown what was induced both by the growing demand and the occurrence of facilitated authorization requirements. At the same time according both to international and Hungarian experience the dynamic increase in the number of farmers' markets has occurred together with a notably high closure rate.
Markets having characteristically small number of vendors, narrow variety of products, unsatisfactory organizing capacity and experience, as well as markets operating at an inadequate site were generally closed during the first four years.
The present study aims to describe a factor system relevant for the site selection of markets that was made measurable by the adaption of a multi dimension criteria system developed in the United States of America for domestic circumstances. The final aim is the development of a toolkit that can help in the evaluation by this in the comparison of the existing and potential markets sites in Hungary.

Keywords: short supply chain, farmers' market, site selection, multi-dimension method

INTRODUCTION

In Hungary, types of short supply chains (SSC) that are modern, innovative or bearing moral values (e.g. novel farmers' markets, community supported agriculture, box scheme, consumer communities) have occurred recently. At the moment purchasing at a market is the most favoured type of short supply chains that is proved by considerably increasing number of farmers' markets in the past few years in Hungary. Defining the boundaries of markets by their characteristics/nature encounters difficulties as since the Ministry for Agriculture (MA) Decree 51/2012. (VI. 8.) entered into force in June 2012, the National Food Chain Safety Office (NÉBIH) has been counting exclusively markets registered according to the Decree[14]. Although among sites approved as 'conventional' markets there are markets where only selling by farmers is approved by the organizers, commercial selling is not allowed. Despite, the dynamic increase in the number of farmers' markets is indisputable, mainly since the introduction of facilitated approval.

[14] Ministry for Agriculture Decree 51/2012. (VI. 8.) MA Decree on the food safety criteria of trading at local farmers markets

At the same time a study by Stephenson, Lev and Brewer (2008) shows that a dynamic increase in the number of farmers' markets occurred together with a rather high closure rate - nearly 30% - in the United States. Markets, having characteristically small number of vendors, narrow variety of products, unsatisfactory organizing capacity and experience, as well as markets operating at an inadequate site, were generally closed during the first four years.

It was also emphasized by Lohr et al. (2011) that along with the increase in the number of farmers' markets, many of them close as well. For example, in Oregon 62 farmers' markets opened between 1998 and 2005 and 32 closed, with similar annual rates. In this case the site selection was highlighted by the authors as a factor of competition for farmers and customers. The high number of closing markets indicates that opening a market could be accompanied by high-level risk, and the probability of failure probability of failure by the increment of competition for farmers and customers.

Although the majority of Hungarian farmers' markets are still in the critical four years since the initiation of their operation, and numerical data have not been published on this topic yet, closing of markets functioning unsustainably can be observed already in Hungary too.

Main aspects of the sustainable functioning of farmers' markets are appropriate planning, proper product composition that is in accordance with the demand, finding farmers for this reason, estimation of the available supply, besides the optimal site selection, what is regardless of whether temporary or permanently functioning markets are considered.

The present study is focused on the latter one as there has not been published any methodology on the site selection of farmers' markets in Hungary yet. The aim of the study is the adaption of a multi dimension criteria system applied in practice in the United States of America for domestic circumstances. I have not found yet in Europe similar site selection system.

MATERIALS AND METHODS

First of all, changes in the number of farmers' markets between 2012 and 2014 are shown in the study. Data were collected by the National Food Chain Safety Office (NÉBIH).

The system was built up by Matthew Peters (2008) based on his research, that focuses particularly on the measurability of markets site selection.

As a first step for adaption, competent Hungarian experts were assembled, in the frame of the event Terra Madre that was organized by the Ministry for Agriculture in December 2014.

The primary aim of the workshop besides the re-evaluation of Peters's criteria was the revision of the aspects for elimination of questions irrelevant for Hungarian circumstances

and for integration of criteria that are not analysed by the original study however they have notable effect in Hungary regarding the contributing experts' opinions.

Prior to the workshop all participants were asked to fill in an online questionnaire to evaluate and if necessary supplement the given criteria. Different to the North American practice, experts were not asked to distribute 100 points between 26 criteria, but to score the site selection criteria by the use of a scale from 0 to 10, where 0 meant that the given factor has no significance regarding the site selection of a farmers' market, and 10 meant that the given criterion is essential for the sustainable functioning of a market. All of these aspects were analysed from the point of view of three stakeholders, as the producers selling at the market, the market organizers and the potential customers. Experts were asked to evaluate separately these often diverse expectations of actors. During the workshop 20 participants worked, in 4 small working groups. Preferably a scientific expert, a producer, a market organizer, occasionally an official veterinarian and another expert who was able to evaluate the criteria from a consumers' point of view, was represented in each group. Although the applied methodology is under development, firstly the determined scores were totalized and the results were expressed in terms of percentage compared to the total score, so weights applied by Peters were gained in this way.

CHARACTERISTICS OF FARMERS' MARKETS

Definition and types of short supply chain

According to Article 2 (m) of Regulation 1305/2013/EU of the European Parliament and of the Council the definition of the 'short supply chain': definition is a supply chain involving a limited number of economic operators, committed to co-operation, local economic development, and close geographical and social relations between producers, processors and consumers. That is producers or a group of producers are selling their food products directly to consumers or a group of consumers, or through one intermediate actor.

Short supply chains that are selling directly or through one intermediary can be classified into four main types and two subtypes (Tab. 1).

Table 1 Marketing types of SSC

SSC type: For intermediaries	SSC type: Delivery
Traditional: Directly marketed processor **Modern:** Catering, canteen meals, retail trade	**Traditional:** Door-to-door sale, Moving sale (mobile shop) **Modern:** Box system, Online delivery
SSC type: Open farm	**SSC type: Points of sale (POS)**
Traditional: Store at the farmyard, "pick-your-own", rural catering **Modern:** Community Supported Agriculture	**Traditional:** Marketplace, fair, temporary relocation **Modern:** Farmers market, feast, farm shop in settlement, vending machine

Source: SFC2014 Short supply chain thematic sub-programme, DRAFT, 2014

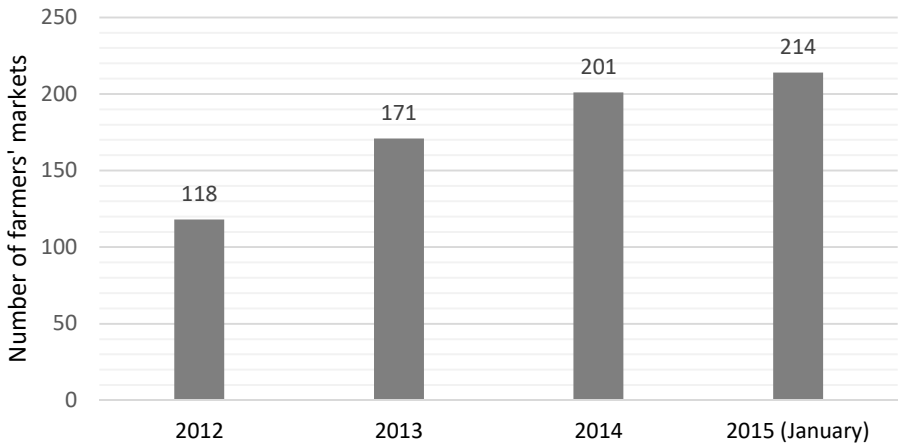
Farmers' markets in Hungary

Classification of markets should be based on SSC sales types taking into consideration recent types of food retail and the characteristics of supply chains as well:

- Traditional (permanent) markets: are usually bigger in size, roofed, hall-like markets, that can be open-air or half roofed or a combination of these. Vendors and producers are organized miscellaneously, more or less separated or in a well separated manner.
- Modern farmers' markets: are generally temporary or permanent markets, where solely producers are selling their own produces. These markets are mainly but not necessarily operating according to the legislation entered into force in 2012 regarding farmers' markets.[15]

Data regarding famers market per each county is being collected by the NÉBIH since 2012. Changes in the number of markets between 2012 and 2015 are demonstrated on Figure 1 and the dynamic increasing of this market types can be clearly observed. While 118 farmers' markets were registered by the Office in 2012, in January 2015 the number of farmers' markets reached the total of 214 that means an increase by 81%, and possibly further growth can be expected in the future.

Figure 1 Number of markets and distribution by type (2012-2015)



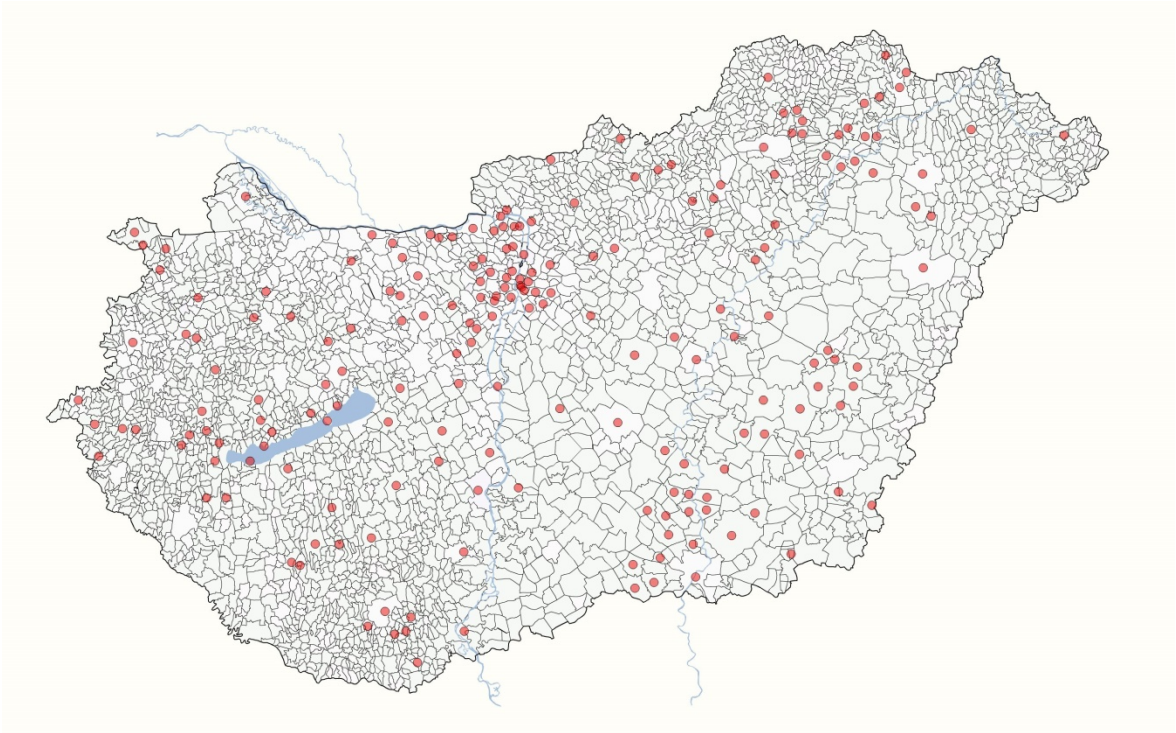
Source: own construction based on the compilation made by NÉBIH (2012-2015)

Information on the location and the distribution of farmers' markets provided by NÉBIH as well. According to the data registered most of the farmers' markets operated in Pest County

[15]This category is defined by the Act CLXIV. of 2005 on trade, what is a legislative category and sales type specifically established for small producers that has not existed before (MA Decree 51/2012. (VI. 8.) on the food safety criteria of trading at local farmers' markets). On local farmers markets exclusively those small producers who are registered and fulfil the requirements of the Decree 52/2010, besides saling has to be located in the county of the farm or within a 40 km range, or in Budapest.

and in Budapest at the time of analysis. 25% of all local markets were found in the region of Central Hungary, what was followed by Csongrád County with the number of 22 markets. In Komárom-Esztergom County 15, in Borsod and Békés Counties 14-14 farmers' markets were operating in the examined period. At the beginning of 2015 there was only one market of this kind in the area of Hajdú-Bihar County. Nógrád, Jász-Nagykun-Szolnok, Bács-Kiskun and Győr-Moson-Sopron Counties did not abound in farmers' markets either with the number of two, three and five markets. Remaining Counties are ranked in the middle with a market number between six and twelve. The location of farmers' markets in Hungary are illustrated in Figure 2.

Figure 2 The location of farmers' markets in Hungary (2015)



Source: own construction based on the compilation made by NÉBIH (2015).
Created with GEO Market

Information on closed farmers' markets is not available at the moment. Thus further research is needed for the determination of the actual number of functioning farmers' markets.

THE CRITERIA OF SITE SELECTION FOR FARMERS' MARKETS: EXPERIENCES IN THE UNITED STATES

The available scientific literature regarding farmers' markets is concentrated in the United States as well as it means an enormous amount of publications including research studies, surveys, and also manuals for market organizers and producers. At the same time, only a few

of these publications deal exclusively with market site selection as well as its measurability, however its importance is emphasized by almost all studies. Unfortunately, relevant scientific literature in Europe (written in English) is lacking, therefore appropriate comparison of Hungarian and European circumstances is not achievable.

According to Lohr et al. (2011) the most competitive zones are in the urban areas. The competition for producers in urban areas is greater than the competition for consumers, as vendors have to travel more to reach farmers' markets than consumers.

Although producers cannot definitely reach higher sale prices in urban areas, the number of customers circulating is higher than in rural areas that means a strong motivation for vendors to expend time on selling at a market.

During site selection and planning of actuation, opening hours that differ from opening hours of nearby markets, establishment of unique marketing aspects, focusing on the characteristics of the site such as parks, environment, nearby retailers offering goods that can supplement the supply of the market, are all remarkable factors that can help to make the market more appealing for consumers.

According to the opinion of the Northeast Organic Farming Association (2009) it is of key importance to find the best place for a farmers' market regarding the success of the market. The Association recommended fifteen different aspects to think about, and supporting questions were provided for the organizers as well.

A handbook was prepared by Jolly in 2005 for launching new farmers' markets, wherein site selection was highlighted also. Criteria that were considered to be significant regarding site selection of markets were described similarly to the previously mentioned studies. Factors that were listed by Jolly were all explained based on the author's experiences.

Vance Corum (2009), as an experienced market organizer, in respect of site selection of famers' markets concluded that a good farmers' market creates a sense of place. Corum created a toolkit for the evaluation of the site selection (Site Evaluation Tool = SET). SET offers an analysis with 16 factors that helps to focus on the relative strengths and weaknesses of all sites. Thus it hopefully leads to a consultation between stakeholders involved in the establishment of the market that results in a successful site selection. It is important to mention that the tool was applied as an incentive, supporting decision making, rather than a perfect analysing tool. Factors displayed in Table 2 were taken into consideration and were ranked by the assigned values; they also made the comparison of potential sites possible. According to Corum, the extent of the scores is debatable since only one expert is not enough to evaluate objectively the criteria influencing markets' site selection. The aim is to achieve

community decision making that is supported by the set of criteria decision and the weights applied.

Table 2 Factors influencing the site selection of farmers' markets according to Corum (2008)

Criteria	Maximum points
Visibility (Traffic)	18
Parking	12
Signage Potential	10
Permanence	10
Size (Expansion Potential)	8
Business Proximity	7
Cost (Site/Security/Insurance)	7
Weather Protection	6
Vehicle Access	4
Slope & Surface	4
Aesthetics/Atmosphere	3
Public Transport	3
Restrooms	2
Facilities (Water/Elec/Recy)	2
Storage	2
Landmark	2
TOTAL	**100**

Source: own construction based on Corum (2008)

On the whole, it can be concluded that the elaborated criteria system, that was based on the set of criteria established in the United States, considered mainly similar aspects regarding site selection of farmers' markets. Factors considered are as follows: accessibility, public transport, parking, permanence, distance from the closest retail zone, restrooms, facilities, community places, atmosphere, environment, weather protection, visibility.

Description of the adapted study

The system was built up by Matthew Peters (2008) based on his own research, that focuses particularly on the measurability of markets' site selection. Peters took the results of Vance Corum as a basis and created a multidimensional criteria system similar to the one set up by Corum. Instead of a scoring system, Peters applied a method that included, in case of each criterion, the comparison of relative high and low values and the appropriate answers were standardised in all fields. Then criteria were weighted based on the ranking of experts of farmers' market involved in the work. All participants had to share 100 scores among the criteria regarding their importance. Thus the criterion that was proven to be the most important got the highest score. Answers were averaged and each factor was weighted with those values. Three different weight systems were designed and those were representing the

interest of different actors (organizers, vendors, customers). Besides, a standardised weight system was applied, where each group was represented equally.

Based on Peters' research results, concerning the opinion of market organizers the most important criteria of farmers' market site selection were ability to stay at site in the future and rent for the site. Farmers put in the first place the long term ability of markets and the second most important condition was the level of residential density. The highest scores were given to the parking with a 2-hour limit and the size of farmers' market by customers (Tab. 3).

Table 3 Averaged Criteria Weights by Peters (2008)

		Market Organizer	Farmer	Customer	Together
Locational	Distance from Formers Farmers Market Site	5,2	3,8	5,0	4,6
	Distance to Neighbourhood Retail Core	3,6	3,3	6,8	4,6
	Distance to Community Landmark	2,3	1,5	3,5	2,4
	Residential Density	5,2	7,9	4,4	5,8
	Traffic Intensity	3,6	3,3	2,3	3,1
	Transit Accessibility	3,6	0,9	4,1	2,9
	Bike Parking	1,1	0,4	3,0	1,5
	Parking with 2 hr limit	4,5	6,0	10,4	7,0
	Pay for Parking	2,9	2,0	4,6	3,2
	Nearby Sidewalks	2,9	1,3	5,3	3,1
	Availability of off-site parking for farmers	3,9	6,1	0,4	3,4
	Visibility	5,0	7,1	4,2	5,5
Physical	Size	6,6	5,9	8,3	6,9
	Layout of Market	0,0	0,0	0,0	0,0
	Surface Condition	5,5	4,9	3,6	4,7
	Grade	4,1	4,6	3,3	4,0
	Number of possible entrances	1,4	2,0	3,9	2,4
	Public Restrooms	3,0	2,9	4,4	3,5
	Covered Area	2,7	5,1	3,7	3,8
	Shaded Area	2,9	4,2	4,2	3,8
	Electricity	3,8	4,8	1,5	3,3
	Lights for night	2,2	2,7	2,1	2,3
	Storage	5,4	0,6	0,0	2,0
Use Agreement	Cost to use site	6,8	5,3	0,5	4,2
	Ability to stay at site into the future	8,0	9,2	4,2	7,1
	Days/Time available for use	4,0	4,2	6,3	4,8
	Total	**100**	**100**	**100**	**100**

Source: own construction based on Peters (2008)

ELABORATION OF SITE SELECTION CRITERIA FOR HUNGARY

Site selection criteria of farmers' markets were divided into six categories. The determined six categories are as follows: location, accessibility, parking, arrangement, infrastructure, land-

use. For the determination of factors, Peters' definitions were used as starting points that were provided to the participants during the preliminary online evaluation (Tab. 4).

Table 4 Description of the criteria analysed by experts

Dimensions	Criteria	Description
I. Location	1. Distance from the Closest Farmers' Market Site	The measurement of the distance of current farmers' market site from the closest (farmers') market, expressed in mile.
	2. Distance from the Closest Retail Centre	The measurement of the distance of current farmers' market site from the closest community business district, expressed in mile.
	3. Distance from Community Places/Public Spaces	The measurement of the distance of site from well known community places, expressed in mile
	4. Visibility	Total number of streets that lead directly to the market (or where there is open space or a parking lot between the street and the market).
	5. Population Density	This criterion is the measurement of the number of people living within 500 meters of the farmers' market site.
II. Accessibility	1. Traffic Intensity	This criterion is measured by counting the number of daily trips travelled on arterials within a quarter-mile of the site.
	2. Accessibility by Public Transport	The number of public transport routs (tram, bus, metro, train, etc.) stopping in a one-hour course within a radius of 200 meters during the opening hours of the market.
	3. Bike Parking	The number of spaces in bike racks adjacent or onsite.
	4. Nearby Sidewalks	The measurement of the percentage of the blocks within a radius of an eighth of a mile that have sidewalks.
III. Parking	1. Free parking with a 2 hr limit	The number of street parking spots within a radius of an eighth of a mile with a time limit of two hours or shorter that is free to use.
	2. The extent of nearby parking fees	The number of parking spots within a radius of an eighth of a mile where the user must pay for parking.
	3. Available off-site parking for farmers	This criterion is a measurement of the area available for farmers to park vehicles off-site.
IV. Arrangement	1. Size	The size of the market place, expressed in square meters.
	2. Layout of Market	No adequate measurement has been established for this criterion. While it was deemed to be an important factor in evaluating the site through the result of the weighting exercise, this criterion has been omitted from the site selection calculations.
	3. Slope	This criterion is the degree of the gradient of the site. The classification is as follows: class 0 is for a steep slope. Class 1 is for a moderate incline. Class 2 is for a slight slope. Class 3 is for a flat or fairly flat site.
	4. Possible Entrances	This criterion measures the flexibility of the site to accommodate different entrance options. This criterion is used to measure the flexibility experienced by customers regarding entering and exiting the market.
	5. Covered Area	The size of the permanently covered area, expressed in square meters
	6. Shaded Area	The size of the shaded area, expressed in square meters, on the days when the sun is the highest.

Table 4 (continued)

Dimensions	Criteria	Description
V. Infrastructure	1. Public Restrooms	This criterion accounts for restrooms are available for vendors and for the general public within 30 m of the site.
	2. Electricity	The number of plugs available for vendors.
	3. Lights for night	This criterion tracks the range of lighting present on the site for night use.
	4. Surface Condition	This criterion is the rating of the type of surface of the site where the market will be located. The quality of the surface must be placed on the following scale: 0 – Soil, 3 – Gravel with an uneven surface, 4 – Grass, 6 – Asphalt with an uneven surface, 8 – Gravel with an even surface, 10 – Asphalt with an even surface.
	5. Storage	The size of the area of available storage on the site.
VI. Land-use	1. Costs of rental	This criterion is the measurement of daily rental costs, expressed in HUF.
	2. Ability to stay at site into the future	The number of years of operation at a given place (the measurement of the length of the initial lease, plus the length of the first renewal option).
	3. Opening Hours (Availability for Use)	This criterion is the number of days during which the site is available for use during desired market times, which includes preparation and take down requirements.

Source: own construction based on Peters (2008)

RESULTS

Regarding the evaluation of each criterion there was consensus among participants in all groups. Scores given by the four working group and scores from the preliminary individual evaluation were averaged and the results are detailed in Table 5. Since it became clear that multiple averaging is not a suitable method for obtaining the definite weights, results represented in this paper are not considered to be ultimate, but can be interpreted as partial results of the workshop.

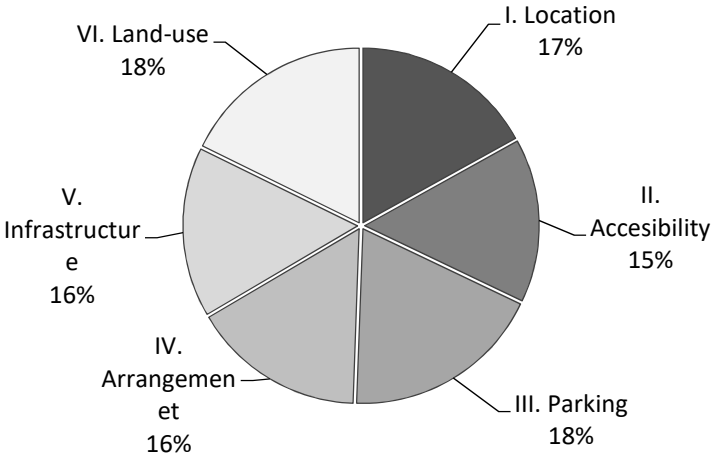
Criteria related to parking were adjudicated to be the most remarkable expectation, with an average value of 8.7, by experts. It was followed by the dimension of land-use (average: 7.7), then requirements related to location (average: 7.4). Factors related to arrangement of the market were fourth in the row (average: 7.0), aspects of infrastructure and accessibility with the average of 6.9 and 6.6, respectively, came last. If aspects of actors are examined separately results slightly differing from average values are obtained. Regarding the viewpoint of market organizers, dimension of land-use was determined to be the most

important with an average value of 8.9. It was followed by factors of parking and location. In this case the most irrelevant criterion was the accessibility, with an average score of 6.5. With respect to the viewpoint of producers, the most substantial factor was parking (average: 8.7), however land-use – that involves opening hours and ability to stay at site in the future as well – gained similarly high ratings from experts (average: 8.4). Accessibility seemed to be the most negligible set of criteria, like in the case of market organizers. It received not more than 5.8 scores. At the same time, regarding aspects of customers, this dimension was evaluated to be the most important together with factors of parking. The lowest score was given to infrastructure, in average (Tab. 5).

Table 5 Average scores given by workgroup

Criteria		Actors			Altogether			
		Market Organizer	Farmer	Customer	Average	Min	Max	Dev.
I. Location	1.	7,6	8,1	7,2	7,6	2,7	10,0	1,7
	2.	6,5	6,0	7,3	6,6	0,0	10,0	2,4
	3.	7,6	7,5	7,8	7,6	2,7	10,0	2,2
	4.	8,2	7,9	8,1	8,0	2,3	10,0	1,7
	5.	7,9	7,5	5,6	7,0	3,0	9,0	1,4
Location - average		**7,54**	**7,5**	**7,4**	**7,2**	**7,4**	**2,5**	**2,5**
II. Vehicle access	1.	6,6	7,1	7,0	6,9	2,7	9,3	1,7
	2.	7,6	6,0	8,5	7,4	2,0	10,0	1,9
	3.	5,5	4,4	6,9	5,6	1,7	10,0	2,1
	4.	6,3	5,8	7,7	6,6	2,3	10,0	1,9
Vehicle access - average		**6,51**	**6,5**	**5,8**	**7,5**	**6,6**	**2,2**	**2,2**
III. Parking	1.	8,5	8,9	9,0	8,8	3,0	10,0	1,6
	2.	7,7	8,4	8,3	8,1	2,7	10,0	1,7
	3.	8,3	9,0	4,7	7,3	0,0	10,0	2,2
Parking - average		**8,14**	**8,1**	**8,7**	**7,4**	**8,1**	**2,7**	**2,7**
IV. Arrangement	1.	8,0	7,5	8,0	7,8	2,7	10,0	1,8
	2.	6,5	7,1	6,4	6,7	1,7	10,0	2,3
	3.	7,1	7,1	6,8	7,0	1,0	10,0	2,2
	4.	6,1	6,1	6,4	6,2	1,0	10,0	2,6
	5.	6,8	7,5	7,1	7,1	0,0	10,0	2,8
	6.	6,7	8,3	7,4	7,5	3,0	10,0	1,8
Arrangement - average		**6,86**	**6,9**	**7,3**	**7,0**	**7,0**	**2,8**	**2,8**
V. Infrastructure	1.	8,6	9,1	7,7	8,4	3,0	10,0	1,8
	2.	8,6	8,6	5,0	7,4	3,0	10,0	1,7
	3.	6,8	6,9	6,8	6,8	0,0	10,0	3,0
	4.	6,8	6,3	7,0	6,7	1,3	10,0	2,2
	5.	5,9	6,0	3,0	5,0	0,0	8,7	2,8
Infrastructure - average		**7,34**	**7,3**	**7,4**	**5,8**	**6,9**	**2,7**	**2,7**
VI. Land-use	1.	8,6	8,4	3,9	6,9	0,0	9,0	2,1
	2.	9,1	8,9	8,0	8,7	3,0	10,0	1,6
	3.	7,4	7,9	7,6	7,6	1,0	10,0	2,2
Land-use - average		**8,36**	**8,4**	**8,4**	**6,5**	**7,8**	**2,8**	**9,2**

Figure 3 Distribution of the evaluated dimensions by the results of scoring (%)



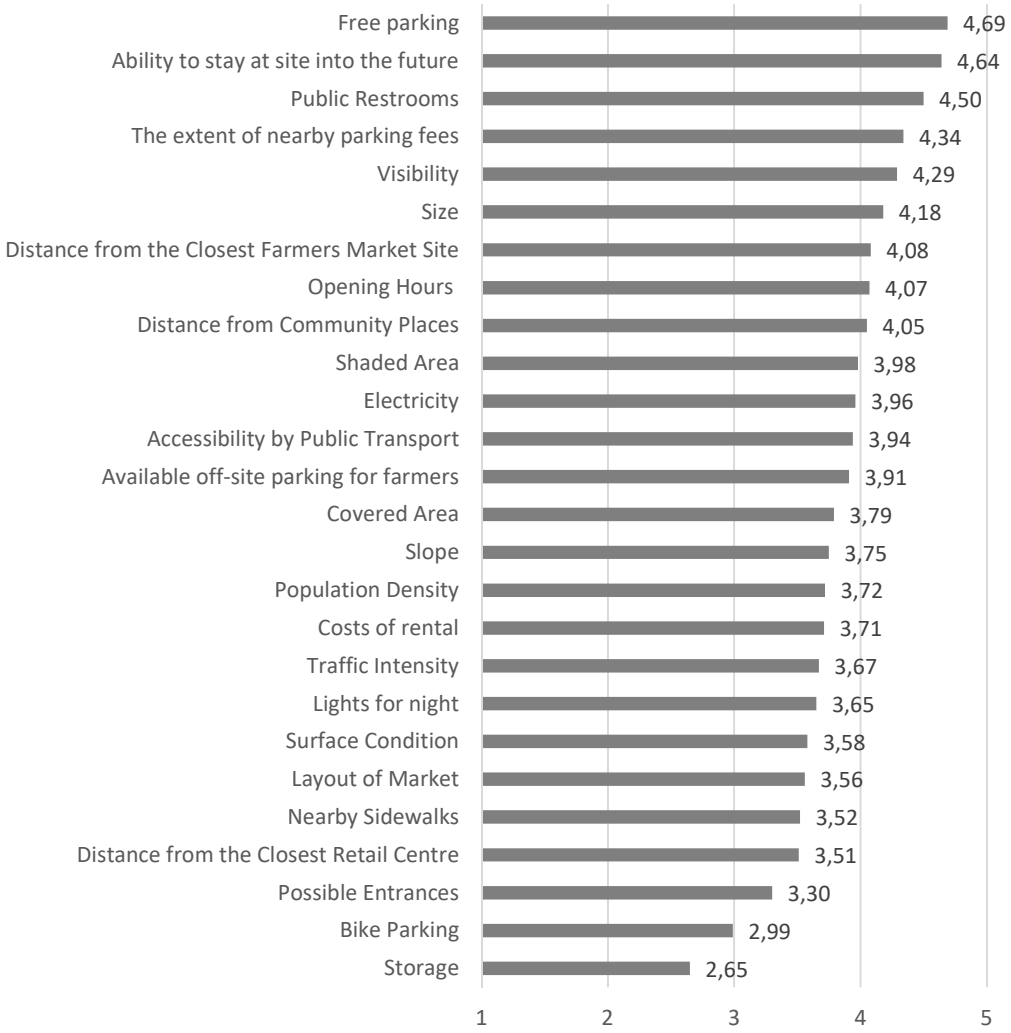
Source: own construction (2015)

In order to obtain (temporarily not final) weights of the analysed criteria, percentage of the average values belonging to criteria was calculated (results of ranking of criteria by the application of the 11-degree scale were not affected).

First of all, the distribution of dimensions was analysed in order to decide which criterion determining the site selection of farmers' market was considered to be the most important by experts, regardless of the number of factors included in each dimension. It can be clearly observed on Figure 3 that the proportion of each dimension was nearly equal. Ranking of dimension did not differ from the results of ranking by scores.

Analysing the criteria one by one, it can be concluded that free parking possibilities were represented with the highest weights that was followed by the ability to stay at site into the future. Remarkable factors were the presence of restrooms and extent of parking fees also. Besides, the visibility and size of the market, the distance from other farmers' market, furthermore opening hours (availability) and the distance from community places participated in the criteria system with a proportion higher than 4%. The lowest scores were given to storage and bike parking (Fig. 4).

Figure 4 Weight of criteria influencing site selection, in the order of importance



Source: own construction (2015)

Regarding aspects of the three accentuated actor of the farmers' market sales different factors were rated to be relevant by the experts. The most emphasized interest of market organizers was the ability to stay at site into the future. Infrastructure (electricity, restrooms) came after, followed by rental fee and parking possibilities. Weighting of the most valuable criteria by producers showed similarities to the previous ranking. In this case accessibility of restrooms, parking possibilities and the permanence of the market were at the forefront. Evaluating criteria from the viewpoint of customers, parking, public transport, and visibility scored the highest values however the ability to stay at site into the future received higher ratings also (Tab. 6).

Table 6 Weights related to criteria influencing farmers' market site selection regarding aspects of stakeholders

Criteria		Actors		
		Market Organizer	**Farmer**	**Customer**
I. Location	1.	4,0	4,2	4,0
	2.	3,4	3,1	4,1
	3.	4,0	3,9	4,4
	4.	4,3	4,1	4,5
	5.	4,1	3,9	3,1
II. Accessibility	1.	3,5	3,7	3,9
	2.	4,0	3,1	4,8
	3.	2,9	2,3	3,9
	4.	3,3	3,0	4,3
III. Parking	1.	4,4	4,6	5,0
	2.	4,0	4,4	4,7
	3.	4,3	4,7	2,7
IV. Arrangement	1.	4,2	3,9	4,5
	2.	3,4	3,7	3,6
	3.	3,7	3,7	3,8
	4.	3,2	3,2	3,6
	5.	3,5	3,9	3,9
	6.	3,5	4,3	4,2
V. Infrastructure	1.	4,5	4,7	4,3
	2.	4,5	4,5	2,8
	3.	3,6	3,6	3,8
	4.	3,5	3,3	3,9
	5.	3,1	3,1	1,7
VI. Land-use	1.	4,5	4,4	2,2
	2.	4,8	4,6	4,5
	3.	3,9	4,1	4,3
Total		**100**	**100**	**100**

Source: own construction (2015)

Differences between Hungarian and North American weights of the criteria

Priorities of criteria are different between the two examined countries especially with regard to customers' opinion. Hungarian shoppers emphasize the availability of markets; the North American customers rather vote for the supply. Farmers in Hungary gave more points for convenience aspects than North American farmers who emphasized demand factors. Market organizers have similar views about site selection criteria: the most important circumstance is the sustainability (Tab. 7).

Table 7 Differences between Hungarian and North American weights of criteria that were selected to be the most important

	NORTH AMERICA			HUNGARY		
	Market Organizer	**Farmer**	**Customer**	**Market Organizer**	**Farmer**	**Customer**
1.	Ability to stay at site into the future	Ability to stay at site into the future	Free parking with 2 hr limit	Ability to stay at site into the future	Public Restrooms	Free parking with a 2 hr limit
2.	Cost to use site	Residential Density	Size	Electricity	Available off-site parking for farmers	Accessibility by Public Transport
3.	Size	Visibility	Distance to Neighbourhood Retail Core	Cost to use site	Ability to stay at site into the future	The extent of nearby parking fees

Source: own construction based on Peters (2008) and own survey (2014)

Suggestions regarding the measurability of site selection

At the end of the workshop, criteria not included in the original study - however they have notable effect in Hungary - were discussed by all four working groups, and further remarks were summarized regarding Peters' methodology.

The ultimate aim is to have farmers' markets that meet the demand of all three actors. According to this, it was considered to be questionable to evaluate the criteria from the three aspects, separately.

It was mentioned as a critique that the analysis of the population density is not adequate enough to map spending power. It is necessary to analyse demographic features, i.e. a more sophisticated survey is needed regarding potential customers than it was elaborated by Peters. In alignment with this the detailed assessment of potential supply of the market is of crucial importance, namely examination of the activity, the product supply and the density of producers is indispensable. Besides, the lack of detailed analysis of solvent demand as a separate dimension was mentioned. It was evaluated as the most important aspect, since it is not independent of the markets' site selection.

In order to achieve that shopping at a farmers' market to be an experience for customers, ensuring public security is required, what was not mentioned in the original study, either. There was no consensus regarding the surface conditions, slope, and lights for night factors. One part of the participants considered these criteria as important factors of a sustainably operating farmers' market; however the other part of the experts rated these factors as irrelevant ones.

Although differences between criteria of site selection that are important for sustainability of a market in Budapest and/or in the countryside were discussed, the working group was not able to determine a measurable factor as a solution.

According to the success of the Hungarian farmers' markets, tourism is a relevant factor that can be measurable by the number overnight stays, the extent of paid taxes on tourism and/or the distance from highlighted touristic spectacles.

As an important additional factor, distance from municipal markets also (not only the distance from other farmers' markets) were mentioned. Furthermore, frequency of opening hours should be divided into two sections, the seasonality should be taken into consideration as well. There are markets that operate only during a specific period of time, however, it does not mean that those markets are not sustainable.

CONCLUSION

Present study described the first step of the elaboration of a methodology that aims to make site selection of farmers' market measurable and also aims to provide a method for the comparison of potential sites. During the adaption of a method that was successfully applied in Washington State of United states of America, competent experts analysed and evaluated the criteria of appropriate site selection, in the frame of a workshop. There was consensus among participants regarding evaluation of each criterion, besides, experts agreed on the criteria that were not analysed by the original study however they have notable significance in Hungary. Hereafter, an appropriate statistical methodology has to be applied for the evaluation of scoring made by the competent experts, to reflect as accurately as possible the measured factors. Furthermore, statistical data related to the newly added factors have to be mapped and collected.

The next step to review the modified criteria system and its evaluation by the experts involved, than applicability of the finalized procedure will be tested by the assessment of existing farmers' markets. If critical points will be identified further optimization will be carried out until the goals are achieved.

It can be concluded that the underlying principles of a methodology suitable for supporting policy decision making were successfully determined, and it can definitely increase possibility of sustainable operation of farmers' markets.

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Original scientific paper

THE MAJOR TRENDS OF FOOD CONSUMPTION IN HUNGARY

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Abstract

In the beginning of the 20th century the food consumption levels were much lower than later in the century, when food production increased as well. The selection of foodstuffs became wider and we can observe the modernisation of nutrition principles too, which both had a positive impact on consumption. The variety of food was also affected by the increasing life expectancy. The emergence of more modern ways in food consumption is halted not only by the traditions but by the fact that healthier foods are more expensive than fat or cereal prices. There is a significant correlation between the income levels and the quality of consumed food, as it can be observed that in different regions in Hungary. My aim was also to investigate the change in consumer behaviour in parallel with the increase of income levels; to see which sort of foods are preferred by the wealthier, and which are preferred by the ones with less income. It is also important to analyse the economic and social indicators on regional and other spatial levels and to compare them with food consumption. The annual net income per capita is usually higher in more developed regions than in the less developed ones. Therefore, the expenditure spent on better quality and more expensive food products is also higher. Similarly, in the case of the population there are differences in consumer habits according to purchasing power. For instance, for people with higher income one of the most important factors is to buy healthy and high quality food, but for the ones with lower income it can be a struggle only to find food in sufficient quantities, and quality cannot be as much of an issue. In the consumer basket, foodstuff accounts for approximately one-third of the overall expenditure. In this study I analysed the annual expenditure of Hungary's population on foodstuffs and the annual quantity of food consumed by households per capita on a regional level between 2010 and 2013.

Keywords: food consumption, regional territorial levels, food economics goal, structure of food consumption

INTRODUCTION

During the 20th century the Hungarian agricultural production was able to satisfy the food demand of the population. Thankfully, the more difficult times lasted for not so long, and after those the consumption levels rose to the previous levels, or even higher. At the beginning of the last century food consumption levels was significantly lower than later, as production levels increased throughout the century. The selection of food increased also and the principles of food consumption became more and more modern. The structure of food consumption was influenced by the growing average life expectancy as well. But the modernisation of consumption habits were hindered by traditions and the fact that healthier foods are more expensive as well There is a significant correlation between the income levels

and the quality of consumed food. Within the domestic average the expenditure on food varied widely based on the income levels. From the 1960s the rapidly increasing production allowed higher consumption levels, which was even higher than the average of other European countries. However, the structure of consumption was still not optimal in every way.

After 1990 agricultural production levels dropped, food prices increased, and the food consumption levels decreased below the 1980s levels. On the other hand, the consumption of meat and egg rose to Western-European levels, especially in the case of poultry. It is an unfortunate situation that fish consumption is still below 3 kilograms per capita, despite the fact that Hungary has many lakes and rivers suitable for aquaculture. The role of fruits and vegetables had grown until about 25 years ago, but then it halted. (http://mek.oszk.hu)

The situation and opportunities of food industry in Hungary

Hungary is currently capable of self-sustainment on a 120% level. This level could be increased to 150% which may prove to be a valuable competitive advantage with the predicted rise of global food demand. The country possesses every factor needed to supply its population with domestic products and to increase its food export as well. (National Rural Development Strategy, 2012-2020)

Food industry is important for rural development and local economic development strategies, because

- the Hungarian food industry is the second largest employer among the processing sectors,
- it plays a significant role in providing jobs in rural areas,
- it is especially important for making settlements attractive for families and enterprises,
- to satisfy the local demand small-scale farmers process their own agricultural products (National Rural Development Strategy, 2012-2020)

The importance of food production strategies is increasingly important, since the changes of demand and supply affect food prices, and through that, the choices of consumers as well.

The ratio of food is still high in the expenditure structure of Hungarian households (24%, while the EU average is only 13%). This implies that the purchasing power is limited, and not that the population spends extreme amounts of money on food. Also, the food export –

together with agricultural products – maintained its significant role. The domestic decrease of demand could be balanced out even with the export (Food Industry Strategy, 2014-2020)

On current prices the export revenues in 2004 and 2012 doubled but it was the result mostly of the exchange rate changes, which assumption is supported by the fact that the volume index increased only by 40% in this particular time period. Between 2004 and 2012 the sector was financially loss-making, due to the large debts and therefore the expenditure on repayments (Food Industry Strategy, 2014-2020).

Promoting food industry is a general social policy aim; by exploiting the comparative advantages of the Hungarian food production and agroeconomy they become an important part of European food production. Food industry is a stable and competitive part of the Hungarian agro-sector, which does not only provide safe and secure food, but also contributes to increasing the well-being of the rural population (Food Industry Strategy, 2014-2020).

The national interest of Hungary:

- healthy, safe and reliable supply of the Hungarian population from Hungarian as much Hungarian resources as possible;
- producing the highest possible added value domestically by the optimisation of the food chain, and to improve the situation of the national economy by promoting export;
- preserving the self-sustainment abilities and jobs of rural areas, for example by promoting food-processing, and by developing sustainable food production systems. (Food Industry Strategy, 2014-2020)

MATERIAL AND METHODS

During the process of investigating the topic I used domestic literature (books and scientific papers) to analyse the spatial economic trends of rural areas and the food industry. My aim was to find out as much as possible about development strategies for rural areas and the food industry. I started my research with the following hypothesis: “The quality food consumption is more typical in the economically more developed areas, while the lagging behind areas, regions quality food consumption is not usual”. The indicators I used were provided by high quality data which I acquired from Hungarian (the Regional Statistical Books, the Hungarian Central Statistical Office (KSH), the Research Institute of Agricultural Economics (AKI), the GFK Hungária research institute), and international sources (Eurostat, OECD studies, other internet sources).

RESULTS

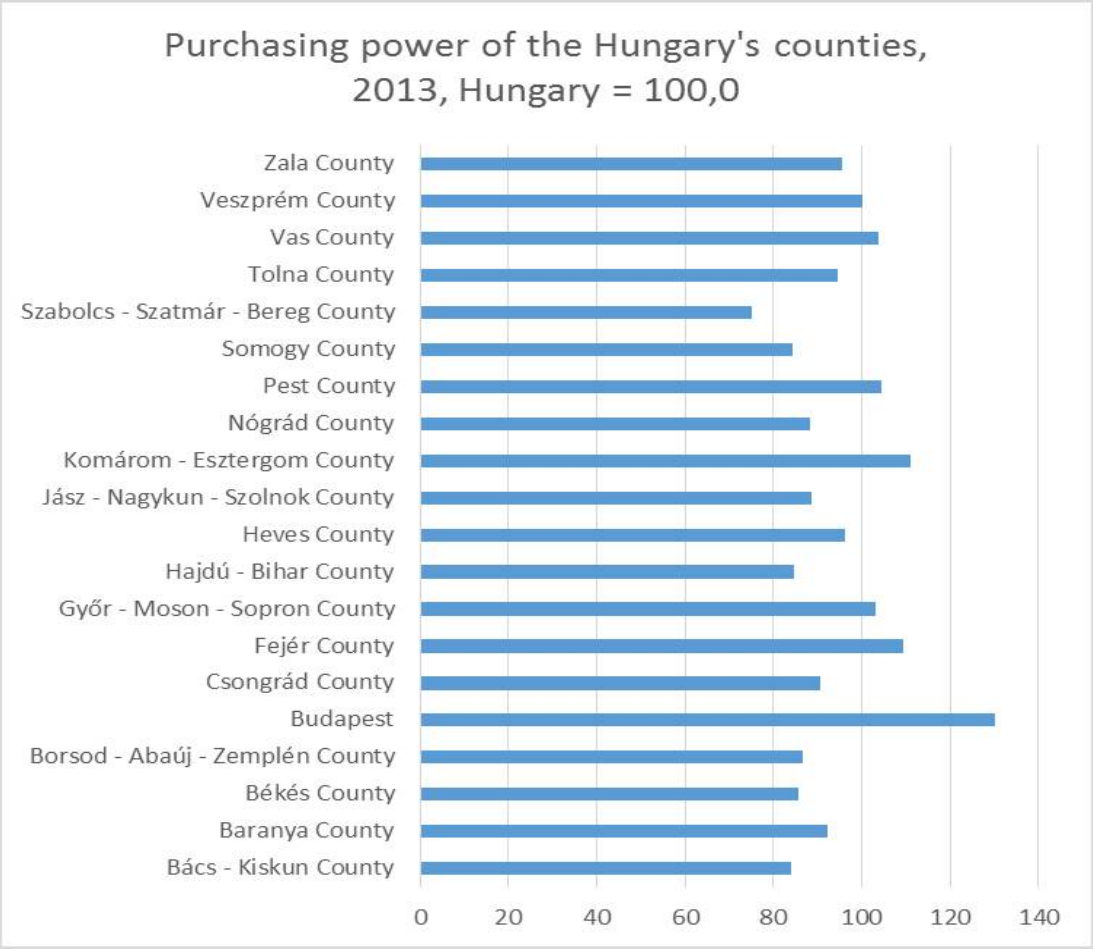
Trends in food consumption

I considered it important to investigate how the food consumption habits change along the changing income levels, and to see which types of food are preferred by the wealthier, and which are consumed by the poorer segments of the population. It is also important to analyse the economic and social indicators on regional and other spatial levels and to compare them with food consumption.

I found that the healthier premium-category food are clearly preferred by the population segment with greater purchasing power.

The net income per capita is higher in more developed counties than in lagging behind ones. This results the fact that the households of these regions spend more on more expensive and valuable food. The main concern of those with lower income is to purchase enough food, the ones with higher income levels deal with a different issue: to buy food not only in sufficient quantity, but with higher added value.

Figure 1 Purchasing power of the Hungary's counties, 2013

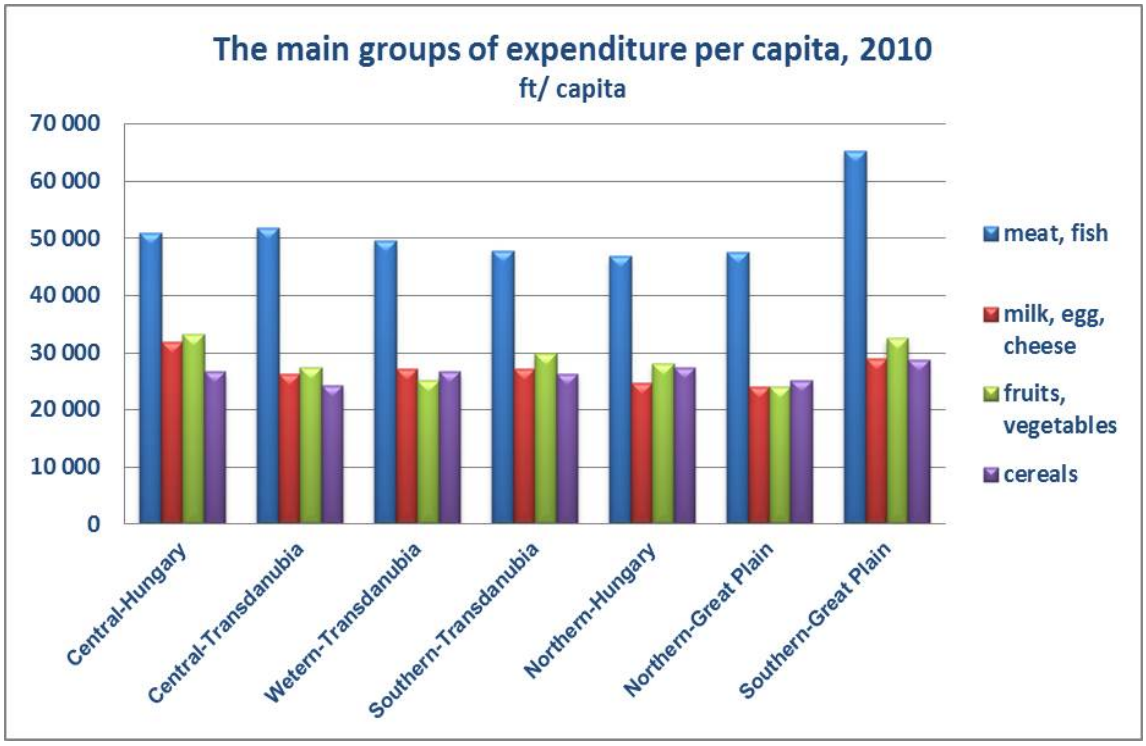


Source: GfK Vásárlóerő Magyarországon, 2013

One of the most important tasks of agriculture is to provide food source on sufficient quality and quantity levels for a country. During the last few years the price level of staple food grew with 100-300% in Hungary. The expenditure on food play and important role in the life of households, and changes in price levels change the structure of the consumer's basket. The expenditure on food among all the goods is approximately one-third. However, life circumstances are affected not only by food prices, but also by the income levels. Consumer behaviour is influenced – beside the previously mentioned factors – by the inflation rate, the price of complementary products and some other micro- and macroeconomic factors (Szigeti, 2012)

In this study I investigated the percentage of income the population spends annually on foodstuffs, as well as the quantity of food consumed by households, per capita, on regional level between 2010 and 2013.

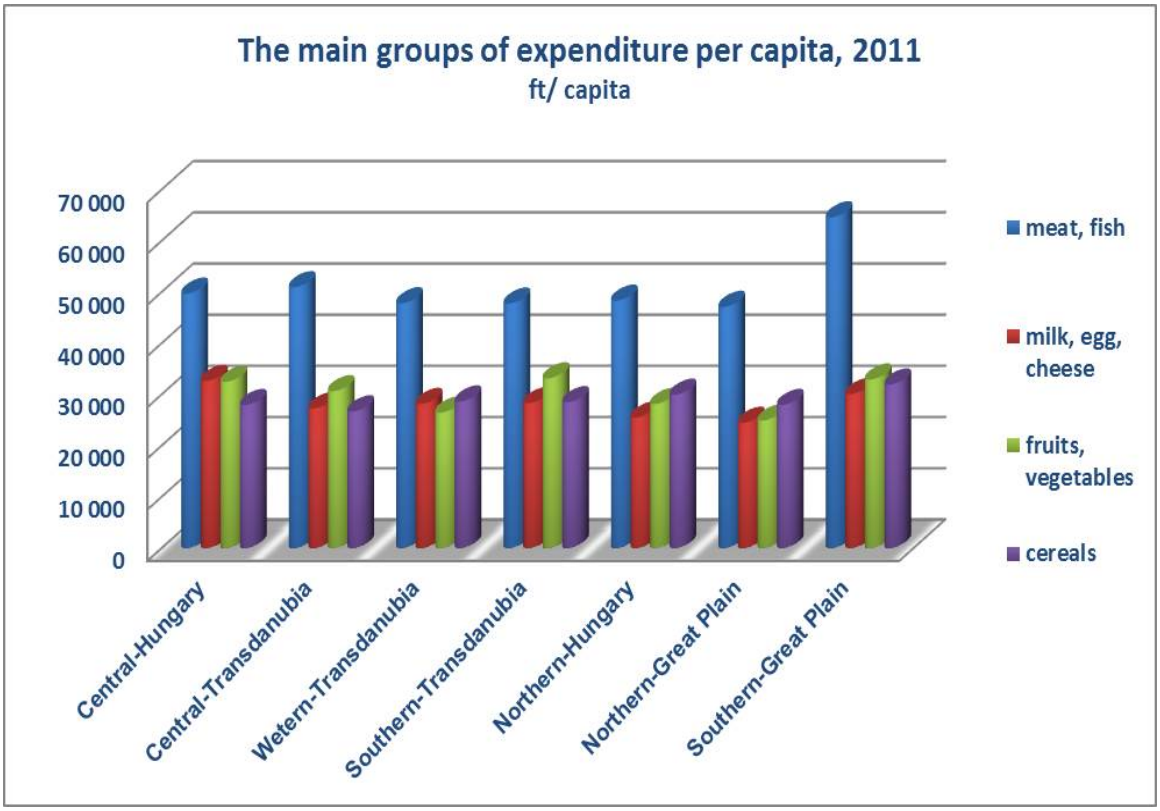
Figure 2 The main groups of expenditure per capita, 2010



Source: *Own editing based on data from Hungarian Central Statistical Office, 2013*

The diagram above (Fig. 2) indicates that in 2010 the expenditure on vegetables and fruits is the highest in Central Hungary and in the Southern Great Plain, which shows a certain indication that people spend more on healthier food in these regions than in others. Compared to earlier years, food consumption increased in Northern Hungary.

Figure 3 The main groups of expenditure per capita, 2011

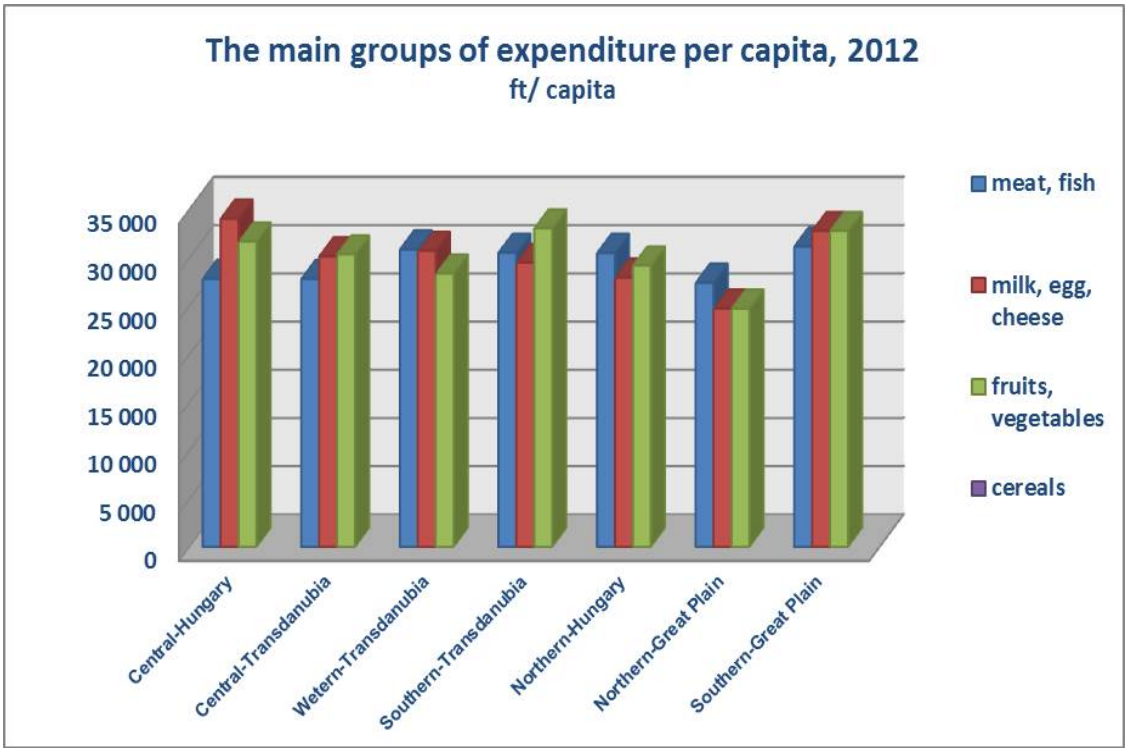


Source: Own editing based on data from Hungarian Central Statistical Office, 2013

The expenditure on meat and fish products is high in the Southern Great Plain (as it is indicated on the diagram above – Fig. 3). Based on the investigation of the data from 2010 and 2011 the expenditure on these goods is high in every other region compared to the rest of the examined products. However, this high level decreased and got really close to the levels other goods by 2012. Regarding to milk, eggs, cheese, fruits, vegetables and cereals we cannot observe significant changes.

When analysing these areas it must be taken into consideration that except for Central Hungary all the regions are convergence regions. It means that in these regions the GDP per capita value is lower than 75% of the average of the EU 25 countries, thus they can be considered lagging behind areas.

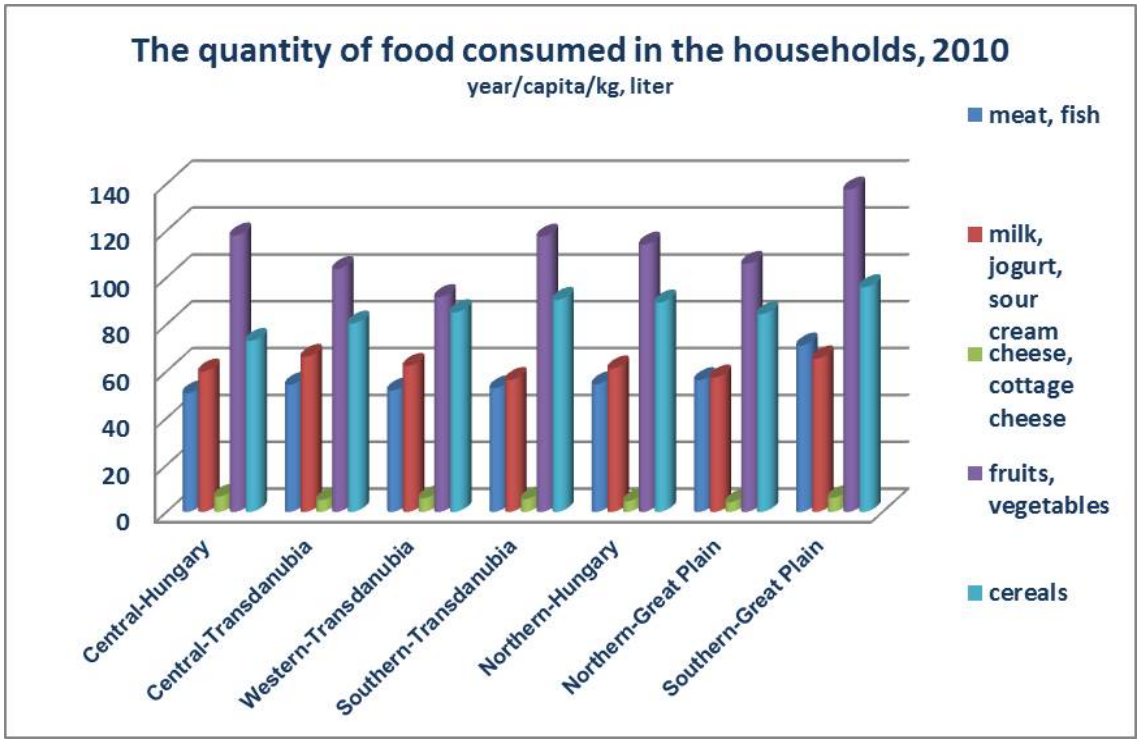
Figure 4 The main groups of expenditure per capita, 2012



Source: Own editing based on data from Hungarian Central Statistical Office, 2013

On the diagrams below we can observe the quantity of food consumed in the households of regions in 2010, 2011 and 2012. We can see that in the households of Northern Hungary the quantity of consumed food is very low in the investigated years, and the results of Central Transdanubia and the Southern Great Plain support the outcomes of my previous analysis. It is clear that in 2010 Central Hungary indicated the lowest level of meat and fish consumption. This value did not change in 2011, but the consumption level of these goods dropped in Western Transdanubia compared to the previous years. The Southern Great Plain produced the highest consumption levels in both years. In 2010, the consumed amount was 71 kg per capita; in 2011 it was 67.8 kg per capita.

Figure 5 The quantity of food consumed in the households, 2010



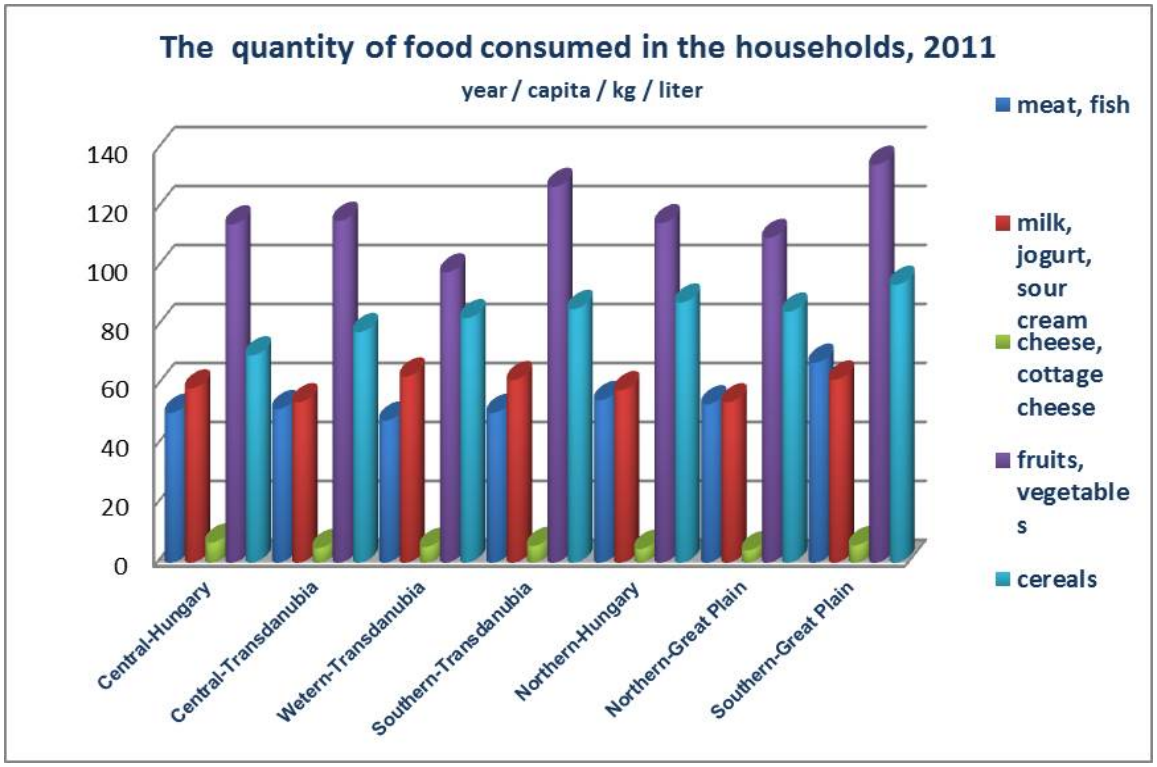
Source: Own editing based on www.ksh.hu

Considering the dairy products the very high consumption (66.2 kg per capita) of the Central Transdanubia region in 2010 shows a 10% drop in the next year.

Fruit and vegetable consumption reflects the importance of health among the population a great deal. Based on this assumption, we can observe that in Western Transdanubia this indicator increased from 91.7% in 2010 to 98.4% in 2011, but compared to other regions this result is low. The highest level of fruit and vegetable consumption can be observed in the Southern Great Plain with 137.6 kg per capita in 2010, and this amount decreased only to a small extent by 2011 (to 134.9 kg per capita).

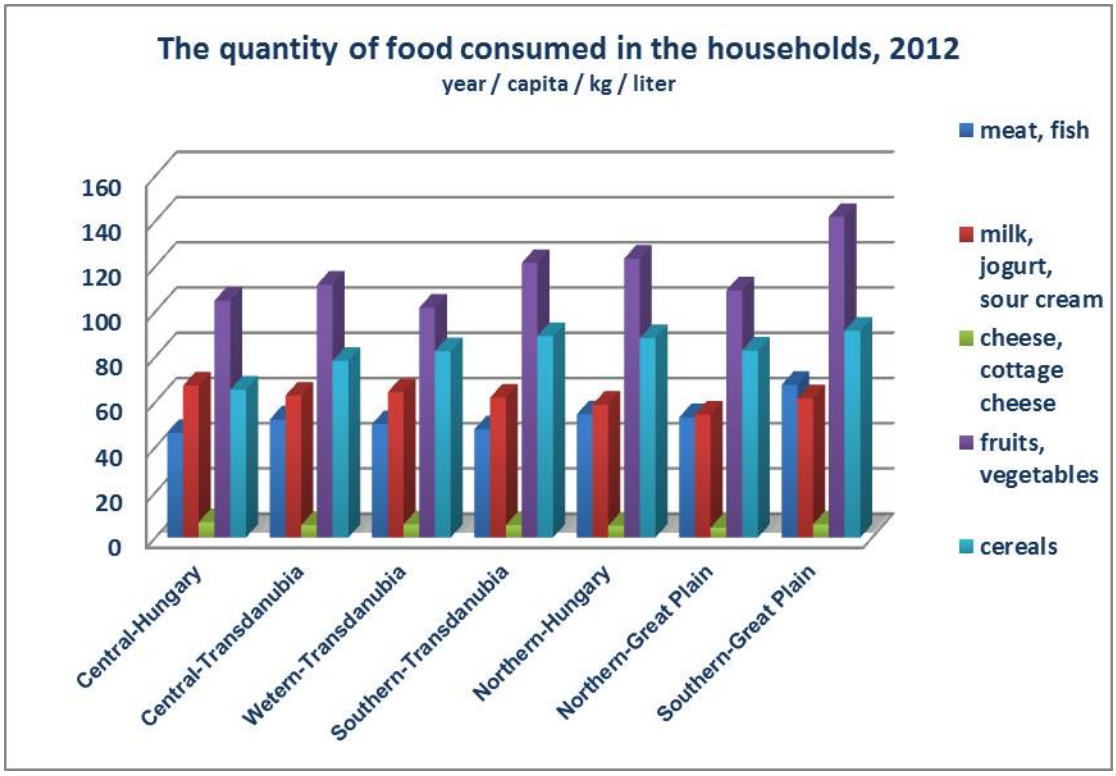
We can observe that in Central Transdanubia the demand for fruits and vegetables is exceptional, and that the consumption value per capita is the highest in the Southern Great Plain which is probably the result of the fact that there is a large transit way going through the region.

Figure 6 The quantity of food consumed in the households, 2011



Source: *Own editing based on data from Hungarian Central Statistical Office, 2013*

Figure 7 The quantity of food consumed in the households, 2012



Source: *Own editing based on data from Hungarian Central Statistical Office, 2013*

Beside the above-mentioned factors, we can analyse food consumption according to education levels and residence as well. These two indicators influence the need for more sustainable and

healthy products. In my opinion household consumption patterns are also affected by general lifestyle, and by the demographic trends in their regions, too.

The production value of the food industry increased with almost 30 percent (on current prices) between 2004 and 2012, although it means an approximately 14% drop when taking the changes of volume. The volume of domestic selling decreased even more, with about 29%.

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Original scientific paper

CONTRADICTIONS OF MEDICAL TOURISM

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Abstract

Industries have to face continuously emerging new trends and challenges worldwide. The former pattern of local bundling techniques cannot seem to be adapted at global measures. The processes of globalisation urgently call for the harmonisation of legislative policies and practices. A good example for this is the current situation of health tourism. In the most rapidly changing industry, development has overcome legislation by far, and unfortunately left policy makers and local stakeholders unable to respond to the new challenges. However, the continuous growing on the demand side forecasts further massive development of the field in the coming decades. My research focuses on this contradictory situation: I try to find out whose responsibility is it to force the creation of a unified legal background: the supply side that offers a wide variety of different services or the rather vulnerable supply side that needs a transparent quality assurance system to be protected.

Keywords: health tourism, international healthcare, medical tourism, silver tourism, patient follow-up

INTRODUCTION

The standard worldwide harmonisation of different national healthcare systems and their quality assessment methods have been considered an unresolved issue for a long time. Similarly, it has been a hot topic of many professional disputes that the provisions and evaluation methods of national public healthcare systems should be made comparable. There is a strong need to develop a common standard that can be used by patients, health insurance companies, social security services and ministries of health globally. Private companies operating in different countries also need to have a comparable standard urgently, because "high tech" medical and health services have overgrown the boundaries of the public sector and become one of the fastest developing business sectors.

In the past 50 years, several excellent examples of healthcare quality standards have been developed that are nowadays used for the comparison of accredited healthcare providers located in different continents. Due to lack of uniform international legislation, stakeholders of the industry use their own local regulations, which are not necessarily compatible with each other. One of the safest healthcare systems is insurance-based service purchase. The most important element of such a system should be that service providers that are able to ensure

long term high quality services are given preference when contacts are concluded. It is obvious today that the former "Western-welfare" healthcare provider systems cannot be solely publicly funded; they need to be operated – at least partially – on market terms or/and by outsourcing (Ben-Natan et al, 2009). Economic experience shows that "the state" is significantly less successful in healthcare management than profit-oriented market actors; due to this fact, there are enormous differences in the quality and accessibility of services offered by public healthcare providers. According to market actors, it is high time that the cost-effectiveness of these services were measured. It is interesting to note that in the case of the most successful healthcare sectors, the role of public bodies has not decreased at all. On the contrary: recent trends show that countries previously known for their not so strictly regulated healthcare system (e.g.: the USA), are starting to handle the sector's public control as a priority. At the same time of the introduction of OBAMACARE, other countries also have to deal with the quality assurance issues of their healthcare systems. The health tourism industry is based on these worldwide health service trends; within the sector, not only national service providers compete with each other, but the whole world has become one giant marketplace.

Within health tourism, medical tourism generally refers to the travel of people to another country for the purpose of obtaining medical treatment abroad. There could be different reasons for travelling abroad for healthcare services. These may include services from the whole public and private spectrum of the healthcare industry, i.e.: health, medical, wellness, spa, wellness and/or holistic services. The most common reasons can be the lower costs of specific treatments, shorter waiting lists or easier accessibility of the required services. The number of medical tourists travelling for such reasons is foreseen to increase exponentially in the near future, and they already represent a significant demand on the market, always seeking the best available services. My research focuses on how legal, warranty, insurance and quality assurance rights of customers can be applied in the environment of international health tourism, where the legal background is different in almost every country especially in the case of public and private institutions.

OBJECTIVES AND METHODS

Summary of related literature

The industry of health tourism is foreseen to grow dynamically in the near future (Aubert & Berki, 2007; Botterill et al., 2013). The measure of impact of tourism is determined by its development level, the types of tourists and by the attitude of local stakeholders (Murphy,

2013). Due to the complexity of health tourism, there is no common international definition of the term (Rulle & Brittner, 2011). Health tourism includes medical, preventive and recreational tourism, where the main motivation is the improvement and/or maintenance of one's health, for which people will obtain health tourism services whilst their stay at the destination (Cassens et al., 2012). Within the frameworks of health tourism, tourist will obtain medical services (e.g. dental treatments, ophthalmological services, plastic surgery, etc.) (Bookman & Bookman, 2007). Due to its impact on healthy lifestyle and health related product groups, the significance of health tourism goes beyond the tourism sector; therefore, the "successfulness" of the country has become more important than ever (Chew, 2010).

Research and analysis methods

My research aims to tackle one of the most topical issues; mostly because in health tourism, the stakeholders (both on the demand and supply side) are regulated by local and national legislation, according to their official location. There are quite few commonly accepted international standards in existence within the industry, except for the regulation of international franchise rights. The fact that a leading international industry like health tourism does not have a common global legislative system may lead to the risk that patients will have no guidelines whilst decision making, and they can be easily misled by "self-appointed counsellors" when problems arise. Unfortunately, there are no uniform guidelines that would inform health tourists about different countries' regulations regarding health service institutions' qualification as private or public providers. What makes the situation often more complicated is that in many cases, private doctors sometimes perform some specific examinations or treatments in public institutions.

My research is based on qualitative analysis, because this method provides space for the independent thoughts and opinion of respondents (Macdonald et al. 2008). Among the numerous qualitative research tools, interviews are one of the most common methods, with semi-structured interviews being the most popular type (DiCicco-Bloom et al. 2006). This method gives an insight into the attitude of respondents towards a specific topic, and it is also an efficient tool to get to know their opinion and impressions. Whilst preparing a semi-structured interview, it is of key importance to choose the most suitable interviewees and questions, because such interviews are to be organised around pre-specified open questions that leave space for further spontaneous ones. Due to lack of uniform international legislation and because the topic of my research requested the summary of personal professional

experiences, my 16 interviews were organised with leading high official tourism professionals and physicians of public and private health institutions. The questions of the interviews focused on the contents of services, the relationship between quality and price, and the demographic characteristics of the demand side. My research aimed to answer questions related to quality assurance in a mixed system of private and public service providers.

RESULTS

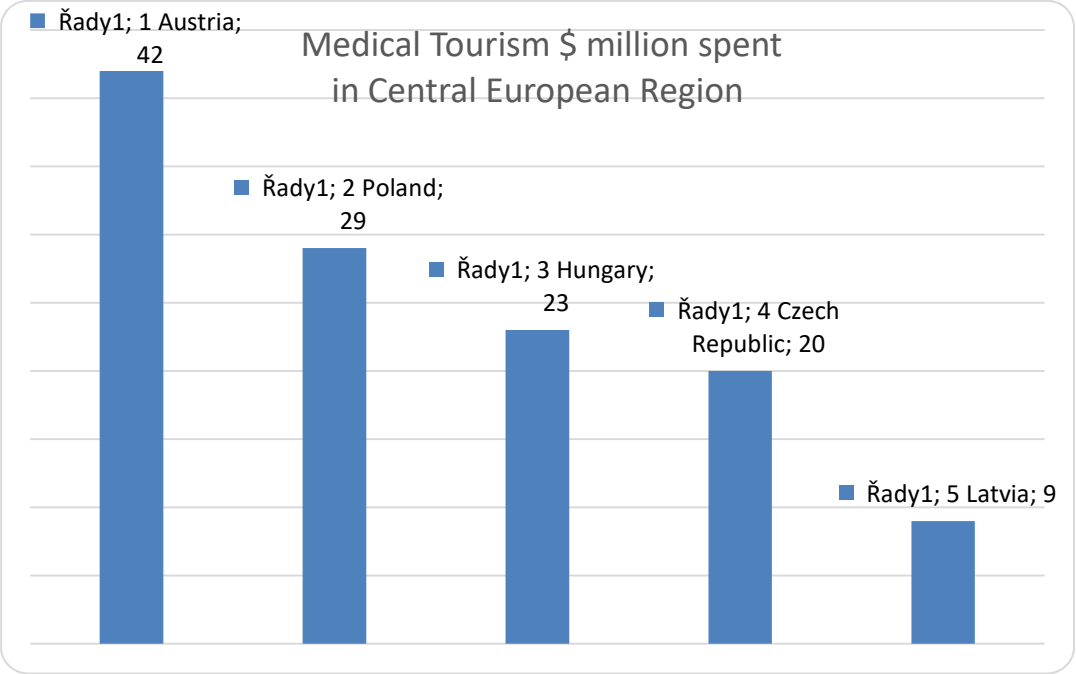
Existing within the frameworks of health tourism, medical tourism refers to such a complex term that there is still no common understanding on where it exactly belongs within the health and/or tourism sector. When referring to the same service, there can be significant differences in the international market and even within domestic markets. What seems to be of common agreement is that medical tourism always includes some kind of medical treatment or service that normally belongs to the health sector. From the aspect of health services, "health tourism" seems to be the correct term, including not medical, but wellness, recreational, rehabilitation services. Taking into account the terminology, this could be true; however, recent trends show that medical tourism service providers have developed mass services in some destinations because some service areas (e.g. Botox treatments) have become more profitable than the traditional infrastructural investments in tourism services themselves. Because the larger profit lies in the medical services instead of tourism developments, investors tend to prefer multifunctional destination development over pure infrastructural investments. Due to the increased competition, existing destinations like international hotel chains started to establish new brands of spa-wellness services operating as franchise systems within their facilities (Six Senses, 2013).

According to the recent statistics of receiving countries, the most popular services within health tourism are orthopaedic surgery, plastic surgery, cardiologic treatments, oncological treatments, dental treatments, reproductive treatments, organ transplantation (Connell, 2006) and gene therapy procedures which often raise legal concern.

The most popular destinations are Thailand, Mexico, Singapore, India, Malaysia, Cuba, Brasilia, Argentina, Costa Rica and Central-eastern European countries. The latter, combined together represent a significant market, mostly due to their unbeatable prices. There is of course a fierce competition for consumers among the destinations that offer high quality services. The huge demand for health tourism services and the intense competition between providers is also reflected in an article by Forbes magazine. According to the journal, in 2013,

40 million U.S. citizens did not have any health insurance, and around 120 million of them lacked dental insurance. In 2012, 1.6 million U.S. citizens obtained health services in health tourism destinations, resulting in a total spending of 35 billion USD.

Figure 1 Central-European medical tourism TOP 5 destination countries



Source: KPMG Counsulting, own edition

In 2007, a study published by Roland Berger Strategy Consultants on European healthcare set out the following strategic objectives for healthcare industry service providers: excellent management, complex product mix, conscious lifestyle development, increased specialisation, measurability of value-for-money, development of independent institutional standards, extension of private institutions, development of joint products in accordance with market demands, inter-institutional mobility. It is clear that in the past decade, traditional healthcare providers did not benefit much from these trends, while health and medical tourism service providers were able to achieve significant results.

The correct definition of the demand side has become a key factor for the stakeholders of the industry, because effective strategic development requires and in-depth knowledge about the characteristics of medical tourists. Medical tourism offers several benefits for service consumers like lower costs or shorter waiting lists.

Medical tourists will expect the services to be at least the same quality or better than in their home country (Horowitz & Rosensweig, 2007; MacReady, 2007). It is commonly agreed

that the majority of medical tourists have experience in health services, and already had some kind of health insurance in the past.

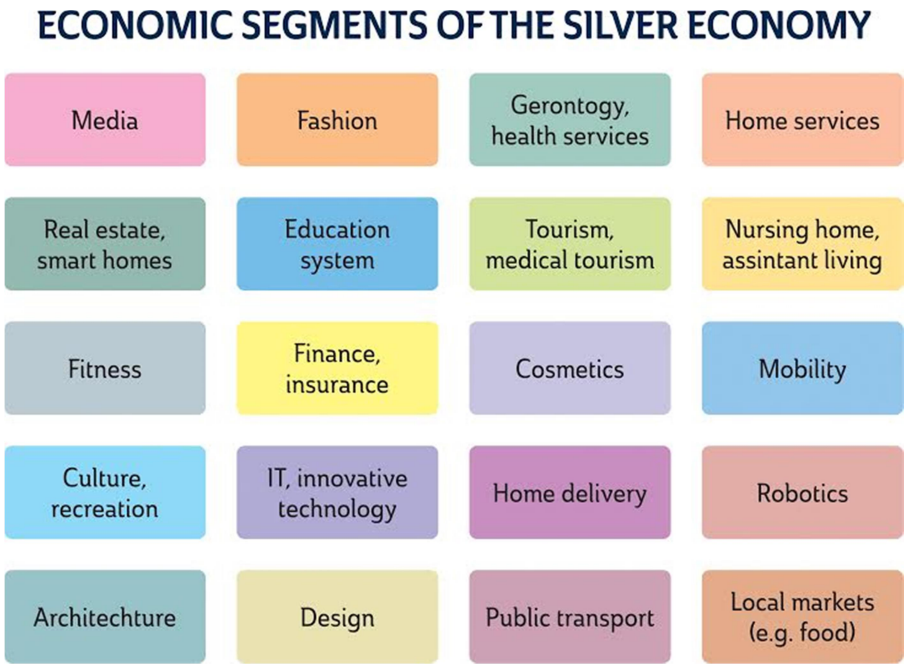
Figure 2 Savings on healthcare services in relation with the price levels of the USA

Country	Estimated savings on healthcare services USA = 100 %
India	65-90%
Malaysia	65-80%
Thailand	50-70%
Turkey	50-65%
Mexico	40-65%
Costa Rica	40-65%
Taiwan	40-65%
Singapore	30-45%
Korea	30-45%
Brazil	25-40%

Source: Devon M. Herrick, own edition

According to research results based on the experience of professionals, the majority of medical tourists belong to the 50+ age group in need of some kind of health services (Public Citizens Health Research Group, n.d.). In Europe, the 50+ age group of the society and its related sector have been already named “silver economy” (Zsarnoczky, 2016a). Silver economy represents an important economic factor that no service provider wants to miss out on. According to demographic data, the number of senior citizens is not only increasing, but due to less physical stress and the effects of social welfare, the ratio of old people will also grow within the group of senior citizens – in the Far East, the “Methuselah” (95+) age group already represents a clearly measurable demographic segment.

Figure 3 Segments of the silver economy



Source: Zsarnoczky, M (2016b)

Previously, marketing professionals misunderstood the characteristics of the sector and thought of it as a homogenous group. The members of the silver economy who use the services of silver tourism have secured income resources and can afford healthcare services related to tourism.

General characteristics of silver tourists (Zsarnoczky, 2016c);

- they have sufficient discretionary income,
- based on demographic data, the majority of silver tourists are women,
- safety is a priority for them, they avoid disaster areas,
- they have more free time, thus they are willing to travel at any season of the year,
- they can and are willing to extend the length of their stay, even at multiple times,
- they belong to the group of 'curious tourists',
- they need more communication,
- they are willing to buy medical and recreational services,
- when choosing their means of transport, accessibility is more important than the type of vehicle,
- Europe is their priority destination.

Today, based on market demands, several intermediating companies operate between service providers and patients/tourists (Mintel, 2013). The competition on the supply side is

fierce, with all interested parties willing to benefit from their own advantage. Due to the fact that a huge expansion is foreseen both on the demand and supply side, there is a strong need to develop a unified international standards system. Such an up-to-date standardised system should serve as the basis of a mandatory health service accreditation system. The introduction of a healthcare accreditation system could be an excellent tool of ensuring transparency and security within the sector. Currently, there are several different standards existing on the healthcare market; the introduction of any of them as an international standard would have many positive effects. The development of international healthcare standards – similarly to many successful bottom-up incentives – originates from the USA. The idea was created in the 20th century by U.S. physicians who worked in an environment that was based on European traditions but was operating by clear market principles. The main objective of creating such standards was to ensure professional quality and better services. Of course, a lot of effort was put into the dissemination of the newly developed standards among patients. Based on the idea of comparativeness, the American Surgery Society, the American Medical Association, the American Physicians Association and the Canadian Medical Association established the Joint Commission on Accreditation of Hospitals, JCAHO at the early 1950s. The incentive aimed to develop a standardised assessment system that would be suitable for the evaluation of the hospital structure and healthcare process management of all participating organisations. In the next decade, by the introduction of the Medicare programme (established in 1965), the incentive reached and institutionalised status. In the late 1980s, the organisation's name was changed to Joint Commission Resources (JCR), and its activity was expanded to most healthcare providers. By time, the focus of evaluation moved towards effective management and the continuous improvement of productivity. Within the frameworks of the so-called "Agenda for Change", a new structural key point was set out for healthcare providers: the general quantitative and qualitative revision of standards.

Today, it is a basic principle and key expectation of local health funds in the European Union that – due to the mobility of patients – healthcare services provide a guaranteed quality of services. During the development of national accreditation standards, the most important processes have been set out with regards to the effectiveness and safety of services and patients' rights. In theory, the standards ensure that service providers take up only those patients whose needs can be answered by the given institution and that service providers could deliver continuous and effective services for them. Also, the dismissal of patients should be planned on the basis of quality standards. If accreditation processes focused on the reduction of anomalies and administrative workload, both the reliability and authenticity of

healthcare programmes would increase significantly. It is interesting to note that the existing standards not only focus on informing patients, but also suggest their education about prevention.

Health tourists usually end up with private institutions in different countries; therefore it is recommended that those institutions have the appropriate international contracts and documents, and employ effective medical management staff. Because lower costs are among health tourists' primary expectations, it is also advised to clarify the possible contradictions of cost effectiveness and explain whether cheaper services mean lower quality, or how cost-effectiveness is achieved. In our world of mass information, health service websites offer hardly any information on the rights of patients. Although medical science is built on uniform pronciples, the definition of quality has many differences worldwide. The term 'quality' not only refers to the standard of a product or material, but is also relevant in the case of services. Looking one step further, the establishment of uniform quality standards will lead towards assessment and monitoring issues. The main problem is that there is (and probably will be) a huge difference between the quality of services guaranteed by public and private institutions. It is possible that some health tourism destinations, which have a high number of stakeholders, will apply their own 'regional' quality standards. But why is the comparability of quality standards so important? On one hand, a uniform system can reveal previously unseen internal differences, which can lead to the improvement of services. For the demand side, a trustworthy quality assurance system can offer clear information on patients' guaranteed insurance rights in case of a possible medical complication. For example, in public hospitals in the EU, domestic and EU-citizen patients are guaranteed the same services, whilst patients from third countries are treated under different conditions. On the other hand, private health providers can operate within the framework of a uniform quality assurance system that enables the comparability of prices and services worldwide. It is clear that measurability and audition is in the common interest of all stakeholders. The development of such an assurance system might be expensive, but it can surely reveal the difference between cost-effective and low cost services. A health institution accredited by an internationally acknowledged quality assurance system will have significant market benefits.

Some of the websites that I looked into during my research provided some information about the qualification of health service professionals, but I could not get any information on who is responsible for which service within the chosen institution. In a giant medical complex like for example the Texas Medical Center – which consists of 54 institutes, 21 hospitals, 8 research centres, 4 medical schools, 6 nurse training schools and other training facilities –

there is practically no opportunity to establish a personal doctor-patient relationship in advance. With regards to patient rights, interesting problems can arise from the fact that insurance companies cannot have an insight into the services obtained by their clients, because of medical secrecy; for the same reason, international private health institutions are often not obliged to inform insurance companies about the exact details of their services.

It is clear that an internationally standardised healthcare follow-up system would be in the common interest of insurance companies, patients and service providers alike. It is interesting to note that the vast majority of the interviewed professionals said that ON THEIR OWN RESPONSIBILITY, patients basically can choose whichever service they like. However, due to the differences between service providers, the quality of these services may differ significantly. The place and time, the physical and mental status of the patient are all related to the process of healing, too. It could significantly decrease insecurity in the market, and in case of a medical error, neither the service providers nor patients could deny what happened. With such a follow-up system, special cases could be investigated effectively like problems caused by local bacteria (e.g.: the bacteria concentration in the air is extremely high in India) or a thrombosis during the flight home.

CONCLUSION

There are several different arguments for and against healthcare accreditations, both at local and international level. Most private healthcare service providers are interested in the establishment of a transparent follow-up system, which would measure the strengths and weaknesses of services, on the basis of internationally agreed accreditation standards. Such a system would result in higher quality, more efficient and profitable services. Fewer aimless political decisions and an increased market competition would contribute to cost-effectiveness; the reputation of physicians and medical service providers could be measured; the databases set up within the frameworks of an accredited system would enable objective comparisons. The reduction of medical errors and legal actions is of common interest of all service providers. With sufficient social education and other national consultation actions, the trust of local people could be restored in their own national healthcare system; also, a manager-type leadership could effectively use the tools of lobbying. Maybe the reasons behind some providers' cost-effectiveness could be clarified. It is also possible that by large scale outsourcing, some regions would become key medical destinations. An international patient follow-up system would definitely be supported by the financing and professional side

alike. An internationally standardised comparative system would highly contribute to the budget optimisation of the sector's stakeholders worldwide. The dignity and rights of patients would also profit from such an incentive, whilst the exploitation of resources would be optimised, too. As a result, national healthcare service providers would become significantly more competitive.

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Original scientific paper

"SCIENTIFIC COLLABORATIONS" AT THE LEVEL OF COUNTRIES – A CASE STUDY: A "HARD" PHYSICAL GEOGRAPHY AND A "SOFT" ECONOMICS SCIENCE FIELD

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Abstract

Scientific collaboration is a widely studied science field in the recent decades. For measuring, it a tighter approach co-authorship is frequently used. Co-authorship base level is the level of articles and the co-authorship networks are based on articles and authors. In this study a rather different level was examined: the level of journals. We used the approach of collaboration analysis regarding the relation between countries and journals. Two main groups of methods were used: statistical analysis and networks analysis. The goal was to explore patterns between journals and countries. We investigated the relations between journal ranking and affiliated countries. We were interested if there are any differences between a "hard" and a "soft" science field. Both of our methodological approaches showed similar answers to research questions. The differences were minimal between "hard" and "soft" science fields. The journals with the highest and the lowest journal ranking had the highest inequalities in the distribution of countries.

Keywords: science network, scientific collaboration, journal affiliation, journal ranking

INTRODUCTION

Scientific collaboration is a widely studied science field in the recent decades (Acosta et al., 2011; Boschma, 2005). Several types of proximities help in building up science networks and the intensity of collaborations. Boschma (2005) distinguishes five types of proximities (geographical, cognitive, institutional, organizational, and social). Narin, Stevens and Whitlow (1991) also emphasize the linguistic and cultural aspects in scientific relations. In this study the focus is on geographical and social proximity. This article is not about a real type of collaboration: only the aspects of scientific collaboration are used in this study.

First of all, we have to give the definition of scientific collaboration. The dictionary definition of collaboration is 'two or more individuals working together to reach a common goal' (http://www.businessdictionary.com/definition/collaboration.html). Therefore, scientific collaboration could mean working together, co-operating to achieve a common

research goal: producing a new scientific knowledge. (Katz, Martin, 1997). This definition is a quite wide interpretation of collaboration. Measuring collaboration is the most obvious issue if we focus only on co-authorship. Co-authorship is not equal to research collaboration. Scientists can collaborate for example by working together without writing a common scientific article. On the other hand, this type of collaboration can be measured in a difficult way. Co-authorship is a tighter interpretation of research collaboration. In the following this tighter interpretation will be used for scientific collaborations.

Research collaboration can be studied through the relations of authors and the relations of authors' affiliation data as well. Authors' affiliation data are the information, which contains the address of the author of an article. Authors' affiliation data can be distinguished by several scales of the contributor actors into the following types: departments, institutions, settlements, regions, and countries. The international collaboration can be measured by these data (Braun et al., 1992, Luukkonen et al., 1993, Schubert, Braun, 1990). Thus, co-authorship base level is the level of articles and the co-authorship networks are based on articles and authors. Co-authorship networks can be examined by different scales where the network shows the relation between articles and different scales of authors' affiliation data e.g. articles and institutions, articles and regions and so on. Examining co-authorship networks at a more and more aggregate level can be analyzed from authors to countries.

In this study the level of articles will not be analyzed. A rather different level was examined: the level of journals. The original goal was a network study, based on how different countries contribute to journal content in this methodological framework. Are there any patterns, systematic structure formations? At the usual level of authors and articles, it seems to be a collaboration study. However, at the level of journals and countries it is completely different. That is why scientific collaborations are in quotation marks in the title. This is a special pseudo-collaboration and not a real type of collaboration.

In our case the base components are journals and not articles, therefore the analysis focuses on journals and countries. The countries derive from journals, which contain articles and the authors' affiliation data. Also in these types of network the nodes can be countries but the links are the common journals (and not the common articles).

There is a relation between research collaboration and papers' citation impact. The papers, which have more co-authors may have higher papers' citation impact (Frenken et al., 2005, Goldfinch et al., 2003). In this study the base components are journals, therefore

journal ranking was involved in the analyses. Journal ranking as the measure of quality of a journal is an important factor. Nowadays journal evaluation and ranking are often used in different situations. Citations of a journal show its impact. The absolute number of citations depends on many factors such as time or discipline. The most well-known size-independent measure is the journal impact factor of Garfield (1972). The impact factor is the division of the number of citations during a given time period and the number of articles during a time period. The original impact factor used two year time periods but five year time periods are also used. Impact factor and other journal citation metrics are presented every year in Journal Citation Rank (JCR) by Thomson Reuters (Haustein, 2012). The value of the impact factor depends on science fields because of the different citation habits. To compare the impact factor measure between different science areas, field normalization is required (Sen, 1992, Pudovkin, Garfield, 2004). In this study the Normalized Journal Position (NJP) was used. This is the science field normalized impact factor by Thomson Reuters.

In the following sections, first of all the questions and objectives of the study will be presented. After that, the data of the study and the used methods will be stated. Finally, the results and conclusions will be presented.

OBJECTIVES AND METHODS

In this study the relation between journals and countries will be investigated. The countries are contained in the authors' affiliation data in journal articles. Usually this phenomenon is examined at the level of articles when it can be described with collaboration networks (Hoekman et al., 2010, Hou et al., 2008). In this case we do not talk about a collaboration network. When the relation between journals and countries is examined it can be described also with a network that is similar to collaboration networks. It can be called a pseudo-collaboration network. The study uses the approach of research collaboration to analyze the patterns of this pseudo-collaboration.

The goal of the study is to explore patterns in these relations especially in Social Science and Humanities (SSH) fields. The study focuses on one chosen SSH field, namely Economics. This science area was compared to Physical Geography, which is a natural science. Therefore, across these two science fields the SSH and natural science fields could be compared. Are there any characteristic patterns? In this relation are there any differences between "hard" and "soft" science fields?

Every journal has an editorial board, which chooses the articles for publishing. The chosen articles' affiliation data contain the authors' country data as well. In this study, as mentioned above, we focus on the country affiliation data.

Our research questions are the following: Are there any patterns at the level of journals in the countries' data? What kind of patterns are there at this level? Are there any relations between the journal ranking and affiliated countries? Are the countries, which investigate more R&D or GDP more successful during the peer review procedure?

Development is a multi-dimensional and multi-indicator phenomenon (Nemes Nagy, 2009). Dozens of indicators and methods exist for measuring development. The most generally used indicator to measure development is Gross Domestic Product (GDP) or GDP per capita. Defining development is out of the problematics of the present study. We are interested if there is any relation between the pseudo-collaboration network and development. The countries, which have a central position in the network, are the countries, which have high GDP per capita as well. This question is analyzed by network analysis.

Data

This study explored the patterns between journals and countries. We used data coming from Web of Science (WoS). WoS is an online research platform powered by Thomson Reuters. WoS provides the most known scientific citation databases. It includes seven citation databases: Science Citation Index Expanded, Social Science Citation Index, Art & Humanities Citation Index, Index Chemicus, Current Chemical Reactions, Book Citation Index and Conference Proceedings Citation Index. The content of the database is current and retrospective in the fields of Science, Social Science, Arts and Humanities. It contains more than 120 000 journals worldwide with the highest impact level. It contains the main data of each publication, namely title, author(s), keywords, abstract, Web of Science Categories (WCs), authors' affiliation, publication year, journal title, citation indexes and so on (wokinfo.com). The content of the database is overrepresented by English language journals.

The examined two fields of science are a "soft" one, Economics and a "hard" one, Physical Geography. To determine the science fields WoS categorization system was used where more than 250 Web of Science Categories (WCs) are distinguished in Science, Social Science and Arts & Humanities (incites.isiknowledge.com). In the study "WC"

abbreviation is used for WoS Categories. WC is the lowest level of aggregation of science fields (Leydesdorff, Carley, Rafols, 2013).

The study examined journals from the chosen WCs. Every journal is classified to one or more WC. Based on common WCs a co-occurrence matrix was created. Not only the Economics and Physical Geography WCs were used but also those WCs which are in strong relation with Economics or Physical Geography. Thus, more journals could be included to the investigation. Therefore, in choosing the WCs hierarchical clustering was used on the distance matrix to investigate more journals in the study. The distance matrix derived from the journal and WC co-occurrence matrix. We clustered the WCs. The used cut level was 80% with Physical Geography and 90% with Economics. From 50 to 95% cut levels were examined in both science fields. The chosen cut levels were 80 and 90% because these levels contain not only Economics or Physical Geography and nor too much WCs. The cluster which contained Economics and Physical Geography was chosen. Thus the chosen WCs are the following:

Economics:

- Agricultural Economics & Policy;
- Business, Finance;
- Economics;

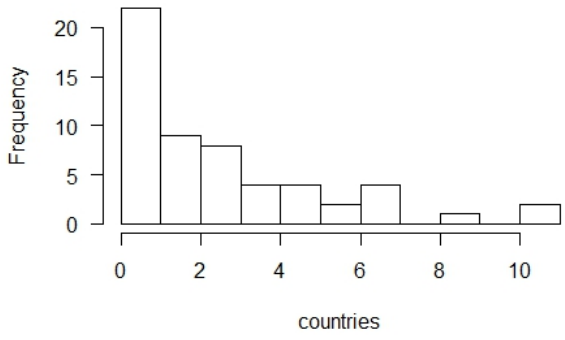
Physical Geography:

- Geography, Physical;
- Geosciences, Multidisciplinary;
- Imaging Science & Photographic Technology;
- Remote Sensing;
- Engineering, Geological

Journals from the chosen WCs were examined. Thus, there were 238 journals from the fields of Physical Geography group, hereinafter Physical Geography and 384 from the Economics group, hereinafter Economics.

In the study the focus was on the distribution of countries based on author affiliations for every article between 2010 and 2014 for each chosen journal. Fig. 1 shows an example of country distributions in one journal. This picture is typical: some countries get a lot of country affiliations and many countries get a few ones.

Figure 1 Country distribution of one journal



Methods

The examined patterns between journals and countries were explored by two main groups of methods: statistical analysis and network analysis. First of all, the entire picture was analyzed to find patterns. The problem was approached from two ways: by statistical methods and by network analyses. Within statistical methods to investigate patterns between journals and countries the used methods were GINI coefficient and hierarchical clustering. To explore the country distribution inequalities, the used method was GINI coefficient. For each journal the GINI coefficient was calculated to the country distribution. To find different journal groups the used method was hierarchical clustering. Hierarchical cluster analysis was based on journal and country distance matrix.

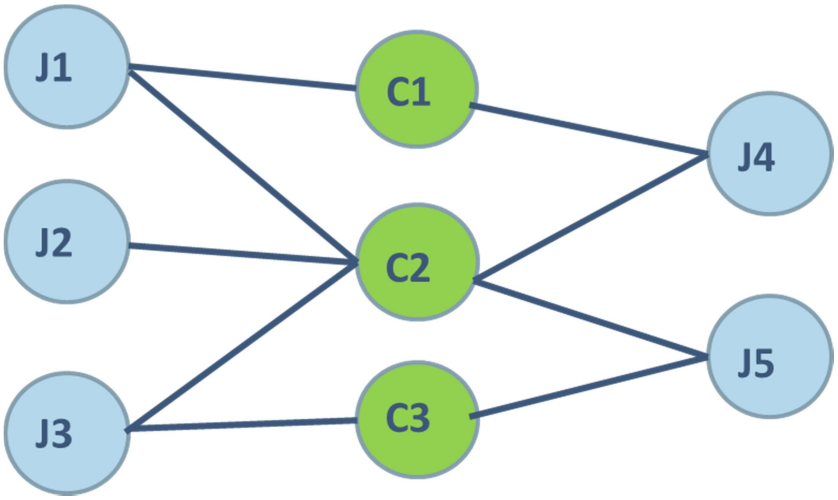
To find more detailed relations among data, journal ranking was involved in the analyses. To answer one of the research questions – 'Are there any relations between the journal ranking and affiliated countries?' – the journals were divided in four groups by Normalized Journal Position (NJP). This indicator lets us to compare different science fields. This is the science field normalized impact factor by Thomson Reuters. The used method was comparing NJPs to NJPs' average, therefore the journals were sorted in two categories and after that the procedure was repeated. The relation between the GINI coefficient and journal rank was analyzed. The relation between the GINI coefficient and country clusters were analyzed as well.

To answer the research question – 'Are the countries which investigate more R&D or GDP more successful during the peer review procedure?' – we analyze the relation between the GDP data and the network of countries (pseudo-collaboration network). We

used network visualization to see if the countries in central position of the network are the same countries with higher GDP per capita.

To examine the data jointly the used method was network analysis. The questions were also examined from a different point of view: network analysis. To this method first of all it is necessary to determine the network's nodes and edges (Csermely, 2005, Newman 2003). The examined phenomenon can be directly described with a "two-mode network". In this type of network, the relation between journals was established through the common countries. Fig. 2 shows a model of this type of networks. J means journals and C means countries. The relation between two journals is across countries. In two-mode networks the nodes belong to sets. There are no direct relations between the nodes which belong to one set (Barabási, 2014, Wasserman, Iacobucci, 1991). Now there are no relations between journals and there are no relations between countries. The nodes which belong to country type created the relation between journals.

Figure 2 Two-mode network model



However, it can be also described with a normal (one-mode) network, where the nodes are the countries and the edges are relations between two countries due to a journal. To this we converted the two-mode network to one-mode (Everett, Borgatti, 2013). A link/edge exists between two countries when there is at least one journal which country affiliation distribution contains the two given countries. This network was weighted and undirected. Stronger relation between two countries means that these countries were chosen by several journals. The stronger relation was between two countries, the more journal country affiliation distribution contained the two given countries.

For calculations several packages of R software were used (Csardi, Nepusz, 2006, Meyer, Buchta, 2015, Langfelder, Zhang, 2014, R Core Team, 2015). For network visualization Gephi software (Bastian et al., 2009) was used.

RESULTS

To answer the former questions in this section our results will be presented. To detect patterns, the focus was on two aspects: the relation between the journal ranking and affiliated countries and the relation between GDP and countries' position.

Our first question was the following: is there any relation between the journals' country distribution and journals' quality? To describe the inequalities of country distribution the calculated indicator was GINI coefficient for each journal. The lower GINI coefficient indicates more balanced country structure. Every examined journal by Normalized Journal Position (NJP) was categorized to four groups (1 to 4), as mentioned above. The best rank was 1. Fig. 3 and 4 show the relation between GINI coefficient and journal average rank.

Figure 3 Boxplot of GINI and Journal average rank on the field of Economics

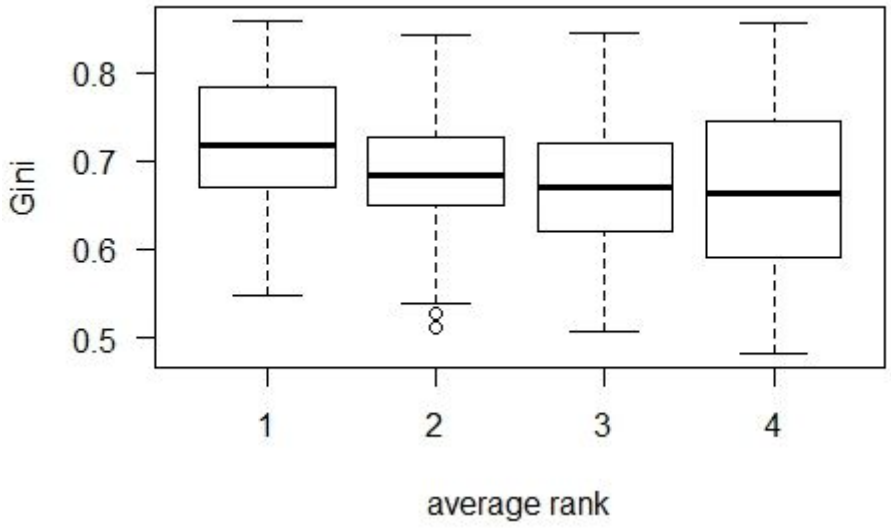
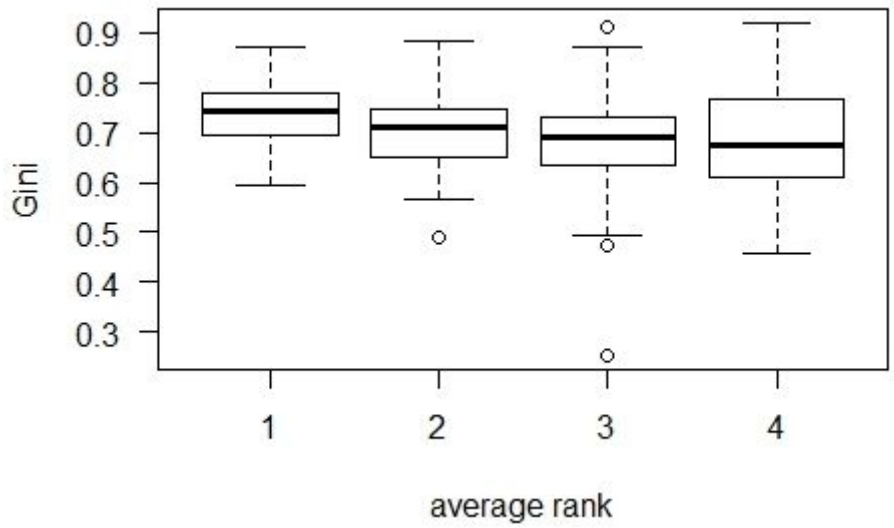


Figure 4 Boxplot of GINI and Journal average rank on the field of Physical Geography



The central tendency decreased a bit from '1' average journal rank category to '4' in both cases. The GINI coefficients had the highest value in journals, which belong to the first ranking group. It means that the "better" journals have more inequalities among the chosen countries. In this case "chosen countries" mean that the articles were selected by journal editorial board and this choice determines countries by authors' affiliations. The deviation was the highest in the fourth group and also high in the first group. Therefore the best and the weakest journals had the most different GINI indexes.

Fig. 3 and 4 consider directly journals. In the next step the analysis considers the clusters of journals. To detect journal groups, the used method was hierarchical clustering. Hierarchical cluster analysis was used based on journal and country distance matrix. With the obtained journal clusters the relation between clusters and journal ranking was investigated. Between journals and countries, a matrix was determined. Tab. 1 shows a part of the matrix. The cells contain the amount of distribution of the countries.

Table 1 A part of the journal-country matrix

	journal ISSN number				
country	05701864	07173830	07185286	0734306X	07350015
UKRAINE	0.000	0.000	0.000	0.000	0.000
UNITED KINGDOM	0.000	0.000	0.000	0.000	0.000
URUGUAY	0.000	1.471	4.167	0.000	0.000
USA	33.247	14.706	16.667	67.424	60.656

From this matrix a similarity matrix was calculated. The used method was Cosine similarity (Nguyen, Bai, 2010). Cosine similarity gives the coherence between two vectors.

In co-citation analysis Salton's Cosine similarity is often used. Fig. 5 shows the formula of Salton's Cosine similarity in the case of citation analysis (Hamers et al., 1989) where coc(i,j) is the number of co-citation between i and j; cit(i) is the number of citation of i and cit(j) is the number of citations of j. The value of Ss(i,j) is between 0 and 1. Salton's cosine formula is undefined when cit(i)=0 or cit(j)=0. The similarity is complete and the Ss(i,j) value is 1, when cit(i) and cit(j) and coc(i,j) are equal. There is no similarity and the Ss(i,j) value is 0 when there is no co-citation (coc(i,j)=0). In case of Salton's Cosine similarity, the number of common citations is analyzed between i and j articles. In our case the counter is the number of common countries between i and j journal. cit(i) is the number of countries in i journal and cit(j) is the number of countries of j journal.

Figure 5 Salton's cosine formula

$$S_S(i,j) = \frac{\mathrm{coc}(i,j)}{(\mathrm{cit}(i) \cdot \mathrm{cit}(j))^{1/2}}.$$

Source: Hamers et al., 1989 p. 315

Tab. 2 shows a part of this similarity matrix. The higher cell content means that between two journals there are more common chosen countries. The values at the cells can vary between 0 and 1 as mentioned above. The distance matrix was determined from the similarity matrix. (d=1-s, where d is distance matrix and s is similarity matrix). To classify the journals hierarchical cluster analysis was used. Different methods/types of hierarchical cluster analysis (ward, single, complete, average, mcquitty, median, centroid) were compared. The average method turned out to be the best one because the distance between the distance matrix and dendrogram was the least in this case.

Table 2 A part of the journal-journal similarity matrix

	0002-9599	0003-813X	0004-0843	0008-3674	0008-4077
0002-9599	0	0,3621007	0,4860055	0,2547559	0,5986628
0003-813X	0,3621007	0	0,6514876	0,4356771	0,6938004
0004-0843	0,4860055	0,6514876	0	0,2136618	0,0254593
0008-3674	0,2547559	0,4356771	0,2136618	0	0,2048588
0008-4077	0,5986628	0,6938004	0,0254593	0,2048588	0

Fig. 6 and 7 show the dendrograms of the two chosen science fields. Two aspects were applied to create the groups of journals. The first approach was to cut the tree at a fix points, the second one was to use dynamic cut tree procedure.

In the first case the selected cutting level was 0.7. Cutting level was examined between 0.5 and 0.9. 0.7 cutting level seemed to be the best choice. Fig. 8 and 9 present the clusters with their sizes. Cluster structures and cluster sizes were similar (power-law like distribution) in the two science fields. Three groups were created from the clusters. Thus, the clusters with similar sizes were analyzed together. The first one contained the most of the journals, it was the biggest cluster. The second group contained several clusters, each of them had some journals. In the third group were those journals which belonged to separate clusters.

Figure 6 Dendrogram of Economics journals

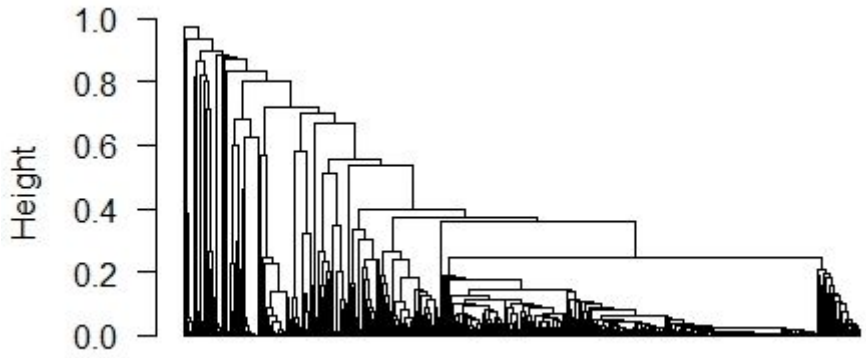


Figure 7 Dendrogram of Physical Geography journals

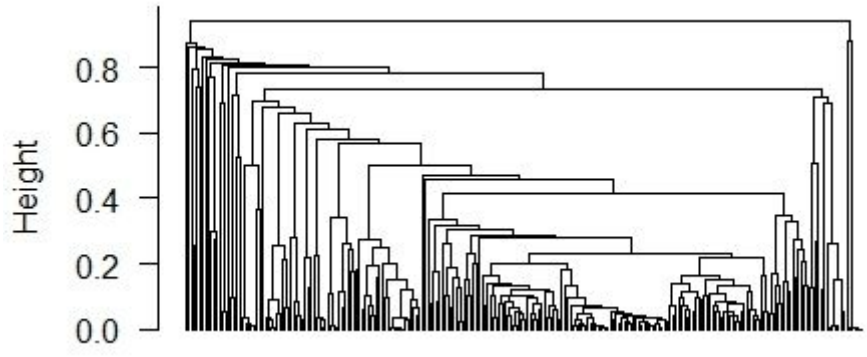


Figure 8 Clusters of Economics journals

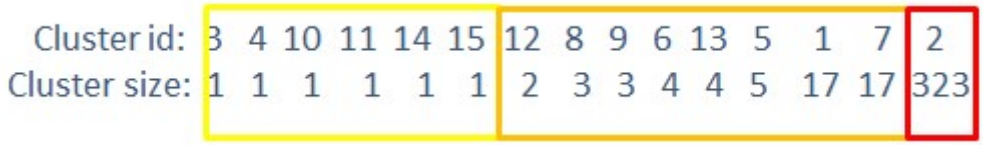
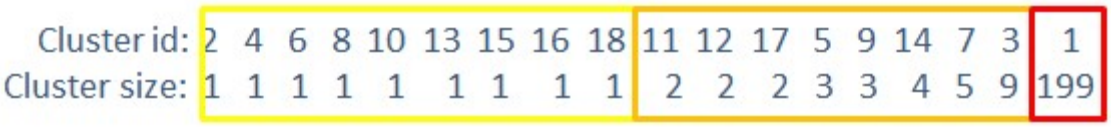


Figure 9 Clusters of Physical Geography journals



The second approach to create groups of journals is the dynamic cut tree procedure. The dynamic cut tree procedure regards the structure of the dendrogram. It does not use a fix level to cut the tree. (Langfelder et al., 2008, Langfelder, Zhang, 2014). Using this procedure, the given clusters were the following (Tab. 3 and Tab. 4):

Table 3 Clusters from Dynamic Cut Tree algorithm in Economics

Economics	
Cluster id	Cluster size (number of journals)
1	102
2	96
3	56
4	49
5	47
6	33
7	1

Table 4 Clusters from Dynamic Cut Tree algorithm in Physical Geography

Physical Geography	
Cluster id	Cluster size (number of journals)
1	88
2	78
3	43
4	23
5	6

In the next step the analysis considers cluster groups of journals. First the groups of clusters were analyzed, later the clusters, which derived from dynamic cluster procedure.

Fig. 10 and 11 present the relation between GINI coefficient and the groups of clusters. There were some differences between the two science fields. The field of Economics showed higher deviation in each group. The third group, which contained the separated clusters showed the highest deviation in the field of Economics, and the lowest in the field of Physical Geography. The journals in the third group which belonged to separate clusters in the field of Physical Geography were similar to each other. The same statement cannot be told about the field of Economics. There were not huge differences in the value of GINI among the cluster groups. Therefore, the distribution of affiliated countries in each cluster was similar. In this aspect there were not big inequalities.

Figure 10 Boxplot between clusters groups and GINI coefficient in Economics journals

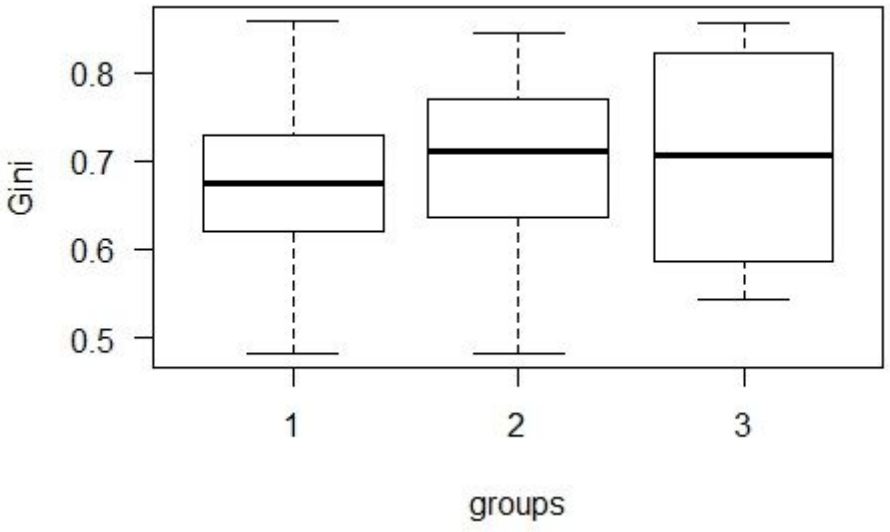
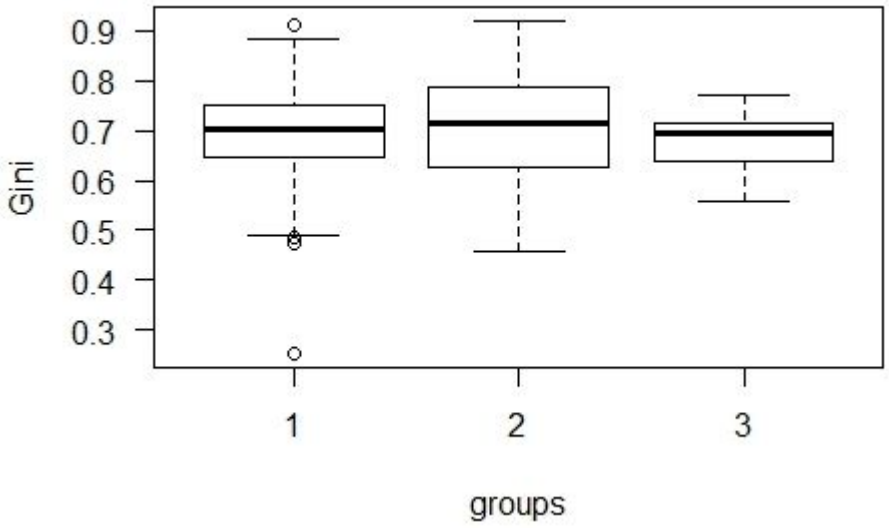


Figure 11 Boxplot between clusters groups and GINI coefficient in Physical Geography journals



Contrarily, the journal ranks showed differences between the cluster groups. Fig. 12 and 13 present the boxplot between cluster groups and journals' average rank in the two chosen science fields. Second and third cluster groups contained "weaker" journals in both science fields. The first cluster group, which contained most journals shows the highest deviation for average journal rank. Therefore, the relation between journal ranks and GINI coefficient did not have a big bias between the cluster groups.

Figure 12 Boxplot between cluster groups and journal average rank in Economics journals

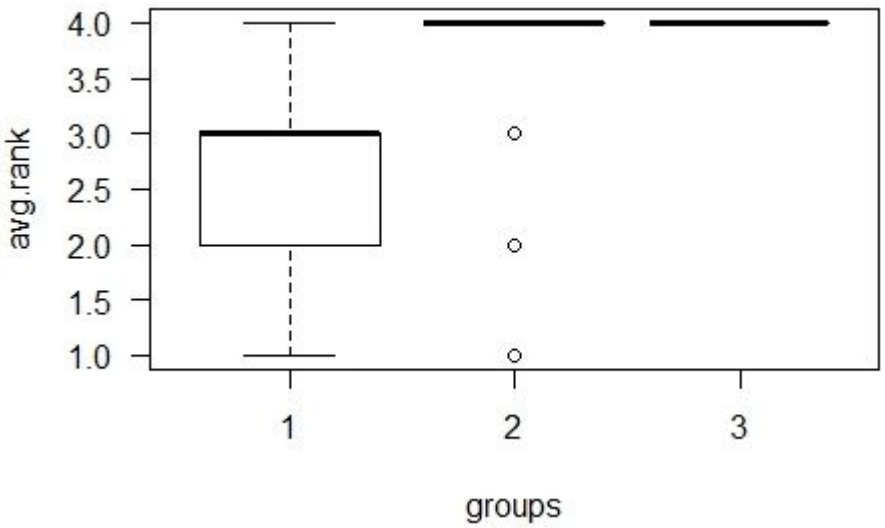
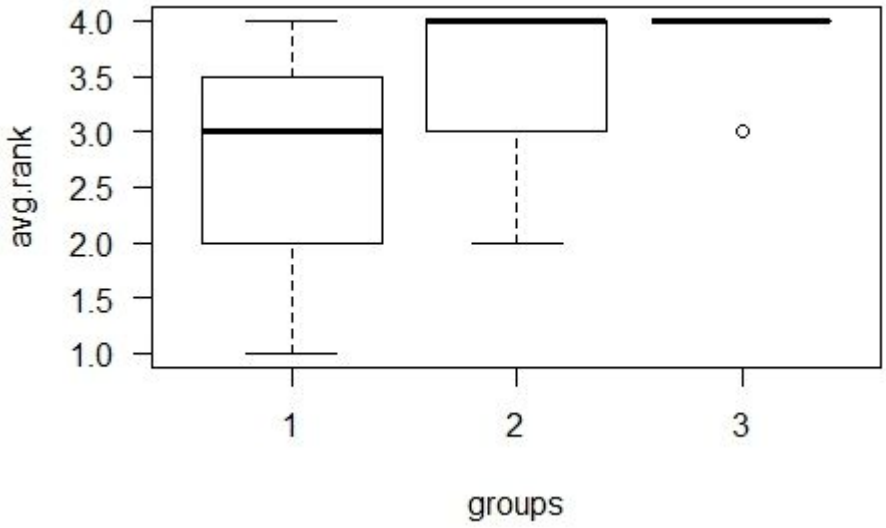


Figure 13 Boxplot between cluster groups and journal average rank in Physical Geography journals



The clusters of dynamic cut tree procedure were presented above in Tab. 3 and 4. The content of each cluster was summarized. In each cluster the distribution of country affiliation of journals was summarized. The distribution had a very long tail, therefore the data were cut at the upper quartile (Q3=178,5 in Economics and 152,5 in Physical Geography). The clusters' country distribution (Fig. 14, 15) showed the same picture as the journals (Fig. 1).

Figure 14 Country distribution in the journals of cluster 1 in Economics

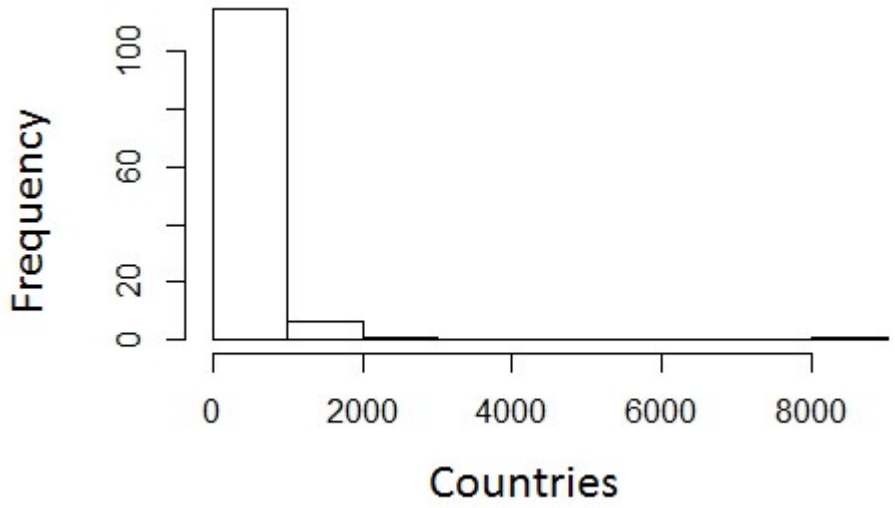
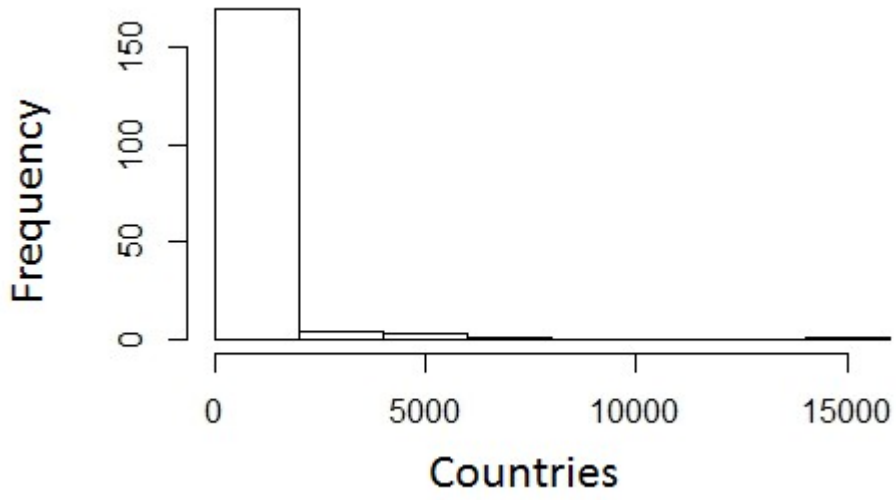


Figure 15 Country distribution in the journals of cluster 1 in Physical Geography



Tab. 5 and 6 show each clusters' first 20 countries by the ranking of clusters' country frequency. The order of countries did not show big differences at the first three places. There was a bit more variability in the order of countries at Physical Geography. China had better place in ranking at Physical Geography than Economics. In developing countries "hard" Science spread easier than Social Sciences.

Table 5 Country frequency rank clusters in Economics

Ország	1. cluster	2. cluster	3. cluster	4. cluster	5. cluster	6. cluster
USA	1	1	1	1	1	1
ENGLAND	2	2	2	2	2	2
GERMANY	3	3	3	3	3	3
AUSTRALIA	4	6	7	6	8	4
SPAIN	5	8	8	7	5	11
ITALY	6	7	9	8	10	9
FRANCE	7	5	5	10	4	10
CANADA	8	10	4	4	6	8
PEOPLES R CHINA	9	4	10	9	7	6
NETHERLANDS	10	9	6	5	9	5
CZECH REPUBLIC	11	37	34	27	22	26
JAPAN	12	11	18	16	12	7
SWITZERLAND	13	17	11	11	11	13
BELGIUM	14	16	12	14	13	15
TAIWAN	15	12	15	15	23	12
SWEDEN	16	13	16	13	14	17
SOUTH KOREA	17	15	14	18	16	14
DENMARK	18	19	20	19	18	21
NORWAY	19	20	35	17	19	22
SLOVAKIA	20	37	35	27	34	26

Table 6 Country frequency rank clusters in Physical Geography

Ország	1. cluster	2. cluster	3. cluster	4. cluster	5. cluster
USA	1	1	1	2	1
PEOPLES R CHINA	2	2	2	1	2
GERMANY	3	4	3	4	5
ENGLAND	4	6	6	3	4
FRANCE	5	3	5	8	3
CANADA	6	9	7	6	6
AUSTRALIA	7	12	8	5	7
ITALY	8	8	4	9	10
SPAIN	9	11	9	12	8
JAPAN	10	10	10	7	16
NETHERLANDS	11	13	12	13	15
SWITZERLAND	12	14	13	14	11
INDIA	13	7	11	10	23
SOUTH KOREA	14	26	14	16	31
NORWAY	15	17	18	11	26
SWEDEN	16	19	19	20	14
TAIWAN	17	21	15	18	32
RUSSIA	18	5	17	27	32
SCOTLAND	19	25	27	19	21
BRAZIL	20	16	22	17	17

The relation between journals and country affiliation data were examined from a different aspect as well. Network aspect helps us to discover the relations between certain phenomena. Tab. 7 presents the main network attributes. The network was very dense (72% and 82%). Network density can be described with a number, which refers to the whole network. It is the ratio of the number of relations in the network and of the number of the potential relations in the network (n*(n-1)/2), where n is the number of nodes (Csermely, 2005, Newman, 2003).

Table 7 The main data of networks

	Economics	Physical Geography
number of nodes	171	194
number of edges	10 470	15 356
network density (%)	72	82

Tab. 8 presents the main statistic parameters of edge weights. The edge weights showed a power-law distribution. The distribution had a very long tail. The edges of networks were filtered. The edges below the upper quartile were deleted from the network. Thus the number of edges was reduced to approximately a fifth (2118 in Economics and 3722 in Physical Geography). The number of nodes, which had at least 1 degree (the non-isolated nodes) were 77 in Economics and 106 in Physical Geography. The degree of a node is the number of its links (Csermely, 2005, Newman, 2003).

Table 8 The statistic of edge weight of networks

	Economics	Physical Geography
minimum	1	1
lower quartile	1	2
median	4	7
upper quartile	15	20
maximum	375	231

Fig. 16 and 17 show the visualization of networks. The size of the nodes were proportionate to GDP per capita and the colors of edges were proportionate to edge weight. The darker was the color, the stronger was the relation between two countries. The centrum countries had stronger links between each other than others. The countries on the periphery (on the bottom of the figures) were connected more to the centrums than to each other. A centrum-periphery structure was outlined. The GDP per capita was not so relevant in the relations. The other relevant aspect was the population of the country. The size was the strongest feature in the relations between countries.

Figure 16 The network of countries at the fields of Economics

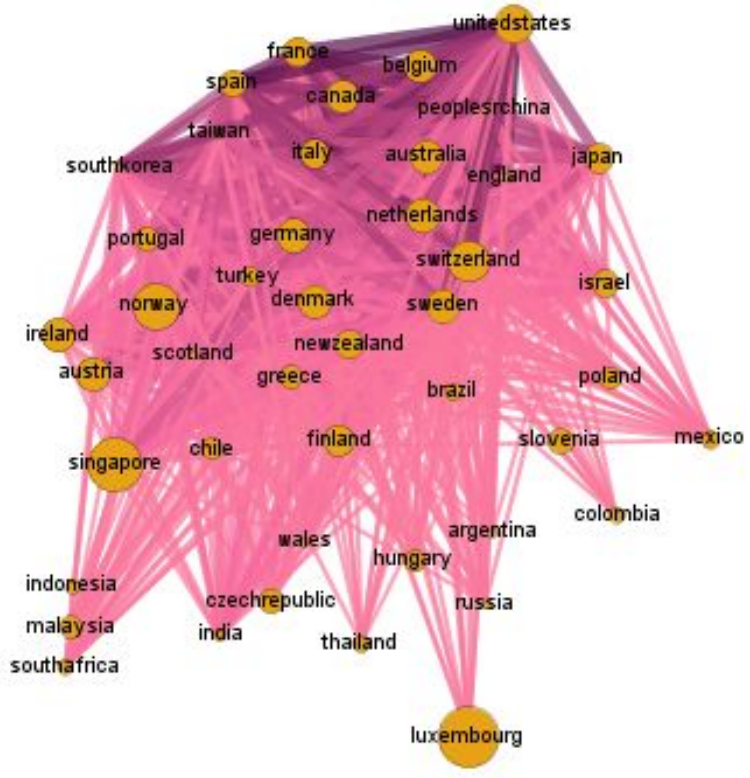


Figure 17 The network of countries at the fields of Physical Geography

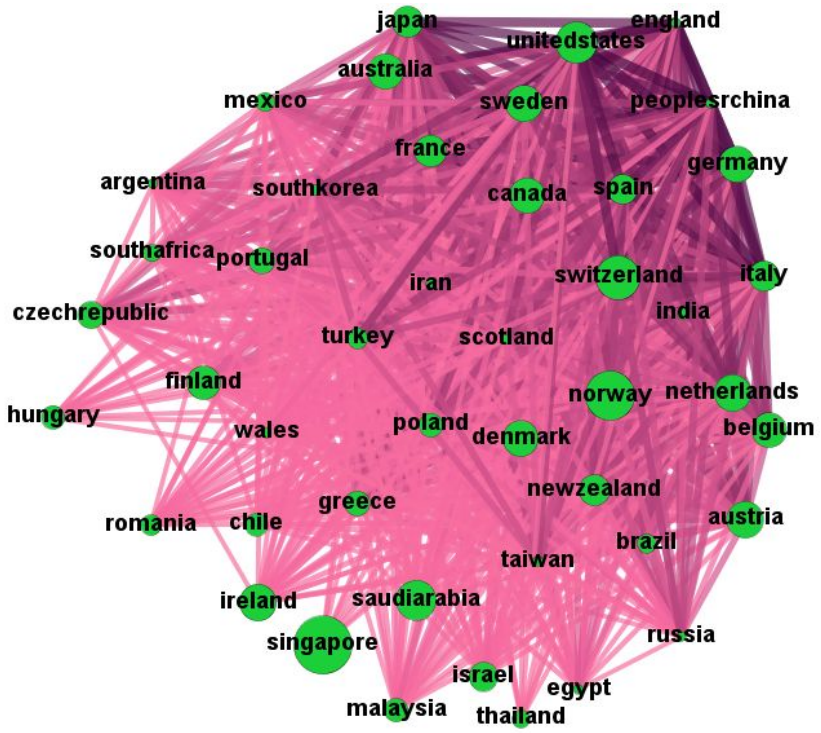


Figure 18 The „top“ network of countries at the fields of Economics

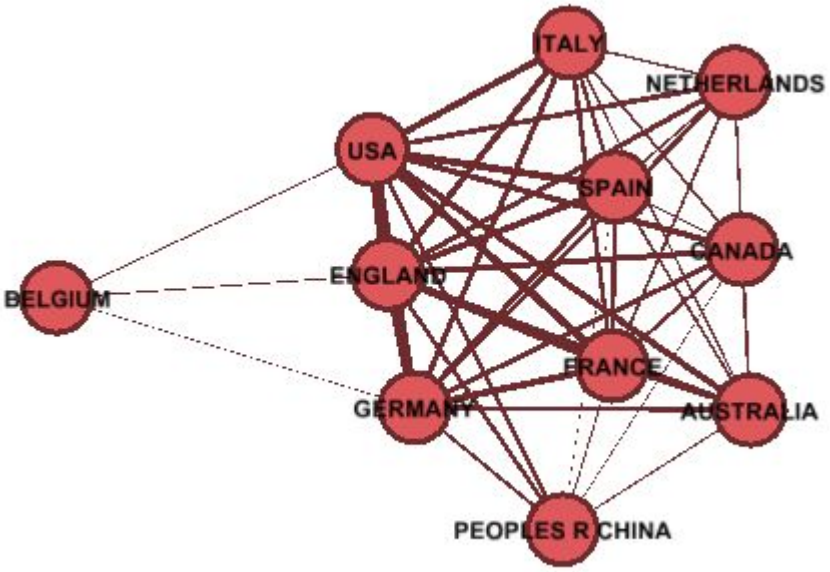


Figure 19 The „top“ network of countries at the fields of Physical Geography

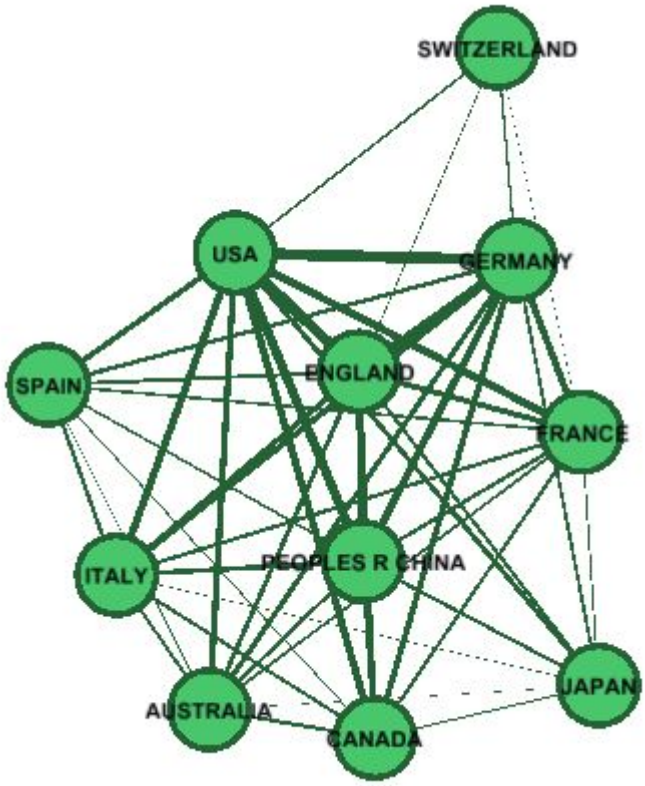


Fig. 18 and 19 show the top 1 percent of the edges' weight. Therefore, we can see the most frequently chosen countries. These countries are the centrum countries. China's presence could be explained with its population size.

DISCUSSION AND CONCLUSION

In this study the relation between journals and countries by the authors' affiliation data was examined. This study is rather a methodological one. The goal was to explore the patterns and systematic formations in these relations, to observe whether there are any differences between "hard" and "soft" science fields. The observation level was an uncommon one, the level of journals. Usually the relation between authors' affiliation was analyzed at the level of articles by using collaboration networks. At the level of journals this relation is completely different but it can be analyzed in a similar way with networks as well. The approach of collaboration analysis was used to these pseudo-collaborations.

All methods served to answer whether there are any patterns at the level of journals on the countries' data. Two main analysis aspects were used in this study to answer the research questions: statistical aspects and network aspects. Both methods gave similar answers. There were similar patterns at the level of journals than the usually analyzed level of articles.

Between the two science fields the differences were minimal. The “hard” and “soft” science showed the same tendencies in the relation between countries and journals.

To detect patterns two aspects were deeply analyzed. These are the following: the relations between the journal ranking and the affiliated countries; and the relation between countries’ network positions and countries’ GDP per capita.

At the aspect of relation between the distribution of countries (GINI coefficient) and journal average rank the journals which had higher ranking had more inequalities between the chosen countries. The best and the weakest journals had the most different GINI indexes.

Tab. 5 and 6 show the most frequently appearing countries. At the order of the countries “hard” science showed bigger variety. India also appears among developing countries in the rank of countries. At the fields of hard science developing countries can have a bigger chance to appear in science mainstream.

The results of network analyses showed the same patterns. In Physical Geography the presence of China is surprising, but the size of its population can explain it. A centrum-periphery structure was outlined in both networks.

From the point of view of the relation between countries’ network positions and countries’ GDP per capita, those countries which had higher GDP per capita show higher frequency. There were some except those, which have high values because the population is low, for example Singapore or Luxembourg. Beside GDP the population of countries was also a main factor in the relations between countries.

In the network, which presented the part of the network containing the top 1% of edges‘ weight there were the centrum countries. These countries in Fig. 18 and 19 are mostly the same than the top 10 countries in Tab. 5 and 6. The main Anglo-Saxon countries – USA, England, Australia, Canada – were in the top 10.

The data were derived from WoS. In WoS the phenomenon of linguistic bias is well-known (Frenken et al., 2009, Hoekman et al., 2010, Narin et al., 1991). The Anglo-Saxon countries are overrepresented in WoS. Hoekman, Frenken, and Tijssen (2010) analyzed the changing spatial patterns of scientific collaboration. Scientific collaboration is inhibited by linguistic differences among authors. This phenomenon creates a border among such co-authors. Hoekman, Frenken, and Tijssen (2010) found a strong effect of language border in research collaborations but in time it showed a decreasing tendency.

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