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The Effects of Spatial Structure for Regional Units and Organizations in Hungary

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Abstract This paper focuses on the relationships between the spatial structure and the development regions in Hungary. In the first part the theoretical foundation is summarised. One important foundation is the spatial structure, which includes essential elements of physical and social, economic geography of an area, and it means the regional development inequalities also. Other foundation is the top-down and bottom-up development policies, which have different territorial formations in practice. In the second part the main characteristics of Hungarian spatial structure are described, and we analysed the counties and the territorial development councils based on the elements of spatial structure, and interpreted the difference: the regions have problems or the problems have regions? The results show, some elements (or lack of elements) of spatial structure have important effect for the territorial systems of development regions in Hungary, but mainly for the bottom-up system.

Keywords: • spatial structure • regional policy • counties • territorial development councils • Hungary

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1 Introduction

The territorial divisions and the borders are important issues of the regional geography, regional science, regional policy and territorial administration. To make a subdivision is always problematic, because the natural, social, economic phenomena in the geographical space do not cover each other, these have different territorial formations. This a challenge and a problem not only in the territorial analyses, but for the regional policy also, because localized problems often do not fit the units of regional policy. As a result of this two kinds of regional policies are existing: one of them is based on the official regional units, on the administrative subdivision, and the other is focusing to the localized phenomenon, the spatial problem, and it may get a special territorial form. On regional scale in a country the latter one is often one element of the spatial structure.

In Hungary there are a lot of official territorial levels (including the five NUTS and LAU levels), and they have different roles and functions. Actually three of them are used in regional policy: NUTS 2 (the 7 regions are the objects of EU regional policy since 2004, but in Hungary in this EU-period (2014-2020) these are not units of Hungarian regional policy), NUTS 3 (the 19 counties ("megye") and the capital have development councils since 1996, and since 2013 they have much more money for regional development), and LAU 1 (in 2015 this new level ("járás") with 194 units became the microregional level of Hungarian regional policy, but for the time being these have not tasks and budget). In this study we analyse the level of counties, because in this EU-period this is the main level of Hungarian regional policy. The counties are nodal regions from theoretical viewpoint, and the units of public administration (units of state administration, and they have self-government also) from the practical viewpoint, and they have more than 60 years old boundary lines. Because of these features, the first question is: how diverse are they from a spatial perspective? The regulation of Hungarian regional policy (XXI./1996) gives possibility to the self-governments of counties to establish a territorial development council for a continuous and cross-(county)border area, so other question is: which elements of spatial structure have generated new development regions with a council? But at first we summarise the theoretical background.

2 Spatial structure

The spatial structure means, on the one hand, a generalized figure, a spatial model of a geographical phenomenon (Elissalde & Saint-Julien, 2004), on the other hand, a generalized illustration of a geographical area, a schematic territory representation of one region, country etc. (Szabó, 2008). In this study, our interpretation is the second one. There are different opinions about the content of spatial structure, and we can distinguish three viewpoints based on the interpretation of the phenomenon (Szabó, 2008): the spatial structure is a group of components, or the positions and arrangement of components, or the components and their arrangement together. In this paper our interpretation is the third one. In the analyses there are three ways to describe the spatial structure (Szabó, 2016).

In the first case, the spatial structure refers to the elements of geographical space, to the presence of elements and their territorial concentrations, and it is often related to the core-periphery relation: focusing on the nodes and the physical connections between them (axes, corridors). In the second case, the spatial structure refers mostly to the qualitative inequalities or sometimes to the quantitative differences between regions, and in the focus are the more and less developed areas (zones). These two approaches are not separated, they sometimes appear together in territorial research; in our study, we follow this path.

3 Top-down and bottom-up regional policy and regions

The main objective of regional policy is to achieve a harmonious and balanced spatial structure. There are two frameworks in which this target could be realized: the top-down and bottom-up development policy. According to Pike et al. (2006) in case of the top-down system it is determined centrally, which regions are in need of intervention, after which developments are financed and governed centrally being decentralized bodies, and a sectorial approach is dominant. As opposed to this, in the case of bottom-up system the formation of regions that are to be developed happens according to endogenous demand, thus in the coordination of developments horizontal co-operations and decentralization is dominant within the framework of local or regional development policies. Top-down and bottom up development policies have been generally sold as two irreconcilable ends of the development intervention spectrum (Pálné Kovács, 2001), the foundations of top-down and bottom-up development policies can be reconciled in a joint "meso-level" conceptual framework (Crescenzi & Rodríguez-Pose 2011). The role, relationship and operational effectiveness of the two systems are determined by the establishment and organization of the given state (Rechnitzer & Smahó, 2011).

The regional aspect and the territorial projections of the phenomenon is a duality of territorial divisions. In the first case (top-down) the policy is linked to a regional administrative system: the territorial administrative division of the country is the basis. In this case central development concepts are carried out through decentralized administrative entities in regional units, or the leaders of regional administrative units develop their own development strategies and endorse them on higher levels, then follow them in officially delimited administrative units. In the second case the formation of the region to be developed is not connected to an existing administrative unit, but the new regional formations are developed based on the territorial concepts of those concerned. In this case it can be talked about regions assigned from above according to the top-down approach, or those formed at lower levels with specific objectives, the formation of which is governed by statutory regulations. In the first case we see perfect territorial division, in the second case there are overlaps and there can be empty territories as well (one unit belonging to more places, or to none of them).

The character of the development strategy is determined by which regional formation it is developed for. Lengyel (2003: 75) formulates the issue of the connection between the

regional units and development the following way: "Do the regions have problems or the problems have regions?" We can distinguish three types of regions: the homogenous region and the nodal (polarised) region from a social and economic perspective and the programming and/or administrative region from a social organizational perspective (e.g. Vanhove & Klaassen, 1983, Lengyel & Rechnitzer, 2005). The homogenous region: the separate spatial units can be linked together by certain common (physical, economic, social) characteristics. The nodal region: a set of units maintaining more connections with one pole order than with any other pole. In the first case it is uniformity, in the second it is difference that connects the region from within, thus in the first case it is formed based on similarity, while in the second the supplemental characteristics are decisive. A separation from a territory with adjacent and similar features/similar organization is a significant characteristic (Szabó, 2005). The administrative regions are mainly nodal regions, because the main function is to serve the inhabitants of the area from the centre of the region. The planning (or development) region may be a nodal region (if the regional policy is one function of the regional administrative council) and may be a homogenous region (if it is based on a common spatial problem).

After all, from theoretical aspect we have two types of development regions. The first is the top-down region, which is usually a nodal (there is a centre and its catchment area), public administrative region, and which has more different (spatial) problems. The second is the bottom-up region, which is usually a homogeneous region, because of the local society and economy has common (spatial) problem(s), and it is based on this important element (or elements) of spatial structure. (This duality in the EU regional policy: the NUTS 2 regions are the part of the top-down system (because the NUTS 2 regions could have regional operational programmes), and the new macroregions (based on Baltic-sea, Danube river, Alps etc., where the landscape is the source of the common spatial challenge or problem), and the EGTC (European Grouping for Territorial Cooperation, where the borders of the countries may be barriers), are examples for the bottom-up formations.)

4 Spatial structure of Hungary

The geomorphological landscape is an important element of the spatial structure. Hungary is a landlocked country, and it is located in Carpathian Basin, and most of the area is plain and hills. This basin in the biogeography system of European Union is one separate region because of unique phenomenon, and Hungary has ten national parks, and about 20% of the area (more than EU-average) is classified into the Natura 2000 (natura.2000.hu). Other important feature is the dense network of rivers, but most of them small, only the Danube, the second longest river in Europe, and Tisza are determinative, by reason of the flooding and limited crossing possibilities (lack of bridges). Hungary has a lot of lakes, and the Balaton is the largest lake in Hungary and in the Central-Europe, and Velencei, Tisza and Fertő lakes stand among them.

The social, economic and political geography of the country is the other side of the spatial structure. The area of Hungary is only 93 thousand km^2, but it has seven neighbouring countries, and their status are different in the EU-system: five of them are the members of the EU, and three of them are in the Schengen area. Due to the political events of 20th century about 2,5 million Hungarian people live in the neighbouring countries.

The concentration of society and economy is determinative also. Hungary has a "big head": the 30% of population and 47% of GDP is located in the Central Region (Budapest and Pest county) (ksh.hu). There is a lack of regional cities (poles) and megalopolis: after the Budapest, which has 1,7 million inhabitants and a large agglomeration, the large cities have only 0,2-0,1 million inhabitants and they are separated from each other. Hungary has a fragmented settlement-network: there are 3155 settlements with local self-government (including 346 cities) (ksh.hu), and there are a lot of small cities without central functions. In the rural area there is an even distribution of settlements and population due to a lot of plains and hills.

The other side of the concentration depends on the networks. Hungary has a monocentric (Budapest-centred) road and rail network, and there is a lack of diagonal motorways and railways. There are eight regional airports, and five of them is international, but only Budapest has a large passenger traffic. From the rivers only Danube is a shipping route, with moderate traffic. The unique places may be important elements of spatial structure if their role and impacts are significant in the country (or in the continent). In Hungary there are twenty-two wine-growing regions, nineteen large thermal baths and eight World Heritages, and these are relatively evenly distributed in the country. (The settlements where large companies have sites may be also important nodes of spatial structure.)

The third side of the spatial structure is the figure of regional development inequalities: Central Region and North-western part of Hungary are more developed, and Southern Transdanubia and North-eastern part of Hungary is less developed area in the country (Tóth, 2013, Pénzes, 2014).

The elements of the spatial structure may be problems or possibilities for the regions, which depends on a lot of factors, mainly the actual political, social, economic situation and the level of development of the country. In the 21th century in Hungary the lack of regional poles, lack of motorways between the large cities and the lot of small less developed microregions are the main problems in the spatial structure. There are some elements which are problems or possibilities, for example the border, which in the western part of the country is permeable (commuting etc.), but in the southern part it is problematic (migration etc.), or the plains, where the agriculture, natural environment are benefits, but in some areas the flooding and in others the drought is a problem, or the rivers, which are serious barrier if there is lack of bridge, and the flooding may be a problem, but the drinking water, irrigation water, the recreation area etc. are benefits.

Some elements are actually principally possibilities for the regions in Hungary: for example, the lakes or the National parks, which are utilized in the tourism.

5 Top-down and bottom-up development regions in Hungary

In Hungary the administrative division of territory was always raised as a supreme governmental and political question (Hajdú, 1989), and the creation of units of territorial decision-making depends on countless factors from historical traditions, landscape, settlement geography to the most pragmatic political interests (Pálné Kovács, 2001). In this chapter we analyse the impacts of the elements of spatial structure for two territorial systems.

The first is the level of counties (which is the NUTS 3 level in the EU-system). In Hungary there are 19 counties and the capital, and this level is included in the constitution (Fig. 1.). The counties are 1000 years old, but of course, the borders and functions have changed a lot. The actual version of the borders is existing since 1950, and the counties have regional self-governments, and these has been units of regional agencies of the central administration since 1990, as well. The regional policy is one of the functions of the counties since 1996, but they have adequate instruments and budget for this policy only after 2013 (in the new EU-period). For this EU-period (2014-2020) they have prepared the documents of regional development (concepts and programs), which include their problems and challenges ("the problems of the region").

Figure 1: The counties in Hungary (2017) (Source: www.ksh.hu)

Source: www.ksh.hu

In the Table 1. the counties are sorted based on eight important elements of the Hungarian spatial structure. At first the natural elements: we suggest to have two types of geomorphological landscape together (plain and hill (or low mountains)) is a spatial challenge (column LA), and in Hungary 12 counties (60%) are affected by this phenomenon. The four big lakes lie in six counties (30%) (column GL), and 12 counties (60%) are crossed or affected by big river (column GR). The ten National Park lie in 16 counties (80%) (column NP). At second the social-economic side: the national border is the part of the boundary line in 14 counties (70%) (column NB), and in five cases two countries are in the neighbourhood. The lack of large cities (where population more than 100 thousands) is problem for 11 counties (55%) (column LLC) and there is the lack of motorway in 5 counties, and in 2 counties the regional centre is not affected by motorway (35%) (column LMW). In Hungary 36 microregions from the 194 are qualified less developed areas by a regulation (105/2015), and 13 counties (65%) have minimum one from these problematic areas (column LDR).

The results show most of the counties (80%) have more than three spatial challenges, and three of them (Somogy, Komárom-Esztergom and Veszprém) have six elements (or lack of elements) of spatial structure. On the other hand, beside Budapest, three counties from the Hungarian Great Plain (Hajdú-Bihar, Szabolcs-Szatmár-Bereg and Csongrád) have only three spatial challenges (in our system). Based on our viewpoint the previous ones are more heterogenous and the latter ones are less heterogenous nodal regions. The results show that also, the counties are different from each other in the spatial challenges (there are not similar units), and if we look at the seven regions of NUTS 2 level (which are includes counties), we can establish there is only one or two common spatial "problems" from the eight elements. (That is important, the level of development of the counties is not correlated with the number of elements of spatial structure, because of the different roles (problem or/and possibility) of the elements.) Finally, we establish in the case of counties that, this statement is true: "the regions have (more spatial) problems".

Table 1: Distributions of some elements (or lack of element) of Hungarian spatial structure in the counties (2017)

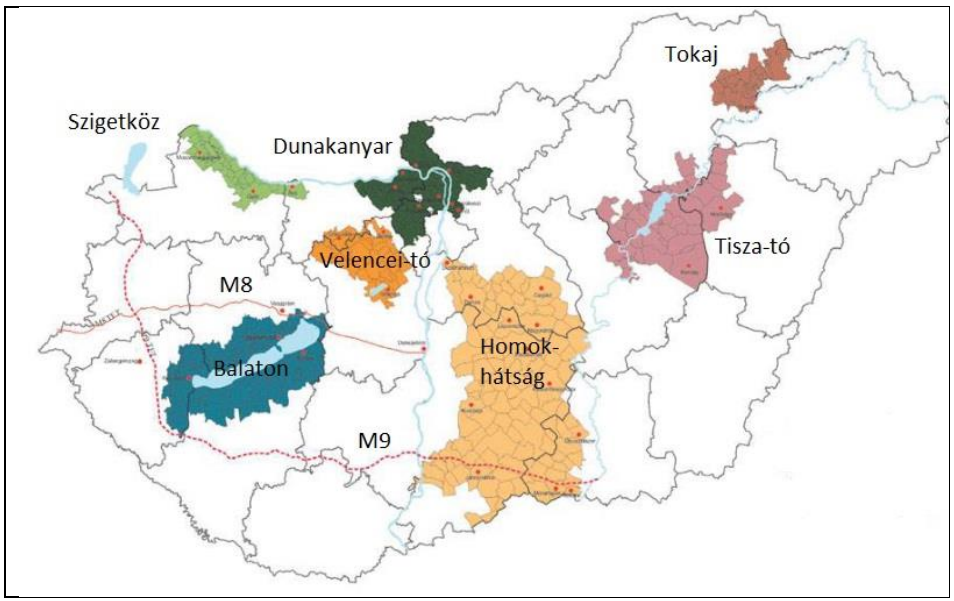
COUNTIES	NP	NB	LDR	LA	GR	LLC	LMW	GL	TOTAL
SOMOGY	1	1	1 (2)	1	-	1	[1]	1	6
KOMÁROM-E	1	1	-	1	1	1	-	-	6
VESZPRÉM	1	-	1	1	-	1	1	1	6
BARANYA	1	1	1 (2)	1	1	-	-	-	5
BORSOD-A-Z	1	1	1 (8)	1	1	-	-	[1]	5
NÓGRÁD	1	1	1	-	-	1	1	-	5
BÉKÉS	1	1	1 (2)	-	-	1	1	-	5
VAS	1	1 (2)	-	1	-	1	1	-	5
ZALA	1	1 (2)	-	1	-	1	[1]	1	5
PEST	1	1	-	1	1	1	-	-	5
TOLNA	1	-	1	1	1	1	-	-	5

COUNTIES	NP	NB	LDR	LA	GR	LLC	LMW	GL	TOTAL
HEVES	1	-	1	1	[1]	1	-	1	5
BÁCS-K	1	1	1 (2)	-	1 (2)	-	-	-	4
GYŐR-M-S	1	1 (2)	-	-	1	-	-	1	4
JÁSZ-N-SZ	[1]	-	1 (2)	-	1	1	1	[1]	4
FEJÉR	-	-	1	1	1	-	-	1	4
HAJDÚ-B	1	1	1 (4)	-	[1]	-	-	-	3
CSONGRÁD	1	1 (2)	-	-	1	-	-	-	3
SZABOLCS-SZ-B	-	1 (2)	1 (9)	-	1	-	-	-	3
BUDAPEST	-	-	-	1	1	-	-	-	2
TOTAL	16	14	13	12	12	11	7	6	91
TOTAL (%)	80%	70%	65%	60%	60%	55%	35%	30%	-

[1] = little part of the county is affected; (2) = there are more than one in the county

The regulation about the regional policy in Hungary gives possibility to the regional self-governments (of the counties) to establish common territorial development council for the solving the spatial problem(s) of a continuous area (but the borders may cross the boundary lines of the counties). In 2017 nine councils are existing (Fig. 2.). In Table 2. we summarised the information about these councils.

Figure 2: The Territorial Development Councils in Hungary (2017)



Source: FVR 2016

We can establish that five of the councils based on rivers or lakes. The area of Danube has different possibilities and problems, and in two cases these generated territorial organizations. The Szigetköz is in the north-western part of Hungary, where the Danube has several river branches, and this is a unique place in Central and Eastern Europe. It has a chance to develop the water tourism, but formerly the lack of water, later the changeable water level is a problem, because a hydropower-plant is working in the neighbouring region in Slovakia. The Dunakanyar is a popular resort area near to Budapest, but the most of the tourists are daily tourists, and the lack of ports and bridges are problems in the life of the area.

Three lakes are bases of councils. The council of lake Balaton resort area has the largest area (180 settlements) among the bottom up regions, but the common development is limited by the administrative fragmentation (3 counties and 3 NUTS 2 regions are affected) (Kabai & Szabó, 2016). The mixed local society (inhabitants, holiday home owners, tourists) means a big challenge, and the limited economic potential and decreasing tourism are problems. This council is included in the regulation of Hungarian regional policy, because this is the most important Hungarian touristic region after Budapest. The Tisza-lake is a 40 years old artificial lake, but despite the new functions (mainly tourism) it is a less developed area, with vulnerable ecological system. In this area four counties are represented. The Velencei lake together with a low mountainous area (Vértes) is near to Budapest, and it gives a possibility to the daily tourism, but the scarce traffic network and the insufficient touristic infrastructure are problems in this area. The territorial development councils of these five "water-areas" have formulated development objectives, and the tourism got high priority.

Two of the councils were based on the lack of motorway. In the construction of the shorter planning diagonal (south of Budapest) motorway (M8) across Transdanubia three counties, and in the construction of longer planning motorway, across southern and eastern part of Hungary (M9) eight counties are interested.

Homokhátság is a special area in Great Plain, between Danube and Tisza river: the climate change, with increasing drought and decreasing of ground-water level, is a big problem on this agricultural area. The low settlement and population density with a special form of settlements (tanya – farmstead) is a typical problem also here. The council of this area would like to ensure the suitable water supply, and to renew the settlements.

A unique and famous place is Tokaj (probably the most famous Hungarian wine-growing area and one of the Hungarian World Heritages). The different economic possibilities coupled with difficult accessibility, and the political interests are important features of this area. This area and council, beside Balaton, is included in the regulation of regional policy.

Between 1998-2013 a development council worked in the agglomeration of Budapest. After 2013 this area is an official statistical area only, and between the separated regional self-government of Pest and local self-government of Budapest, only a moderate territorial institution (a forum of the coordinations) works and has role in the common territorial development, although this is the largest concentration of society and economy in Hungary.

Table 2: The features of territorial development councils in Hungary (2017)

ELEMENTS OF SPATIAL STRUCTURE	TERRITORIAL DEVELOPMENT COUNCIL	COUNTIES (NUMBER OF SETTLEMENTS)	PROBLEMS (Source: FVR 2016)
DANUBE	Szigetköz Felső Duna-mente	2 (34)	lack of water in the river branches, changeable water level, few tourists
	Dunakanyar	2 (90)	most of the tourists: daily tourist, lack of ports and bridge, flooding
BALATON	Balaton (in the reg. XXI./1996)	2 (180)	decreasing tourism, limited economic potential, lake is in 3 counties (and regions) etc.
TISZA-LAKE	Tisza-tó	4 (43)	vulnerable ecological system, few tourists, less developed area
VELENCEI-LAKE	Velencei tó és térsége, Váli-völgy, Vértes	2 (37)	few tourists, scarce traffic network
HOMOKHÁTSÁG PART OF GREAT PLAIN	Duna-Tisza közi Homokhátság	3 (117)	climate change, ground-water level is decreasing, water resupply
TOKAJ – WINE-GROWING AREA, WORLD HERITAGE	Tokaj Borvidék (in the reg. XXI./1996)	1 (27)	difficult accessibility (political interests)
LACK OF M8 MOTORWAY	8-as főút	3	lack of motorway between large cities
LACK OF M9 MOTORWAY	M9	8	lack of motorway between large cities
(AGGLOMERATION OF BUDAPEST)	(Budapesti Agglomerációs;	2 (Budapest+77)	(coordination of connections

ELEMENTS OF SPATIAL STRUCTURE	TERRITORIAL DEVELOPMENT COUNCIL	COUNTIES (NUMBER OF SETTLEMENTS)	PROBLEMS (Source: FVR 2016)
	between: 1998-2013) Statistical area		between capital and agglomeration)

A big difference between two types of development regions (counties and bottom-up regions) is the financing. The counties are the beneficiaries of EU supports by Operational Programs, so that they have a broad financial framework to deal with the spatial and natural, social, economic problems (but the targets of EU 2020 strongly restrict the projects, mainly in the case of spatial problems). At the same time, the territorial development councils work based on the institutions and budget of counties, and they do not have independent financial resources. In this system the elements of spatial structure are rarely specifically in the focus, and the common spatial project (for more counties) may be only in the priority projects of the government. From the two main components the lake Balaton – after many decades – in 2017 has become a priority area, not only in the regulations, but financially also. However, the central region (which is not a convergence region in the EU, because the GDP per capita is higher than 75% of EU-average, so there is little territorial financial support from EU) has problematic institutional system by a view-point of regional development.

6 Conclusion

Hungary has not a complicated spatial structure, but there are some determinative elements: the big role of the natural waters (rivers, lakes), the central region with large concentration of society and economy, and the lack of regional poles and rare network of modern transport. Some elements (or lack of element) of spatial structure have important effect for the territorial systems of development regions in Hungary. The analysis of level of counties and the territorial development councils showed that not only one or two determinative elements of the spatial structure is appeared in the administrative (top down) development units (counties), because these are nodal, administrative regions with historical boundaries, so they have usually four, five, six spatial problems. At the same time the territorial units of bottom-up organizations are based on the important elements (or lack of element) of spatial structure, which is advantageous to deal with the problem, but in the case of these formations the problem is the lack of money. In the future it would be useful to strengthen the bottom up system of regional policy in Hungary.

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