

Competitiveness vs. cohesion objectives and the allocation practice in the Cohesion Policy – Results of an empirical research

Lóránd, Balázs¹ – Lukovics, Miklós²

In the European Union during the 2007-2013 programming period more serious attention has been paid to fostering the economic, social and territorial cohesion and to reduce the territorial disparities than ever. Cohesion efforts are complemented with the objectives of strengthening competitiveness, both of which are contributing to reach the aims of the EU development policy. However, the aims of cohesion and competitiveness are not the same, and therefore can be associated with the improvement of areas with different development levels. Careful interventions are needed during the territorial allocation of development funds, because if the majority of the funds go to the relatively more developed areas then it can further strengthen the territorial disparities instead of fostering convergence which was the original goal.

Therefore it is useful to analyze the territorial allocation of the funds of the first National Development Plan of Hungary on the level of micro-regions, and the connection between the allocation and the territorial distribution of competitiveness types. The similarity (or dissimilarity) of the two distributions shows us whether certain funds strengthened competitiveness or cohesion, and therefore they decreased or increased the territorial disparities.

Observing the database of the NDP funds and competitiveness in the 2004-2006 period and based on the results of cluster analysis we can conclude that the ECOP (Economic Competitiveness Operational Program) strengthened mainly competitiveness in the micro-regions, which is in line with its original objective. Using the same methodology the results in case of the whole NDP pointed out a stronger competitiveness strengthening focus than reasonable. To reach more precise results we applied the method of multidimensional scaling and we received the same conclusions as previously, which means that in the tendering system of ECOP the more competitive micro-regions got relatively more funds than the less competitive ones. At the same time within the frames of the same operational program, there were some interventions (with relatively large amount of money) concentrating on the cohesion objective. The fund allocation mechanism of the whole NDP was dominantly convergence-centered, thus it allocated more funds for the less competitive micro-regions. Nevertheless, there were some significant interventions concerning the whole NDP which fostered competitiveness (mainly ECOP and HRDOP – Human Resource Development Operational Program). Finally, according to our analysis of the allocation of the funds, we can conclude that the whole NDP mainly attempted to reduce the territorial disparities. However, all of these still do not guarantee the “real convergence”, as to reach this the utilization of the development funds (also in the less competitive areas) should be effective and efficient as well. This analysis is going to be the next phase of our research.

1. Introduction

Based on the documents underlying the regional policy of the European Union it is clear that the EU has accepted the approach that competition can be interpreted between territorial units as well (EC 1999a, EC 1999b, EC 2004b, EC 2004c, EC 2006a, EC 2006b). Few principles (subsidiarity, programming, partnership) determining the operation of Structural Funds in the 2007-2013 programming period can be connected to territorial competition and refers to the fact that besides top-down approach local activities need to have an outstanding role (EC 2004b). Territorial tendencies of the previous years show that spontaneous initiatives do not decrease

The research was supported by the Baross Gábor Programme of the Hungarian National Office for Research and Technology (NKTH): BAROSS-DA07-DA-ELEM-07-2008-0001.

¹ Lóránd, Balázs Ph.D assistant lecturer, University of Pécs Faculty of Business and Economics Department of Business and Management Studies (Pécs, Hungary)

² Lukovics, Miklós Ph.D senior lecturer, University of Szeged Faculty of Economics and Business Administration Institute of Economics and Economic Development (Szeged, Hungary)

territorial disparities; therefore in regions originally underdeveloped community-level subsidies are necessary.

The regional policy of the European Union can only reach its primer aim, to moderate territorial disparities, if the distribution of EU funds follows the logic mentioned above. However, in that case if EU funds aimed to decrease the level of territorial disparities and allocated by social solidarity are not utilized in the underdeveloped areas, then just the opposite of the intended effect of the EU will occur and territorial divergence will gain strength.

There is one way to analyze the relative development level of regions originating from the definition of competitiveness, which in consequence of the special features of global competition has become one of the central concepts. The 2007-2013 programming period of the European Union pays special attention to competitiveness and to factors fostering competitiveness for the sake of cohesion and convergence.

In the scope of our research are the micro-regions, because in regional sciences the local level is getting more important, being the place of the key competencies where the companies' competitive advantages are concentrated and the local actors can implement their initiatives for economic development with their cooperation.

By virtue of the reasoning above, we compare the territorial distribution of the EU funds with the spatiality of competitiveness on the level of micro-regions in the following. In this investigation we try to find the answer to the question whether the funds of NDP have contributed to the primer aim of the European Union's regional policy, i.e. to the implementation of territorial convergence or they influenced disparities just the opposite way thereby strengthening territorial divergence.

2. Territorial disparities in the European Union

Economic and social cohesion, resultant from the history of integration, is a segment of the European Union's regional policy becoming more important. Even in the 130. Article of the Single European Act in 1987 specified the main goals of regional policy, among which the most underscored are to reduce the disparities between regions and to decrease the differences in opportunities deriving from overdue development (EC 1987).

From 1988 to 2004 territorial disparities were, even slightly, decreasing in the EU. In this period convergence was to be observed in case of underperforming member states both regarding GDP/capita and employment (EC 2004a). It was pointed out by several researches dealing with the period preceding 2004 that although convergence among EU member states exists, regional disparities within countries have scarcely changed; still large extremities can be realized.

In spite of the fact that the gradual enlargement process of the European Union has spectacularly drawn the attention that regional policy should concentrate remarkable resources on reducing territorial disparities, we have to take that economic principle into consideration that to a certain degree of economic development territorial disparities increase in accordance with the widely known Williamson's hypothesis. In connection with Williamson's hypothesis as an economic concept it has to be noted that its views are not valid within the frames of all theoretical economic streams (Fenyővári–Lukovics 2008).

3. General experiences of the cohesion policy

In the past decades cohesion policy can be evaluated as successful from some aspects and failure from some others (Horváth 2006). Furthermore, the implementation of convergence – either on the level of regions or member states – is a positive effect, but in itself it is not

sufficient to prove the effectiveness and efficiency of cohesion policy. The question arises to what extent the Structural and Cohesion Funds of the EU could contribute to this convergence (MNB 2006).

The official stance of the European Commission can be found in the Fourth Report on Economic and Social Cohesion (EC 2007) in which the efficiency of the cohesion policy is intended to be quantified by the usage of macroeconomic models (HERMIN, EcoMod, QUEST). Their results show that as a consequence of the cohesion interventions in the 2000-2006 period, the GDP growth in member states has increased by 0.1-2.8 % to 2006 compared to the reference value.

Success of cohesion policy has been studied by analysts independent from the European Commission as well and they have detected several positive and important results; furthermore, the utility of cohesion policy has been shown in other fields as well. According to the opinion of the opposite side cohesion (structural, regional) policy intended to reform the economic space unsuccessfully in the past decades, while the amount of the available sources was continuously growing. Besides problems in the field of convergence, criticism with different focus has been published in literature regarding cohesion policy. (Table 1)

Table 1
Evaluation of the cohesion policy's efficiency

Aspects	Positive	Negative
Results	Strengthening GDP growth Increasing employment	Failure in reforming the economics space The most supported regions could not change their lagged behind status
Reasons	Larger subsidies for underdeveloped regions Setting proper goals	Sources are not sufficient Utilization of funds is not sufficient (development of human resources and education are among the less preferred areas) Interventions are not region-specific enough
Other effects	Consolidating democracies Increasing welfare Preventing from exaggerated migration Creating a more precise planning and evaluating practice Preparing analyses and evaluations Additional sources Learning process	Money-go-round (support of developed member states from their own contributions) Inflexibility Excessive complexity Financial burden of sustaining institutions

Source: own construction based on Bachtler 2008, Boldrin – Canova 2001, Bouvet 2003, Bradley 2005, Cappelen et al. 2003, EC 2007, Economist 2007, Ederveen et al. 2002, Ezcurra et al. 2007, Martin 1999, Palócz 2005, Petrakos et al. 2005, Rodriguez – Fratesi 2002, Trón 2008, Váradi 2006, Váradi 2007

4. Competitiveness and convergence in the 246 operational programs of the EU

On 22 June, 2009, a report was prepared on behalf of the European Union, which studied the potential of the EU regional policy's toolkit within the framework of an empirical research, focusing on the Lisbon and Gothenburg goals. The analysis observed the instruments of cohesion policy in 27 member states of the EU, through the examination of 246 operational programs. The analysis concluded several important statements which reveal relevant relations from the perspective of our research. One of the most important comprehensive conclusions is that the Convergence and Competitiveness and employment programs supporting the first two aims of Structural Funds both contribute to achieve the Lisbon and Gothenburg goals.

Another substantial metaphorical statement of the document is that there are six different roads or strategies that member states and regions follow to attain the Lisbon and Gothenburg goals. These roads are separated into two main categories, one of which is competitiveness and the other is convergence, both of which containing 3-3 roads (EC 2009, 96):

- „1. Competitiveness (innovation and knowledge)
 - Niche focus on innovation, knowledge, ICT and entrepreneurship
 - Exploiting specific territorial challenges and potentials
 - Developing environmental and economic synergies

- 2. Convergence (infrastructure, accessibility and innovation)
 - Growth and jobs infrastructure
 - Human and institutional capacity
 - Addressing settlement patterns and territorial cohesion”

On the analogy of the six roads such conclusion can be drawn that to the priorities of both convergence (Objective 1) and competitiveness (Objective 2) can such factors be assigned which mainly increase competitiveness (e.g. innovation), however, with different content and intensity.

The report classified member states into three groups based on the objective (either competitiveness or convergence) which dominates in the operational programs of the countries, therefore the third group included those where the two priorities are equally present. Hungary belongs to the countries mainly possessing convergence-oriented operational programs, which means that in its operational programs cohesion effects are determinant, but competitiveness effects can be realized as well.

Table 2
Description of the „roads” to Lisbon and Gothenburg

Name of the „road”		Name of the country	GDP/head (%) EU27=100 % (2007)	GERD /GDP (%) (2006)	Energy Intensity	Features
COMPETITIVENESS	Innovation	Luxembourg	278	1,57	190	Focus on innovation and entrepreneurship
		Ireland	146	1,32	144	
		Denmark	126	2,43	114	
	Territorial potential	Netherlands	131	2,45	196	Addressing regional challenges and potential in relation to globalisation – often an innovation & entrepreneurship focus
		Belgium	120	1,83	205	
		Sweden	125	3,82	204	
		Finland	117	3,45	242	
		Germany	114	2,51	157	
	Environmental synergy	Austria	128	2,45	149	Focus on growth but also looking for environmental synergies – often with an innovation component
		UK	118	1,76	203	
		France	111	2,12	186	
		Italy	103	1,1	191	
	CONVERGENCE	Growth / jobs	Spain	105	1,15	219
Portugal			75	0,81	241	
Greece			98	0,57	237	
Malta			77	0,55	270	
Cyprus			92	0,42	245	
Czech Rep.			79	1,54	823	
Slovenia			88	1,59	320	
HUNGARY		65	1	544		
Human capacity		Estonia	69	1,14	967	Building and realising human and institutional capacity
		Lithuania	56	0,8	949	
		Latvia	54	0,69	645	
Cohesion infrastructure		Poland	52	0,56	585	Using infrastructure to bridge urban/rural gap, economic development priority
		Slovakia	64	0,49	869	
	Bulgaria	38	0,48	1592		
	Romania	39	0,46	1185		

Source: EC (2009, 97)

Comments: GERD refers to Gross Domestic Expenditure on Research and Development
Energy intensity equals the domestic energy consumption in 2005, adjusted to GDP (the price of one kilogram oil is equivalent to 1000 Euros)

5. Definition and analyzing opportunities of territorial competitiveness

The idea of competitiveness has become ingrained in the terminology of EU's regional policy. It becomes increasingly accepted that not only companies but territorial units compete with each other (Lengyel 2010). Related to this, the regional policy of the EU the aim of which is to implement a harmonized and balanced regional development has considered the development of the regions' competitiveness the most important and most effective instrument of cohesion and convergence for years.

Competitiveness has well-known, different approaches, from which in our study we use the most widely accepted and unified one which has originated in the already presented definition of territorial competition: "Competitiveness is ... therefore the ability of companies, industries, regions, nations and supra-national regions to generate, while being exposed to

international competition, relatively high income and employment levels" (EC 1999a, 75, Lengyel 2000, 974). There is no one chosen indicator of regional competitiveness deriving from the unified concept of competitiveness, but it is a collection of closely interlinked, relatively well measurable and definite economic categories (DTI 2004, Huggins 2003, Lukovics 2008).

It is possible to define and measure the competitiveness of regions, regions can be compared to each other based on their competitiveness, and furthermore, competitiveness ranking can be set up (Lukovics 2008). Consequently, according to our judgment, multivariable data analysis methods can be successfully applied in competitiveness analyses, it is possible to prepare much more complex competitiveness analyses than simple descriptive statistics.

6. Competitiveness types of Hungarian micro-regions

One of the most important questions is that how the competitiveness of Hungarian territorial units can be measured with the standard of the European Union (Katona 2000). Obviously the way is to apply such methods which interpret competitiveness in line with the definition worked out, accepted and used by the European Union.

6.1. Methodology, database

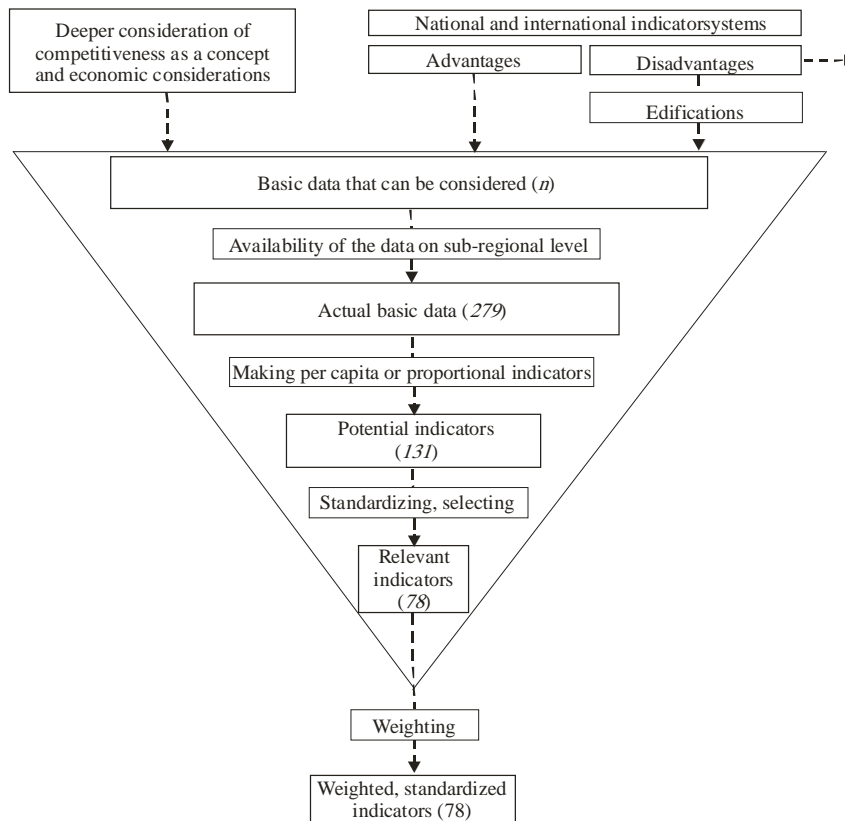
It is attained in our study that the basis of the analysis is the unified (standard) competitiveness definition published in the Sixth Periodic Report of the European Union. The closed logical system of the applied method is ensured by that fact that the selection of indicators is coordinated by the pyramid model, i.e. the model unfolding the definition of standard competitiveness (Lengyel 2000). The fundamental categories of the pyramid model on which our analysis is based on are measurable economic categories evolving from the standard competitiveness definition of the European Union.

It is relevant that the final database – which serves as a base for multivariable data analyzing methods – develops from the results of a multi-step process. By selecting potential indicators with the help of main component analysis we can get the effective and relevant indicators which become eventually the ground for the analysis. Concerning the database, the standardization of relevant indicators and weighting are included in the process of completion (Diagram 1).

90% of hard statistics included in the database derives from the National Regional Development and Spatial Planning Information System (the additional 10 % data stems from the central database of the Hungarian Central Statistical Office the website of the Hungarian Patent Office And the website of the Hungarian Academy of Sciences).

It is important to emphasize that the main components describing the certain basic categories, fundamental and success factors retained the information content of explanatory variables generating main components in 80.26 % on average. Based on this, it can be concluded that after selecting the variables, the 78 effective, standardized variables generating the model can be regarded as relevant from our investigation's perspective, so it can serve as the basis of the analysis.

Diagram 1
Process flow diagram of generating indicators



Source: Lukovics (2008)

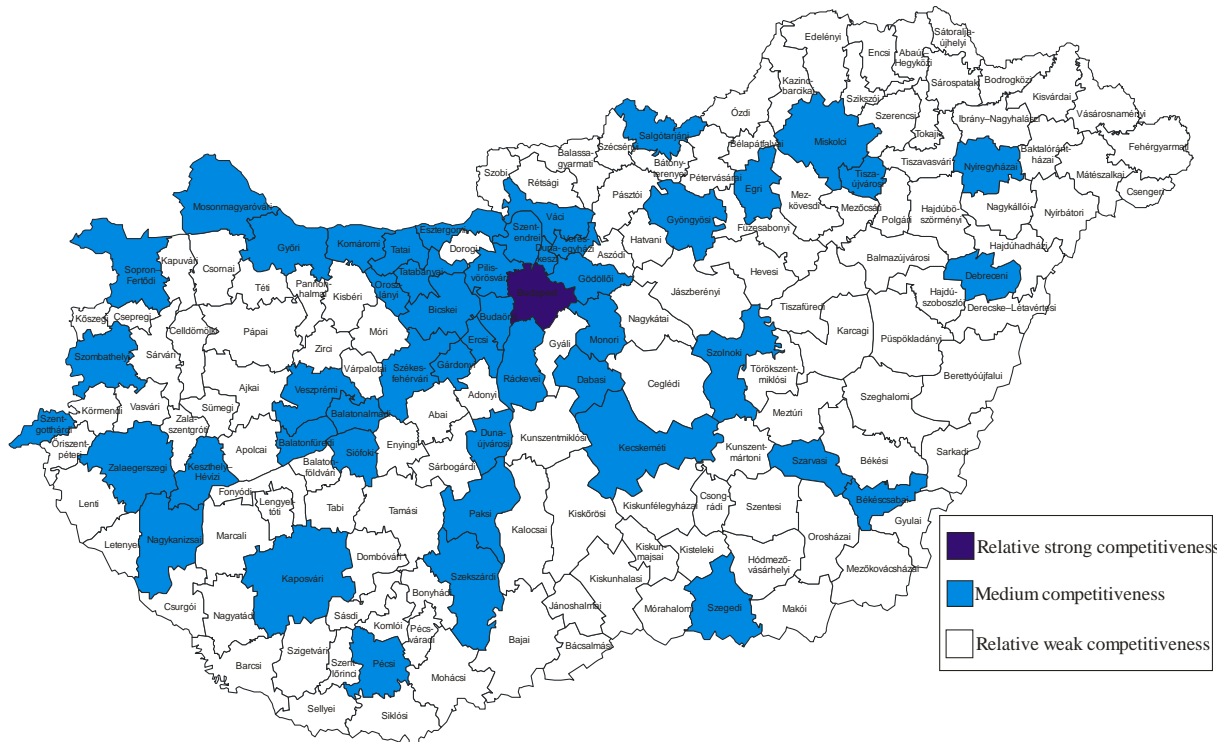
After the selection of variables we determined the weights of the remained 78 standardized variables in the pyramid model. Within the frames of the empirical application of the worked out process, the complex competitiveness classification of the 168 Hungarian micro-regions was implemented, only the methodological aspects of which are discussed in this study.

6.2. Competitiveness types of the 168 Hungarian micro-regions

We applied cluster analysis and multidimensional scaling to the complex analysis of micro-regions' competitiveness in order to ensure that the results stemming from one of the models could be comparable, therefore controllable the results from the other.

Concerning the territorial distribution of the three competitiveness types it can be stated that significant spatial concentration of micro-regions with medium competitiveness evolved around Budapest, being the only micro-region with relatively high competitiveness (Diagram 2).

Diagram 2
Territorial distribution of theoretical competitiveness types, 2004



Source: Lukovics (2008)

The type of region with medium competitiveness appears clearly in the micro-regions of chief towns of counties and larger cities. The territorial distribution of regions with medium competitiveness seems to be influenced by the main transport lines as remarkable concentration of regions with medium competitiveness can be observed along highways and along the Danube. According to the results of our analysis the closeness to developed Western centers also influences the competitiveness of certain micro-regions in a positive way.

7. Types of Hungarian micro-regions based on tendering productivity

The next steps of our observation were the spatial analyses of tendering activity and efficiency. The aim of the empirical research is to point out which micro-regions received proportionally significant amount, average amount and below the average of subsidies within the frames of the first National Development Plan of Hungary (in the 2004-2006 period).

7.1. Methodology, database

In order to conduct the research we assigned variables to the conceptual categories. On one hand, we examined the tendering activity, which can be quantified on the following variables of the micro-region: applied funds per inhabitant (in thousand HUF), planned total cost per inhabitant (in thousand HUF) and number of planned projects per 10.000 inhabitants. On the other hand, we examined the tendering efficiency, based on the obtained funds per inhabitant (in thousand HUF), approved total cost per inhabitant (in thousand HUF) and number of implemented projects per 10.000 inhabitants. We created these variables for all micro-regions in case of all operational programs (and for the whole NDP) for the 2004-2006 time period.

To prepare the database we applied the data of the Unified Monitoring Information System. The database contains all data of the applied 40.998 tenders in the 2004-2006 time period within the frames of the first National Development Plan on the level of micro-regions. The date of data acquisition: 26 March, 2008.

From the possible analyzing methods and statistical instruments we have chosen factor analysis and cluster analysis (again). With the application of factor analysis our aim was to decrease the number of variables; we succeeded in compress the subsidy variables (30) calculated originally for all operational programs into three factors in case of the first NDP. In virtue of the three-factor solution of NDP we claim that the variables of the Regional Operational Program and Agricultural and Rural Development Operational Program and separately the variables of the Human Resource Development Operational Program and the Economic Competitiveness Operational Program can be compressed into different factors, while the variables belonging to the Environmental and Infrastructure Development Operational Program are completely separated from the previous ones.

The aim of cluster analysis was to establish homogeneous groups on the level of micro regions. In case of the cluster analysis prepared for the Economic Competitiveness Operational Program we applied all of the six, previously mentioned variables, proper to characterize tendering activity and efficiency, for the analysis.

7.2. Types of the 168 Hungarian micro-regions based on tendering activity and efficiency

In case of this analysis it seemed to be rational to establish three clusters both in case of operational programs and NDP. We characterized them on the basis of the original variables, examining the average and standard deviation in the groups in case of all clusters.

Analyzing the Economic Competitiveness Operational Program it can be stated that with the help of variables applied to establishing clusters we succeeded in defining three groups, all of which is homogeneous concerning tendering activity and efficiency (Table 3).

Table 3
Characteristics of clusters in case of ECOP

		<i>1.</i>	<i>2.</i>	<i>3.</i>
variables of tendering productivity	applied ECOP funds per inhabitant (in thousand HUF)	15,74	33,34	51,06
	planned ECOP total cost per inhabitant (in thousand HUF)	32,83	77,24	140,32
	obtained ECOP funds per inhabitant (in thousand HUF)	6,86	16,74	27,63
	approved ECOP total cost per inhabitant (in thousand HUF)	13,69	36,56	62,04
	number of implemented ECOP projects per 10.000 inhabitants	4,57	9,00	14,70
	number of planned ECOP projects per 10.000 inhabitants	10,18	18,21	27,78

1: micro-regions with relatively low tendering activity and efficiency

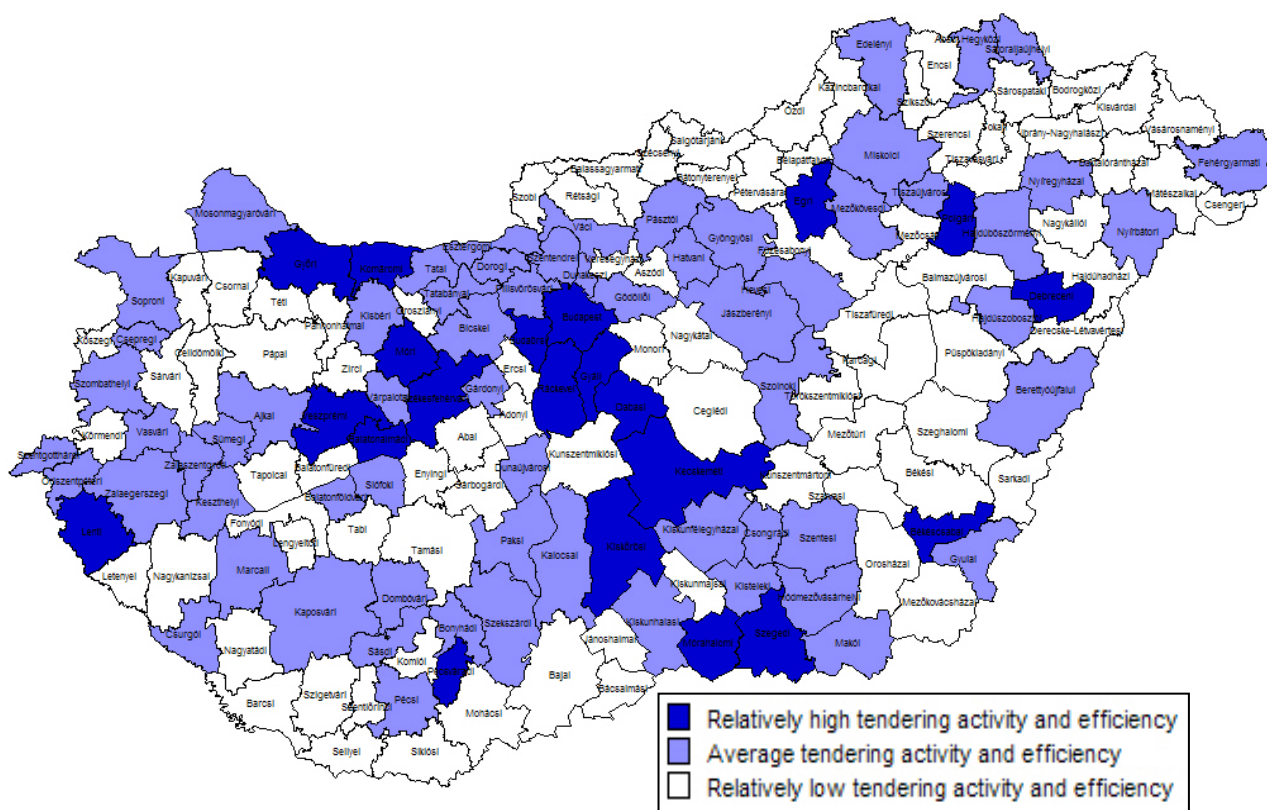
2: micro-regions with average tendering activity and efficiency

3: micro-regions with relatively high tendering activity and efficiency

Source: Lóránd (2009)

The territorial distribution of micro-regions (Diagram 3) shows that large proportion of micro-regions with relatively high tendering performance are in the counties of Pest (4), Veszprém (2), Fejér (2), Bács-Kiskun (2) and Csongrád (2).

Diagram 3
Classification of micro-regions based on the results of ECOP clusters



Source: Lóránd (2009)

In case of NDP only the previously established three-factor cluster analysis resulted in interpretable solution, i.e. we succeeded in generating homogeneous groups concerning tendering activity and efficiency this way (Table 4).

Table 4
Characteristics of clusters in case of the first NDP

		1.	2.	3.
variables of tendering productivity	applied NDP funds per inhabitant (in thousand HUF)	135,38	154,33	205,15
	planned NDP total cost per inhabitant (in thousand HUF)	218,03	252,58	331,85
	obtained NDP funds per inhabitant (in thousand HUF)	53,38	77,01	83,80
	approved NDP total cost per inhabitant (in thousand HUF)	93,12	120,93	147,43
	number of implemented NDP projects per 10000 inhabitants	18,48	20,94	29,48
	number of planned NDP projects per 10000 inhabitants	34,28	40,46	55,96

1: micro-regions with relatively low tendering activity and efficiency

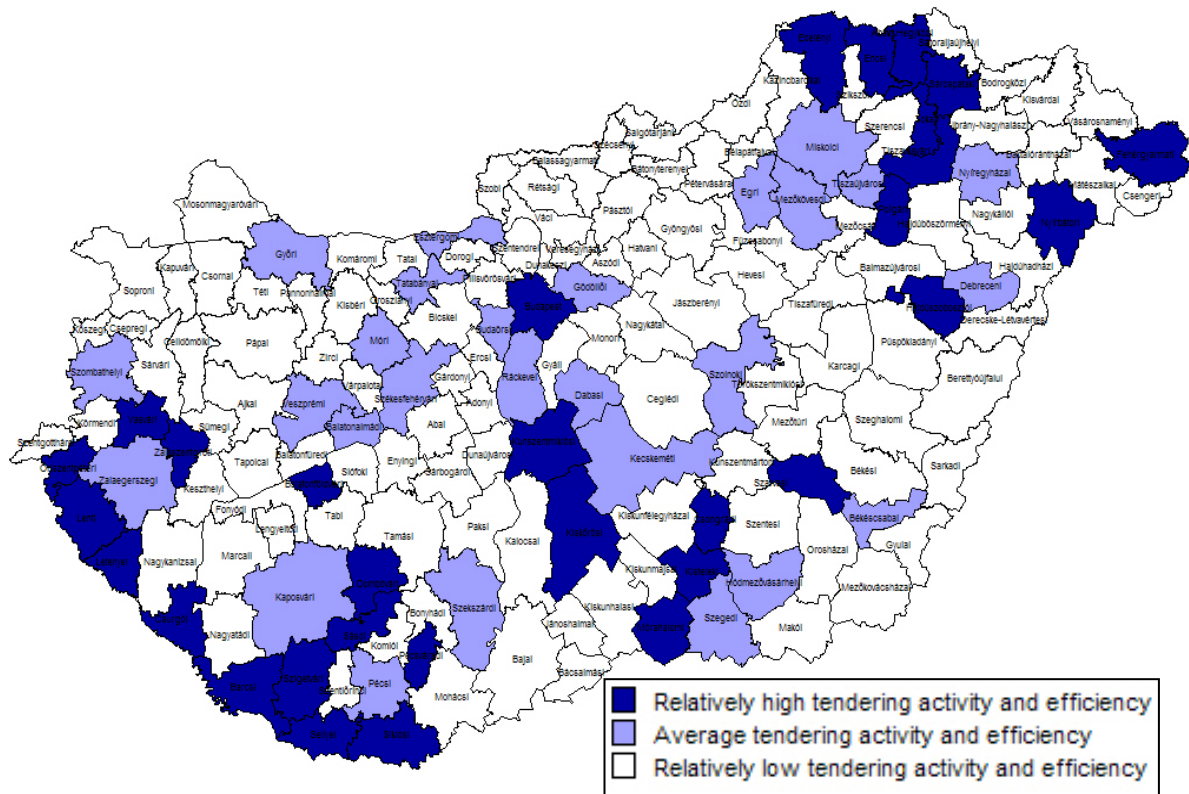
2: micro-regions with average tendering activity and efficiency

3: micro-regions with relatively high tendering activity and efficiency

Source: Lóránd (2009)

Diagram 4

Classification of micro-regions based on the results of cluster analysis in case of the first NDP



Source: Lóránd (2009)

8. The relations of competitiveness and tendering performance on the level of micro-regions

In the followings we intended to investigate to what extent the territorial distribution of the NDP's financial sources covers the competitiveness types of micro-regions. The applied methodology was multivariable data analysis.

8.1. Comparison of the cluster analysis' results

Concerning the results of the analyses it can be declared that with the usage of cluster analysis only basic tendencies are observable, because the method is not sufficiently sensitive instrument.

If we compare the three clusters of competitiveness with the other three of ECOP, then we can conclude that 61% of the 168 Hungarian micro-regions (103) belong to the same cluster in both categorizations. This means that at these 103 micro-regions the ones with relatively low level of competitiveness have relatively low tendering activity and efficiency as well, the others with average competitiveness have also average tendering activity and efficiency and in the last group the micro-regions with relatively high level of competitiveness have relatively high level of tendering activity and efficiency too.

We have found eight micro-regions the competitiveness classifications of which are higher than their classification based on their tendering activity and efficiency: these micro-

regions could not utilize the tendering potential adequate to their relatively favourable competitiveness position.

On the contrary, 57 micro-regions proved to be on higher level regarding their tendering activity and efficiency than in case of the competitiveness classification. Analyzing ECOP we have found 7 micro-regions in case of which the lowest possible competitiveness classification coupled with the highest possible activity and efficiency rates in ECOP, which means that these micro-regions with relatively low competitiveness level received outstandingly high ECOP source allocation on a competitiveness (and not a convergence) base. Therefore, it can be claimed that ECOP mainly allocated sources on competitiveness base in the period of 2004-2006 which is in accordance with its original aims.

If we compare the clusters from the competitiveness analysis to the clusters from the total NDP analysis then we can conclude that 112 micro-regions (67%) belong to the same cluster based on their competitiveness as in case of their tendering activity and efficiency. At these micro-regions the ones with relatively low level of competitiveness have relatively low tendering activity and efficiency at the NDP as well, the others with average competitiveness also have average tendering activity and efficiency and in the last group the micro-regions with relatively high level competitiveness have relatively high level of tendering activity and efficiency too.

At the comparison of competitiveness types and types of the whole first NDP we have found 23 micro-regions which are in lower category in their tendering activity and efficiency than they are classified on the competitiveness basis. The reason for this can either be that they could not utilize the tendering potential related to their competitiveness type or that in case of the whole first NDP cohesion effect was greater than the competitiveness effect. So we can assume that in case of the whole first National Development Plan of Hungary both competitiveness and cohesion effects prevailed – rightly. We have found 33 micro-regions which belong to higher level clusters than based on their competitiveness than based on their tendering activity and efficiency in the NDP.

On the basis of cluster analysis we can conclude about the whole NDP that the cohesion effect is greater than at the ECOP based on the cluster membership changes, however, the categorization of the majority of the micro-regions at the NDP tendering productivity is nearly the same as the categorization at competitiveness. All in all, pursuant to the cluster analysis at the whole NDP we can realize a more heavy competitiveness strengthening effect than it is justified.

As a result of cluster analysis we succeeded in categorizing the units into supposed relatively homogenous groups, however, we cannot responsibly state much about the micro-regions' distribution inside the clusters, except their Euclidean distance from the centre of the clusters.

Table 5 Comparison of competitiveness clusters with ECOP and NDP clusters

Micro-region	Cluster		Cluster		Micro-region	Cluster		Cluster		Micro-region	Cluster		Cluster	
	Comp.	ECOP	Comp.	NDP		Comp.	ECOP	Comp.	NDP		Comp.	ECOP	Comp.	NDP
Abai	1	1	1	1	Hatvani	1	2	1	1	Pécsi	2	2	2	2
Abaúj–Hegyközi	1	2	1	3	Hevesi	1	2	1	1	Pécsvárad	1	3	1	3
Adonyi	1	1	1	1	Hódmezővásárhelyi	1	2	1	2	Pétervásárai	1	1	1	1
Ajkai	1	2	1	1	Ibrány–Nagyhalász	1	1	1	1	Pilisvörösvári	2	2	2	1
Aszódi	1	1	1	1	Jánoshalmi	1	1	1	1	Polgári	1	3	1	3
Bácsalmási	1	1	1	1	Jászberényi	1	2	1	1	Püspökladányi	1	1	1	1
Bajai	1	1	1	1	Kalocsa	1	2	1	1	Ráckevei	2	3	2	2
Baktalórántházi	1	1	1	1	Kaposvári	2	2	2	2	Rétság	1	1	1	1
Balassagyarmati	1	1	1	1	Kapuvári	1	1	1	1	Salgótarjáni	2	1	2	1
Balatonalmádi	2	3	2	2	Karcagi	1	1	1	1	Sárbogárdi	1	1	1	1
Balatonföldvári	1	2	1	3	Kazincbarcikai	1	1	1	1	Sarkadi	1	1	1	1
Balatonfüredi	2	1	2	1	Kecskeméti	2	3	2	2	Sárospataki	1	1	1	3
Balmazújvárosi	1	1	1	1	Keszthely–Hévízi	2	2	2	1	Sárvári	1	1	1	1
Barcsi	1	1	1	3	Kisbéri	1	2	1	1	Sásdi	1	2	1	3
Bátonyterenyeyi	1	1	1	1	Kiskőrösi	1	3	1	3	Sátoraljaújhelyi	1	2	1	1
Békéscsabai	2	3	2	2	Kiskunfélegyházi	1	2	1	1	Sellyei	1	1	1	3
Békési	1	1	1	1	Kiskunhalasi	1	2	1	1	Siklói	1	1	1	3
Bélapátfalvai	1	1	1	1	Kiskunmajsai	1	1	1	1	Siófoki	2	2	2	1
Berettyóújfalui	1	2	1	1	Kisteleki	1	2	1	3	Sopron–Fertődi	2	2	2	1
Bicskei	2	2	2	1	Kisvárdai	1	1	1	1	Sümegi	1	2	1	1
Bodrogközi	1	1	1	1	Komáromi	2	3	2	1	Szarvasi	2	1	2	3
Bonyhádi	1	2	1	1	Komló	1	1	1	1	Szécsényi	1	1	1	1
Budaörsi	2	3	2	2	Körmendi	1	1	1	1	Szegedi	2	3	2	2
Budapest	3	3	3	3	Kőszegi	1	1	1	1	Szeghalomi	1	1	1	1
Ceglédi	1	1	1	1	Kunszentmártoni	1	1	1	1	Székesfehérvári	2	3	2	2
Celldömölki	1	1	1	1	Kunszentmiklósi	1	1	1	3	Szekszárdi	2	2	2	2
Csengeri	1	1	1	1	Lengyeltóti	1	1	1	1	Szentendre	2	2	2	1
Csepregi	1	2	1	1	Lenti	1	3	1	3	Szentesi	1	2	1	1
Csongrádi	1	2	1	3	Letenyei	1	1	1	3	Szentgotthárdi	2	2	2	1
Csornai	1	1	1	1	Makói	1	2	1	1	Szentlőrinci	1	1	1	1
Csurgói	1	2	1	3	Marcali	1	2	1	1	Szerencsi	1	1	1	1
Dabasi	2	3	2	2	Mátészalkai	1	1	1	1	Szigetvári	1	1	1	3
Debreceni	2	3	2	2	Mezőcsáti	1	1	1	1	Szikszo	1	1	1	1
Derecske–Létav.	1	1	1	1	Mezőkovácsházi	1	1	1	1	Szobi	1	1	1	1
Dombóvári	1	2	1	3	Mezőkövesdi	1	2	1	2	Szolnoki	2	2	2	2
Dorogi	1	2	1	1	Mezőtúri	1	1	1	1	Szombathelyi	2	2	2	2
Dunakeszi	2	2	2	1	Miskolci	2	2	2	2	Tabi	1	1	1	1
Dunaújvárosi	2	2	2	1	Mohácsi	1	1	1	1	Tamási	1	1	1	1
Edelényi	1	2	1	3	Monori	2	1	2	1	Tapolcai	1	1	1	1
Egri	2	3	2	2	Mórahalomi	1	3	1	3	Tatabányai	2	2	2	2
Encsi	1	1	1	3	Móri	1	3	1	2	Tatai	2	2	2	1
Enyingi	1	1	1	1	Mosonmagyaróvári	2	2	2	1	Téti	1	1	1	1
Ercsi	2	1	2	1	Nagyatádi	1	1	1	1	Tiszafüredi	1	1	1	1
Esztergomi	2	2	2	2	Nagykállói	1	1	1	1	Tiszaújvárosi	2	2	2	2
Fehérgyarmati	1	2	1	3	Nagykanizsai	2	1	2	1	Tiszavasvári	1	1	1	3
Fonyódi	1	1	1	1	Nagykátai	1	1	1	1	Tokaji	1	1	1	3
Füzesabonyi	1	1	1	1	Nyírbátori	1	2	1	3	Törökszentmiklósi	1	1	1	1
Gárdonyi	2	2	2	1	Nyíregyházi	2	2	2	2	Váci	2	2	2	1
Gödöllői	2	2	2	2	Orosházi	1	1	1	1	Várpalotai	1	2	1	1
Gyáli	1	3	1	1	Oroszlányi	2	1	2	1	Vásárosnaményi	1	1	1	1
Gyöngyösi	2	2	2	1	Ózdi	1	1	1	1	Vasvári	1	2	1	3
Győri	2	3	2	2	Óriszentpéteri	1	2	1	3	Veresegyházi	2	1	2	1
Gyulai	1	2	1	1	Paksi	2	2	2	1	Veszprémi	2	3	2	2
Hajdúböszörményi	1	2	1	1	Pannonhalmi	1	1	1	1	Zalaegerszegi	2	2	2	2
Hajdúhadházi	1	1	1	1	Pápai	1	1	1	1	Zalaszentgróti	1	2	1	3
Hajdúszoboszlói	1	2	1	3	Pásztói	1	2	1	1	Zirci	1	1	1	1

Comments: Comp. means competitiveness

Number of clusters is the same as it was in the previous chapters

Source: Own construction

8.2. Comparison of the results of one-dimensional scaling

To be able to know more on the previously mentioned issues, we have to conduct multidimensional scaling (MDS). The MDS does not determine clusters, but it provides the geometrical representation of objects (Füstös-Kovács 1989). If we decrease the numbers of dimensions to one then the possibility of making complex competitiveness, ECOP and NDP ranking is hidden in the technique of one-dimensional scaling, if we do not lose too much information during this operation. In case of the complex competitiveness ranking as a result of the examination the value of S-Stress is 0.1 which is good, this value is 0.03 in case of ECOP allocation analysis which is excellent and it is 0.2 in case of NDP allocation analysis which is good again, therefore the models with the reduced dimension numbers presumably contain all relevant information.

If we compare the complex competitiveness ranking made of the 78 indicators with the ECOP tendering activity and efficiency ranking made of 5 indicators then we can answer the question to which extent are the two rankings similar to each other. The best way is to quantify the Spearman rank correlation coefficient³, which is able to demonstrate the strength and direction of the relation between the two rankings. The value of the rank correlation coefficient between the competitiveness ranking and the ECOP ranking is $r_s = +0,5$, which means that the relation between the two rankings is average with a positive direction. The positive sign strengthens our previous conclusions drawn at the end of cluster analysis, that the fund allocation mechanism of ECOP was mainly competitiveness driven, which means that the more competitive micro-regions obtained more funds from the ECOP. Nevertheless, this statement is modulated by the fact that the relation has only average intensity, thus from the funds of ECOP a relatively great amount served the cohesion and the convergence of less competitive micro-regions.

If we compare the competitiveness ranking prepared from 78 indicators with the ranking of the whole NDP tendering activity and efficiency prepared from 30 indicators, we can answer the question whether the whole NDP was rather competitiveness-oriented or rather convergence-oriented.

$$r_s = 1 - \frac{6 \sum_{i=1}^N (R_{x_i} - R_{y_i})^2}{N(N^2 - 1)} \quad (9)$$

In which r_s : Spearman rank correlation coefficient

R_{x_i} rank number of i observation unit according to x

R_{y_i} rank number of i observation unit according to y

N : number of the observed unit

Table 6 Comparison of competitiveness ranking with ECOP and first NDP rankings

Micro-region	No.		No.		Micro-region	No.		No.		Micro-region	No.		No.	
	Comp.	ECOP	Comp.	NDP		Comp.	ECOP	Comp.	NDP		Comp.	ECOP	Comp.	NDP
Abai	-0,65	-0,48	-0,65	0,06	Hatvani	-0,03	0,25	-0,03	-0,30	Pécsi	1,51	2,19	1,51	-0,93
Abaúj–Hegyközi	-0,87	0,70	-0,87	1,53	Hevesi	-0,52	0,15	-0,52	0,12	Pécsvárdi	-0,23	-0,30	-0,23	-1,41
Adonyi	-0,16	-0,76	-0,16	0,31	Hódmezővásárhelyi	0,14	0,65	0,14	-0,44	Pétervásárai	-0,61	0,41	-0,61	0,44
Ajkai	-0,03	0,67	-0,03	-0,23	Ibrány–Nagyhalász	-0,69	-0,59	-0,69	0,56	Pilisvörösvári	1,11	1,21	1,11	-0,37
Aszódi	-0,04	-0,73	-0,04	-0,01	Jánoshalmi	-0,64	-0,43	-0,64	0,36	Polgári	-0,38	-0,51	-0,38	0,85
Bácsalmási	-0,78	-0,55	-0,78	0,24	Jászberényi	0,01	0,45	0,01	-0,18	Püspökladányi	-0,48	0,99	-0,48	0,60
Bajai	0,00	-0,30	0,00	0,17	Kalocsai	-0,21	0,12	-0,21	0,08	Ráckevei	0,47	-0,58	0,47	-0,48
Baktalórántházai	-0,82	-0,36	-0,82	0,24	Kaposvári	0,31	0,01	0,31	-0,60	Rétságai	-0,01	-0,40	-0,01	-0,05
Balassagyarmati	-0,01	-0,27	-0,01	0,08	Kapuvári	-0,13	-0,52	-0,13	-0,08	Salgótarjáni	0,22	-0,33	0,22	0,50
Balatonalmádi	0,41	0,96	0,41	-0,66	Karcagi	-0,28	-0,47	-0,28	0,04	Sárbogárdi	-0,42	-0,72	-0,42	0,11
Balatonföldvári	0,47	0,75	0,47	1,02	Kazincbarcikai	0,09	-0,34	0,09	-0,16	Sarkadi	-0,72	-0,33	-0,72	0,01
Balatonfüredi	1,05	-0,60	1,05	0,08	Kecskeméti	0,51	0,90	0,51	-0,55	Sárospataki	0,01	-0,85	0,01	0,51
Balmazújvárosi	-0,53	-0,35	-0,53	0,27	Keszthely–Hévízi	0,59	-0,19	0,59	-0,16	Sárvári	0,11	0,20	0,11	0,68
Barcsi	-0,40	-0,63	-0,40	0,78	Kisbéri	-0,18	0,47	-0,18	0,05	Sásdi	-0,51	0,42	-0,51	1,24
Bátonyterenyei	-0,29	-0,65	-0,29	0,37	Kiskőrösi	-0,29	1,34	-0,29	-0,81	Sátoraljaújhelyi	0,20	-0,26	0,20	1,35
Békéscsabai	0,59	0,74	0,59	-0,96	Kiskunfélegyházai	-0,06	-0,08	-0,06	-0,19	Sellyei	-0,67	-0,79	-0,67	1,75
Békési	-0,29	-0,30	-0,29	-0,11	Kiskunhalasi	-0,01	-0,03	-0,01	-0,32	Siklói	-0,36	0,23	-0,36	1,22
Bélapátfalvai	-0,49	-0,25	-0,49	0,65	Kiskunmajsai	-0,40	-0,33	-0,40	-0,03	Siófoki	0,66	0,24	0,66	-0,29
Berettyóújfalui	-0,50	0,05	-0,50	0,18	Kisteleki	-0,78	-0,12	-0,78	0,54	Sopron–Fertődi	0,75	-0,10	0,75	-0,27
Bicskei	0,92	0,04	0,92	-0,13	Kisvárdai	-0,87	-0,40	-0,87	-0,02	Sümegi	-0,32	-0,18	-0,32	0,15
Bodrogközi	-0,97	-1,11	-0,97	-2,55	Komáromi	1,06	0,80	1,06	-0,65	Szarvasi	0,74	-0,45	0,74	0,48
Bonyhádi	-0,19	-0,07	-0,19	-0,08	Komlói	-0,20	-0,74	-0,20	0,14	Szécsényi	-0,37	1,55	-0,37	-0,08
Budaörsi	1,45	1,23	1,45	-0,71	Körmentdi	0,09	-0,44	0,09	0,07	Szegedi	1,56	-0,68	1,56	-0,91
Budapest	3,42	1,25	3,42	-1,14	Kőszegi	0,14	-0,43	0,14	0,06	Szeghalomi	-0,57	0,84	-0,57	0,33
Ceglédi	-0,12	-0,35	-0,12	-0,83	Kunszentmártoni	-0,42	-0,66	-0,42	0,18	Székesfehérvári	0,99	0,61	0,99	-0,57
Cellőmölki	-0,13	-0,24	-0,13	0,73	Kunszentmiklósi	-0,44	-0,21	-0,44	0,31	Szekszárdi	0,23	0,47	0,23	-0,53
Csengeri	-0,93	-0,62	-0,93	0,32	Lengyeltóti	-0,56	-0,96	-0,56	-0,05	Szentendre	1,38	0,00	1,38	-0,38
Csepregi	0,69	0,50	0,69	-0,71	Lenti	-0,10	2,96	-0,10	-1,49	Szentesi	-0,08	0,66	-0,08	0,21
Csongrádi	-0,09	0,63	-0,09	0,25	Letenyei	-0,44	-0,53	-0,44	0,43	Szentgotthárdi	0,79	-0,70	0,79	-0,34
Csornai	-0,15	-0,64	-0,15	0,35	Makói	-0,34	-0,01	-0,34	0,07	Szentlőrinci	-0,42	-0,79	-0,42	0,47
Csurgói	-0,45	-0,11	-0,45	0,80	Marcali	-0,30	0,01	-0,30	0,02	Szerencsi	-0,51	-0,30	-0,51	0,41
Dabasi	0,66	1,47	0,66	-0,75	Mátészalkai	-0,70	-0,35	-0,70	-0,01	Szigetvári	-0,40	-0,88	-0,40	0,78
Debreceni	1,68	1,04	1,68	-1,90	Mezőcsáti	-0,65	-0,46	-0,65	0,48	Szikszói	-0,65	-0,82	-0,65	0,52
Derecske–Létav.	-0,61	-0,74	-0,61	0,32	Mezőkovácsházai	-0,80	-0,59	-0,80	0,40	Szobi	-0,11	0,08	-0,11	0,60
Dombóvári	-0,15	0,05	-0,15	0,78	Mezőkövesdi	-0,22	1,13	-0,22	-0,52	Szolnoki	0,52	0,23	0,52	-0,60
Dorogi	0,07	0,72	0,07	-0,32	Mezőtúri	-0,08	-0,15	-0,08	0,20	Szombathelyi	1,36	-0,68	1,36	-0,50
Dunakeszi	0,86	0,18	0,86	-0,32	Miskolci	0,57	0,32	0,57	-0,64	Tabi	-1,79	-0,77	-1,79	0,84
Dunaújvárosi	0,47	-0,18	0,47	-0,23	Mohácsi	-0,17	-0,68	-0,17	0,25	Tamási	-0,41	-0,66	-0,41	0,39
Edelényi	-0,63	-0,05	-0,63	0,40	Monori	0,55	-0,76	0,55	-0,14	Tapolcai	0,04	0,50	0,04	-0,05
Egri	0,98	1,31	0,98	0,94	Mórahalmi	-0,79	1,03	-0,79	1,08	Tatabányai	0,43	0,29	0,43	-0,47
Encsi	-0,74	-0,49	-0,74	0,94	Móri	0,33	1,88	0,33	-0,86	Tatai	0,70	-0,92	0,70	-0,19
Enyingi	-0,57	-0,69	-0,57	0,59	Mosonmagyaróvári	0,24	0,39	0,24	-0,78	Téti	-0,32	-0,88	-0,32	-0,08
Ercsi	0,69	-0,28	0,69	-0,16	Nagyatádi	-0,26	-0,44	-0,26	-0,04	Tiszafüredi	-0,46	0,63	-0,46	0,29
Esztergomi	0,42	0,66	0,42	-0,60	Nagykállói	-0,62	-0,59	-0,62	0,15	Tiszaújvárosi	0,96	-0,86	0,96	-0,43
Fehérgyarmati	-0,94	0,00	-0,94	0,63	Nagykanizsai	0,16	-0,40	0,16	-0,10	Tiszavasvári	-0,48	-0,76	-0,48	0,76
Fonyódi	0,28	-0,77	0,28	0,22	Nagykátai	-0,48	-0,42	-0,48	-0,05	Tokaji	-0,26	-0,75	-0,26	2,66
Füzesabonyi	-0,36	-0,30	-0,36	0,63	Nyírbátori	-0,71	0,21	-0,71	0,37	Törökszentmiklósi	-0,34	-0,16	-0,34	0,04
Gárdonyi	0,36	-0,14	0,36	-1,11	Nyíregyházai	0,81	0,85	0,81	-1,14	Váci	0,42	0,45	0,42	-0,21
Gödöllői	1,21	0,36	1,21	-0,41	Oroszázai	-0,14	-0,40	-0,14	0,11	Várpalotai	0,08	-0,34	0,08	-0,39
Gyáli	0,18	0,80	0,18	-0,41	Oroszlányi	0,21	-0,41	0,21	-0,13	Vásárosnaményi	-0,73	0,10	-0,73	0,19
Gyöngyösi	0,26	0,01	0,26	-0,25	Ózdi	-0,39	-0,54	-0,39	-0,12	Vasvári	-0,31	-0,56	-0,31	-1,34
Győri	1,18	1,00	1,18	-0,56	Őrszentpéteri	-0,78	0,33	-0,78	0,97	Veresegyházi	0,89	1,50	0,89	-0,48
Gyulai	0,11	-0,19	0,11	0,21	Paksi	0,18	0,07	0,18	-0,20	Veszprémi	1,49	0,39	1,49	-0,96
Hajdúböszörményi	-0,29	0,33	-0,29	0,02	Pannonhalmai	-0,23	-0,67	-0,23	0,33	Zalaegerszegi	0,39	-0,17	0,39	-0,63
Hajdúhadházi	-0,89	-0,41	-0,89	-0,04	Pápai	-0,07	-0,37	-0,07	-0,01	Zalaszentgróti	-0,24	-0,62	-0,24	0,21
Hajdúszoboszlói	0,29	0,33	0,29	0,25	Pásztói	-0,31	1,67	-0,31	-1,10	Zirci	-0,15	0,51	-0,15	-0,37

Comments: Comp. means competitiveness

Number of clusters is the same as it was in the previous chapters

Source: Own construction

Based on the value of the Spearman rank correlation coefficient in the sample, it can be stated that the value of rank correlation is $r_s = -0,6$ between the complex competitiveness ranking and the complex NDP ranking. This means that the relation between the two rankings has average intensity with opposite direction. As an explanation, a good position in the competitiveness ranking means a worse position in the tendering activity and efficiency ranking at the same time, thus the whole NDP fund allocation mechanism was dominantly convergence oriented, therefore supported the convergence of the less competitive micro-regions. So the conclusion is that the whole NDP mainly had an effect to reduce the territorial disparities.

9. Summary

In our study we intended to find the answer to the following questions: how the financial sources of the first National Development Plan of Hungary were spatially distributed and how much this spatial structure could cover the territorial distribution of competitiveness types. We expected that based on the results of this research we would be able to draw conclusions to what extent the territorial distribution of funds supported cohesion purposes and to what extent it fostered competitiveness in the first programming period in Hungary.

To answer the question at first we reviewed the territorial processes taking place in the European Union, and then we summarized the evaluations of the efforts aiming to reduce territorial disparities. After it we presented the results of two empirical researches: we categorized the 168 micro-regions according to their competitiveness and according to their tendering activity and efficiency. The latter analysis was conducted on the basis of ECOP (competitiveness strengthening operational program) and the whole NDP.

Comparing the results of cluster analysis and one dimensional scaling we concluded that the territorial distribution of ECOP fund allocation is in great extent compliant to the micro-regions' competitiveness distribution. The outcomes show that the ECOP mainly allocated funds with the aspect of competitiveness. The more competitive micro-regions obtained more funds, which suits the logic of EU's Structural Funds Objective 2, but strengthening divergence. However, analysing ECOP it was also obtrusive, that the fund allocation of this operational program had a part, which fostered convergence devoting more funds for relatively less competitive micro-regions than their competitiveness explained. In the case of ECOP more competitive micro-regions got more funds. Although at the same operational program a relatively great extent of cohesion-oriented fund allocation is observable, which promoted convergence of less competitive territorial units.

Based on the analysis of the whole NDP we concluded that there is a reverse relation between competitiveness types and tendering activity and efficiency, which clearly refers to the convergence effect of the plan. Micro-regions with relatively low competitiveness received relatively high sources, while the opposite tendency was noticeable in case of micro-regions with relatively high competitiveness in the 2004-2006 period. Therefore, the source allocation of the whole NDP is dominantly convergence-centered, i.e. it aimed to develop the less competitive regions. However, there is a significant part of NDP the aim of which is to strengthen competitiveness.

So it can unequivocally be seen that neither ECOP nor the whole NDP can be categorized as clearly supporting competitiveness or convergence, but the dominance of these concepts can be determined in both cases: in case of ECOP it is the competitiveness that is more relevant while in case of the whole NDP the effects of convergence appeared to be more significant. This duality is in line with the results of the research presented in Chapter 4: convergence roads in case of 246 operational programs have mainly convergence effects but

contains some elements of competitiveness as well and the same vice versa – competitiveness roads have dominantly competitiveness effects, however, they contain some of the convergence elements as well.

We compared our results with the conclusions of other NDP and ECOP analyses. In case of the ECOP all of the researchers detected the competitiveness strengthening effect, but they haven't mentioned its convergence effect, which was revealed in our complex analysis besides the competitiveness strengthening effect. Among the analysts there is not compliance in the judgement of NDP, like in case of ECOP. Only one analysis conducted convergence effects, according to other two analyses NDP had definitely a competitiveness strengthening effect. The results of only one analysis compound with our conclusions from the complex analysis, which highlighted the competitiveness strengthening effects as well besides the convergence dominance (Table 7).

Table 7
Results of the ECOP and first NDP analysis

Analysis	<i>Toroczkaï – Hahn</i> 2006 ⁴	<i>NFÜ</i> 2008	<i>HBF</i> 2006	<i>Csïte – Németh</i> 2008	<i>NFH</i> 2006	<i>Ecostat</i> 2008	<i>Own analysis</i>	
<i>Aspect</i>	Applied funds	Approved funds	Approved funds	Approved funds	Approved funds	Approved funds	Approved funds	Complex analysis
<i>NDP</i>	Mainly convergence	Not traceable	Convergence	Strengthening competitiveness	Strengthening competitiveness	Not discussed	Not discussed	Mainly convergence with remarkable competitiveness strengthening effects
<i>ECOP</i>	Strengthening competitiveness	Strengthening competitiveness	Strengthening competitiveness	Strengthening competitiveness	Strengthening competitiveness	Strengthening competitiveness	Strengthening competitiveness	Mainly competitiveness strengthening with remarkable convergence effects

Source: Own construction

Eventually, it can be stated that the whole first National Development Plan of Hungary might reduce the territorial disparities by its allocation. However, this could not guarantee actual convergence as for this the effective and efficient utilization of sources is necessary as well. These issues will be in the focus of our next investigation. According to our opinion, our analysis is a supplementary work, which – due to its complexity – is appropriate for completing and refining the statements of existing studies and – due to the analysis of the source allocation in the 2004-2006 period was conducted on a scientific base – it can provide guidelines to future planning processes.

⁴ The authors of the study conducted researches concerning both approaches, i.e. they prepared analyses based on applied funds (as activity) and approved funds as well.

References

- Bachtler, J. (2008): *Improving the delivery of EU Cohesion Policy*. Presentation for the Conference on the Future of Cohesion Policy, Maribor, 7-8 April.
- Boldrin, M – Canova, F. (2001): Inequality and Convergence in Europe's Regions: Reconsidering European Regional Policies. *Economic Policy*, 3, 205-253. p.
- Bouvet, F. (2003): *European Union Regional Policy: Allocation Determinants and Effects on Regional Economic Growth. – Job Market Paper*. www.econ.ucdavis.edu/graduate/fbouvet/job_market.pdf (2008. 10. 11.)
- Bradley, J. (2005): Promoting Cohesion in the Enlarged EU: Is there a Role for National Development Plans? In: Bradley, J. et al. (ed.): *Integration, Growth and Cohesion in an Enlarged European Union*. Springer, New York, 173-205. p.
- Cappelen, A. – Castellacci, F. – Fagerberg, J. – Verspagen, B. (2003): The Impact of EU Regional Support on Growth and Convergence in the European Union. *Journal of Common Market Studies*, 4, 621-644. p.
- Csite A. – Németh N. (2008): *Kistérségi fejlettség és I. NFT-s fejlesztési teljesítmény kapcsolata*. HBF Hungaricum Kft – MTA KTI, Budapest.
- DTI (2004): *Regional Competitiveness and State of the Regions*. Department of Trade and Industry, London.
- EC (1987): *Single European Act*. Official Journal L 169, Luxembourg.
- EC (1999a): *Sixth Periodic Report on the Social and Economic Situation and Development of Regions in the European Union*. European Commission, Luxembourg.
- EC (1999b): *European Spatial Development Perspective. Towards Balanced and Sustainable Development of the Territory of the European Union*. European Commission, Brussels.
- EC (2004a): *A new partnership for cohesion - Third Report on Economic and Social Cohesion*. European Commission, Brussels.
- EC (2004b): *Building our Common Future. Policy Changes and Budgetary Means of the Enlarged Union 2007-2013*. European Commission, Brussels.
- EC (2004c): *Delivering Lisbon – Reforms for the Enlarged Union*. European Commission, Brussels.
- EC (2006a): A tanács 1083/2006/EK rendelete az Európai Regionális Fejlesztési Alapra, az Európai Szociális Alapra és a Kohéziós Alapra vonatkozó általános rendelkezések megállapításáról és az 1260/1999/EK rendelet hatályon kívül helyezéséről. *Official Journal*, L 210/25, Luxembourg.
- EC (2006b): *Gazdasági reformok és versenyképesség: a 2006-os európai versenyképességi jelentés kulcsfontosságú üzenetei*. Európai Bizottság, Brüsszel.
- EC (2007): *Gyarapodó régiók, növekvő Európa. Negyedik jelentés a gazdasági és társadalmi kohézióról*. Európai Bizottság, Brüsszel.
- EC (2009): *The Potential for regional Policy Instruments, 2007-2013, to contribute to the Lisbon and Göteborg objectives for growth, jobs and sustainable development. Final report*. European Commission, Brussels.
- Economist (2007): *Money-go-round*. 8539, 55. p.
- Ecostat (2008): *A Nemzeti Fejlesztési Terv forrásainak felhasználása és néhány mérhető hatása*. Időszaki közlemények, 28. szám. Ecostat Kormányzati Gazdaság- és Társadalom-stratégiai Kutató Intézet, Budapest.
- Ederveen, S. et al. (2002): *Funds and Games. The Economics of European Cohesion Policy*. CPB Netherlands' Bureau for Economic Policy Analysis, The Hague.
- Ezcurra, R. – Pascual, P. – Rapún, M. (2007): Spatial Inequality in Productivity in the European Union: Sectoral and Regional Factors. *International Regional Science Review*, 4, 384-407. p.
- Fenyővári Zs. – Lukovics M. (2008): A regionális versenyképesség és a területi különbségek kölcsönhatásai. *Tér és Társadalom*, 2, 1-20. p.
- Füstös L. – Kovács E. (1989): *A számítógépes adatelemzés statisztikai módszerei*. Tankönyvkiadó, Budapest.
- Füstös L. – Kovács E. – Meszéna Gy. – Simonné Mosolygó N. (2004): *Alakfelismerés (Sokváltozós statisztikai módszerek)*. Új Mandátum Könyvkiadó, Budapest.

- HBF (2006): *Az I. Nemzeti Fejlesztési Terv forráselosztási mechanizmusai*. Települések és kistérségek a fejlesztési versenyben. Kutatási összefoglaló. HBF Hungaricum Kft., Kecskemét.
- Horváth Gy. (2006): Differenciált kelet-közép-európai tér. Regionális teljesítőkéesség és a területfejlesztés törvényi szabályozása. *Falu Város Régió*, 1, 11-16. p.
- Huggins, R. (2003): Creating a UK Competitiveness Index: Regional and Local Benchmarking. *Regional Studies*, 1, 89-96. p.
- Katona T. (2000): Mérési és megbízhatósági problémák a területi statisztikában. In: Farkas B. – Lengyel I. (eds.): *Versenyképesség – regionális versenyképesség*. JATEPress, Szeged. 205-217. p.
- Lengyel I. (2000): A regionális versenyképességről. *Közgazdasági Szemle*, 12, 962-987. p.
- Lengyel I. (2010): *Regionális gazdaságfejlesztés: versenyképesség, alulról szerveződés, klaszterek*. Akadémiai Kiadó, Budapest. (under publication)
- Lóránd B. (2009): *Konvergencia és fejlesztéspolitika az Európai Unióban és Magyarországon*. Doktori disszertáció. PTE KTK Regionális Politika és Gazdaságtan Doktori Iskola, Pécs.
- Lukovics M. (2008): *Térségek versenyképességének mérése*. JATEPress, Szeged.
- Martin, P. (1999): Are European Regional Policies Delivering? *EIB Papers*, 2, 10-23. p.
- MNB (2006): *Elemzés a konvergencia-folyamatokról*. Magyar Nemzeti Bank, Budapest.
- NFH (2006): *Strukturális Alapok közbelső értékelése*. Nemzeti Fejlesztési Hivatal, Budapest.
- NFÜ (2008): *Vezetői tájékoztató. A 174 magyarországi kistérségnek az NFT pályázatain elért eredményeiről*. NFÜ Informatikai és Tájékoztatási Főosztály, Budapest.
- Palócz É. (2005): *A nemzetközi fejlesztéspolitikai stratégiakészítés gyakorlata*. KOPINT-DATORG, Budapest.
- Petrakos, G. – Rodríguez-Pose, A. – Anagnostou, A. (2005): Regional Inequalities in the European Union. In: Bradley, J. et al. (ed.): *Integration, Growth and Cohesion in an Enlarged European Union*, Springer, New York, 29-43. p.
- Rodríguez-Pose, A. – Fratesi, U. (2002): Unbalanced development strategies and the lack of regional convergence in the EU. Paper presented to the 2002 ERSA Congress, Dortmund.
- Toroczka A. – Hahn Cs. (2006): Európai uniós támogatási adatok területi értékelése. *Területi Statisztika*, 5, 459-475. p.
- Trón Zs. (2008): Elméletek és empiria a konvergencia és a tőke-transzferek kapcsolatáról. In: Palánkai T. et al. (ed.): *Három éve az ötven éves EU-ban*. Konferenciakötet. Budapesti Corvinus Egyetem Nemzetközi Kapcsolatok Multidiszciplináris Doktori Iskolája, Budapest, 28-43. p.
- Várad B. (2006): Miért folyik a csata. Avagy a 8000 milliárd átka. *Élet és Irodalom*, 44. www.es.hu/?view=doc;14897 (2008. 08. 10.)
- Várad B. (2007): A 8000 milliárd átka II. *Élet és Irodalom*, 2. www.es.hu/?view=doc;15495 (2008. 08. 10.)