

**ANDRÁS NAGY**

**THE MEASUREMENT OF DEVELOPMENT AND  
UNDERDEVELOPMENT BY REGIONAL DEVELOPMENT  
POLICY IN HUNGARY**

DOCTORAL THESES

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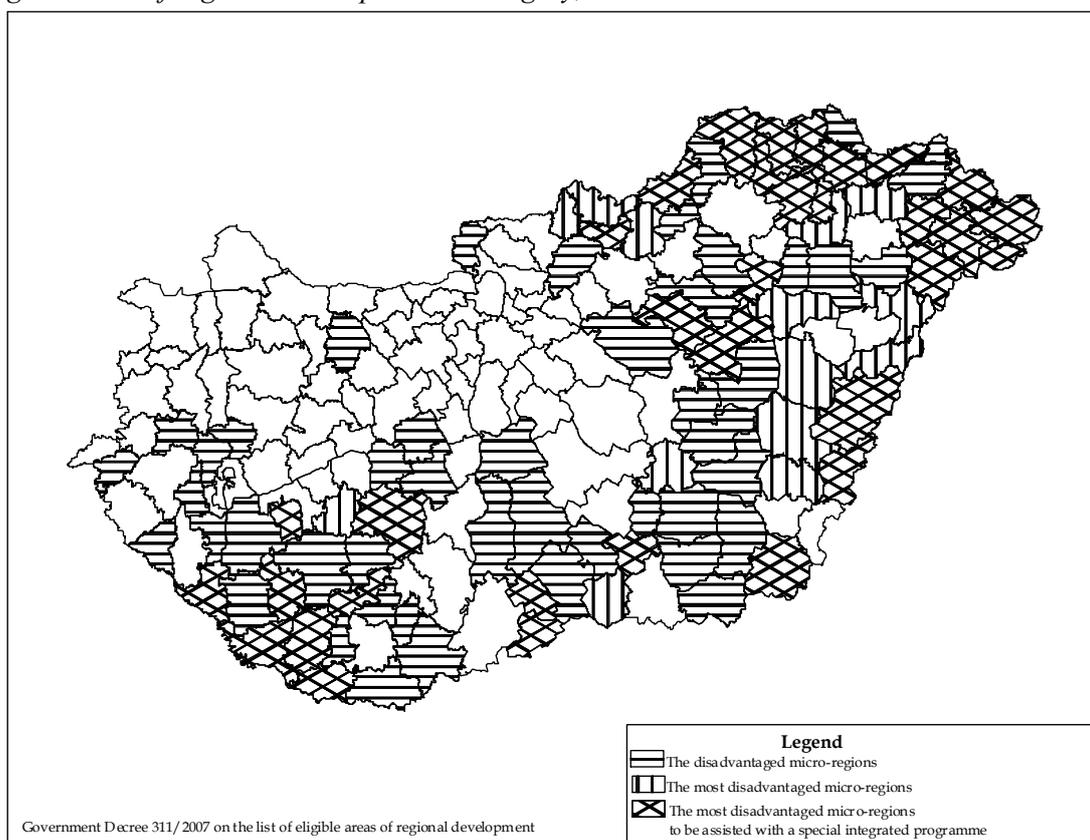
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## I. INTRODUCTION

Because of the effectiveness and the efficacy of regional development policy, it is crucial to determine the specific areas of intervention targets. In addition, the development of disadvantaged regions needs positive discrimination or exclusive use of development resources.

In Hungary the eligible areas of regional development are recorded by the regulations and decisions accepted by the National Assembly and the Government. In the past two decades the scope of indicators used by the regional development policy, the territorial level of delimitation, and even the number of micro-regions have changed several times. Because the development supports have been only marginally able to moderate the breakaway of the most underdeveloped areas, the current National Regional Development Concept, adopted in 2005, said that it is still necessary that the different types of development resources concentrate to the most underdeveloped regions. The identification of eligible areas will be a central question of the regional development policy in the future.

*The eligible areas of regional development in Hungary, 2007*



The recent significant change in other areas of the development policy was the decentralization. Hungarian counties and regions are provided for increasing regional development funds. The resources of the National Development Plan (2004-2006) and the New Hungary Development Plan (2007-2013) implemented with the support of The European Union were also distributed among the regions. Distribution of resources also requires the use of regional indicators of development policy.

## **II. AIMS OF THE RESEARCH**

The key questions of the research topics outlined above, were the following:

- What kind of/type of resources were defined by the delimitation of the eligible areas? How much of the total fund was linked to the eligible areas in absolute and relative terms?
- What are the territorial levels, what indicators and methods are used to measure the regional inequalities by the development policy, how it changed over time?
- How did the use of municipal and micro-regional level increase the size of the eligible areas?
- Were the changes of the indicators in accordance with the regional processes, and the objectives of regional development policy?
- What was the effect of the changes of indicators and methodology on the delimitation of eligible areas and the amount of decentralized funds in each region?
- What was the impact of the changes of micro-regions on the range of eligible areas?
- What alternative methods could measure the complex index of underdevelopment? Could the method used by regional development policy be simplified?
- Were the identified areas in good position for decentralized resource allocation by various aspects (normativity, development)?

## **III. RESEARCH METHODS**

There are two main types of steps of development policy, which use methodologies and indicators to record the identification of regional differences: delimitation of the eligible areas, and allocation of decentralized resources.

The subject of research was the delimited eligible areas (sub-regions, municipalities) from 1986 to the present day. The first step in the research database was finding the decisions and regulations in 'Complex' collection of laws, which documents determine the methods of delimitation of underdeveloped areas, and the allocation method of decentralized regional development funds. In domestic practice, the government institution, which is responsible for spatial planning, and the Central Statistical Office have to prepare a public booklet on the methods of delimitation of eligible areas. Since the detailed methods in these publications have appeared, they are also the source of data analyzed.

I examined the amount of regional development funds used by the eligible areas between 1996-2008, and the composition by intervention areas. The issues were provided by the analysis made on this subject. I analysed the role of eligible areas and the effectiveness of regional development policy on the basis of two National Regional Development Concepts (1998, 2005) and its reviews. It was also reasonable to consider that how the indicators used by regional policy correlate with the objectives of resources according to which regional preferences are defined.

The subject of the study was the territorial inequalities of the indicators used in domestic practice, how this changed over time.

Comparative calculations and analyses are made to show how much has changed in the size and the proportion of eligible areas according to the changes of indicators. Indicators and methods were compared to the targets of regional development policy. It was presented, how else would result in different indicators and methods. It was under consideration, whether there is any indicator, which has relatively the same result with small loss of information. I used the comparative studies of economic, social and infrastructural indicators from the databases of CSO T-STAR, and the National Spatial Development and Planning Information System (TEIR).

I examined the indicators and methods of other researchers, that were aimed at the detection of complex development.

Additional criteria were to determine whether one can "aggregate" methods. Is it possible to detect backwardness at the micro-regional level by the backwardness at municipal level? Or, what is consistent with the aggregated index of micro-regional development to the GDP at county level?

Correlation studies revealed that basic indicators, (which expressed very similar differences to the complex indicator, factors which have) appeared more times in the calculation of the complex index – it's a fragment as is. You need to complete the thought. Or consider the parantheses I put in. Further, tests revealed that there was a significant change in results by different types of delimitation. How much was the overlap between the individual types by the area, population, and number of settlements.

Different territorial levels of eligible areas were used. In this respect it was interesting to examine the proportion of people living in underdeveloped micro-regions and settlements, what proportion lives in a settlement that is "only" underdeveloped at the local level. The size of overlaps could give answers to the question whether it is necessary to delimitate underdeveloped areas at micro-regional and local levels. The system of the micro-regions also influenced by the delimitation of underdeveloped areas. I examined the status of the new micro-regions and the changes of eligible areas according to the changes of the boundaries of micro-regions.

The allocation methods used by decentralization of the national regional development funds at county and regional levels from 1996 have been also the subject of investigation. I also tried to explore the allocation methods by EU Member States for regional operational programs in connection with the 2007-2013's development cycle. During the comparison of the regional allocation in the EU Member States, the National Strategic Reference Frameworks were used.

#### **IV. RESULTS AND CONCLUSIONS**

In my research I reviewed which sources were available for the eligible areas. It could be concluded that the "eligible area" as a tool of regional development in practice determined only a relatively minor proportion of resources. Confirming my hypothesis, the *sectoral policies didn't orient its resources, the weight of the sources of the eligible areas comparing to the whole national investments was only 0.5 to 2.5% in each county*. Therefore, these sources had no effect on regional disparities. The 358 municipalities included continuously in the eligible areas out of the 571 settlements had been delimited in 1986.

The grants used in eligible areas supported the employment expansion, tourism investments, and the infrastructure investments of the settlements. Indicators of these factors were always basic elements of the delimitation system. *However, there was not always a clear link between the targets of the eligible areas, the indicators of delimitation and the objectives of the affected funds.* The human resources indicators appeared as part of the methodology, but practically there were no grants to support this area.

In the 1990s, *the proportion of people living in eligible areas has increased continuously and then stabilized around one third of the population. The delimitation at local level did not increase significantly the size of such areas.* However, the delimitation at local and micro regional level was reasonable, because *the municipalities that were only promoted in local level made use of regional development funds, as well.*

The permanencies of regional disparities indicate that *despite the changing methods the delimited areas showed significant stability over time.* In most cases, the overlap compared to the previous delimitation was at least 80% concerning the proportion of population. Mostly 100-200 settlements got to the beneficiary areas or were out of there per year (at local or micro-regional level).

I managed to prove the hypothesis that *changes in the boundaries of micro-regions, especially the creation of new micro-regions, aimed at obtaining the beneficiary's status in significant cases.* The newly created micro-regions got to eligible areas.

There were also *other types of backwardness,, but due to the overlap between them tended to disappear gradually.* There was a great overlap between the objectives assigned to these areas by the National Regional Development Concept, and indicators were used in the delimitation of these special areas were not fully in line with the region-specific objectives. Instead of the different types of eligible areas the seriousness of the underdevelopment has become more pronounced, according to the principles of the NRDC.

The range of factors, the numbers of indicators of the examination of the backwardness were constantly changing. *Indicators of demography, unemployment, personal income, property, infrastructure were included in the analyzed factors permanently. In particular, employment and the social services field, characterized by a number of interrelated*

indicators, were taken into account, so practically the same spatial inequality has been described (e.g. unemployment, long-term unemployment, activity, social benefits).

In any case it is positive, *involving new factors appeared appreciating infrastructure elements* (cable tv, internet) and increased the weight of the economy-related factors (R & D, high-way accessibility). However, at the same time, *there are still indicators with minimal regional disparity* (e.g., telephone, water supply). *In most cases the data reflect the situation two years ago.* More recent data, were used only occasionally.

I examined what alternative methods could be expressed the backwardness of the Hungarian micro-regions. This has confirmed the hypothesis that less number of indicators would be used with very similar results compared to the currently used 31 indicators. Examining which basic indicators of backwardness showed similar results as the complex indicators, it can be stated that *in most cases the level of education, unemployment rate, personal income, and indicators of social status showed similar disparities to the complex development index.*

*Rank correlation between ranks of the 174 micro-regions by different methods and ranking of the official delimitation 2007*

| Method   | R     | Number of underdeveloped micro-regions by the methods from the 94 officially underdeveloped micro-regions |
|--|-------|---|
| Average rankings of group of indicators                            | 0,984 | 92  |
| <b>31 indicators (method in 2007)</b>                              | 0,978 | 92  |
| <b>19 indicators (method in 2001)</b>                              | 0,974 | 91  |
| Average rankings of indicators                                     | 0,968 | 92  |
| <b>28 indicators (method in 1997)</b>                              | 0,965 | 91  |
| <b>11 indicators (method in 1993)</b>                              | 0,958 | 91  |
| <b>15 indicators (method in 1996)</b>                              | 0,949 | 91  |
| <b>6 indicator (Parliamentary Report)</b>                          | 0,942 | 87  |
| Number of indicators by which the micro-regions are underdeveloped | 0,940 | 91  |
| <b>1 indicator (annual income per inhabitant)</b>                  | 0,911 | 87  |
| <b>Proportion of the population of underdeveloped settlements</b>  | 0,857 | 80  |
| <b>Proportion of the underdeveloped settlements</b>                | 0,819 | 75  |

It was proven that in extreme cases even a single index, the annual income per capita can be delimited in the most underdeveloped regions. In 2007 86 micro-regions out of officially 94 would be delimited by this indicator. The GDP per capita compared to the aggregated complex index of micro-regions at county level showed that the relationship between the two indicators has become increasingly close over time. *The calculation method of the complex indicator could be more unsophisticated too.* For example, the simple averaging of the ranks by the basic indicators could delimit 92 micro-regions of the current 94 underdeveloped micro-regions. The micro-regions which are in the most underdeveloped group by at least half of the indicators, were officially underdeveloped areas except for 4 micro-regions.

However, at local level there was much less overlap, so the applicability of the index personal income would be limited, as there are significant differences between the groups of underdeveloped and under-funded municipalities. *The aggregation of backwardness of local level would be suitable for the delimitation of micro-regional level.* In 2007 the 81.3 and 83.4% of the population of underdeveloped micro-regions would have been delimited by the proportion of the underdeveloped settlements, and the proportion of people living there.

While the eligible areas were delimited at local and micro-regional levels, their sources were decentralized for the counties and regions. The indicators taken into consideration when allocating resources were the GDP per capita at county and regional levels. On the other hand the proportion of people appeared to be living in eligible areas. *Overall, 20-30% of the main sources ("TFC/TRFC" and "TEKI") have been used in other areas than what would have been justified in the proportion of the population. The most focused funds were the "LEKI", the source of the most disadvantaged micro-regions.*

Although one of the most important principles of the European Union is the overriding in the development of public policy, it is prevailed in the allocation of limited resources. While the way resources are allocated on the community level are set out Member States very accurately (by regulation), it is not always the case on the national level. *The allocation methodology of EU regional programs within the country is not always in the program documents (NSRF's, ROPs), or the documents do not include the exact description of indicators, data, time interval, and the calculated results.* Also, it should be noted also that the condition specified in regulation, *there are prevailed individual aspects, in the allocation between Member States and within Member States.*

The available information shows that *Member States can be categorized as follows based on the methodologies used:*

- The distribution method between EU members used for allocation within the country (The Netherlands, Spain, Sweden)
- Number of population and development indicators (GDP, or unemployment rate) (Poland, Romania, Slovakia)
- Allocation formed by an agreement between the regions (Germany, Portugal)
- Multivariate, complex methodology to produce a complex index (Hungary, Slovenia, France, United Kingdom)

In the ultimate results of the cohesion policy, *there were almost no differences between the Convergences Objective regions within the Member States, regardless of the method used.* This is in part due to the smaller differences and that the distribution was strongly normative. These resources are therefore primarily related to the average of the EU approach, rather than the backward approach between Member States in underdeveloped regions. By the *Competitiveness and employment regions the distribution was far more differentiated within the Member States* (because of major differences as well), although they were smaller sources than the previous one.

## **V. PUBLICATIONS IN THE TOPIC OF THE THESIS**

Nagy András: A kedvezményezett térségek besorolásának alakulása, a lehatárolások módszertanának sajátosságai (The delimitation of eligible areas, the specifics of the methodology), In: Területi Statisztika, 2011/2, pp. 148-160

Nagy András: A hazai területfejlesztés eddigi történetéből: a hazai területfejlesztési források felhasználásának tapasztalatai (The history of Hungarian regional development: the experience of the application of national regional development funds) In: Falu város régió 2009/3 pp. 54-61.

Béres Tibor – Nagy András: Az aligból valami-A takarékszövetkezetek működése és a települési egyenlőtlenség (Something from almost nothing- Regional disparities of the capital flow in the savings cooperatives) In: Tér és Társadalom 2008/4 pp 97-113

Salamin Géza-Radvánszki Ádám-Nagy András: A magyar településhálózat helyzete (The position of Hungarian settlements system) In: Falu város régió 2008/3 pp 6-25

Nagy András: A decentralizált területfejlesztési támogatások pályázati rendszereinek 2004. évi tapasztalatai (The experiences of the decentralized regional development system in 2004) In: Területi Statisztika 2006/1 pp.3-12.

Kiss Csaba-Nagy András: A társadalmi térszerkezet alakulása (The regional social pattern) In: Falu város régió 2005/1-2 pp. 8-22.

Nagy András: Az Országos Területfejlesztési és Területrendezési Információs Rendszer (National Spatial Development and Planning Information System) In: Nemes Nagy József (szerk): Regionális elemzési módszerek, Budapest 2005, ELTE Regionális Földrajzi Tanszék, pp 29-31

Brodorits Zoltán-Jusztin Valéria-Nagy András: A területfejlesztési politika eszköz és intézményrendszerének alakulása (Spatial development instruments and institutions) In: Falu város régió 2004/9 pp. 3-13.