ECONOMIC DEVELOPMENT STRATEGIES AND DEVELOPMENT ZONES IN THE EUROPEAN UNION

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ABSTRACT

In order to make economically established development strategies for the individual territorial units, different economic development methods are necessary. There are some statistical-mathematical methods which can be well applied in regional examinations, so in our study we are trying to focus on these methods. However, such input data are needed for these methods which are able to characterize the competitiveness and development of each region. But we also try to highlight the fact that there is no consensus existing among the experts of this field even concerning the indices applied. Namely, the competitiveness of each region cannot be examined with the same indices as of the countries, since the regions are not territorial units of total autonomy.

INTRODUCTION

An essential element of making our economy and system of institution and law EU conform is the issue of the creation, evolution and application of economic development strategies. Since different factors have influenced the creation of the different development zones in Europe and the experts of this field refer to the advanced zones of Europe in different ways, we tried to clarify the major coherences of this topic. We need to see clearly the issues of the Union to be able to integrate the patterns and experiences of it into our economy.

In our research we focused on the characteristics of European zones mentioned a lot in publications namely „**blue banana**" **and** „**sunbelt**". We also outlined the objectives of regional policy and the main documents of spatial development of Europe **(EUROPE 2000, EUROPE 2000+, ESDP)**. It is very important and necessary to investigate the spatial development policy of the Union because we need to adapt its general requirements and due to our accession we can be formulating parts of it too. On the other hand, we need to form our national strategy with having an eye on the union's regulations. We need to understand that we have become a member of a larger European unit whose aim has been to integrate the capable countries for decades into a system which is based on continuous mutual relationships though focusing on local characteristics.

MATERIALS AND METHODS

The most well-known comprehensive index reflecting the effects of several factors at the same time is the **gross domestic product (GDP)**. GDP has been used to compare the developments of individual countries for long, but its application for regions only started in the past few years. However it must be ephasized that GDP is not the only index for economic development, so it must not be declared as the only one index for counties and regions, but it is recommended to apply other statistical indices also in territorial analyses (Pukli, 2000).

The content of GDP

Gross Domestic Product (GDP) is the domestic added value and it is one of the most important elements of national economic balances. It means the new values produced in the whole economic activity in one year and measured in money value (namely in the national currency). The added value produced by the players of the economy can be **calculated in two ways**. On one hand it is the **gross production value minus the current usage for production**, on the other hand it consists of the **gross income from work, profit and loss before tax and depreciation**. While national income includes only the new values produced in material sectors (industry, agriculture, producing services), GDP also includes the activities in the non-material service sectors (tertier and quaterner). GDP in current values and in national currency characterizes economic processes of only a given date and territorial unit. If we want to compare different data from different time, we need a GDP calculated on unchanged basis, and in international comparison we need to calculate it in the same currency. International standardization can be carried out in two ways: standardization on **valid foreign currency courses** or on **purchase power standards**.

GDP is only one index of the **national accounts**. It is the balance of production accounts. It is the difference between the production value of products and services and the values of applied materials and services during their production. In theory, **regional accounts** are the tallies of national accounts for regions. In practice, however, they cannot be aggregated in a totally detailed format due to the economic units existing in more than one region. Most of the financial and income distribution transactions (taxes, income of the owners, loans) of these multi-regional units cannot be divided among the regions.

Because of all these obstacles, in the Europan Union only production accounts and the accounts of household incomes are compulsory to compiled (ESA, 1995). The latter one has great significance, becasuse thanks to it, the differences between the regions can be measured not just from the production side but also from the side of population consumption. The differences in regional GDPs and in regional incomes strengthen the statement that **GDP can be considered a comprehensive index, but it is not able to reflect all the major factors of economic development** (Pukli, 2000).

Regional GDP can be calculated in different ways. **Bottom-up** calculation method is based on an assumption that we have all the necessary information about all the production units in the region to calculate the GDP. With the addition of data we can get the regional GDP and as the sum we get the data for the country. With **top-down method** we divide the total GDP among the regions with the help of such numbers that have been calculated from territorial data reflecting the GDP's territorial distribution at

most. These helping data can be **the active population, the number of emplyed people, the sum of wages** etc. The **mixed method** is the combination of the two methods mentioned, reflecting the findig that there are no countries where the bottom-up summing could be applied in all the fields of the economy. Concerning territorial homogenity we can distinguish 3 types of economic associations. **Units of one region**, whose activity covers mainly one region only. **Enterprises,** whose sites are situated in more regions. Such **institutional units** whose activity covers more than one region or even the whole country (Pukli, 2000).

Today majority of countries do not have territorial GDP calculations and official publications of this topic. In many countries there are not territorial economic indices which could be used, in other countries GDP is not the most important index. Without detailing the reasons and the factors behind, we only mention as a reminder that in the former socialist countries the growth index of **industrial gross production** was the most spreaded economic index that was calculated on regional level too. In the USA **personal income** is the index about which there are data collected for more than 100 years for each state.

Theoretical difficulty is that not every economic activity can be localized punctually. Thus, it is difficult to localize even theoretically the income returns of the activity of financial institutions. From statistical and accounting point of views localizing the added values of companies with several premises is basically unsolved. In the case of activities, especially those which are linked to „space" like telecommunication or transportation, value production can only be distributed with „estimation".

There are further problems in measuring the regional competitiveness because e.g. **it is difficult to measure the region's foreign trade** with calculations based on GDP. The problem is that the income and profit of foreign capital is also included in gross output, which is not always spent in the same region. The comparison based on **average wages** gives a more appropiate picture, since the attractiveness of a region can be well represented by the spendable incomes of the people of that region (Réthelyi and Túry, 2003).

Concerning the quality of figures used for the calculation of the regional GDP we can state that the changes in the economy and society mean serious challenges for the economic statistics. ***To the question: „How safe are the regional GDP figures?" we can answer – based on the abovementioned – that due to the estimates in the case of national or multi-regional economic associations and the territorial obstacles of data-collecting, the quality of data is poorer than that of the national data.***

Methods applied during the division of GDP
A) The following multiplying factors were used in the EUROPEAN COMPETITIVENESS REPORT, 2003:
The formula for GDP per capita is as follows (Illés et al. 2004):
GDP/Population =
(GDP/Working hours) x (Working hours/Employed people) x (Employed people/Active population) x (Active population/Population)

B) The triadic division of GDP per capita is the following:
GDP/Population = (GDP/Employed people) x (Employed people/Active population)
x (Active population/Population)
Work productivity is the output **per working hour** and in statistics we usually estimate
it with **GDP per employed people** (Lengyel, 2000).

*C) The „traditional" approach of competitiveness applies the **dual** division:*
GDP/Population = GDP/Employed people x Employed people/Population

But if we would like to analyze the regions based on only one factor – **income per
capita** –, we may use three basic indices (dual-index, weighted relative standard
deviation, Hoover-index), out of which we only give detailed information on dual-
index.

Dual-index
Dual-index created by **ÉLTETŐ and FRIGYES** integrates these divisions into the
examination of income differences by making two groups out of the territories: one of
them includes the territories with development below the average and the other includes
the territories with development above the average (group 1: GDP per capita below the
average and gropu 2: GDP per capita above the average). Dual-index measures the
territorial inequalities by the ration of the two groups.

Method on points
One of the simplest method is **Bennett-procedure** which has been used since 1951.
Its essence is that we need to choose a few characteristic factors, we need to give them
points and after summing them a **rank** may be created for regions, countires, counties.
It can be used in 4 variations. They are based on comparisons to the maximum,
minimum, the mathematical average and the weighted average (Dobosi, 1985).

$$p_i = \sum_{j=1}^{m} \frac{e_{ij}}{e_{jc}} \cdot 100, \quad i = 1,...,n$$

Main component analysis
Due to the cases when the conditions of factor-analysis do not exist we usually apply
main component analysis instead. It is more specific than factor analysis from one point
of view, but it is more general from other point of view. It is more general in the sense
that the number of observations can be fewer than that of the variables (Morrison,
1967).

RESULTS

Having read regional economic and economic development materials we have found
several advanced development zones in Europe mentioned with special names and
which refer to the economic driving force of Europe. In several cases we have found
cities, regions and multi-regional zones mentioned in the publications. We have also
found maps presenting these development zones. But in none of the cases we have
found the NUTS 2 regional determination of the zones. So on Figure 1 we tried to build
up the zones from NUTS 2 regions. Beside the geographical determination we tried to
determine the development zone called **blue banana** building up from NUTS 2 regions

on the basis of the most commonly used index of economic development – GDP per capita – with taking into account other factors and figures.

On the basis of maps presented in these publications we have drawn the possible territory of blue banana, which is a comprehensive whole in geographical terms (though we need to mention that when the different literature mention the zone, they refer to mostly the same big cities but some of the territory show minor differences. Thus, even the geographical determination is not based on agreement).

Figure 1
**Geographic blue banana zones basd on Dicken (47 regions)
and Cséfalvay (54 regions)**

Source: own research, 2005

Our goal was to determine the group of developed regions based on **economic-social indices**, in contrast with determination based only on geography. In the European Union there are several – more or less comprehensive whole – developed zones, but looking at their size, blue banana can be considered the biggest one and it almost covers the whole Union from North to South. We have gathered tha data from the Union's official statistical service (EUROSTAT) and from Hungarian Central Statistical Office (KSH). We have examined economic and social factors of 213 NUTS 2 regions of the European Union to try to determine the blue banana on regional basis with the help of data available. During the selection of indices it was difficult to treat that there were hardly any data available for all the regions and the latest data are for the year 2002. When it was necessary, we compared the data of the member states to that of the EU 15 average. In order to see tendencies, we tried to gather data for the years 1999, 2000, 2001 and 2002. GDP data are in purchase powers (PPS) which allows the comparison between regions.

On the basis of the selected economic and social indices we have compiled complex tables for all the regions of EU 15, where we have given points to the regions after weighting. During the application of the method we focused on the criteria of **Bennett-procedure**. We have compared the data to the most favourable data of that specific

group. In some cases the maximum, in other cases the minimum was the most favourable. We have chosen the indices in **subjective way**, but we have experienced from reading publications of this topic that in economic analyses, on regions or other territorial units, mostly the same indices were used that we had used too.

Indices included in the method on points:

- Region's share from GDP of EU 15 (%)
- GDP per capita (PPS) in the EU 15 average (%)
- Population density (person/km^2)
- The share of people employed from the active population (%)
- The share of people being unemployed for more than 12 months from the total unemployed (%)
- The number of people with diploma from higher education (1000 people)
- The difference between the regions' GDP per capita of years 2002 and 1999 (PPS)

Since the indices examined do not have the same level of influence on the creation of economic development of a region, we weighted the indices. We gave „1" to the GDP indices, „0,75" to the employment, unemployment and education figures and „0,5" to the population density data. We have put an „x" next to the regions whose GDP per capita growth was higher than that of the average between 2002 and 1999. Due to weighing and giving points a complex rank was created, which shows the place of each region in the rank reflecting the effect of several indices at the same time. We have compiled a summerizing table for 213 regions from which we have selected the regions whose share from the total GDP is higher than 1%, or whose GDP per capita is higher than the EU15 average, or where the population density is over 500 person/km^2, or the share of employed people is at least 60%. After all this, 84 regions could be considered developed on the basis of one or more indices. The maximum point was 28,75. We have selected the regions with points over 50% (14,375 point) to be possible members of the economicallay advanced zone. It covered 20 regions. Although, based on the total points some (12) regions were excluded from this group. Each one of these regions, however, represents more than 1% share from EU15's GDP and at the same time their GDP per capita is over the average of EU15. We thought that these 12 regions mean serious economic force in the Union, so we have compiled another variety for the blue banana with 32 regions.

Figure 2

Economic zones built up from 20 and 32 regions

Source: own research, 2005

The zones determined on economic factors do not form a comprehensive whole in geographic sense in any of the cases, i.e. they are homogenious economically, but they do not form a territorial unit. Though it can be stated that economically developed territories are related to **capitals, former industrial centers, metropolises or ports** in every case. Cities like this are e.g. **Paris, London, Amsterdam, Stockholm, Milano, Frankfurt, Stuttgart** etc. In the following table we have collected and present the major characteristics of the two geographic and two economic blue banana varieties:

Table 1

Blue banana

	Geographical		Economic	
	Dicken	Cséfalvay	20 regions	32 regions
Number of regions	47	54	20	32
GDP share from the total GDP 2002 (%)	30,89%	33,98%	24,02%	40,20%
GDP per capita average in the group 2002 (%)	119,32%	117,16%	151,85%	138,04%
Dual-index (2002)	4,2	4,2	2,57	3,04
Number of regions where the growth of GDP per capita was higher than that of the average (1999-2002)	28	29	9	13
Number of countries	7	7	10	10
Territory examined	EU15	EU15	EU15	EU15

Source: own calculation based on EUROSTAT, 2005.

If you compare the 4 varieties, you can see that in the economic zones **there are fewer regions than in the geographic ones.** The number of regions is almost only 50% of the other (geographic) regions, but **they have larger share from the total GDP** in ratio. After having calculated the average GDP per capita in the four groups we can see that the averages **in the economic zones are far more than those of the geographic ones**. This means that beside the more advanced regions of geographical zones there are several regions lagging behind. They are members of the zones just because of the geographic unity, and they do not show development in the 4 examined years, not even due to the proximity of really developed regions.

We have calculated **dual-index** for the maximum and minimum GDP per capita of each variety. It can be seen that the ratio of the maximum and minimum GDP per capita of the geographic zones **is far more higher than those of the economic zones**. This also establishes the former thoughts since the geographic zones consist of regions with

low economic homogenity. In geographical zones larger **territorial differences** exist (we need to mention that one of the objectives of regional policy is to moderate the territorial inequalities and to develop the relatively homogenious territorial units in complexity). The figure, which shows how many regions' **GDP per capita** has grown more than the EU15 average between 1999-2002, refers to the fact that how many regions' growth was more dynamic that that of the EU15 average. Numbers show that in the geographic zones more underdeveloped regions' growth was higher than that of the average, compared to the economic ones. It is natural, since GDP per capita of a poorer region may grow more than that of those regions where GDP per capita was high at the start.

Based on the abovementioned, we can see from the figures of economic blue banana that they include more countries but fewer regions compared to the geographic ones. But what is the most important, we managed to compile zones which are high economic forces. We need to mention that none of the economic zones are comprehensive wholes in the European Union, but in long terms – according to our hopes – closing up of neighbouring regions lagging behind may start. The phenomena like the development of advanced regions, the appearance of innovation, technological development, the settlement of services etc. induce dynamic development in even their neighbouring regions.

DISCUSSION

In our research we tried to determine the most developed regions of the European Union and Western-Europe. **As a consequence we can state that simple ranks do not show real picture of levels of development**. It is the case because economic development and competitiveness are complex and comprehensive terms themselves and there is still no agreement on the methods applicable. **Complex, multidimensional examinations can lead us to the right result**. Since the developed regions are usually linked to great cities, capitals and ports, thus the long-term objective of regional policy *(decreasing the demographic pressure on the overpopulated cities)* is really justified. We recommend to pay continous attention to the negative consequences of exaggerated development and to make steps to moderate them.

At the same time the strategic guidelines of rural policy should be thought over, since *keeping the population in the rural areas and providing them alternative income sources* are expected to be realized hard and hard in the future. Furthermore, strategies should be made which could treat the tendencies in special MARKOV-chains. Based on our research it can be stated that the development of regions with capital-, port-centers is expected to increase further, while the other regions will hardly be able to follow this development pace. Consequently, the long-term objective of regional policy saying that *the differences between regions must be moderated* imposes especially difficult tasks on the future's structural policy. Based on all this, we can state that the directions and priorities of economic development strategies must be revaluated and the supporting policy of **Structural Funds** must be reviewed.

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