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## **On the interpretation of local economic development in the lagging areas: The case of the Southern Great Plain region**

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### *Abstract*

Increasing localisation represents one of the most spectacular processes of the economies that develop and transform as a result of globalisation processes: while the (relative) importance of national economies is decreasing, the economic role of regions and cities seems to grow. Global competition has intensified also in space, especially with the growing importance of the knowledge-based economy. Territorial competition, which refers to the competition of regions and cities for scarce resources, global aims and so on, is increasingly prevalent. The modes of improving regional competitiveness and the local economic development strategies are heavily dependent on the type of the given regions.

Local and regional economic development strategies are especially important for the new member states of the EU, since between 2007 and 2013 they will receive significant subsidies from the European Union's regional development funds to improve the competitiveness of their lagging regions. The analysis of this issue calls for clarifying various questions for the less developed regions. What do we mean by regional competitiveness and how can it be described and measured? Do the economic, social and institutional background and the cultural characteristics of a region influence local and regional economic development strategies? Which development strategy of subregions (LAU1) can most significantly improve regional competitiveness in the lagging regions?

After reviewing the most important features of territorial competition, present paper provides a detailed analysis of the so-called “pyramidal model” serving as a basis of the improvement of regional competitiveness. On the basis of this model we outline the local economic development ideas aiming to improve the competitiveness of regions with different development levels. This model of regional competitiveness is suitable for the systematization of both regional planning and bottom-up local economic development ideas, consequently it was also applied for the planning of the economic development strategies of the different subregion (nodal region) types of the Southern Great Plain region in Hungary.

*Keywords:* territorial competition, regional competitiveness, bottom-up local economic development

## 1. Territorial competition

Increasing localisation – as a result of the globalization processes – represents one of the most spectacular processes of economies that accessed the EU in 2004 and in 2007: while the (relative) importance of national economies is decreasing, the economic role of regions and cities seems to grow. Global competition has intensified also in these countries, especially with the increasing importance of the knowledge-based economy.

Intensifying competition, which characterizes the global economy, significantly shapes the theory and also the practice of local economic development. This brings us to several fundamental questions. Is there territorial competition, and if yes how can it be characterized? Are lagging regions able to compete with developed ones, and what sort of strategy should they develop? The subsidies granted within the frame of the European regional economic policy between the period of 2007 and 2013 must be devoted for the improvement of competitiveness, but what is meant by regional competitiveness? Is there a competition among regions or among the cities of the different regions as well?

Market competition amongst companies can easily be interpreted, but it is questionable whether the long existing rivalry of countries and regions should be considered competition or not. Two opposing views exist in this respect. According to the first opinion, while in the case of companies the concept of market competition is unambiguous, in the case of cities, regions and countries it is impossible to talk about real competition. In the other view competition among regions and cities exists, but its features essentially differ from those of the market competition existing among companies. The basic position of the trends departing from *comparative advantages* demonstrates the first approach well, while the schools accepting *competitive advantages* support the second one (Camagni 2002, Neary 2003, Pike et al 2006b, Sheppard 2000).

According to the theory of *comparative advantages*, if countries in international trade specialize in producing the goods and products, in which their relative labour productivity or their relative expenditure cost is more favourable, that leads to the development of an international division of labour, from which each country benefits (Krugman 1994, Krugman-Obstfeld 2002). This means that there is *no competition among countries* since free trade and the market automatism governed by the 'invisible hand' generate a balanced development and create a favourable situation for each country that recognises its comparative advantages. Therefore, it is useless to talk about competition among countries and to talk about competitiveness. Krugman's above-mentioned thoughts are widely acknowledged and it has become commonly accepted in regional science that *the rivalry of countries and regions cannot be compared to companies' market competition* (Polenske 2004).

On the other hand, there is also relative consensus about the idea that there is not only rivalry among regions, but 'competition-like' features have also emerged: due to the effects of globalisation, the 'traditional' rivalry among cities, regions and countries has gained a new meaning by today (Begg 1999, 2002; Camagni 2002; Cheshire-Gordon 1998; Lever 1999; Malnecki 2002, 2004).

The theory of *competitive advantages* reflects to the *new conditions of the global competition*. Michael Porter claims that today the theory of comparative advantages does not provide an acceptable explanation about the international division of labour (Porter 1990; 1998, pp. 322-324). Porter's proposal to development is the *theory of competitive advantages*, which systematizes the development phases of countries and the new elements of the international (and regional) division of labour. The competitive advantage of a given country or region depends on economic structure, the development level of the institution system and the quality of its operation, governmental economic policies and ideas on local development. The competitive strategies of globally competing companies and the regional clusters exploit dynamic agglomeration economies (Porter 2001).

According to *Porter* (1996), regions do not compete with one another like national economies, which means that they do not use various governmental (monetary, fiscal, customs, export promotion, tax, investment and other) economic policies, since they do not even have such policies. But their competition is not similar to that of companies either, since there is no single decision making centre in the region that designs and executes a regional competition strategy by focusing on profit maximizing. Regions and cities compete by creating a *business environment that fosters the productivity improvement* and contribute to the success of the region's firms: specialised institutes of education, effective special infrastructure, information services facilitating innovation, enterprise-friendly administration, developing research and development institutes that meet the profile of clusters. Networks consisting of the various local groups (chambers, institutes, universities and so on) participate in creating the business environment.

In connection with the territorial units we need to distinguish between competition among countries and among the different (sub-national) regions of a country. When analysing regional competition and competitiveness, *Malecki* (2002) underlines the fact that the regions seem to separate from the national economy more and more: today the development pace of the national economy depends on the economy of regions and cities as successful 'regional motors' and not vice versa. Companies can choose from a great variety of locations, therefore cities compete in 'attracting' the scarcely available profitable companies: not only financial benefits (tax discounts, promotion, etc.) but mainly the favourable business conditions (the quality of the infrastructure, the flexibility and standard of institutes in education, transparent legal regulations, etc.) are the decisive factor in the competition. „In short, competition among cities is real and has become 'fiercer'" (*Malecki* 2002, p. 930). Territorial competition is a special type of competition that can be characterised with easily producible parameters and regional competencies (*Budd-Hirmis* 2004).

In the competition among the different regions within a country *scarcity* derives from two interrelated factors: investments made in the new market segments demanding special expertise and talented experts (*Malecki* 2002, p. 930). The competition of regions is a skill 'sticking' or attracting investments and talented labour force and the main goal is "to sustain their attractiveness to both labour and capital" (*Markusen* 1999, p. 98). Not only the attraction of capital and creative employees from outside the region is necessary, but the attraction of tourists as well, and the local entrepreneurial skills also need stimulation. The *results of regional competition* are similar to those of the competition among countries: in the successfully competing regions the welfare (living standard) improves, employment and incomes (wages) are high, new investments take place, talented young people and successful businessmen move there, etc. (*Malecki* 2004, *Polenske* 2004).

Based on the abovementioned features the *definition of territorial competition* may be conceptualized as the following (*Cheshire* 2003; *Cheshire-Gordon* 1998; *Gordon-Cheshire* 2001; *Lengyel* 2003a): *a process that occurs among territorial units aiming to increase the welfare of the people living in the cities or regions by promoting the development of regional and local economy, a development that certain groups try to influence explicitly or often implicitly through local policies by competing and rivalizing with other territorial units.*

Territorial competition, which means the competition of regions and cities for scarce resources, global aims and so on, is increasingly prevalent. Global competition processes undoubtedly define the economy of less developed countries including the economic structure in the regions of transition countries (so Hungary as well). So the less favoured regions must work out *competitive strategy* for improving their economic situation (*Porter* 2003a).

According to *Porter's* interpretation the cluster concept can be viewed as an updating of the economic base theory within the frame of the global competition. Therefore, in his view, the regional economic development strategies should contain the development of clusters (*Porter* 2003b). This point of view is often criticised, *Martin and Sunley* (2003) describe the cluster as a

chaotic concept. In spite of the ambiguous role of clusters, the EU stresses the focus on innovative clusters in regional economic development strategies in the period of 2007-2013.

## 2. Regional competitiveness

Successfulness in competition, or in other words, *competitiveness* has been one of the key concepts often used and quasi 'fashionable' in many areas of economics over the past two or three decades partly due to the acumination of global competition. It is a fashionable term the use of which seems nowadays to be nearly obligatory. In Iain Begg's apt formulation: "improved competitiveness, as we all know, is the path to economic nirvana" (Begg 1999, p. 795).

The objective of regional and local economic development is the improvement of the standard of living and quality of life of the region's inhabitants. Hence economic development and competitiveness are strongly connected, only those kinds of programmes belong into the competence of economic development which improves regional competitiveness.

Two major issues emerged in the debates aiming at the interpretation of competitiveness: on one hand, *how to define regional competitiveness and what indicators should be used to measure it?* On the other hand, *how can regional competitiveness be improved*, which governmental and local interventions may be regarded as successful? These two questions usually lie in the background of other professional debates too; while representatives of academic economics concentrate on the first one, experts of regional policy tend to focus on the second one.

There were a number of attempts to define the new notion of competitiveness according to new global competition conditions in the mid 1990s. The *standard notion of competitiveness* in the Sixth Regional Periodic Report of EU (EC 1999): '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'. In other words 'high and rising standards of living and high rates of employment on a sustainable basis' (EC 2001). In the European Competitiveness Report (EC 2003): "Competitiveness is understood to mean high and rising standards of living of a nation with the lowest possible level of involuntary unemployment, on a sustainable basis." In the report of Regional Competitiveness Indicators of UK (DTI 2002): 'Regional competitiveness describes the ability of regions to generate income and maintain employment levels in the face of domestic and international competition'.

This standard definition of EU refers to "relatively high income". This can be measured by means of the per capita GDP and the GDP growth rate. A high employment level is in turn indicated by the rate of employment. These two indicators can be measured independently from one another, but as is well known the per capita GDP can also be expressed as follows (EC 1999, Lengyel 2004):

$$\frac{GDP}{total \cdot population} = \frac{GDP}{employment} \times \frac{employment}{working - age \cdot pop.} \times \frac{working - age \cdot pop.}{total \cdot population}$$

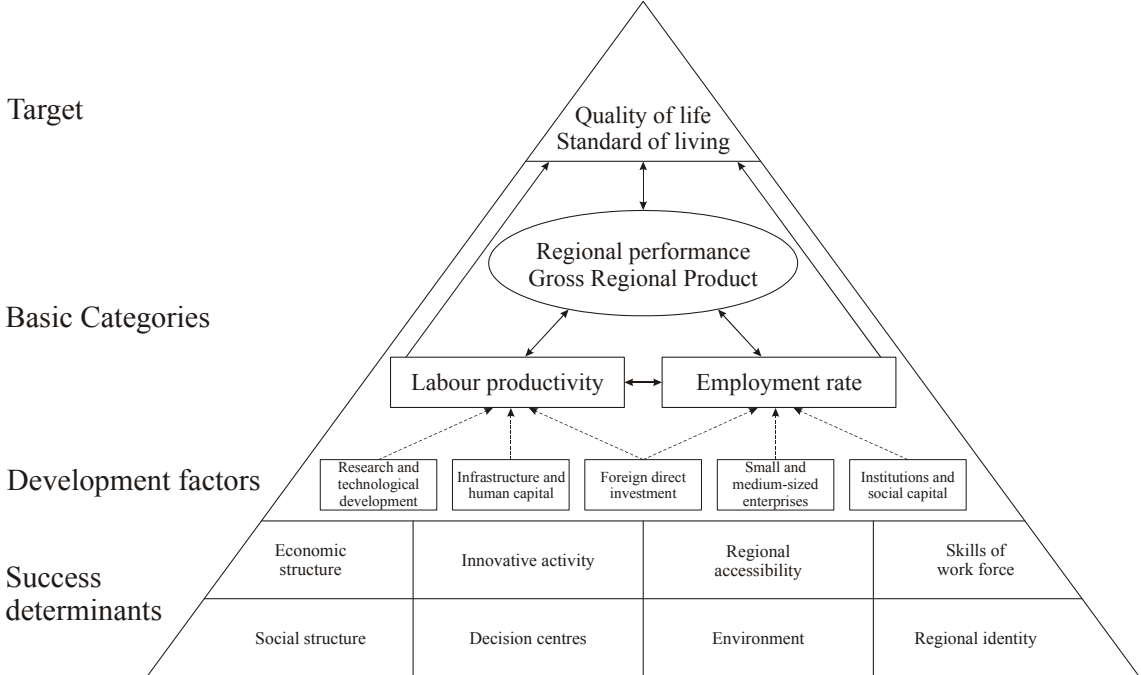
The first fraction on the right-hand side of the formula is approximately equal to *labour productivity* and the second to the *rate of employment*. The third fraction, the age distribution of the population only changes slowly. Given the standard definition of regional competitiveness, no unique indicator of regional competitiveness can be found. It is interpreted rather as a combination of closely connected, well-measurable and unambiguous traditional economic categories: per capita GDP of the region (otherwise regional growth), labour productivity of the region, and employment rate of the region.

Hence the *substance of regional competitiveness*: the economic growth in the region, which growth is generated by both a *high level of labour productivity* and a *high level of employment*.

In other words, competitiveness means *economic growth driven by high productivity and a high employment rate*.

The notion of competitiveness obtained in this way cannot be used, however, to identify factors responsible for regional competitiveness or areas which are to be strengthened or developed by regional development policies and programmes for improved competitiveness. Since the notion of competitiveness can be seen as refining that of economic growth, it can often be observed that proposals for improved competitiveness combine traditional means of economic development with methods based on endogenous development.

Figure 1. The pyramidal model of regional competitiveness



Source: Lengyel (2000, 2004)

The *pyramidal model of regional competitiveness* seeks to provide a systematic account of these means and to describe the basic aspects of improved competitiveness (Figure 1). ‘This model is useful to inform the development of the determinants of economic viability and self-containment for geographical economies’ (Pike et al, 2006a, p. 26). ‘This is an aggregate notion, ..., in a regional context, labour productivity is the outcome of a variety of determinants (including the sort of regional assets alluded to above). Many of these regional factors and assets also determine a region’s overall employment rate. Together, labour productivity and employment rate are measures of what might be called ‘revealed competitiveness’, and both are central components of a region’s economic performance and its prosperity (as measured, say, by GDP per capita), though obviously of themselves they say little about the underlying regional attributes (sources of competitiveness) on which they depend’ (Gardiner – Martin – Tyler 2004, p. 1049).

The standard of living, prosperity of any region depends on its competitiveness (Begg 2002). Factors influencing regional competitiveness can be divided into two groups of *direct* and *indirect* components. Of particular importance are programming factors with a direct and short-term influence on economic output, profitability, labour productivity and employment rates (Huggins 2003, Lengyel 2004). But social, economic, environmental and cultural processes and parameters, the so-called ‘success determinants’, with an indirect, long-term impact on competitiveness are also to be taken into account (Enyedi 1996, Jensen-Butler 1999).

Three levels can be distinguished with regard to the objectives of regional development programming and the various characteristics and factors influencing competitiveness (*Figure 1*):

- *Basic categories* of regional competitiveness, so called *revealed competitiveness* (*ex post* indicators): these categories measure competitiveness of regions and include income, labour productivity, employment and openness.

- *Development (programming) factors* of regional competitiveness (*ex ante* factors): factors with an immediate impact on basic categories. These can be used to improve regional competitiveness by means of institutions in short-term programming periods.

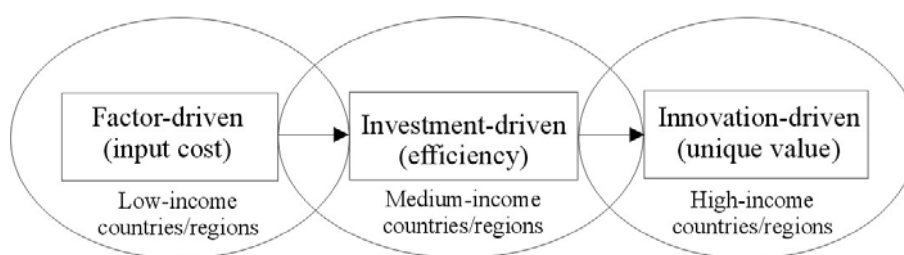
- *Success determinants* of regional competitiveness (social and environmental conditions): determinants with an indirect impact on basic categories and development factors. These determinants take shape over a longer period of time and their significance reaches beyond economic policy-making.

The elements of regional competitiveness are systematized by the Pyramidal model, which reduces the components of economic development to connected factors (Pike et al 2006b). Can competitiveness be improved by developing the same factors in all kinds of regions? What determines the success a regional development strategy?

Different 'market places' also occur in the global competition of countries, regions and cities. *Tödting and Trippel* (2005, p. 1209) describe three types of regions by problem areas and regional innovation deficiencies: peripheral region (organisational thinness), old industrial regions (lock-in), and fragmented metropolitan regions. In 2003 one of the research projects of the EU analysed the factors influencing regional competitiveness and how dominant the elements determining competitiveness are in different region types in order to create the foundation of regional policy between 2007 and 2013. During the research four 'theoretical' region-types were distinguished based on two dimensions, density of population and the growth rate of GDP (Martin et al, 2003 p. 6-23): non-productive regions, regions as production sites, regions as sources of increasing returns, and regions as hubs of knowledge.

Based on the characteristics of *competitive advantages*, Porter (2003b) distinguishes three stages in the countries' development built upon one another. On the basis of the amount of specific GDP and the competition strategies of global industry branches these are (*Figure 2*): factor-driven, investment-driven and innovation-driven phases. The three phases of competitive development designed for countries can also be applied in the case of regions (Lengyel 2003a). And these types are very useful to underlie the bottom-up local development strategies of the subregions.

*Figure 2.* Stages of competitive development of countries/regions



*Source:* own construction based on Porter (2003b, pp. 26-28)

Nowadays, *knowledge-based economy* strongly shapes the specialization patterns of a country's regions with different development levels, and also changing the former characteristics of territorial competition. Based on the differences among regions it is preferable to differentiate where knowledge is created and where it is only adapted (Bajmócy 2007, Cooke 2001, Lengyel

B. 2005, Martin et al 2003). In the case of competitive regional development only in the innovation-driven phase can it be stated definitely that competitive advantages derive from knowledge creation, while in the investment- and factor-driven phases they originate from the mere adaptation of knowledge. Less developed, lagging regions are in an exposed situation, certain features of the knowledge-based economy are present, but neofordist characteristics are decisive (Lengyel 2003a).

In harmony with the phases of competitive development *three types of postfordist regions* must be distinguished (Asheim 2001, Lengyel 2003a, Martin et al 2003):

- *Neofordist region*: factor-driven phase (regions with low income and input cost), regions as production sites,
- *Knowledge transfer region*: investment-driven phase (regions with medium income and efficiency), regions as sources of increasing returns, and
- *Knowledge creation region*: innovation-driven phase (regions with high income and unique value), regions as hubs of knowledge.

Neofordist and knowledge transfer regions differ from knowledge creation regions not only in terms of the sources of competitive advantages, but also because they are economically exposed and fragile. The decision centres of global companies hardly occur in less developed regions, so they demand knowledge less; rather the executive type activities of global companies are present here. Besides assembly plants, units of global companies selling products and performing service activities on the local market, local branches of international banks and insurance companies, and sometimes subsidiaries engaging in minor research activities also operate here. Naturally, most regions are 'mixed', but while neofordist and knowledge transfer activities and companies also exist in knowledge creation regions, the number of firms based on knowledge creation is close to zero in neofordist regions.

In the course of the debate on territorial competition, it is increasingly acknowledged, that regions with similar state of development compete with each other, while amongst the different types of regions there is rather rivalry (Camagni 2002, Malecki 2004, Polenske 2004, Hall 2001). Competition is especially intense among metropolises, but within the EU or a country there also exist territorial competition amongst nodal regions with similar state of development.

Concerning the three region types reviewed above, different development strategies must be applied, which means that *the improvement of competitiveness demands different measures based on the different types of regions*. These steps correspond to the phases of competitive regional development and at the same time indicate that competitiveness can be improved only with the help of complex programmes. The pyramidal model systematizes those economic development priorities that adjust to the real social-economic situation and the achievable (realistic) aims of the different region types. The improvement of regional competitiveness depends on the consistent realisation of these development strategies.

### **3. Competitiveness of Hungarian regions**

Hungary has a small open economy that, after the political change in 1989 and 1990, joined the EU in 2004, following a transition period from planned into market economy (Kállay – Lengyel 2008, Lengyel 2002). In Hungary the *Act on Regional Development*, designed on the basis of the EU's regional policy and institutions, was passed in 1996. Each of the 19 (NUTS3) counties established a 'County Territorial Development Council', whose members also include the representatives of the larger cities (*Table 1*). These County Territorial Development Councils coordinate the development concept and the development programmes of the different counties in compliance with the expectations of the EU's regional policy (Lengyel 2003b, Rechnitzer

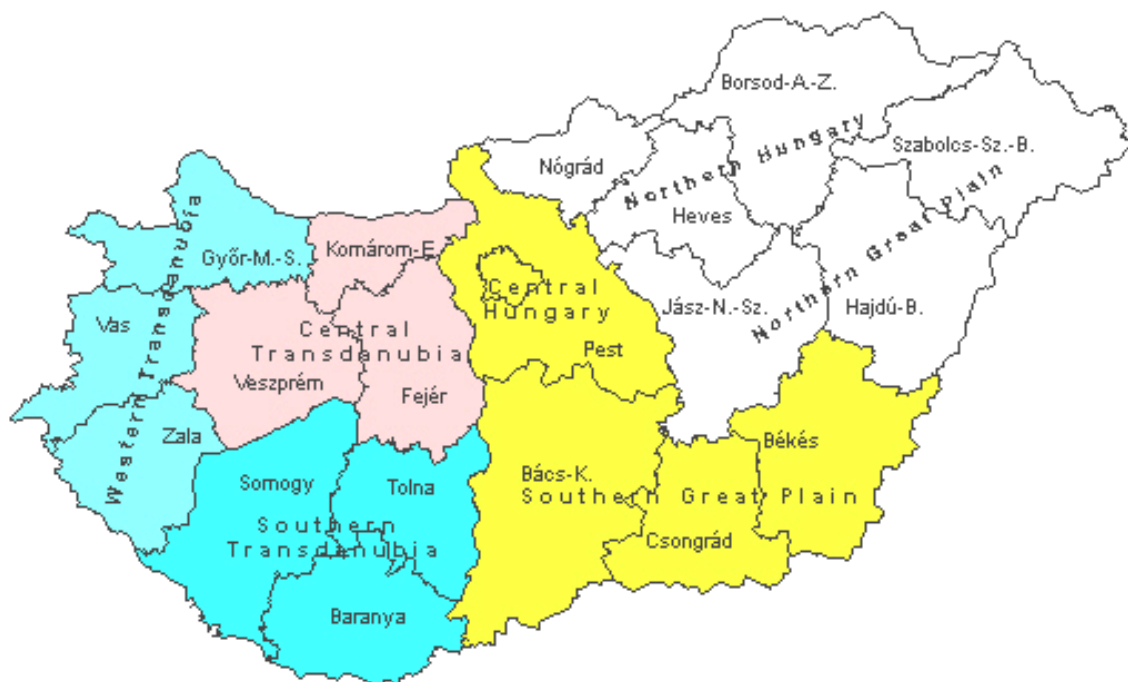
1998). The establishment of (NUTS2) regions and 'Regional Development Councils' for neighbouring counties also became possible although their operation was formal since no institutions and budget belonged to them. Presently, Hungary has 7 NUTS-2 level programming regions, each consisting of 3 counties.

The Southern Great Plain region is situated in the south-eastern border area of the country, and includes three counties: Bács-Kiskun, Békés, and Csongrád (*Figure 3*). The region's area is 18 thousand square kilometres and it has a population of 1.4 million. The economy and settlement structure of this region is defined by the fact that it is situated in the Great Plain divided by the river Tisza. Szeged, Hungary's fourth most densely populated city, which is situated approximately 180 kilometres south from Budapest, is the centre of both the Southern Great Plain region and Csongrád county. Szeged has a population of 170 thousand people and together with its subregion constitutes the labour market of approximately 250 thousand people.

*Table 1. Territorial levels of Hungary after 2004*

Level of territorial units	Number of territorial units
NUTS 2 = region	7
NUTS 3 = county	19 + Budapest (capital)
LAU 1 = subregion	167 + Budapest (capital)

*Figure 3 Regions and counties in Hungary*



The basic categories of the pyramidal model can be used to measure the “ex post” regional competitiveness: GDP per capita, labour productivity and employment. Regional GDP at purchasing power parity (PPS) has been recorded since 1995 in Hungary.

Between 1995 and 2004, Hungary has experienced significant economic growth; the average rate of growth is 4,5 % per year. This rate of growth exceeds that of the annual average in the EU-27, which was 2.3 %. Owing to the fast development Hungary's GDP per capita (PPS) reached 64,3 % of the EU-27 average in 2005.

The regional distribution of *GDP per capita* has been strongly unequal (*Table 2*). Three regions (Central Hungary, Central Transdanubia, Western Transdanubia) actually began to re-

duce the gap between them and their Western European counterparts with a dynamic growth of approximately 5,0-5.5 % a year between 1995 and 2004. These three regions with dynamically growing economies constitute one block situated in the northwest of Hungary between Budapest and the Austrian border. The economic growth of the other four regions remained at a yearly rate of 2,9-4,0%, which slightly exceeds the EU average. These regions are situated south and east of this area. Regional data clearly show that in Hungary there are great and constantly existing territorial differences among the regions, and only one region, Central Hungary has continuous and fast growth.

Table 2. Main data on competitiveness of Hungarian regions

Regions, Counties	GDP per capita (%) 2005	Average GDP growth (%) 1995-2004	Employment rate (%) 2005	Labour productivity (in euro) 2004	Higher educational attainment (25-64 aged, %) 2005
EU-27	100,0	2,3	63,3	100,0	22,4
Hungary	64,3	4,5	56,9	42,8	17,1
Central Hungary	104,9	5,0	63,3	56,8	26,6
Central Transdanubia	60,4	5,5	60,2	41,6	12,6
Western Transdanubia	63,7	5,2	62,1	40,7	13,6
Southern Transdanubia	44,6	3,2	53,4	33,7	12,9
Northern Hungary	42,3	3,6	49,5	35,2	12,9
Northern Great Plain	40,9	4,0	50,2	32,7	13,3
Southern Great Plain	43,6	2,9	53,8	31,8	13,7

Source: Eurostat

Regional competitiveness depends on a combination of *employment rate* and the *labour productivity*. In Hungary the *employment situation* has improved parallel to the economic growth beginning in 1995 (Table 2). However, in 2005 the employment rate of 56.9 % shows considerable lag behind the EU-27 rate of 63,3 %. The regional differences within the country were as in the case of economic output (GDP per capita). In the three developed regions employment rate reached 60-63 % in 2005, while the same figure was 49-54 % in the four less developed ones. In 2005 the developed regions' rates of unemployment were approximately 5-6 % while in the less developed areas 8-10 %.

After 1995 *labour productivity* improved in all of the regions, almost parallel to the growth rate of the GDP per capita. In Hungary the rate of people in the age group of 15-64 with *higher education degrees* is only 17.1 %, while the EU-27 average is 22.4 %.

The three basic figures of regional competitiveness show that the growth and competitiveness of Hungary's economy depends on three regions and mainly on the economy of the capital city. The growth of the other four regions is slow; their employment rate, labour productivity, and the educational level of the workforce are equally low.

The EU's Structural Funds provide significant assistance for the development of Hungarian regions between 2007 and 2013 since in six out of the seven regions the GDP per capita does not reach the 75 % of the EU average, they are 'convergence regions' while Central Hungary is a 'phasing-in region'. One of the EU's fundamental strategic goals is also defined by the Lisbon decree: to make the EU the most competitive and dynamic knowledge-based economy in the world. In supporting the underdeveloped regions, the major goal of the EU's regional policy is to improve the competitiveness of these regions in the short or long run. In 2006 Hungary also began designing its national development plan, including the preparation of the development concept and strategic programmes of the underdeveloped regions.

On the basis of the pyramidal model a detailed analysis on the competitiveness of regions and counties was carried out (Lukovics 2006). In the examination the basic categories, the development factors and the success determinants were characterized by 36 indicators. The indica-

tor system was analyzed by multivariate statistical methods. The correspondence between indicators were examined by factor analysis, the relation between the basic categories and the development factors by regression analysis, while the typifying of regions and counties was carried out by multidimensional scaling, and cluster analysis (Lengyel-Lukovics 2006, Kovács - Lukovics 2006).

The detailed analysis proved that Hungarian regions can be classified into three groups on the basis of their competitiveness:

- (a) Region in transition from the knowledge transfer type into the knowledge creation type: Central-Hungary (Budapest and agglomeration)
- (b) Regions in transition from the neofordist type into the knowledge transfer type: Western Transdanubia and Central Transdanubia
- (c) Characteristic neofordist regions: Southern Transdanubia, Northern Hungary, Northern Great Plain and Southern Great Plain

The Southern Great Plain region, according to the competitiveness analysis based on 36 indicators, is a typical neofordist region: the economic growth is slow, the employment rate and the average level of education are low, small proportion of enterprises are able to export, the level innovation activity is weak, etc. For the 2007-2013 programming period, in line with the neofordist character of the region, such development objectives and programmes should be set that leads to the improvement of competitiveness, namely increases economic output, employment and labour productivity. Bottom-up local economic development on the other hand depends on the economic-social state, the enterprises and clusters of the nodal regions, sub-regions and cities. Subregions with similar condition compete with each other both within the country and within the region. Therefore it is not sufficient to analyze the competitiveness of the NUTS-2 region, the nodal regions, where the economic development projects that improve competitiveness are organized, must be separately analyzed as well.

#### 4. Competitiveness of Hungarian subregions

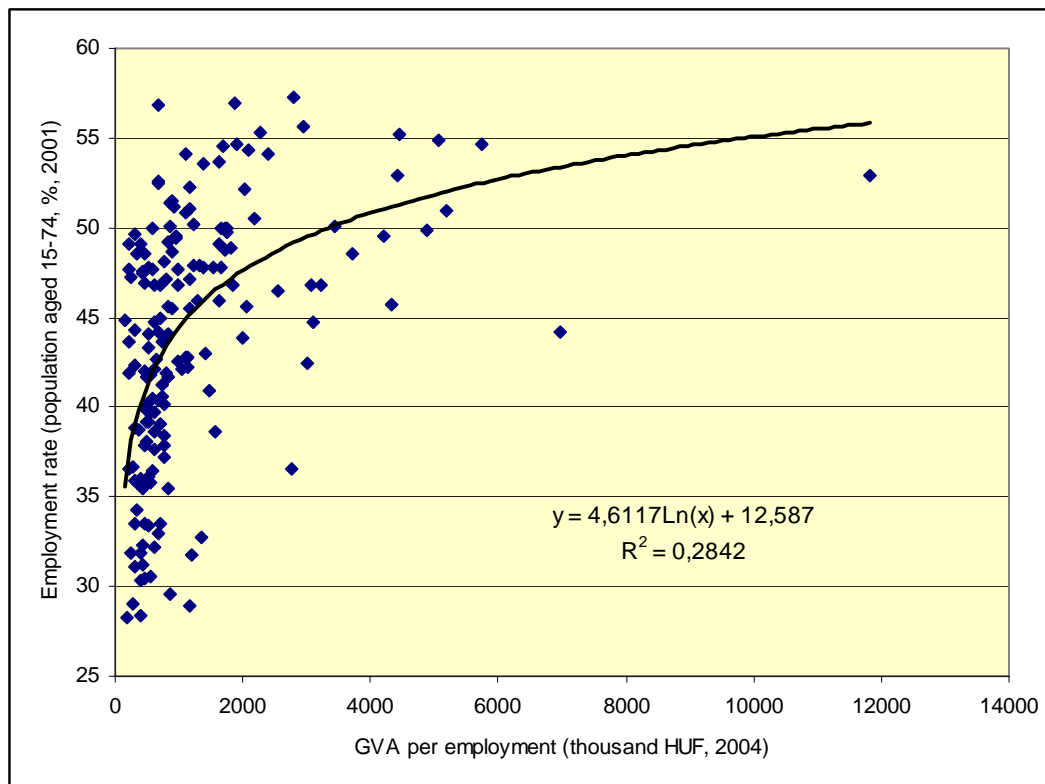
In Hungary each NUTS2 regions are heterogeneous; they have developed urban districts and underdeveloped rural ones. Compared to the regions, the differences *between LAU 1 subregions* in terms of development (especially among towns and villages) are obviously larger. In terms of *labour productivity* (GVA per employment) and *employment rate*, the two basic indicators of competitiveness, a different picture unfolds (*Figure 4*). The employment rate of the 168 sub-regions has an almost totally balanced distribution between 30-55 %. On the contrary, considering the GVA per employed figures sub-regions show a special picture: about three-fourths of them have identical values not reaching 6000 euros. The remaining one-fourth represented by the small regions of larger towns has strong variance.

Hungary's *structure of settlements* is characterised by the fact that – except for Budapest having 3 million inhabitants together with its agglomeration area – no other large town exists; regional centres are towns with 150-200 thousand inhabitants (Debrecen, Miskolc, Pécs, Szeged). Consequently, half of the population live in rural areas, villages or small towns. And the competitiveness of these rural subregions is poor.

In the territorial competition amongst subregions (as nodal regions) the state of development, which is interpreted by the stages of regional competitive development, is important on the one hand. On the other hand, the nature of agglomeration economies that the region benefits must also be considered for the purpose of the possibilities of local economic development. *Economies of urbanization* are peculiar to metropolises (metropolitan regions), where general clusters emerge, while *economies of localization* can be observed in smaller cities (micropolitan

regions), where they further the emergence of special clusters (Dicken 2003). In rural regions economies of agglomeration can not be observed, the competitiveness of these regions is weak and they are able to participate the territorial competition only passively.

Figure 4. Employment rate and GVA per employment of the Hungarian sub-regions (LAU 1)



Source: Lengyel – Lukovics (2006)

Hungary's 168 sub-regions have been classified along two dimensions (Lengyel-Lukovics 2006): first they were divided in three (neofordist, knowledge transfer, knowledge creation) development phases according to 63 indicators describing *competitiveness*. Then with the help of examining the *urbanisation level* of sub-regions the results of the first classification were further elaborated according to population concentration (Figure 5).

The measurement of the competitiveness of LAU-1 level subregions and their classification is performed with a complex *system of indicator numbers* where defining and choosing variables is a key task. In choosing indicators we follow the logic of the pyramidal model and perform a complex analysis with the help of multivariate data analysing methods (Lukovics 2007, Lengyel-Lukovics 2006). According to our expectations the statistical data base defined by basic categories, basic elements and success factors can be used to analyse the complex competitiveness of subregions.

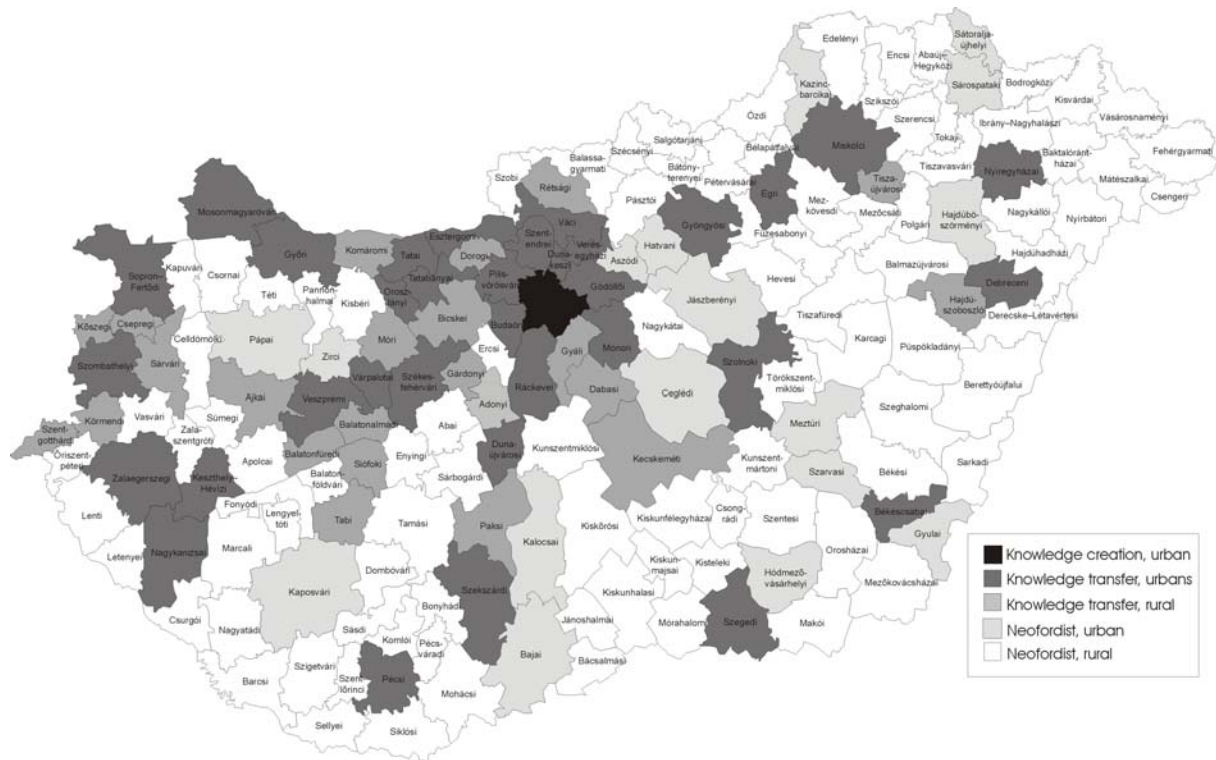
Owing to their significantly different departure points, the sub-regions falling in different competitiveness types described in the present paper cannot be handled with a unified economic development action plan. When defining the features of bottom-up economic development strategies it is advisable to depart from the special features of the given region type.

The analysis of competitiveness of sub-regions was carried out for *four region types* at the Southern Great Plain region (Figure 5):

- knowledge transfer, urban (2): Szeged and Békéscsabai,

- knowledge transfer, rural (1): Kecskeméti,
- neofordist, urban (5): Hódmezővásárhelyi, Szarvas, Kaloccai, Bajai, Gyulai,
- neofordist, rural (17): others.

Figure 5. Hungarian sub-regions by competitiveness types



Source: Lengyel-Lukovics (2006)

In *knowledge transfer urban sub-regions* the critical mass required for defining a successful knowledge-based economic development strategy exists, however, certain special conditions are not yet available for the successful organisation of innovative clusters. In these sub-regions the development of clusters must be facilitated by improving university training programmes, creating and operating technology transfer institutes, improving the business climate, entrepreneurship and so on (Bajmócy 2006).

In *knowledge transfer rural sub-regions* the critical mass necessary for realizing successful knowledge-based economic development is not available, therefore, in this case an industrial restructuring strategy is recommended. Namely, attracting companies with a relatively small number of workforce and applying a relatively high level of knowledge not created in the given sub-region to establish their sites (e.g. assembly sites) in the area. Here, industrial restructuring strategy must focus on encouraging agricultural and manufacturing transformation.

In *neofordist urban sub-regions* the launch of economic restructuring is recommended. The main goal lies in developing technical infrastructure and attracting the sites of global companies with the help of prepared industrial areas, low taxes, cheap work force, and financial support (recruiting industry branches). Satellite industry branch areas are most likely to be formed, if this is realized, focus must be placed on helping local embedment.

In *neofordist rural sub-regions* rural development and agrarian economy of high quality constitute a possible direction of development promising realistic results. It is important, how-

ever, that in case of this region-type, beyond improving competitiveness, fair treatment and solidarity also assume a significant role, since without assisting rural development this region type cannot develop.

## 5. UFO-model: bottom-up local economic development programming

The total budget of the Operational Programme of the Southern Great Plain region for the period 2007-13 is about €881 million and includes Community investment through the European Regional Development Fund (ERDF) of some €749 million (approximately 3.0% of the total EU money invested in Hungary under the Cohesion Policy for 2007-13).

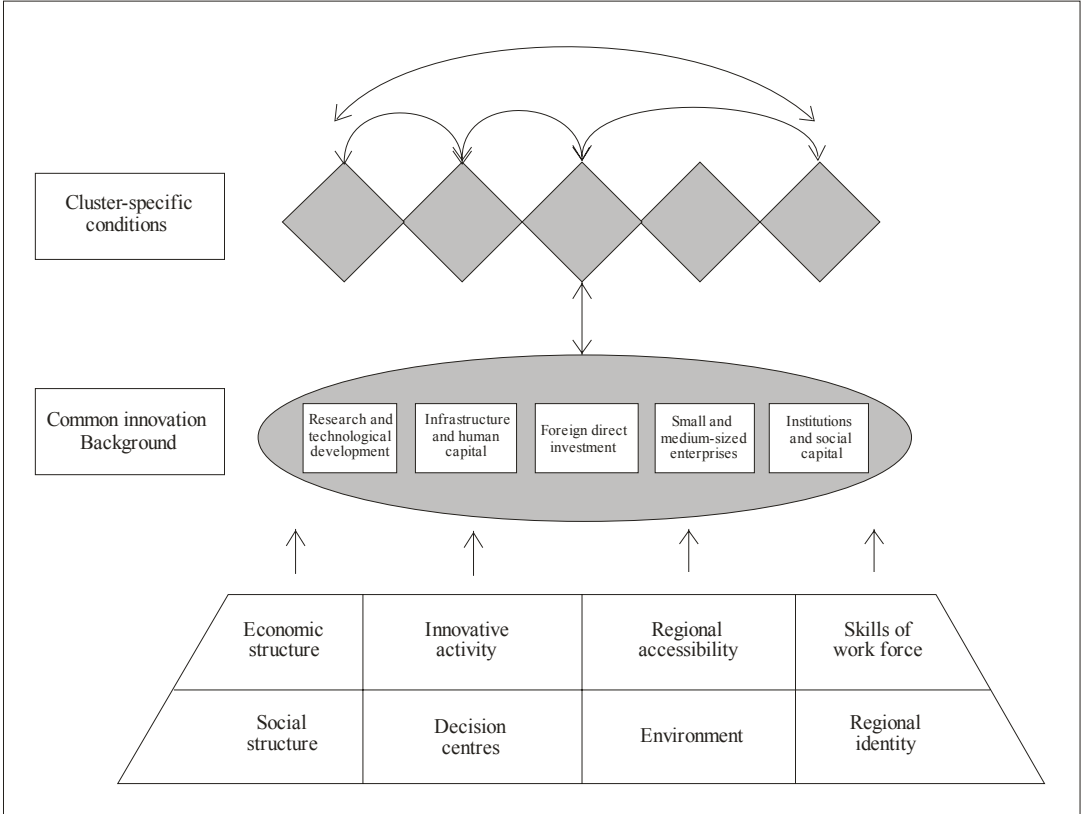
*Table 3. Regional Operational Programme of the Southern Great Plain between 2007 and 2013*

Priorities	Purpose of the priority
Priority 1: <i>Regional Economic Development</i> (17.4% of total funding)	This priority is aimed at promoting high value-added economic activities in the region, boosting the competitiveness of the small and medium-sized enterprise (SME) sector and increasing the level of employment. The main activities include developing technology centres and bridging institutions, supporting clusters and economic networks, reinforcing SME support services, developing industrial parks and incubation centres and rehabilitating brown-field areas
Priority 2: <i>Tourism Development</i> (18.3% of total funding)	The objectives of this priority are to increase tourism income, the average duration of tourist visits and the number of people employed in the tourism sector. The priority also provides support for developing health tourism facilities based on thermal water resources, as well as cultural heritage sites and tourist attractions. The final focus under this priority is to improve the quality of tourism services and develop a regional tourism destination management organisation.
Priority 3: <i>Development of Transport Infrastructure</i> (21.1% of total funding)	This priority aims at improving the accessibility of lesser developed micro-regional centres and reducing intra-regional disparities. The activities include developments for regional roads, bicycle routes and public transport infrastructure.
Priority 4: <i>Development of Human Infrastructure</i> (18.8% of total funding)	The objectives under this priority are to improve the mental and physical health of the population, establish a high-quality human infrastructure, and increase the level of employment. Support will target the development of kindergartens, primary and secondary schools, and basic social services. In the health sector, there are plans to develop out-patient care centres as well as diagnostics, screening and rehabilitation centres. Support will also target efforts to improve accessibility in public buildings.
Priority 5: <i>Settlement Development Actions</i> (20.8% of total funding)	This priority aims to strengthen social cohesion, establish an attractive urban environment and improve environmental safety. The main activities include support for integrated urban development actions, social-type rehabilitation and housing. In terms of the environment, efforts will focus on developing wastewater management infrastructure, re-cultivating landfills and running environmental awareness-raising campaigns.
Priority 6: <i>Technical Assistance</i> (3.6% of total funding)	Technical assistance will be provided for implementing the Programme. Financial support is also available and will cover administration, monitoring and control.

*Source:* Regional Development Agency of the Southern Great Plain Region (2008)

The officially passed Operational Programme of the region consists of five priorities. Within the period of 2007-2013, in line with the underdevelopment of the region, a modernization strategy must be preferred, in which the development of transport infrastructure, settlements and human infrastructure are prioritized (Table 3). Hence the success determinants of the pyramidal model must be primarily enhanced, because the lack of these determinants restrains the improvement of competitiveness. For local development programmes the 1<sup>st</sup> priority (regional economic development) and the 2<sup>nd</sup> priority (tourism development) provides support. While in case of the 1<sup>st</sup> priority three types of subregions (knowledge transfer urban and rural, neofordist rural) have realistic chance, in case of the 2<sup>nd</sup> priority actors of rural subregions can also apply (e.g. for village tourism).

Figure 6. UFO-model: the levels of bottom-up local economic development programming



Source: own construction

In the Southern Great Plain, in line with the structure of the pyramidal model, we distinguish between three levels of bottom-up local economic development programmes aiming to improve subregional competitiveness (Figure 6). While on the basis of the pyramidal model the competitiveness can be measured and the influencing factors can be systematized, cluster-based development enhances the basic industries of the subregions, and by doing so it reinforces specialization necessary for meeting the challenge of global competition:

- *Success determinants*: on the basis of the pyramidal model, the reinforcement of certain absent or weak background conditions of region's economy, which are the bottlenecks of subregional development. The 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> priorities of the Operational Programme serve as a basis of enhancing the success determinants. Regarding these development actions territorial competition does not emerge, fundamental public utilities and amenities must be guaranteed in the least developed subregions as well. Thus within the meaning of solidarity all the subregions must be supported that are in need.

- *Common innovation background*: such programmes aiming at the improvement of subregional competitiveness, systematized on the basis of the development factors of the pyramidal model, that further the reinforcement of most of the industries' and enterprises' competitive advantages in the subregions. The development strategy of the common innovation background depends on the development/competitiveness type of the subregion (*Table 4.*). The Southern Great Plain region consists of knowledge transfer and neofordist subregions, for the purpose of supporting the locally created economic development strategies all the five priorities are eligible. In connection with the improvement of the common innovation background territorial competition can be observed among the similar subregions. This is why the subregional organization of bottom-up economic development is important, in order to support solely those subregional programmes and projects that are able to improve regional competitiveness the most.
- *Cluster specific conditions*: in the knowledge transfer subregions it is possible that innovative clusters will emerge. In the Southern Great Plain region the biotechnology and healthcare clusters of Szeged have been organized on the basis of the University of Szeged (Bajmócy – Kosztópulosz – Imreh 2007). In other urban subregions the emergence of manufacturing and tourism clusters can be expected. Clusters generate very intense territorial competition. To develop similar industries are endeavoured also in other regions of the country, therefore only those local economic development strategies will be able to succeed that are based on local consensus and unity and that aim to improve the competitive advantages on the given industry's enterprises.
- *Linkages*: it is essential that there should be interdependence between programmes aiming to improve the common innovation background and clusters, because only this approach can result in the development of regional competitiveness.

*Table 4.* Development possibilities of the distinct types of subregions on the basis of the development factors of the Pyramidal model

	<b>Research and technological development</b>	<b>Infrastructure and human capital</b>	<b>Direct investment outside from region</b>	<b>Small and medium-sized enterprises</b>	<b>Institutions and social capital</b>
<b>Knowledge creation</b>	Harmonised business and non-business R&D Integrated R&D Innovative milieu	Science parks Communication networks Problem-oriented trainings, re-trainings	Attracting decision centres Hub-and-spoke district Local supporting and related industries	Clusters Venture capital Business incubators for spin-off	Collaboration among administration and businesses Cluster-oriented high education Regional identity
<b>Knowledge transfer</b>	Applied R&D Coordinated R&D Technology transfer	Innovation centres, incubators Business infrastructure Task-oriented vocational trainings	Supported investments Satellite-Marshallian industrial district Local value chain	Horizontal networks Business services for start-up Trainings for managers	Decentralized administration High education by local business Non-profit organizations
<b>Neofordist</b>	Non-business and governmental R&D Separated R&D Laboratories, equipments	Industrial parks Transportation networks Vocational training	Location of companies Satellite platform district Local business relations	Networks of suppliers Financial promotion Entrepreneurial skills	Enterprise-friendly administration Business and technical higher education Ability for local cooperation

*Source:* Lengyel (2003a)

The South Great Plain region is heterogeneous, since it consists of subregions with significantly different state of development. Due to the strong territorial competition, bottom-up strategies must be developed locally in all subregions. These should refer to reinforcement of clusters beside the common innovation base. This is the only way that provides an opportunity for the improvement of subregional, and thus regional competitiveness.

## 6. Summary

Present paper reviewed the most important questions related to territorial competition and regional competitiveness. Globalisation processes, their territorial characteristics and global competition lead to the development of a 'new economic space'. With the emergence of the knowledge-based economy the international division of labour also transforms and the role of regions in the postfordist economy must be reconsidered. Three basic region types can be distinguished that participate differently in the international division of labour. The acceleration of global competition has resulted in the increase of competition among regions, or more precisely, nodal sub-regions.

Due to the special characteristics of global competition, the concept of territorial competitiveness must also be defined. There is abundant literature on competitiveness with certain well-known approaches, out of which especially the concept of standard competitiveness common in the European Union seems adequate in case of the regions not only for scientific analyses but also for regional economic political applications. The concept of standard competitiveness is partly linked to the thought of economic growth; therefore, it also leans on theoretical economics, although it also has strong regional political and economic development aspects that brings it close to the questions of business sciences as well. For the interpretation of regional competitiveness a pyramidal model was established that offers a complex frame for the measurement and improvement of competitiveness. It does not only make a proposal concerning the indicators applicable for measuring competitiveness, but also systematises economic development ideas depending on the types of regions.

In the period of transition from a centrally planned economy towards the market economy and under the pressure of globalization and Europeanization, the Hungarian system was restructured not only in terms of linkages within the production system, but also in relation to its relevant environments. During this process the internal linkages were weakened and external linkages asynchronously reinforced. Budapest and the north-western part of the country could find a way to the European market more easily than the eastern part.

In sum, there are significant differences in the competitiveness of Hungarian regions: three regions succeeded in improving their competitiveness, whereas the economies of the other four have stagnated. Both the absolute value and the growth rate of employment and labour productivity have contributed to leveraging the competitiveness of the three rapidly developing regions. They have already become an integral part of international trade, while the other four continue to export at relatively low levels.

Southern Great Plain region is a less developed region consisting of very heterogeneous nodal regions and rural sub-regions. Therefore we had to develop such an operational programme for the period 2007-2013 that is in harmony with the state of the region's development. The EU subsidies however provide only an opportunity for the expansion of the development sources, they can not guarantee the improvement of competitiveness in themselves. Because of the intense territorial competition there is a need for bottom-up local economic development programmes. In the Southern Great Plain region the separation of subregions with different opportunities is spectacular, which calls for the development of programmes that meet the given special conditions and opportunities.

The pyramidal model can successfully be applied as a demonstration scheme in purpose of measuring competitiveness and systematizing development programmes of regions and subregions. Because of the territorial competition, however, in the nodal regions cluster-based programmes must also be developed and constantly managed with the involvement of the concerned enterprises. The logic of cluster-based local economic development is demonstrated by the UFO-model, which connects the approach of competitiveness and the practice of cluster development.

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