

## REGIONAL COMPETITIVENESS. FROM THEORY TO PRACTICE LITERATURE REVIEW

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**Abstract:** *In the last decades, the competitiveness term has been widely used, though sometimes, in an exaggerated way. In essence, the questions and problems that lie at the basis of the competitiveness concept are those that theoretical economists and decision factors have tried to approach for hundreds of years: a better understanding of the key elements involved in the process of improving economic welfare and wealth distribution. The present paper focuses on regional competitiveness from the perspective of the conceptual framework for defining, understanding and measuring it, but also of the practical models used in the process of analyzing and measuring competitiveness at global level. The initial hypothesis is that the competitiveness concept is a difficult term that often creates confusions, especially the competitiveness asserted at regional level.*

**Key words:** *regional competitiveness, theories, models, competitiveness's indices.*

### INTRODUCTION

The notion of regional competitiveness is widely debated by politicians as well as considered doubtful by the academic environment. For politicians and decision factors, the concept is rather a diffuse one which covers aspects presenting importance for the companies and the residents of a region. This tends to focus upon the measurable differences among regions which enter, partially, under the control of the public authorities, without utilizing a very clear concept or political framework.

The attention given in the last decades to the notion of competitiveness led to the emergence of a recurrent hypothesis: nations, regions and towns have no other option than that of giving their best to be competitive in order to survive on the new global market and to the new competition, forged by the new economy based on information or knowledge. Thus, competitiveness has become a constant theme of economic assessments made by OECD, but also a more and more intense concern of the European Commission and of other national and international bodies.

Although there have been many studies realized recently, which are trying to bring light to this field, we are still far from a large consensus regarding the nature and modalities to assess competitiveness.

The present paper is following the theme of regional competitiveness from the perspective of the concept framework for its definition, understanding and measurement, but also of the practical patterns used in the process of analysis and assessment at world level, trying to synthesize the most important contributions brought along time both by the academic environment, but also by the economic, institutional and governmental one.

### MATERIALS AND METHODS

The present paper turns to the bibliographical study method to evidence the main scientific contributions in the field of national and regional competitiveness (and of the administrative subdivisions), of the problems emerged during the process of elaborating a common concept framework for its definition, theoretization and of the main studies and indicators for the assessment of the national and regional competitiveness, at international and European level.

## RESEARCH RESULTS

In the followings we will present a summary of concepts and elements useful for the process of defining and understanding the regional competitiveness, including its determinant factors.

In the report regarding the factors of regional competitiveness, elaborated for the European Commission in the year 2004, professor Ronald Martin and its team from the Cambridge University considered that the following important schools of economic theory are influencing, directly or indirectly the notion of competitiveness in the relationship to the nations, or, sometimes, the firms, having such a direct relevance for the discussions linked to the regional competitiveness: the classical theory, the neoclassical theory, the economic Keynesian theory, the development's theory, the new theory of economic growth and the new theory of trade.

A. Within the classical theory, the specialization under the form of Adam Smith's „labor division” supports the scale economies and the differences of productivity among nations. For Smith, the capital investments (technologies' improvement) and trade (market development) are facilitating this specialization and are leading to the increase of productivity and results. He demonstrates the gains which could be obtained from the commercial activity together with the passing towards an autarchy situation to the free trade, where the countries own an absolute advantage in the production of different goods and services. If one country can realize certain goods utilizing fewer resources in the production process, then, this should export them and vice versa, to import if on the market there are goods produced by other countries which utilize less resources.

B. The central hypothesis of the neoclassical theory (perfect information, the return to scale and the factors' perfect divisibility) ensures the conditions necessary for a neoclassical world of perfect competition. Approaching the trade problem, the pattern H-O (Hechscker-Ohlin) is building on basis of Ricardo pattern, incorporating two production factors: work and capital. In opposition to the latter, the pattern H-O assumes that technologies are identical along nations and that the comparative advantages are determined by the differences from the relative abundance level of the production factors. In other words, countries will specialize themselves in the production of those goods which utilize more intensively the production factors in abundance at their level. Thus, those owning a bigger capital will export goods utilizing intensively the capital, and those owning a bigger labor force, goods at the production of which this factor is intensively utilized.

C. The theory elaborated by Keynes (1936) differs, from essential point of view, from the classical one, mainly as regards the market functioning. Contrary to the predecessors, Keynes was not considering price as the permanent balance element of the market. Another divergent point is represented by the way in which he regarded capital and work. In opposition with the advocates of the classical theory, who were considering capital and work as being two independent factors, Keynes was considering them as complementary. In essence, Keynes theory represents the theory of the dynamics on short term of the aggregate demand and of occupancy in economy, based on expectations, as these are influencing investments and the consumer's behavior. The aggregate result is considered to be the sum of consumption, investments, governmental expenses, plus exports minus imports.

D. The most important subjects of discussion within the economic theory of development are: the assistance's efficacy, the free trade and the foreign direct investments.

The theory of development's stages of Rostow (1960) realizes a classification of societies in function of 5 development stages: traditional, transitional, boom, maturity and high mass consumption. Each development stage presents a series of particular features and specific requirements, which must be fulfilled for an economy to reach a superior stage.

In other words, basing ourselves strictly on the action of the market forces we will not reach to the results expected. This theory, although was often criticized, brought an important contribution to the development economy stressing agriculture's importance and that of investments in the accelerating the growth's rate.

E. The new theory of economic growth. For a long period of time, the technological progress has been considered an exogenous factor. This approach contravenes, but, to an intuitive understanding: acquiring of knowledge and human capital represents the result of some past actions and not to a „divine intervention”. The integration of technology in the economic patterns represents the operating space of the endogenous theory of growth (or the new theory of growth), which determined the emergence of many growth patterns (Martin, Sunley, 1998).

The main hypothesis of his endogenous growth theory is that according to which the knowledge acquiring generates increasing gains. Knowledge and know-how- are not disseminated instantly- neither among nations, regions, sectors or companies – but they have to be acquired. Companies are tending to keep in internal framework the developed technical knowledge in view of obtaining a competitive advantage. In this context, governments must ensure equilibrium between knowledge dissemination, on one hand, and the copyrights' protection, on the other hand.

F. In order to be able to explain the trade between industrialized countries, the new theory of trade focused upon the scale economies, the differences between products and the imperfect competition considering them key elements for the explanation of the trade patterns among the industrialized countries. According to the present theory, a series of such patterns can be identified:

- Patterns which are incorporating the scale economies of Marshall type. Although the individual firms are assumed that they register constant returns to the scale, the external economies are efficient at industry's / branch level such that, the bigger the local industry is, the smaller its costs will be. Thus, the external scale economies ensure the bases of the regional concentration of the industries;
- Patterns which incorporate the monopolistic competition. Krugman (1979) introduces the monopolistic competition in a framework in which consumers are acquiring the utility from the variety of production, where the production of each variety is the subject of internal scale economies and trade represents a modality of exploiting these economies, through the market's expansion.

In a presentation held at Clemson University from the United States, David Barkley was stressing the defining elements of the regional competitiveness, as they had been theoretized and accepted in a larger framework:

**Some definitions of regional competitiveness:**

- *“...the ability of an economy to attract and maintain in an activity companies with a stable or increasing market share, in the conditions of maintaining or increasing of the living standards of those who participate to it”* Storper, 1997;
- *“...in the last instance, the regions and town represent places where both the companies and persons wish to settle and invest”* Kitson, Martin and Tyler, 2004;

**Elements of competitiveness:**

- Inputs: human, financial, infrastructure resources, innovation, attractive resources and natural capital;
- Outputs (Krugman, Porter): results / worker, results / capital unit and work in the export sectors ;
- Effects (Kitson and all., Budd and Hirmis): high labor occupancy rate, high quality and opportunities for the well paid working places;

**Advantages of competitiveness:**

It supports the assessment/ characterization of the current local economic environment; identifies the weak points of the local economy; it encourages a long term economic development process; it can lead to new marketing and region's promotion programs;

**Disadvantages of competitiveness:**

It can contribute to a wasteful competition between regions; it can lead to a reallocation of resources within the programs with a reduced visibility towards those with a high visibility; it can contribute to the deepening of the social inequalities; utilized as a Permanent justification by the decision factors in the elaboration of their own political programs.

**The national and regional indicators of competitiveness**

There are many well documented and elaborated studies which are measuring competitiveness at national level: The Global Competitiveness Index, elaborated by the World Economic Forum, The World Competitiveness Yearbook edited by the Institute for Management Development (IMD), The OECD report regarding The New Economy, The Governmental Report regarding Productivity and the Competitiveness Indicators (Great Britain). Among these, the best known and influent are the Global Competitiveness Index and The World Competitiveness Yearbook, based on present data, gathered mainly by governments, but also from large scale surveys at the leading management level.

The World Competitiveness Yearbook (WCYB). This acknowledges the following fact: "...competitiveness must balance the economic imperatives and the social needs of a nation as it results from the history, the system of values and tradition". The stress is put, in this case, upon the GDP per capita inhabitant as an indicator of the general; competitiveness, but also is acknowledged the role of key factor of the living standard.

The Global Competitiveness Index (The World Economic Forum). The complexity of the competitiveness measurement's assessment at national level is also supported by the Global Competitiveness Index, which comprises two sets of indicators: the first, The Current Competitiveness Index (CCI), utilizes micro economic indicators for the assessment of the institutional, economic policies set, and regarding the market structures which are supporting a high welfare; the second, the Growing Competitiveness Index (GCI), is regarding the aggregate competitiveness, this being seen as the set of economic and institutional policies supporting the high growing rates on medium term (the next 5 years).

The Current Competitiveness Index represents an aggregate measure of the micro economic competitiveness and has only two sub divisions: one which is measuring the sophistication /the companies' development level and another one, which is measuring the quality of the national business environment. The Growing Competitiveness Index is orienting on the measures linked to technology, public institutions and the macro economic level. CCI is utilizing the factorial analysis for the realization of a composite picture of the relative microeconomic competitiveness of each country. Having in view that many of the dimensions of the microeconomic environment are evolving together, the impact of

individual variables cannot be distinct from statistical point of view because of the relative reduced size of the sample; thus, all variables are weighed, and the results of the report are supporting the hypothesis according to which the micro economic conditions determine the GDP/ capita inhabitant level.

As regards to the regional competitiveness, there are two big types of approaches:

- Studies which are analyzing / consider regional competitiveness from the perspective of a cumulative factors' effect;
- Studies which are focusing on one particular factor determinant for competitiveness.

From the first category, that of studies considering competitiveness as a cumulative effect of the factors, we mention the following, better known, at European and international level:

- European Commission– The Regional Competitiveness Index (RCI),
- Great Britain– Regional Competitiveness Index (UK DTI),
- Barclays Bank – PLC/WDA/RDA,
- Joint Venture (Silicon Valley Network) – Comparative analysis,
- ECORYS-NEI – Study regarding the Regional Investment Climate.

**Table 1**

**Indicators of regional competitiveness –main characteristics**

The Regional Competitiveness Index– European Commission (RCI)	
<p>- It was first published in 2010, by the Common Center for Research and the General Directorate for Regional Policies;</p> <p>- It assesses the strong points and the vulnerabilities of the EU regions at level NUTS 2 offering a comprehensive image of them;</p> <p>- Greatly, RCI has at its basis the methodology elaborated by the Global Economic Forum for the Global Competitiveness Index;</p> <p>- RCI includes 11 dimensions for the description of the different aspects of the competitiveness split in three groups:  <b>The basic group:</b> 1. Institutions, 2. Macroeconomic stability, 3. Infrastructure, 4. Health, 5. The quality of primary and secondary educational system;  <b>Efficiency group:</b> 6. High education, professional training and continuous studies, 7. Labor force market efficiency and 8. Market size;  <b>Innovation group:</b> 9. Technological training, 10. Business expertise and 11. Innovation</p> <p>- As the regions develop, their socio economic conditions are changing also, and the different determinants become even more important for the regional level of competitiveness.</p> <p>- RCI splits the EU regions into three levels of development: medium, intermediary and high, in function of the GDP/ capita inhabitant, comparatively to the EU average. The thresholds for the three levels are: Medium&lt;75% from the EU average; Intermediary 75-100%; Hig100%.</p> <p>- The weighing of the three groups of dimensions differ in function of the development: the efficiency group has the same share (50%) for all the development levels; the basic group -40% for the medium level, 30% for the intermediary one and 20% for that high; the innovation group– 10% for the medium, 20% for the intermediary and 30%for the high level.</p>	
The Regional Competitiveness Index – UK DTI	<p>-It is elaborated by the Department for Trade and Industry of Great Britain (DTI);</p> <p>-Includes in analysis 14 selected indicators by DTI – many of them are measuring the effects of the regional competitiveness ;</p> <p>-It is split into 5 sections: general competitiveness, labor force market, education and professional training, capital, land resources and infrastructure</p>
Barclays –PLC/WDA/RDA	<p>-The report elaborated in 2002, entitled „Competing with the world” was comparing 15 regions in the whole world in view of identifying the generic competitiveness' factors; 10 of these were from the EU;</p> <p>-The report was stressing the difficulty of identifying some data, consistent and comparable among the regions and was concluding that there is a small number of successful generic factors, which are: the strong international orientation, the specialization based on international competitive advantage, cultural , governmental and locational factors with a certain old age, orientation of the public and private sectors upon some activities of economic development which are based on some endogenous regional strong points .</p>
Joint Venture – Silicon Valley Network	-The Silicon Valley network is testing the competitiveness of a region //zone

	<p>comparatively to other 10 centers of high technology from the United States;</p> <p>-It assesses the relative competitiveness in comparison to: innovation (patents, RD productivity), the entrepreneurial spirit, global access (technological export, internet connectivity), financial and intellectual capital, perspectives regarding the cost of activities' performing, quality of life.</p> <p>-The comparative analysis identified a strong link between inventions /patents, institutional expenses for research, the availability of the risk capital and the presence of high tech companies.</p>
ECORYS-NEI - Study regarding the Regional Investment Climate	<p>Methodology for assessment/ testing/ measurement of the quality of one regional investment climate; over 40 regions in North –West Europe are tested comparatively to the results of the ongoing surveys at the level of stable entrepreneurs in the respective regions ;</p> <p>The variables in the surveys– 2 categories: market relationships, with direct impact upon the company's performance and factors of the productive environment – indirect impact upon performance.</p> <p>The variables: market relationships– 5 categories: access to customers, suppliers' availability, entrepreneurship and innovation, competitiveness level and cooperation level.</p> <p>The variables: factors of the productive environment– 6 categories: labor force market, land resources and constructions, infrastructure, knowledge infrastructure, quality of life and regional governance.</p> <p>The results permitted the realization of a region's typology, in function of the performances / economic vitality and the population's density – 6 regional archetypes: expanded regions, balanced regions, regions of refuge type, vital regions, specialized urban regions and quiet urban regions.</p>

Source: Adaptation after Ronald L. Martin, 2004 and Lewis Dijkstra and all, 2011

Regarding the studies which are approaching a particular determinant of competitiveness, Martin (2004) was considering that 7 factors can be selected, which are: clusters, demography and migration, the entrepreneurship environment and networks, governance and institutional capacity, industrial structure, innovation / regional innovation system and ownership right.

**Table 2**

**Particular factors of the regional competitiveness- main characteristics**

Clusters	<p>Porter was considering geographical clusters as universal attributes of the economic landscape and was identifying over 60 clusters oriented to export at USA level – the labor productivity being twice higher than that registered in the clusters not oriented to export; Nevertheless, there are other empirical studies which are stressing the contrary, mainly at European level. These are supporting the fact that the improvement of the industrial performance can be attributed to the general improvement of the economy's competitiveness in the relationship to infrastructure, work and other production costs. There is much statistical evidence regarding enterprises which are competitive on international plan without being included in a cluster, genuine chain of the value or agglomeration.</p>
Demography and migration	<p>Some studies made in the United States have evidenced the existence of a triangular relationship between the increase of high technology, talent and diversity. In other words, talent is attracted towards those zones with high levels of opportunity, smaller barriers and high diversity. In exchange, the high technology industries are attracted by the zones with a high talent level. Florida (2000) was demonstrating the existence of a causal relationship between growth, talents' migration and the income's modification.</p>
The entrepreneurial environment and networks	<p>Studies made at European level have evidenced the existence of a clear statistical relationship between competitiveness, the structures of the business networks and innovation, in the urban and rural zones. The statistical analysis had at its basis indicators of innovation and synergy: for innovation– education level, number of created enterprisers/capita inhabitant, local technology level; for synergy– the number of cluster enterprises, the intensity of cooperation between local communities and the movement degree. The result: the entrepreneurs within the firms based on knowledge, comparatively to the traditional firms, are investing more time in the development of networks and the creation of some more focused networks.</p>
Governance and	<p>The relationship between the good governance and the economic welfare was formulated,</p>

institution capacity	for the first time, more than 200 years ago by Jean-Jacques Rousseau (1762). Moers (2002), basing himself on the empirical studies realized at the level of the countries in Central and Eastern Europe, was stressing that „once it was reached a certain level of macroeconomic stability, the institutional environment becomes the most important determinant of growth”. Other international studies are also stressing the clear link between the regional competitiveness, the nature of economic development, governance and the regional capacity.
Industrial structure	There are more references regarding the importance of assessing the industrial structure within the process of analyzing the regional performance. The European Commission (1999) was making the stating: „...an unfavorable sectoral structure, together with the lack of the innovative capacity, seems to be among the most important factors, which are stressing a slow/ staggered competitiveness”. Productivity is the key factor in this relationship, and the different productive performances, are the ones making a real difference: „...the degree in which the activity is concentrated in advanced sectors, with high value added, comparatively with basic sectors, with low value added, can be at least the same important as the differences in the division of labor occupancy among the enlarged sectors”.
Innovation / regional innovation system	There is no doubt regarding the essential role of innovation and knowledge in the process of economic development. This phenomenon is even more visible at regional level, where the geographical disaggregation highlights the differences regarding the development level.
Ownership right	This is linked mainly by the Direct Foreign Investments (DFI). Cantwell and Iammarino (2002) investigated the role of the internal investments in the support of innovation and the improvement of the regional innovation system. They developed an index of the technological advantage and identified the fact that the technological specialization of some branches with foreign capital in different European regions depends on the position of the region in the locational hierarchy of innovation and technology. In other words, internal investments can generate regional competitiveness through the import of innovation and technology.

Source: Adaptation after Ronald L. Martin, 2004

## CONCLUSIONS

The theories of macro economic nature have not represented only a source for the answers raised by the concept of regional competitiveness, but also a basis for the formulation of new questions. In the attempt to explain the regional differences at the level of economic performances, the economists and geographers appealed to concepts and elements from other complementary domains, as sociology, institutional economy, economy of business strategy and the evolutionary economy. It remains though, the problem of these theories’ consistency, mainly when they are put together.

Martin (2004) considers that, besides the conceptualization difficulties for the notion and the fundamental questions, the specialty literature is retaining a series of aspects which are important for the understanding of the regional competitiveness:

- There is no single theoretical perspective to catch the whole complexity of the concept of regional competitiveness;
- From a certain perspective, the regional competitiveness is linked to the ability of a region to generate sufficient levels of exports such that to support the incomes’ increase and of the degree of its population’s occupancy. In this case, as Porter and Krugman are stressing, the productivity of the economic activities locally oriented, is also, essential;
- At the concept’s basis are staying both qualitative conditions and factors (non-transacted networks of informal knowledge, trust ,etc), and quantifiable processes and attributes (trade between firms, the patents’ cost, the labor supply, etc), having a major influence upon the analysis of empirical measurement of the regional competitiveness;
- Competitiveness of one region represents both the result of the individual competitiveness of the constituting firms and of the interactions between them, and also, in a large sense, of the social, economic, institutional and public own attributes;

- The source of regional competitiveness can find its origin at different geographical levels, from the local to regional, national and even international. At the same time, there is no pre-defined regional natural unity, to which the competitiveness issues to be analyzed or theoretized the best;
- “The causes” of competitiveness are often attributed to the effect of an addition of factors, rather than the impact of an individual factor. As result, the possibility of the isolation of a correlation coefficient is limited.

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