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## DEFINING COMPETITIVENESS THROUGH THE THEORIES OF NEW ECONOMIC GEOGRAPHY AND REGIONAL ECONOMY

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**Abstract:** The subject of work is defining competitiveness through a multidisciplinary approach of the theories of new economic geography and regional economy. The paper describes in detail the theory of competitiveness, defined by numerous authors in this area, with special emphasis on the opposing views of Michael Porter and Paul Krugman. A regional competitiveness that is closely related to economic geography and regional economy, the development of regional economy and typology of regions have been defined in the work. One of the first authors that stressed the importance of geographical location was Michael Porter. In his model called "diamond", the author emphasizes that geographical concentration of a business enhances the productivity, innovativity and sector export. After this theory, many authors have focussed on the location problem research, which resulted in better interconnection of economy and geography. As the result of such activities, new directions have been developed, such as the new theory of economic geography and regional economy. New economic geography has been mentioned mostly in connection with the Nobel Prize winner, Paul Krugman, whose theories are often opposed to Porter's ones. Krugman had the most credit for the development of New Economic Geography. At the end of the work, the differences between comparative and competitive advantages were explained.

**Key words:** competitiveness, economic geography, regional economy.

### Introduction

The biggest development of regional economy started in 1980s in European countries, leaving behind Keynesian regional economy due to the crisis (1979-1982) and directing itself towards regional politics stimulated by innovations, with the aim of economy growth development (Visser & Atzema, 2007). This approach became even more popular under the influence of Michael Porter (1990, 1998, 2000, 2003), that sparked the attention by regional clusters of related sectors with the aim to enhance productivity, innovativity and competitiveness in general. Theoretical descriptions in the period, clusterisation

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and regional approach were directed exclusively due to the explanation of the complex category of competitiveness that, since then, has become one of the most important economic issues. By focusing on the territorial categories and measurement of the performance of economies, regions and companies, theoretical considerations presented the basis of regional economy and new economic geography development. New directions of economy, that included geography as a science in the paradigm, mostly deal with the issue of competitiveness.

Michael Porter had the largest contribution to the popularisation of regional economy. In his model, Porter starts from the interaction of four factors that present a “diamond”: strategy, structure and firm rivalry; conditions of input factors; demand conditions and related and supporting industries. More developed and intensive interaction between these factors and actors involved generates better productivity, innovativity and the sector's export growth. Porter (1990) also mentions the importance of geographic concentration of companies, which improves cluster's work, but he did not explicitly include a space dimension in his original definition of clusters. Only later did Porter emphasize that “*competitive advantages in global economy can be localized to a great extent and that they are derived from the concentration of highly specialized skills and knowledge, institutions, rivalry and sophisticated buyers*“ (1998, p. 5). Porter (1998) defines clusters as geographically concentrated and inter-connected companies with specialized suppliers, service providers that operate in similar industry and that co-operate with the institutions, such as: universities, various agencies and trade associations; in certain areas where they compete, but also co-operate. Although Porter's approach contributed to the popularization of regional economy, it was not perfect and the critics quickly appeared.

At the same time, besides regional-innovative (cluster) theory, a new economic-geographical approach emerged. It is called New Economic Geography (NEG). According to this approach, transport costs, trade, externalities and returns on investment present main categories that should be analysed. The approach appeared under the influence of Fujita (1988), Krugman (1991a) and Venables (1996) that start from a general equilibrium model of imperfect competition (Tohmo, 2007). Yet, it can be said that greatest importance of New Economic Geography is the emphasis on location or “location detection“, as Paul Krugman (1991a) emphasized in his works. Taking into account the elements of New Economic Geography it can be seen that it had been developed even before Krugman's theory (1991a). According to Tohmo (2007), it is the synthesis of

location theories<sup>2</sup>, agglomeration economy, the theory of externalities (Marshall), regional specialization and concentration, imperfect competition, transactional costs and technological spillovers. Ottaviano (2003) thinks that spatial distribution of economic activities presents the focus of regional policy in the frame of New Economic Geography because of its consequences on welfare.

Both theories examine the key categories of competitiveness: productivity, standard, welfare and location. The aim of this work is theoretical explanation of competitiveness through the focus of regional economy and new economic geography that were promoted by Michael Porter and Paul Krugman. The differences in their views on competitiveness can be understood as the differences in new directions of regional economy.

### **Competitiveness theory development, opposing ideas and the review of Michael Porter and Paul Krugman's attitudes**

According to Michael Porter (1990), if a state creates such business environment where there are favourable conditions for business and where the state gives maximum support to companies that perform operations on local and global markets, these conditions present competitive advantage of the nation. This claim, according to Porter (1990), can also be implemented on regional level. Paul Krugman does not agree with Porter: *“The idea that welfare and economic performances of a state depend on the success on global market is a hypothesis and does not necessarily imply truth, moreover, the practical and empirical views proved this hypothesis to be completely wrong“* (1994, p. 30). Krugman (1994) believes that world's leading nations are not competing with one another and that there is no “significant degree of competition“ among them.

Poot (2000) supports Krugman's claim (1994) and points out that there is a strong competition in free market conditions and globalisation, but that implies only companies, not regions or nations. That means that competition between regions is not a zero-sum game with a sole winner. This “competition game“ primarily relates to economic subjects' actions, taken to enhance living standard of a specific locality, region or country. Eventually, the very Porter (2004) acquires the hypothesis that competitiveness is not a zero-sum game, since many countries can enhance their productivity: *“The main challenge of economic*

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<sup>2</sup> Traditional German theories: von Thünen (1826) *The isolated state*, Weber (1909) *The theory of the location of industries*, Christaller (1933) *Central places in southern Germany*, Lösch (1940) *The economics of location* and Isard (1956) *Location and space economy* and (1960) *Methods of regional analysis*.

*development of a country or a region is to make conditions for fast and sustainable productivity growth“.*

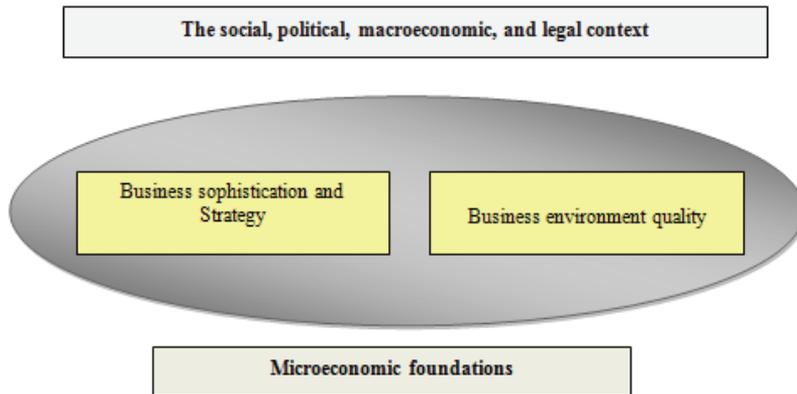


Figure 1. Concept of competitiveness (Porter, 2004).

Many authors (Krugman, 1994, pp. 31-34; Kern, 2005, p. 173; Ručinska & Ručinsky, 2007, p. 904), consider that competition between companies and regions cannot be compared. Companies can enter or exit a market depending on their success, but regions cannot leave their territories regardless their success. On the basis of this, it is possible to emphasize the main difference between competitiveness of a company and a region: Companies fight one another and can improve their position in the market by ousting other company or worsen the position of another company<sup>3</sup>, while regions can improve their positions simultaneously without jeopardizing the positions of other regions.

Krugman (1994) thinks that defining of competitiveness is not needed at all and that defining the competitiveness of a nation or region is not simple to be determined as company competitiveness: "*Competitiveness is not a meaningful expression. The claim that countries are similar to companies and that they compete among themselves in a market is a complete illusion*" (Maskell & Eskelinen, 1998)<sup>4</sup>. Yet, although regions do not have characteristics of companies, there is a certain level of competitiveness between them and many authors wish to examine the nature and characteristics of it. (Ručinska & Ručinsky, 2007). Poot (2000) points out that competitiveness of a territory

<sup>3</sup>In economic literature, this hypothesis is called Pareto optimum.

<sup>4</sup> Taken from: Ručinska & Ručinsky, 2007, p. 904.

presents a measure of its potential to achieve sustainable growth of the living standards of all its constituents.

Cooke (2004) defines regional competitiveness as the ability of the economy at the sub-national level to attract and maintain firms with stable or rising market activities, while maintaining or improving living standards of all those living in the region. According to Porter and Ketels's definition (2003), competitiveness implies high and rising living standard of a company with the lowest possible level of unemployment on a sustainable basis. This definition was later expanded: competitiveness is defined as an ability of a economy to provide its residents with a high living standard and a high employment level for all those who want to work, on a sustainable basis. The central factor of competitiveness is productivity growth.

In the mid-1990s, a number of authors and institutions defined the concept of regional competitiveness, which has become the subject of theoretical, empirical and political debates (Vuković & Wei, 2010, p. 108). Especially important definitions apply to institutions: US Competitiveness Council, OECD and European Union (Begg, 1999; Myant, 1999; Edmonds, 2000; Lengyel, 2004). According to different documents issued by OECD (1997), 6th periodical report of European Commission (European Commission, 1999) and other cohesive European Commission reports (2001), a standard definition of competitiveness can be expressed as: *“The ability of companies, industries, regions, nations and supra-national regional units to produce with simultaneous exposure to international competition, relatively high income and high levels of employment”* (European Commission, 1999, p. 75).

According to the report of the regional competitiveness indicator in the Great Britain: *“Regional competitiveness describes the ability of a region to generate income and sustain the employment level with the aim of domestic and international competition.”* (DTI, 2002, p. 3)

Standard definition of competitiveness is rather flexible and can be used for numerous different purposes. In order to understand the definition correctly, Lengyel (2004, p. 327) explained the following:

- A definition presents competitiveness as the complex term that can be applied to all the basic economic units (company, sector, region, country, macro-region);
- It focuses on two measurable economic categories: income and employment;

- It implies the conditions of an open economy that competes internationally – in other words, deals only with goods and trade services in terms of global competition;
- It assumes a relatively high level of income, but does not contain any explanation of how the revenue will be shared between shareholders and employees;
- It assumes a high level of employment, but does not reflect the structure of employment (labour qualifications).

In spite of fundamental issues and dilemmas about a conceptual definition, literature and different kinds of research emphasized several issues relevant for the understanding of regional competitiveness [Europin Commision. (2003), Martin (edt)]:

a) There is no theoretical explanation that encompasses the full complexity of the term “regional competitiveness“; there are three directions that are quite different from one another.

b) On the one hand, regional competitiveness implies the ability of a region to generate sufficient level of export (to another region or country) and from the other hand to provide growing levels of income and full employment of its citizens. However, the productivity of locally-oriented economic activities is also of crucial importance (especially bearing in mind the trend of huge urban areas that are characterized by production services). In both cases, the role of regional foreign-increasing returns is crucial.

c) The term “regional competitiveness“ usually refers to qualitative factors (such as informal knowledge networks, confidence, informal institutions, social capital, etc.), and the second part applies to quantitative processes (such as companies, the number of patents, labour supply, etc.). Bearing in mind these differences in factors, there are huge implications in empirical measurements and regional competitiveness analysis.

d) Regional competitiveness is both in the competitiveness of all individual companies and their interactions, and a wider property of social, economic, institutional and public entities of the region.

e) The sources of regional competitiveness can originate in different geographical areas, from local, to regional, national and even international. At the same time, there is no natural, pre-defined “regional“ unit that is best for analysis, when it comes to competitiveness.

f) And, in the end, the competition causes are usually related to the total, aggregate factors, rather than the impact of individual factors. Therefore, the ability to isolate the correlation coefficient is quite limited.

## **Theories of regional competitiveness and regional typology**

### *Regions as export-specialized areas*

This theory developed during 1970s when many economic geographers analyzed the dynamics of industrial location and the factors that determine the geographical location of economic activity. The largest part of the analysis relies on neoclassical economy. Similar to neoclassical analysis, the primary analytical concept is “production function” that connects company (or state) output with the key factors: labour, capital and technology. Starting from this assumption, economic geographers examine “production geography” taking into account *local function* that depends on geographical factor distribution: availability of natural resources, labour, access to markets, etc. According to this theory, regions compete with one another in order to attract investments based on their comparative advantage – availability of indigenous factors (McCann, 2001). Different regions tend to specialize in those industries and activities they have comparative advantage in, i.e. in production of those outputs that require the largest engagement of the factors, the region traditionally possesses.

The theory gives a certain (but limited) answer about territorial location of economic activities and gives a very modest explanation on the role of trade in generating economic development. Similar models focus on the important role of trade in generating economic development in order to overcome the shortcomings of the theory, binding primarily to Keynesian model of income [Europin Commision – Martin (edt), 2003]. Armstrong & Taylor (2000) and McCann (2001) consider that economic performances of a region and their development depend on relative size and success of export-oriented industries. The simplest such model is the economic base model in which the competitiveness of a region depends only on the growth of its economic base (the export sector of local economy).

### *Regions as the source of increasing returns*

Economic models that are based on increasing returns are again in the focus of our economists. The implementation of these models in economic geography today is of the utmost importance. A great contribution to the models on the base of increasing returns was *Kaldorian use of the cumulative model of regional competitiveness* (Dixon & Thirlwall, 1975; Krugman, 1991; European Commission – Martin (edt), 2003) that explains the possibility of cumulative regional competitiveness in the following way:

The model assumes that the production growth in a region depends on the demand function for the region's exports<sup>5</sup>. The demand for the region's exports is its competitiveness that presents a function of the rate of growth of world demand and the rate of increase in prices of products in the region (compared to world prices). The function also depends on the rate of wage growth and productivity. The basis of this cumulative process is that productivity growth depends on the increase in production.

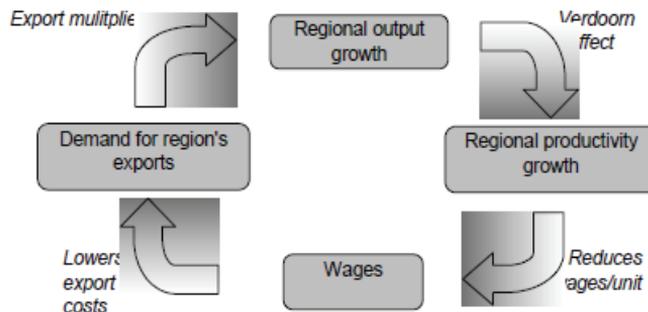


Figure 2. The cumulative model of regional competitiveness (European Commission. (2003)., Ronald L. Martin (edt).

Production growth encourages technological changes within and between the companies in a region, enhances the specialization and accumulates specific types of capital that embody technological progress and innovation. The very technological progress makes work productivity in a region bigger. Cumulative models laid the basis for several additional models that observe regions as the sources of increasing returns.

Although the regional model of endogenous growth is based on a standard neoclassical growth model, it overcomes the limitations of neoclassical model by improvements in human capital and technological innovations. In other words, the model presents an improved version of Marshall's (1890) original discussion (theory) on industrial districts and economic localization.

<sup>5</sup> This model is similar to Economic Base Model and Keynesian Model of Regional Multipliers.

### *Regions as the Centers of Knowledge*

The theory that observes a region as a centre of knowledge, emphasizes the innovations based on Schumpeterian theory as its focus. Innovations are identified as interactive process of learning that requires interaction between numerous actors, such as: producers, equipment and component suppliers, users or buyers, private and public research laboratories. Innovative systems encompass universities and other higher education institutions, suppliers of consultant and technical services, public authorities and regulatory bodies (Hotz-Hart, 2002). Yet, certain authors (Jacobs, 1969) think that regional competence, stirred by innovations, cannot be realized only by more productive usage of local factors. Jacobs (1969) points out that it is very important to take into account social factors and factors of informal institutions that can be called *soft factors*. These factors refer to entrepreneurial energy, trust, mutual vision of management, etc.

Porter's concept of geographical clusters has had a great influence on policy creators in the USA and developed countries in Europe. Porter (1990) combines the basics of Marshall's model with comparative advantage of observed territory, but also takes into account the strategies that are implied to enhance company competitiveness<sup>6</sup>. In his model of *competitive diamond*, Porter (1990) explains the importance of a cluster in gaining competitive advantages. The competitiveness of a region depends on the existence and degree of development, as well as the interaction between the four key subsystems of its diamond. The shortcoming of an element (or elements) of these four subsystems reduces the competitiveness of the region. The lack of clusters in a region, according to Porter (1990) does not mean that the subsystems will be less developed, but there will be no interaction between them, which is crucial for increasing returns in future.

The biggest flaw of the cluster model of regional competitiveness is the assumption that this model can also be applied for a particular industry, region or even a country (nation). Second, Porter's definition of clusters (1990) is very "elastic" and different authors use this term in different ways. Besides, it should be noted that geographic clusters in Porter's work (1990) are very vague – starting from the inner city community, through the level of county, regional, and even international boundaries.

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<sup>6</sup> Porter spent a great deal of time working on the creation of such strategies, which he later used to create a model of competitiveness.

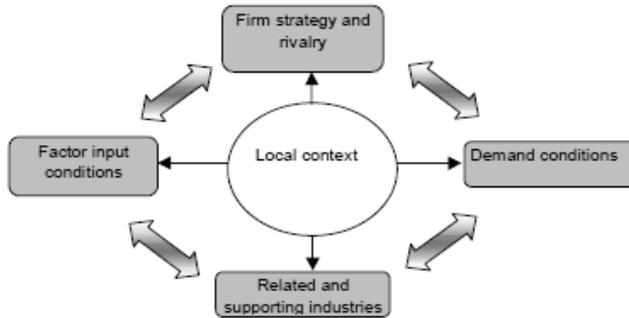


Figure 3. Porter's the cluster model of regional competitiveness (European Commission. (2003)., Ronald L. Martin (edt).

### Porter VS Krugman and Comparative or Competitive Advantage

Traditionally, in economics, the term comparative advantage originates from Ricardo's theories and has reformulations in a more modern form of the Heckscher-Olin theorem. The concept of comparative advantage refers to those countris that, through specialization, can have benefits from trade even if they do not have absolute advantage. According to the theory of comparative advantage, trade reflects differences in factor availability of different countries (land, labour, natural resources and capital). Economies achieve comparative advantage by making products in those industries in which the factor availability is bigger, i.e. produce those products with the most intense available factors.

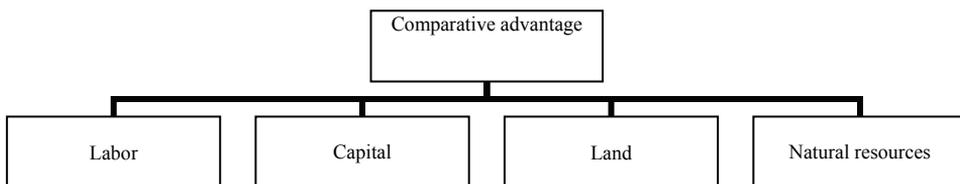


Figure 4 . The factors of comparative advantage

The main contribution of classical and neoclassical theories originates from the concept of comparative advantages. Comparative advantage tells us of those acitivites of competitiveness growth in which a country can successfully engage what it already has, depending on the model: inherited factors, technology, economic growth level, the local structure of request. However, in neoclassical model, perfect competition and the system of international free trade result in

factor price equalization. Two key issues in competitiveness in macro-economic literature are in connection with economic growth and international trade. Competitiveness becomes more understandable concept when we use economic models, including the economy of scale, imperfect information, imperfect competition and entrepreneurial innovations. These are the best known such models: a model of endogenous growth and new trade theory. By removing the assumption of perfect competition, the attention is directed to the issue of the relation between market structure and competitiveness (European Commission, 2003). Besides, if competitiveness is observed as a form of *rent seeking* activity, then there is an obvious relationship between market concentration and monopoly power. Cohen (1994) states, “*Nothing generates more value added per worker than a monopoly.*”

The concept of comparative advantage has its limitations. Above all, it is a static concept based on inherited factor availability and it is usually characterized by diminishing returns. Yet, comparative advantage is based on the availability of production factors and has an intuitive attractiveness for many governments. Surely, it has played an important role in deciding on trade policies in many industries (Kitson et al., 2004, p. 992). Many governments base their competitiveness policy on the very availability of their factors, because they believe that they can change the priority factor in various forms of activities, especially changes in the cost of factors<sup>7</sup>.

Last 30 years, comparative advantage based on production factors proved not to be sufficient to explain trade patterns. The place is occupied by a new paradigm – *competitive advantage*. This meant that nations can develop and improve its competitive position, i.e. they are not only caused by inherited factors, and often comparative factors are not sufficient to improve the competitive position. Competitive advantage focuses on those characteristics of a nation that enable companies to create and sustain competitive advantage in certain areas. Michael Porter, one of the leading authors that deal with these issues, said:

*I believe that many policy authors, such as many corporate executives, see the substantial sources of competitiveness in wrong frames. If they believe that competitiveness comes from the availability of cheap capital, low labour costs or low currency rate and if they think that competitiveness is based on a static efficiency, then they behave in such a way as to help the industry. However, my research has shown that competitiveness is a function of dynamic progressivity, innovations and the ability to change and improve. By using this frame, the*

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<sup>7</sup> Through the reduction of interest rates, currency devaluation, subvention, export loans, etc.

*issues that seem useful under the old model, prove counterproductive (Porter, 1992, p. 40).*

According to Michael Porter, the meaning of the concept of competitiveness is productivity. The main aim of each nation is to produce high and growing living standard of its citizens. The ability to create competitiveness depends on the productivity use of resources and not only on their availability. Growing living standard depends on the capacity of a nation's companies to maintain a high level of productivity and that the productivity is increased over time. Sustainable productivity growth requires a constant improvement of economy.

Similar to Porter, Krugman defines competitive advantage through productivity: *If competitiveness has any meaning, it is simply just another way to express productivity. Productivity is not everything, but in the long run it is almost everything! The ability of a country to improve its living standard, in the course of time, depends almost entirely on its ability to raise its output per worker (1990, p. 9).*

Krugman in this sentence, as in many other his works, does not explain the concept of competitiveness. The author considers it useless to explain the very term of competitiveness, since it is only another name for productivity.

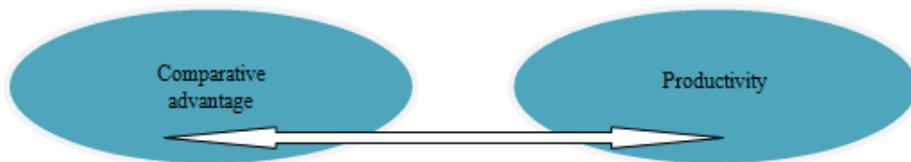


Figure 5 . Comparative advantage by Michael Porter and Paul Krugman

Competitive advantage or the focus on maintaining better productivity, has been studied in many developed countries. In the USA, the biggest researches are those carried out by: Porter (2001a, b) and Council on Competitiveness (2001). In Britain: Department of Trade and Industry (1998, 2003a, b, c, 2004); H. M. Treasury (2000, 2001, 2003); Brown (2001). In Europe: European Commission (2003, 2007, 2010, 2011); O'Mahony & Van Ark (2003); Sapir et al (2004); Kitson et al (2004). Porter's approach has a huge importance in many researches and his argument that *competitive advantage is created and maintained through localized processes (Porter, 1990)*<sup>8</sup> is of a great importance. Localization of the

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<sup>8</sup> Quote taken from Kitson et al, 2004, p. 993.

process presents the biggest Porter's turn, from competitiveness of a nation to regional competitiveness.

### **Conclusion**

Scientific interest for the issue of competition has been intensified since 1990s when Michael Porter's book "*Competitive Advantage of Nations*" was published. Today there is a huge literature that includes economic geography and economics, and that emphasizes the recognizable role of regions and cities as key sources of external economies. The interest for economic geography is created as a result of the growing recognition of its role as a growing source of return, and the re-discovery and expansion of the original ideas of Alfred Marshall – external economies of industrial localization. Marshall's scheme (1890) presents the basis of Porter's "cluster concept", in which regional competitive advantage results from the presence and dynamics of geographically localized or clusterized activities, among which there is intense local rivalry and competition, favorable conditions for input providing, sophisticated local customers and the presence of capable local suppliers and supporting industries (Porter, 1998a, b).

Many authors criticize Porter (1990), considering that economies (regions) which base their competitive position on cheap raw materials cannot be successful in the long run (Ručinska & Ručinsky, 2007). Krugman (1994) even claims that defining competitiveness is not needed at all and that the competitiveness of a nation or region cannot be simply defined as the competitiveness of a company. Although economic geographers have been researching regional development and numerous factors important for regional economy development for a long time, they traditionally had not analyzed and used the terminology of regional competitiveness and competitive advantage (Scott, 1998; European Commission, 2003), up to 1990s. Since then, economic geography has diversified into three main directions: original economic geography, regional economy and new economic geography in the field of economics.

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