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THE THEORETICAL EXPLICATION OF THE FACTORS OF REGIONAL GROWTH AND THE ECONOMIC CONVERGENCE (DIVERGENCE) OF THE REGION

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For a few last decades, economists have been showing a continuous interest in doing research in the key factors of regional growth and the developmental convergence (divergence) of the region. However, beside the wealth of theoretical and empirical research in the mentioned categories, it is obvious that there is still no generally accepted explication of the key factors of regional growth. The same conclusion can be borne in mind in relation to the existence of the connection between the accepted economic growth of a country and a tendency to increase, i.e. decrease regional inequalities. The paper presents a theoretical explication of a) the key factors of regional growth and b) the phenomenon of developing the convergence (divergence) of the region, five representative theoretical approaches to the regional economy (classical, neoclassical, endogenic, new economic geography and spatial innovation systems). The current economic reality on the global plan which speaks of an increasing regional inequality confirms the accuracy of the theoretical considerations of the representatives of the contemporary theoretical approaches related to the analyzed issues.

Keywords: regional economy, economic growth of region, convergence (divergence) of regional development, contemporary theories

JEL Classification: O11

INTRODUCTION

Research in the key factors of economic growth and the development of a region has been present in economic science from the mid-20th century until today (Cvetanović, Filipović, Nikolić & Belović, 2015). Although, regarding this issue, no necessary unity has been achieved in the attitudes of the theoreticians of the most significant strategies in the regional economy, the approach to their classification into the classical and neoclassical theoreticians, the theoreticians of the endogenic explication of economic growth, the authors of a new economic geography

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and the supporters of the so-called spatial innovation systems is adopted in this paper (Puljiz, 2009). Thereby, the last three theoretical strategies belong to the group of the so-called contemporary theories of regional development. The analysis of the attitudes of the theoreticians who represent the mentioned theoretical strategies in the regional economy shows a change in the focus in the assessment of the most significant factors of regional growth from productive and natural factors towards the factors of knowledge, innovations and networking (Trivić & Petrov, 2014). The theoretical considerations about the convergence and divergence of the gross domestic product *per capita* among the regions also differ, depending on the individual researchers' support to the said strategies in the regional economy.

The research subject in this paper is the theoretical explication of the key factors of regional growth and development, as well as the relation between the economic growth of a country and regional inequalities in economic science.

The aim of the paper is to investigate the most significant factors of the economic growth and development of a region and the relationship between the economic growth of a country and regional inequality in significant theoretical approaches to the regional economy from its appearance in the 1950s to date.

In accordance with the subject and the aim of the research, the basic hypothesis of the paper is as follows:

H0: The contemporary theories of regional development accentuate the significance of non-material factors of regional growth

Beside the basic hypothesis, an additional hypothesis is also defined:

H1: The contemporary theories of regional development prefer the attitude about the growing developmental divergences of the region.

In the methodological sense, the paper avoids the explications of the complex quantitative presentations of the significance of the key factors of the economic growth of countries and regions, as well as the relationship between economic growth at the national level and the regional inequalities that are abundant in the investigation of these phenomena in relevant economic literature. An attempt was made to explain the key factors of the economic growth of the region and the relationship between the economic growth of a country and regional inequalities in the light of the divergent attitudes of certain theoretical standpoints in the regional economy related to these two questions by applying a descriptive analysis and graphic explications.

Beside the Introduction, the Conclusion and the List of References, the paper is also structured into the following three sections: Regional Development and Regional Inequalities; The Factors of Regional Growth in Economic Theory, and The Non-linear Character of the Relationship Between the Economic Growth of a Country and Regional (In)Equalities. The first section presents a general survey of the factors of regional development and the attitudes of the most significant representatives of certain approaches in economic theory regarding the relationship between the economic growth of the country and tendencies in the movement of regional (in)equalities. It points out that, on a purely conceptual plan, the regional policy is aimed at the optimization of the two basically contradictory objectives - the acceleration of economic growth, on the one hand, and a decrease in the developmental (in)equalities of regions, on the other. The second section presents the concepts of the supporters of significant theoretical strategies which the contemporary regional economy is based on (the classical strategy, the neoclassical economic school, Canesian economic thought, the theory of economic development, the endogenic theory of growth, the so-called new economic geography, an approach to spatial innovation systems) regarding the key factors of the economic growth of the region, whereas the third section presents a critical analysis of the attitudes of these theoretical strategies related to the mutual relationship between the growth of a country and an expression of regional (in)equalities.

REGIONAL DEVELOPMENT AND REGIONAL (IN)EQUALITIES

The studying of the factors of regional growth and the economic convergence (divergence) of a region is possible from different theoretical approaches (Figure 1). R. Capello and G. Perucca (2015) think that the postulates of the theory of location and the theory of regional growth and development are of decisive importance in the procedure of regional growth assessment factors. The key promoters of regional development differ depending on the adopted concept of regionalization. The efficiency of interregional allocation and intraregional multiplication mechanisms have a predominant influence on the productivity of the factors and the magnitude of income multipliers (Stimson, Stough & Nijkamp, 2011, 10).

During the 1960s and the 1970s, the regional economy in the most developed countries of the world was focused on the consideration of the significance of specialized production and the increasing role of the country in the activation of regional growth. In the 1980s and the 1990s, certain regions were rapidly being developed, becoming predominant in the world economy under the influence of globalization and strong technological development.

J. G. Williamson (1965, 3-45) was among the first to write about the relationships between the size of regional inequalities and the achieved level of the development of a country. J. G. Williamson (1965) presented the results of his research in the form of regulation, by which the growth of the gross domestic product *per capita* causes an increase in the beginning, and then, after a certain level of the gross domestic product *per capita* has been achieved, it leads to a decrease in regional inequalities (Figure 2).

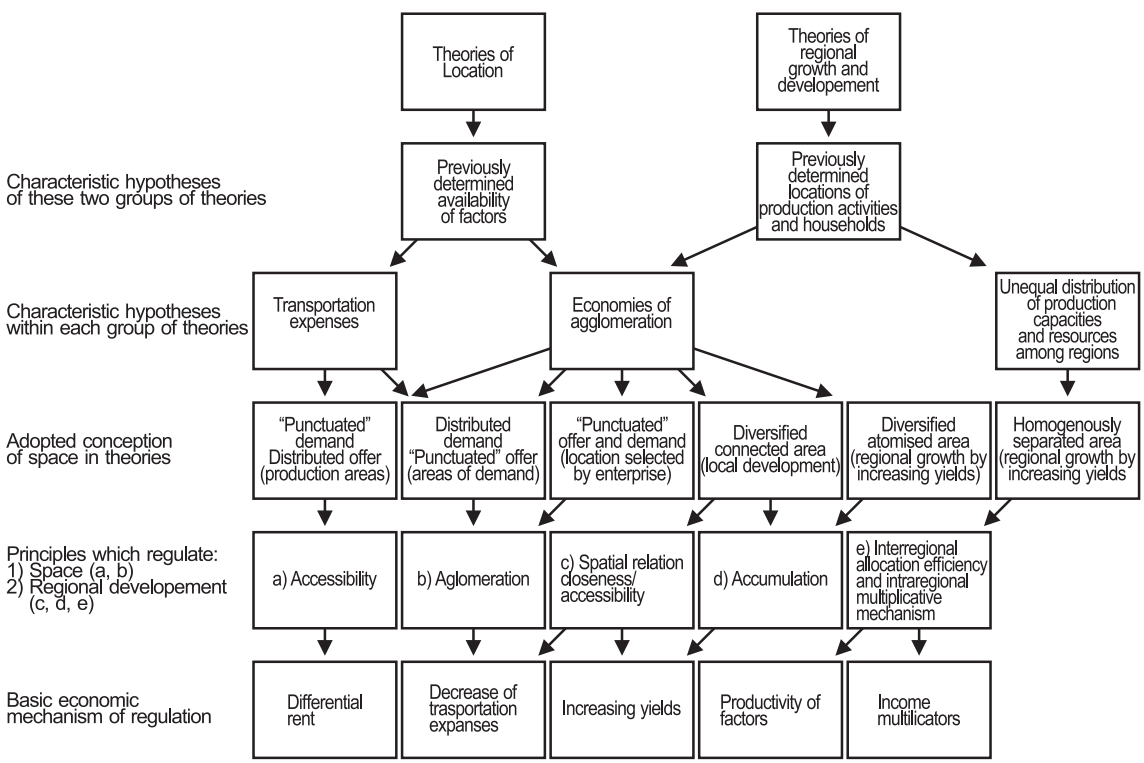

Figure 1 The development of a regional economy

Source: Stimson, Stough & Nijkamp, 2011, 10

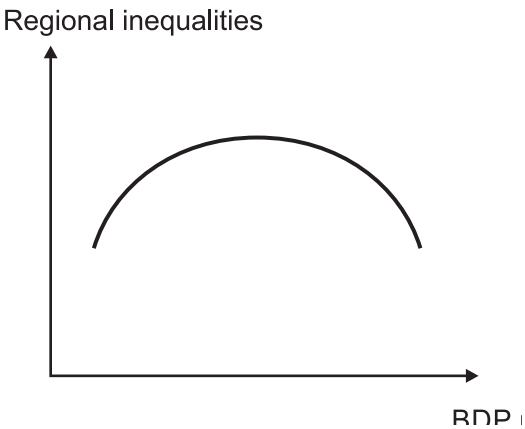

Figure 2 J. G. Williamson's reverse U-curve

Source: Davis & Weinstein, 1999, 5

The explicated idea of J. G. Williamson's (1965), related to a nonlinear connection between the achieved level of the gross domestic product *per capita* in the observed country and regional inequalities in the form of the reverse letter U was completely taken from S. Kuznets (1955), who, after having conducted a thorough empirical research study, came to a conclusion that, at the early stages of economic development, a tendency of increasing inequalities in the distribution of the gross domestic product appeared, which declined at the higher levels of the economic development of the country. However, independently of the attitude related to the originality of the presented idea, the fact that J. G. Williamson (1965) drew attention of regional economists to the nonlinear nature of the relation between the levels of regional inequalities within certain countries and the size of the gross domestic product *per capita* has appeared to be an extremely significant standpoint in the consideration of the regional aspects of economic growth and development in the last fifty years. Because, at purely conceptual level, the regional policy is aimed at the optimization of the two, basically contradictory, objectives - the acceleration of the economic growth of a country, on the one hand, and a decrease in the developmental inequalities of its spatial units (regions), on the other. The creation of economically developed regions capable of being integrated into global economic courses is the primary aim of the management of regional development (Maskell, 2000).

ON THE FACTORS OF REGIONAL GROWTH IN ECONOMIC THEORY

In economic theory, classical literature on economic development most often implies the research realised in the mid twentieth century, when consideration of the most significant factors of economic growth and development of a region and the phenomenon of regional inequalities prevailed (Puljiz, 2011). Bearing in mind, conceptual bases of the theories of regional development, the works of F. Pérroux (1955), G. Myrdal (1957) and A. O. Hirschman (1988) are primarily classified here.

According to the views of the classical theoreticians of regional development, the three key factors of the economic growth of a region are physical capital, natural capital and human capital. In relation to the second issue discussed in the paper, they decisively support the opinion of expressing regional inequalities.

The best-known doctrine on the essential issues of regional development is certainly F. Pérroux's theory of the polarities of growth (1955), which has become nearly synonymous to the theory of regional development. Similarly to the other classical theoreticians who considered the issues of regional growth, F. Pérroux (1955) starts from the fact that development does not take place equally and concludes that development is concentrated in certain spatial foci, i.e. it polarizes. F. Pérroux's positions his analysis in a real, polarized area, with considerable changes in the suitability of locations to attract investments and accelerate development (1955). F. Pérroux (1955) differentiates the wave of polarization where these polarities of growth are formed, from the wave of dispersion, when the developmental stimulation of the polarities of growth is transmitted to their zones of influence. The intensity of the waves of dispersion is a criterion for measuring the strength of the very polarity of development.

One of the best-known explications of the problems of the polarities of growth in a regional economy is G. Myrdal's hypothesis of circular and cumulative causality (1957). According to this author, the factors

of the economic growth of a region (primarily human capital) move to faster-developing regions and create the growth of a profit and distance from more slowly growing regions. The stated process is often noticed in developing countries.

In his research, A. O. Hirschman (1988) especially points to the following two reasons of lagging of economically less developed regions in relation to more developed regions. The first refers to the phenomenon of extrusion of an enterprise from less developed areas when faced to competitiveness of the enterprises from economically more developed regions, and the second relates to migration of well-educated individuals from less developed regions to economically developed regions.

Neo-classicists think that the growth of the value of production at the national and regional levels is a result of an increase in physical capital, an increase in labor and the perfection of technology (Barro & Sala-i-Martin, 2004). They assume the homogeneity of the area where each point has an equal locational convenience. The countries, i.e. regions, which do not invest in physical capital and have a lower rate of population growth and which improve their technology relatively more slowly, have per se lower economic rates in comparison to the countries, i.e. regions, that invest in the growth of physical capital relatively more, have a more pronounced rate of population growth and more intensively improve technology in the widest meaning of the word (Figure 3).

The neoclassical explications of the philosophy of the economic growth of a region start from the assumptions related to the expression of the economy of scope, the behavior of economic subjects in accordance with the prices established on perfectly competitive markets, the absence of extremities, the existence of technological changes in the exogamic character. They completely neglect the significance of institutional factors and a possible stimulating influence of the regional policy on the economy and growth (Kurz & Salvadori, 2001). According to the logic of neoclassical economists, the economic growth of countries, i.e. regions, in the short and medium period is based on the use of a greater quantity of physical capital and work. In the long run, the economic growth of a region is exclusively possible exclusively owing to the category of technological progress.

Endogenic theory claims that the dynamics of the economic growth of countries and regions is mostly determined by the character of the key attributes of the economic system, i.e. the economic policy of a country and the developmental policy of a specific region (Todaro & Smit, 2015).

Numerous versions of the endogenic explanations of economic growth point to the significance of the

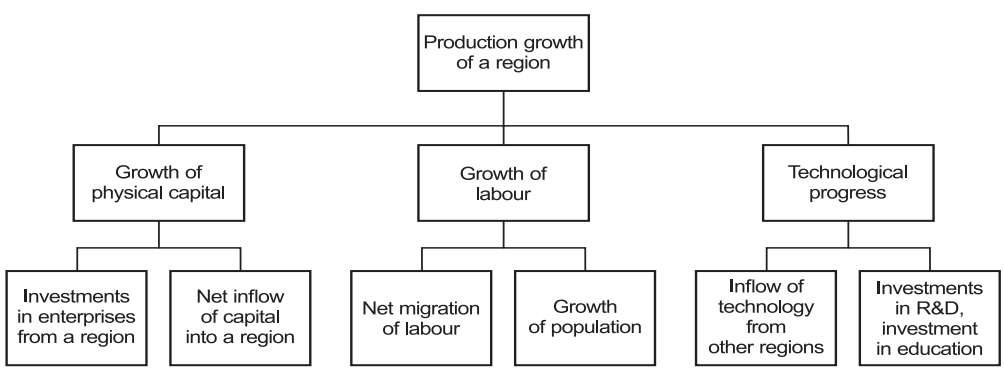

Figure 3 The factors of regional economic growth in the interpretation of neoclassical economists

Source: Armstrong & Taylor, 2000

existence of corresponding institutional arrangements (Cvetanović *et al*, 2015). Some of them claim that the "location of industry can be of decisive importance for regional development and that the synergic effects of locations are important for technological and other influences of knowledge spillovers and innovations." (Dragičević 2012, 20). There is a consensus in the regional economy that the endogenic theory of growth is their most important conceptual framework (Vazquez–Barquero, 2002). This judgement was additionally emphasized by the global crisis in 2008 (Jakopin, 2012).

The endogenic theory of growth rejects the neoclassical view of the three basic factors of the economic growth of a region. In those economists' opinions, in addition to physical capital, labor and technology, production, human, social, creative and economic capital is essentially important for long-term sustainable regional growth (Figure 4).

By increasing the above-stated five forms of capital in less-developed regions, a potential for development and absorbing the stimuli and the developmental impulses that come from economically developed regions is created. If they remain rejected for any of the stated forms of capital, less-developed regions will probably remain underdeveloped, even in the conditions when they are allotted certain funds for development.

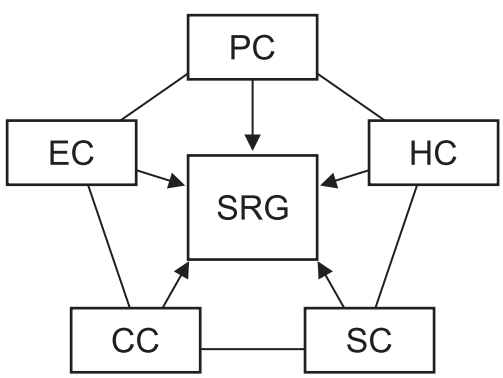

Figure 4 The factors of the economic growth of a region in the interpretation of the supporters of endogenic theory

Source: Stimson, Stough & Nijkamp, 2011, 10

The significance of production capital (PC) originated from the neoclassical theories of growth, which imply that production is predominantly determined by the traditional factors of production, labor and physical capital. In the literature on regional development, physical capital is most often found under the name of capital goods, whose key characteristic is their being an output in the previous and an input in the subsequent process of production. The most important components of physical capital are production equipment (machines, tools etc.). The significance of physical capital in starting the economic growth of a region is determined by its structure, the intensity of increasing and the efficiency of use. The infrastructure is a special segment of physical capital.

Human capital (HC) is included in the central elements of the contemporary theory of economic growth. The most significant components of human capital are the educational level and the health status of the population, the motivation of people to work and develop (Ulrich, 1998; F. Luthans, K. W. Luthans & B. C. Luthans, 2004). An increase in human capital leads to the growth of the gross domestic product of countries and regions (Lucas, 1988). The importance of the investment of human capital is recognized in contemporary economies, especially in the conditions of an overall application of scientific results to the production process, the intensive development of new technologies, the improvement of the forms and methods of management and the organization of production. In the contemporary conditions of production, education, skills and knowledge are certainly the key components of the productivity of an individual, regions and the economy in general (Cvetanović & Despotović, 2014). Knowledge as a component of human capital shows the abilities to unlimitedly increase and be used without any limits. Therefore, the categories such as the productivity of the research and development sector, the cognitive capacity and the application and diffusion of knowledge are becoming increasingly important (Lundvall, 1992; Jones, 2004).

Social capital (SC) is the capital of cooperation, interactive acting, mutual confidence and help of people in economic processes. It cannot be in a

private ownership and has the attributes of a public good. It includes the institutions, relationships, attitudes and values that manage interpersonal interactions contributing to economic and wider social development. It is mostly a result of the legal, political and institutional ambience, where economic participants function, i.e. perform their functions and realize their aims. It defines the economic benefit of a society, acquired owing to communication, cooperation and trust between single subjects in the observed social-economic environment. It refers to the capital of the permanent, and to a certain extent institutionalized, relationships between the individuals and organizations that stimulate the creation of economic values. The attitudes that only the participation of people in formal organizations leads to the creation of social capital are found in the literature, but diametrically opposite ideas are often found, too, where the minimum participation of people in social movements is a component of social capital. J. S. Coleman (1988, 95-120), as one of the creators of social capital, defines this category through its functions. He thinks that social capital provides individual success, since individuals benefit from it. It is a special form of a public good potentially at the disposal of everybody included in the system of social connections and relationships. By R. Putnam (2008, 20), social capital consists of the attributes of the organization of a society such as confidence, norms, as well as the most diverse networks that can improve social efficiency through coordinated actions.

Creative capital is fundamentally important for the economic dynamics of a region (Florida, 2002; 2004). R. Florida's identification of a creative class among "people who add economic value through their creativity" (2004) goes further than the approaches based on the traditional indices of human capital as a factor of economic growth. R. Florida (2002) develops the theoretical model by which the presence of a creative class in any position leads to the improvement of the local "creativeness" that results in growing innovativeness and the affirmation of technologically intensive production sectors. He claims that creativity is a result of "social interaction", "authenticity" and "identity", which together generate the "power of ambience" and the resulting economic dynamics at the regional level. The idea that interaction between individuals leads to the positive effects of growth is normally in accordance with comprehensive literature on learning and knowledge spillover on regional labor markets.

Ecological capital (EC) consists of amenities in a region. An ecologically clean environment, the existence of diverse programs for recreation, sports, culture, education, etc. considerably increase the innovative potential of a region, thus affecting the development of the capacity for the sustainable growth of a region.

The explanation of the key factors of economic growth in a region, given by endogenic theoreticians, is a significant qualitative step in comparison to the predominant attitudes in regional geography. The long and short of it is that the endogenic theory of regional development "shows threefold change of the paradigm when strengthening the endogenic abilities of regional growth: from developmental factors to innovative factors, from 'hard' to smooth', which are impalpable - local synergy among the participants, the positive practice of management, a high level of human capital and assets based on knowledge - from a functional to a cognitive approach" (Molnar, 2013, 49).

A step forward in the explication of the key factors of the economic growth of a region and especially the expression of the developmental misbalance during the last twenty years is found in the models of a new economic geography. They started to develop intensively after P. Krugman's paper (1990, 483-499) was published in 1991. In the 1990s, an increasing number of reference papers in this domain appeared (Venables, 1996; Fujita, Krugman & Venables, 2001). At the end of the twentieth century and at the beginning of the twenty-first century, the literature on the new economic geography was especially enriched by J. Baldwin and R. E. Caves (1997), G. I. Ottaviano and J. F. Thisse (2005), K. Behrens and J. F. Tisse (2007) and many others. According to the approach to the new economic geography, the basic factors of the economic growth of a region are transportation expenses, externalities and a profit from invested assets, since certain enterprises select a specific location on that basis.

In the 1980s and the 1990s, a series of the theoretical concepts of regional growth and development appeared, based on the innovations as the key factor of the economic growth of a region (Puljiz, 2011). In the literature, these concepts can be found as under the name of "industrial clusters", "innovative milieus", "self-teaching regions".

Their territorial coverage is different and goes from relatively small (industrial clusters) to far larger territories (self- teaching regions). These concepts can be found under the mutual name of spatial innovation systems (innovation hubs) (Figure 5) (Cheshire & Malecki, 2004).

Spatial innovation systems include mutually related enterprises in certain sectors together with the corresponding suppliers and the service sector, as well as a series of accompanying institutions, including universities, institutes, laboratories, professional associations and agencies.

In economic literature, industrial clusters have been described as a form of a spatial innovation system and an increasingly significant stimulator of regional competitiveness. In fact, clusters mark a specific approach to the networking of industrial, public and private institutions and the industrial sector. They contribute to the improvement of industrial production by connecting participants in the production chain of the production sector. Briefly, they are a specific platform for cooperation between various subjects, aimed at improving competitiveness thanks to the functional connections and possibilities of the dissemination of knowledge and experience in order to efficiently realize new business attempts and the promotion of manufactured goods on national and international markets. By networking interested parties in the realization of various business attempts, it can be possible to contribute to the strengthening of the competitiveness of business subjects, the improvement of regional competitiveness and a more balanced regional development.

Industrial clusters are the geographical concentrations of production forms, established in order to decrease expenses, the use mutual channels of supply and distribution, marketing strategies, etc. The motives for the business pooling of a larger number of productive enterprises in a certain territory are numerous. They can be: mutual appearance on markets where it is hardly possible for companies to succeed independently; the joint use of highly specialized services, professional labor, rarely used equipment, etc. A cluster of one industrial branch is characterized by the whole chains of functionally connected activities, whereby each activity means an additional value, from suppliers to final products

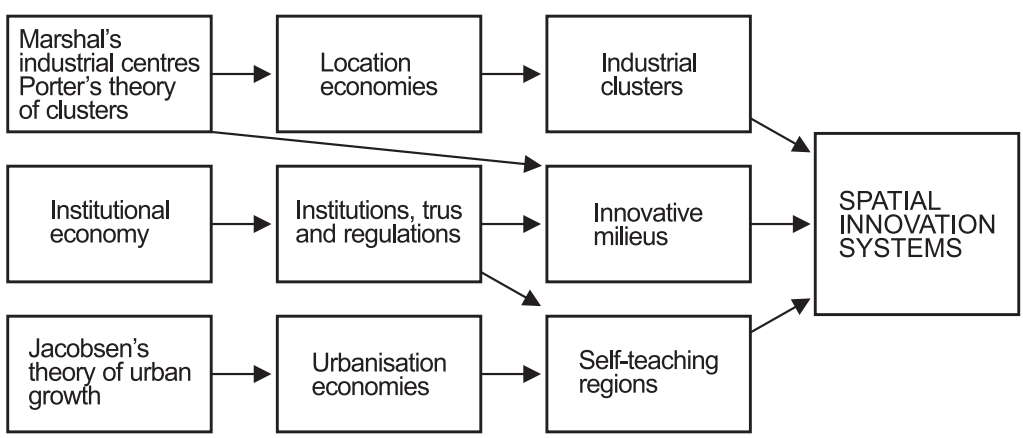

Figure 5 Spatial innovation systems

Source: Authors, according to: Puljiz, 2009, 40, based on: Cheshire & Malecki, 2004

and their market realization. These chains include numerous providers of various services, financial institutions, travel and information infrastructures, i.e. everything that has direct or indirect effects on the activities carried out by the other members of the cluster. The development of industry leads to an accelerated economic development, whereas the improvement of its innovativeness stimulates change in the economic and market structures. The development of a greater number of production enterprises performing similar activities in geographically close locations gradually leads to changes in the local environment. The environment begins to tune itself in to the business enterprise by attracting customers, laborers, potential partners and other subjects who want to achieve financial benefits. The presence of strong local competitiveness is a powerful stimulus for the creation and preservation of competitive advantage. Industries performing the same activity, located in one region, have more chances to be internationally competitive (Italian textile industry, Swiss pharmaceutical industry) than the powerful industries that independently act in the region. Deformity in competitiveness, as a rule, means that protected enterprises ask for the subvention of the country, which often results in a decline in competitiveness within the international framework. The industrial cluster of a region is believed to have comparative advantages by the mere fact that the productivity and size of the cluster are relatively large in comparison to other regions (Porter, 2008, 184). An approach to new, innovative technologies is made easier through the creation of clusters, which increases the importance and role of a cluster from the aspect of the imperative of the improvement of innovation.

The best-known innovative milieus in the world are Silicon Valley and Boston-Massachusetts (USA), Darmstadt and Munich (Germany), Cambridge (Great Britain), Grenoble and Sophia-Antipolis (France), Pisa and Piacenza (Italy). There, the concentration of innovative institutions and enterprises was accomplished, which led to "creation of collective process of learning where the development of knowledge and skills within one enterprise or research institution spread over other companies" (Puljiz 2011, 75). This is due to the fact that, in a community characterized by strong social and business ties, the process of the creation of new knowledge is more pronounced. New knowledge is cumulatively embodied in the innovations of products and processes that contribute to the creation of long-lasting competitive advantages at the regional level (Armstrong & Taylor, 2000).

The development of a certain form of a spatial innovation system has become one of the priorities in many countries; this is logical, bearing in mind the fact that workplaces in them stand out for the level of productiveness and the amount of earnings. However, the problem is in the fact that there is a great discrepancy between the results of scientific research and specific advice on particular interventions of a country. A number of analysts reasonably notice that future research has to perceive the nature of regional preconditions necessary for clusters to make a success (Armstrong, 1995).

The previously listed concepts of regional growth are characterised by multidisciplinary approach in the real sense of the word. They count on numerous innovations in the domain of economy, administration etc. A great number of factors which interest research belong to the category of size which not always easy to measure, such as mutual trust of participants, quality of institutions, entrepreneur capabilities and the similar. Spatial innovation systems especially take care of development and significance of institution, which include research and development centres of enterprises, universities, public sector, and often even policies of development of science and technology at the national level (Puljiz, 2009; 2011).

The previously analyzed attitudes confirm the H0 hypothesis, according to which the contemporary theories of regional development (the theory of endogenic growth, the new economic geography, teaching on spatial innovation systems) accentuate the significance of the non-material factors of regional growth.

THE NONLINEAR CHARACTER OF THE RELATIONSHIPS BETWEEN THE ECONOMIC GROWTH OF A COUNTRY AND ECONOMIC (IN)EQUALITIES

In the 1960s, F. Pérroux (1955, 307-340) explained the expression of the non-linear relationship between the economic growth of a country and regional inequalities by using the logic of the existence of the poles of growth. He related the process of the convergence of the developed by economically less-developed regions to the expression of the effects of the acceleration and expansion of development. It should be noted that at that time F. Pérroux relied on J. A. Schumpeter's thesis (1961, 65) that entrepreneurs' innovative behavior is the key to economic growth. The accelerated development of the poles of development is called polarisation, whereas the process of convergence developed by the economically less-developed is denoted as the effect of the expansion of development. Polarisation can be performed in two basic ways. The first is the mechanism of the disappearance of enterprises located in less-developed areas as a consequence of the technological and organizational superiority of enterprises from the developed areas. The second process implies the migrations of educated people from less-developed to economically more prosperous areas. The inevitable result of this process is a decrease in the human resources that are available in less-developed regions, for which reason it becomes the basis of their long-term regression. This phenomenon leads to a slowdown in economic growth in certain regions. On the other hand, the effects of the expansion of development appear when the development of the center "draws" the economic growth of the periphery as well, e.g. due to increased demand for the products of the enterprises in the periphery (Clunies-Ross, Forsyth & Hug, 2009).

A diametrically opposite attitude towards the relationships of the economic growth of a country and regional inequalities can be found with neoclassical theoreticians. Their most significant message is related to the tendency of a decrease in the developmental inequalities of a region in accordance with the progress made in the economic growth of a country. According to neoclassical economists, the developmental convergence of a region is a result of the expression of a decreased yield of physical capital and labor.

Neoclassical theory suggests that a location does not play an important role in generating economic growth. Namely, according to neoclassical economists, it is unimportant for entrepreneurs whether a central or a peripheral region is in question, since they make decisions on investments in accordance with the expected yield. The claim that economically less developed regions have a more pronounced growth rate *per capita* in comparison to more-developed regions, as a result of a relatively less expressed tendency of decreasing the yields of production factors in economically less-developed environments, regardless to other elements, is known as the hypothesis of absolute convergence in the theory and policy of economic growth. In the 1970s and the 1980s, this hypothesis was subjected to numerous tests and was subject to frequent rejections in economic research (Barro & Sala-i-Martin, 2004, 56-57). Assuming that, in a structural sense, regions are incomparably more homogenous units than certain countries are, it can be concluded that the thesis of absolute convergence is more applicable in an analysis of regional inequalities in comparison to the research in economic imbalance in certain countries.

Bearing in mind the starting premises of neoclassical observations, it is logical to assume the existence of the pronounced interregional mobility of productive factors. In that context, the directions of the movement of the factors of capital and labor are determined by the expected yield of such factors. Capital owners will direct their investments towards the regions where the highest yield will be achieved, whereas labor will move on to the regions where earnings are the greatest. According to the logic of neoclassical theory, a further sequence of events is that the regions with the high coefficients of capital equipment will be characterized by a low yield of capital and high earnings. Capital and labor will move on in different directions. The regions with a lower coefficient of the capital equipment of labor will be potentially

attractive to entrepreneurs for capital investment due to a high yield, whereas the regions characterized by relatively high earnings will be attractive to workers from other regions. In the long run, the equalization of the relationships between capital and labor (the coefficient of the capital equipment of labor) in certain regions has to take place, i.e. the convergence of a region by the criterion of realized production per employee. However, bearing in mind the fact that numerous empirical investigations revealed increasing regional inequalities, it follows that the message of absolute convergence of regions in a long-term period is opposite to economic reality. It means that the neoclassical model of growth has not offered appropriate guidelines to the creators of the policies of regional development to overcome increasing regional divergences within specific countries.

For neoclassical economists the expression of the law of a decreasing yield of factors and perfect competition as the predominant ambience where economic subjects maximize their target functions has never been brought into question. These theoretical attitudes, projected on the phenomenon of the economic growth of a region, implicate the attitude towards the inevitability of their economic convergence in the long run. In other words, neoclassical economists think that, taking a long period into account, the elimination of regional inequalities in certain countries is the only logical outcome of the developmental processes over time.

However, regional reality in many countries was quite different from this statement by neoclassical economists. Namely, the developmental divergences of a region were often expressed. The slow economic growth of many regions, as well as the tendency of growing developmental divergences in the 1970s, meant that many factors influenced the economic growth of a region, despite great investments in an increase in physical capital. Hence the message of the endogenic theories of growth is that the regions of an observed country need not unconditionally achieve a stable rate of balance growth. Growth at the rates higher than the balanced can be sustainable. Regions need not unconditionally converge. The expression of the non-decreasing yields of factors is connected with the effects of "learning by doing", the phenomenon of "knowledge spillover", the activities of research and development, education, as a factor of an increase in human capital, etc. (Romer, 2006, 13; Cvetanović & Despotović, 2014, 13).

The concept of learning by doing originates from K. Arrow (1971, 131-149). Individuals are better if they produce more. Besides, certain producers learn from the practical experience of others. Incorporating the hypothesis of knowledge spillover into this teaching, P. M. Romer (1986) published a large number of papers in the late nineteen eighties, revived the interest of macroeconomists in key issues of economic growth of countries and regions. By P. M. Romer (1986), independently of the fact that „productive function for each individual enterprise can also have standard neoclassical form, the expression of law on decreasing returns need not appear on macro level. He considers this possible thanks to the fact that efficiency of factor of capital of particular enterprise can grow due to increased stocks of physical capital in other enterprises" (Cvetanović & Despotović, 2014, 13). Accordingly, the growth of physical capital at macro level initiates the wave of positive external effects, which means that decreasing returns factors need not necessarily appear in economy as a whole (Mervar, 2003).

The applicability of messages of endogenous models of growth in the explication of regional divergences is established in the starting point that the processes of dissemination of knowledge are considerably geographically limited. Interpersonal interaction, connected with the level of education of the population at the local level results in the existing and attraction of new human capital. The increase of human capital leads to innovations and economic growth. The regions which are abundant with this form of capital achieve dominant position in innovativeness in comparison to the regions with relatively small scope of human capital (Puljiz, 2011). Economically less developed regions are not attractive places for educated individuals (smaller earnings, uncertain sources of financing entrepreneur attempts) are doomed for permanent economic regression.

The endogenic models of growth explicate the developmental divergence of regions to a satisfactory degree (developed regions invest more in education, research and development, the creation of an innovation ambience). However, their message of a possible convergence is far more important, i.e. the economic convergence of developed regions by the less-developed, and the need to act towards increasing the innovation capacity of certain areas by the most diverse interventions of the regional policy.

According to P. Krugman (1990), the creator of the concept of the new economic geography, an increase or a decrease in regional inequalities is determined by the influence of centripetal and centrifugal forces. The former stimulate the concentration of the economic activities of a region, whereas the latter act in the opposite direction. When centripetal forces overpower, their outcome makes regional inequalities grow. Or *vice versa* - when centripetal forces overpower, regional convergences are expressed (Figure 6).

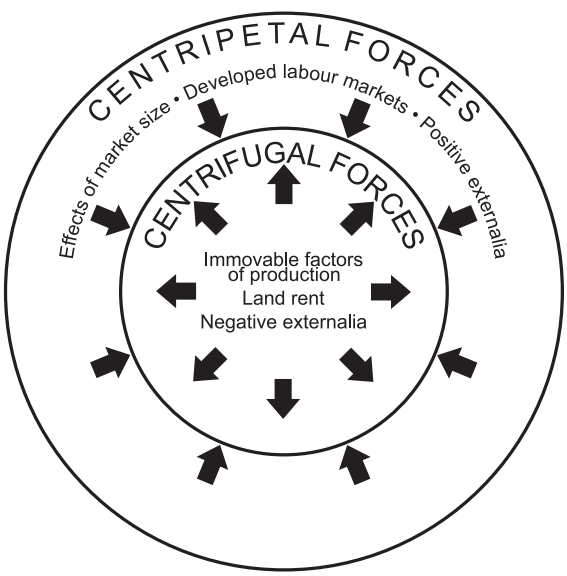

Figure 6 Centripetal and centrifugal forces in the model of the new economic geography

Source: Authors, according to: Puljiz, 2011, 71, based on: Krugman, 1990

However, the fact is that competent empirical research which would test the validity of the key messages of the new economic geography of the expression of the developmental inequalities of regions is missing. One of the reasons for this is that the model of the new economic geography is very demanding, not only in terms of the availability of the necessary data, but also in the expressed problems related to the formulation of the models of the economic growth of a region and the course of regional inequalities.

Recent approaches in the theory of regional development, marked in this paper as spatial innovation systems (innovation hubs), support the idea of increasing regional divergence in the contemporary conditions of enterprising. It is logical, bearing in mind the fact that according to their interpretation, the economic growth of a region is based on the spatial concentration of highly innovative enterprises, which are in a very close mutual contact, as well as with other parties in a specific area. For instance, thanks to their innovation superiority in certain domains, the regions such as the Silicon Valley in the USA, the Innovation Centre Antipolis in France, the Technological Park Pretoria in South Africa, the Technological Park Hsinchu in Taiwan and the Center for Software Engineering Bangalore in India have become the symbols of economic power in world relations during the last thirty years (Smith, 2010, 266).

The previously explicated attitudes confirm the H1 hypothesis, according to which contemporary attitudes in regional theory explain the phenomenon of the developmental divergence of a region to a satisfactory degree.

CONCLUSION

The interest of a regional economy in the investigation of the key factors of regional growth and the nature and character of the relationship between the economic growth of a country and regional inequalities has greatly expanded over the last decades. However, despite the intensive development

of the regional economy in this period, it is obvious that there are no uniform researchers' attitudes related to these issues.

A critical analysis of the attitudes in the five significant theoretical approaches in the regional economy in terms of the key factors of regional growth, on the one hand, and the non-linear character of the relationship between the economic growth of a country and regional inequalities, on the other, can be considered as the contribution of this paper. Besides, the paper concludes that, according to the attitudes expressed by the representatives of certain theories in the regional economy, they agree in the opinion that the so-called non-material sources have a predominant role among the factors of regional growth, whereas the developmental divergence of a region corresponds to the economic growth of the observed country.

The defined basic and additional hypotheses were tested and confirmed through the research process. The limitation of the conducted research was in the omission of quantitative explications, which is understandable in a certain sense, since the influence of the non-material factors of regional growth, on the one hand, and the complex relationships between the economic growth of the country and the expression of regional inequalities, on the other, are very difficult to precisely define.

In our opinion, the results of the research can be useful to the creators of regional policies in small and insufficiently developed countries, such as ours, in that they should pay more attention to the non-material factors of regional growth when creating a policy of regional development. Thus, further research could quantify the influence of non-material factors on regional growth and precisely determine the character of the non-linear relationship between the economic growth of a country and the expression of regional inequalities.

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