
A NEW MODEL OF RURAL DEVELOPMENT BASED ON HUMAN CAPITAL AND ENTREPRENEURSHIP

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ABSTRACT

Rural development is one of the most important elements of the overall economic development. The level of entrepreneurship development, which is closely related to the available human capital of a certain area, has a particularly great impact on the speed and structure of the rural economic growth, along with outdoor amenities of rural areas. The paper provides an overview of foreign and domestic academic literature which deals with the issue of rural development and indicates the necessity and importance of achieving a stronger connection between rural outdoor amenities and the socio-economic development of rural areas. The paper also presents the results of the research aimed at the formulation of the relevant models of economic growth of rural areas in the 21st century. The aim of this paper is to point out the importance and possibility of implementing successful models of rural economic growth in Serbia.

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Introduction

Rural development is one of the most important elements of the overall economic development, and the most important factors in this process are: the level of development and structure of industrial production, availability of the adequate human capital, availability of entrepreneurial capital, natural amenities of rural areas (geographical

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location, climate, relief), built amenities of rural areas (traffic, communication, social, tourist infrastructure, etc.), and heritage and cultural wealth.

The subject of this paper is the analysis of the importance of domestic outdoor amenities, human capital and entrepreneurial activities for the process of the economic growth and development of rural areas. The analysis of migratory movements, which have become especially important in recent years, from urban to rural areas in developed economies, pointed out that along with economic factors, the “quality of the rural environment” is influenced by outdoor amenities. Implementing a new approach to the rural development, defined as the rural industrialization, requires rural residents with high levels of human capital and committed to entrepreneurship. In the academic literature, entrepreneurship is recognized as one of the factors that can ensure the connection of knowledge, skills and creativity of the rural population with the economic growth and development. The concept of outdoor amenities is associated with the rural economic growth by determining the impact of human and entrepreneurial capital on a given growth.

Prerequisites for ensuring smart, sustainable and inclusive rural development are the protection and preservation of outdoor amenities of rural areas, the improvement of knowledge and skills of rural population and social capital, the application of new technologies, as well as the development of entrepreneurship and entrepreneurial spirit among rural population.

Characteristics and factors of rural development with special emphasis on the role of human capital

In addition to the natural amenities that characterize rural areas, development of entrepreneurship, which is closely related to the available human capital of a certain area, has a particularly great impact on the speed and structure of the rural economic development (Skuras et al., 2005; Markeson & Deller, 2012; Korsgaard et al., 2015). The realization of the adequate development of rural areas implies the application of such a growth model that can integrate the outdoor amenities of rural areas, human capital and entrepreneurial elements, and direct them towards the realization of the economic growth of a particular rural area. Empirical research to date (McGranahan & Wojan, 2007; McGranahan et al., 2011) shows that favorable outdoor amenities and the level of entrepreneurial activity in rural areas are factors that significantly, and often decisively, affect their economic growth, especially attracting the appropriate level of human capital.

The human factor has a dominant role in the movement of almost all elements of the economic development and growth, so is the case with the rural development. This is especially due to the fact that in recent decades there have been significant changes in this sector of human activity. Namely, rapid technical and technological development has conditioned high-speed and unpredictable changes in all spheres of human life. As a result, there was a change in the influence of certain factors on population movements, because the motives for the movements had changed. In earlier periods of

the development, migratory movements of the population were conditioned primarily by the economic factors such as: the possibility for employment and advancement, higher living standards, favorable real estate prices, and the like. That is why, at that time, cities were the most suitable places to live.

However, it is due to the rapid technological development and its impact, which can have both positive and negative consequences, that changes have taken place in many human activities, including migratory movements (Marcouiller & Clendenning, 2005). Overcrowded cities, pollution, the stress of living in such circumstances, etc., have caused that rural areas become increasingly desirable for living, rest and recreation. This is especially true for rural areas that are characterized by favorable outdoor amenities and significant human capital, because such areas have greater potential for growth and development. Moreover, favorable climatic conditions, relief, rich water and forest resources, etc. represent favorable conditions not only for the development of tourism and other accompanying economic activities in these areas, but also for the living. The development of information technologies, which has enabled many types of work to be done from any place in the world, has made rural areas even more attractive for permanent settlement. Therefore, the process of migration to rural areas increases the amount of human capital in them, which creates favorable conditions for faster and better rural economic and social development.

Regional economic development, and especially the development of rural areas, is one of the most important subjects of study of economists in recent times. A structural model of the regional economic growth has been developed by Deller et al. (2001), McGranahan (2011), Josipović (2018), Rikalović et al. (2020), etc. In developed models, rural amenities are seen as one of the factors of rural growth. The models start from the assumption that the growth of national income increases demand for areas with favorable outdoor amenities and other elements that improve living conditions. The results of empirical research indicate that four groups of factors affect the economic growth, and they are:

- market characteristics;
- availability of human capital;
- fiscal policy measures, and
- outdoor amenities (such as land, relief, water resources, the possibility of recreational activities and the level of infrastructure development).

The research concludes that the rural areas that have more favorable elements of outdoor amenities, as a rule, have faster population and employment growth, as well as higher per capita income, and thus better conditions for faster economic growth and development.

On the other hand, Wu & Gopinath (2008) and Deller (2009) analyze the influence of several factors on the creation of spatial differences from the perspective of the level of their economic development. The given factors include natural amenities, human and

physical capital of the analyzed area, geographical location, etc. The mentioned authors give a theoretical explanation and empirical confirmation of the correlation between the natural amenities of the environment and spatial differences, on the one hand, and the level of average income per capita and real estate prices, on the other hand. According to the offered theoretical model, it is concluded that the aim of an individual when choosing a location for living and working is to maximize the total utility determined by the *trade-off* between the amount of their income, the real estate prices and outdoor amenities of a particular location.

The analysis of the dependence of the economic growth on rural amenities indicated that rural amenities affect economic growth indirectly, via the impact on retaining the existing and attracting new rural residents. It is important to note that the most important part of the new rural residents are working age individuals who are highly educated and / or perform the so-called creative occupations (McGranahan and Wojan, 2007). They represent the highest quality core of the rural population and carry the greatest potential for development.

People with their education, knowledge, experience, skills and competencies make up the human capital of economic entities, which plays a very important role in the process of business, growth and development of these entities. When the role and importance of human capital in the process of rural development is considered, it can be noticed that the results of the research show that education, knowledge, creativity, skills and competencies of individuals in rural areas with a high level of human capital have a greater impact on the economic development of the area. The research (Wojan & McGranahan, 2007; McGranahan et al., 2011; Ulrich-Schad, 2015) conducted in the United States and the EU has shown that a significant number of highly educated individuals and members of the so-called creative class (Florida, 2014) are ready to move from cities to rural areas of high outdoor amenities because they see in them their chance to start a business. This is especially true for the population age group of 25 to 50, whose members move in order to live and work in more humane conditions. At the same time, the fact that most of these individuals have entrepreneurial ideas and are willing to take risks by investing in their business ventures is not negligible. On the other hand, the population aged 15 to 34 is the category that most often leaves rural areas with the intention of gaining higher education, building a career in more favorable conditions, as well as securing greater financial stability. From the above, it can be concluded that the category of the population aged 25 to 50 is the one that is ready to bear the greatest burden of rural development and that this category should be given the most attention when defining the rural development policy.

Undoubtedly, there is a mutual connection and conditionality between the amount of the human capital and the economic growth of an area (Kokeza & Urošević, 2012). However, the difficulty is reflected in the fact that the given impact is difficult to quantify. Thus, when researching the mutual conditionality of human capital and economic growth, the methodology of measuring the level of the human capital of a certain geographical area might become an issue. According to the traditional approach,

human capital is quantified through the level of formal education achieved by the population, i.e. the employed (Barro, 1991; Simon, 1998). This approach is based on the assumption that the most important investment in the human capital development is education, and the measure of human capital is the amount of knowledge available to individuals in the labor market. Knowledge is immanent to the individual, not to the branch of industry, and due to the process of clustering, i.e. grouping of highly educated individuals as bearers of knowledge, experience, skills, competencies, various talents and entrepreneurial abilities, the so-called externalities of human capital that significantly affect the acceleration of economic development are formed.

In difference to the traditional approach to the issue of human capital, a new concept was formed at the beginning of the 21st century, and that is creative human capital (Florida et al., 2008; Florida, 2014). According to this approach, the study of human capital is conducted through the analysis of the occupational structure of the employed. The fact is that both forms of human capital have their place and role in the process of economic growth and development, along with complementing each other.

Entrepreneurship as a driver of rural development

Economic growth and development are very complex processes that intertwine in the relations of interdependence and conditionality. The complexity of these processes stems from the fact that they are influenced by a very large number of economic and other factors, such as natural, technical, social, political, cultural, and others. The basic cell of economic growth is represented by companies, the basic subjects of the market economy. In companies, there is a realization of the business process, the creation of values, application and commercialization of innovations, as well as the manifestation of almost all elements of human capital. Entrepreneurship, as a skill of undertaking profitable ventures, also finds its foothold in a company, which then generates economic growth of the entire community (Kokeza & Stavrić, 2022). In modern conditions, the most important factors influencing high rates of economic growth are primarily resources invested in the process of knowledge creation (especially R&D), as well as developing skills and competencies needed to successfully start and run entrepreneurial ventures. The realization of high rates of economic growth implies synergistic action of innovation and entrepreneurial skills, in order to transform innovations from ideas into commercial products and services. All this can be achieved only by the adequate application of the appropriate elements of human capital, especially its entrepreneurial components.

The role and importance of entrepreneurial activities in the process of linking innovation and commercialization of innovation is also evidenced by the results of empirical research (Wennekers & Thurik, 1999; Acs et al. 2003) conducted in OECD member countries. The research data pointed to the fact that entrepreneurship is a necessary link that connects new knowledge, on the one hand, and the commercialization of the given knowledge in new business ventures, on the other hand. In a study conducted by Acs et al. (2003), a model of the entrepreneurial economic growth was developed, whose validity was assessed using econometric methods and panel models. These

assessment methods have shown that entrepreneurship has had a significant, positive impact on GDP growth over the last two decades of the twentieth century. The research also showed that the highest rate of economic growth in the observed period was in the countries that invested the most in R&D, as well as those countries that had a high share of entrepreneurs in the total number of the employed.

On the other hand, the research has also shown that high investment of resources in the field of R&D is not a sufficient condition for the realization of high rates of economic growth (Michelacci, 2003). Namely, the research conducted in the United States indicates that the lack of entrepreneurial skills of the working age population (measured by the share of the self-employed in the total number of employees) prevents satisfactory economic growth (measured by the unemployment rate and GDP), despite high investment in R&D (measured by the number of the registered patents and the percentage share of the residents engaged in R&D activities). It can be concluded that when initiating faster economic growth in rural areas, the appropriate attention must be paid to the adequate investments in the research and development, as well as to encouraging and developing entrepreneurial activities (Lee et al., 2004; Kokeza & Radosavljević, 2016). Without the connection of these two fields, the desired optimal goals of development cannot be achieved.

Although favorable outdoor amenities are the basis for the development of rural areas, they represent a necessary but not a sufficient condition for the given development to be realized. The conducted research also speaks in favor of this claim, i.e. it shows that favorable outdoor amenities are not enough for rural areas to achieve the adequate economic growth. Namely, the research data indicates that in the economy of developed countries, more developed rural areas are the ones which, in addition to rich outdoor amenities, have greater innovation, and in which entrepreneurship is present to a greater extent.

The results of the empirical research examining the impact of entrepreneurship on rural economic growth, as well as factors that encourage entrepreneurship in rural areas, show that a high level of entrepreneurial activities in rural areas has a significant positive impact on the economic growth of a certain area (Audretsch et al., 2008; McGranahan et al., 2011; Fritsch, 2013; Komarek et al., 2014; Josipović & Molnar, 2018; Rikalović et al., 2020). This is also confirmed by the fact that the greatest economic growth, employment rate growth, and growth in the number of small and medium enterprises and entrepreneurs during the 1990s in the United States were in the rural areas characterized by high outdoor amenities, but which also had a high level of human capital and entrepreneurial activities.

It is very important to point out that such development of rural areas has significantly contributed to the transformation of the entire national economy to a lower degree of dependence on traditional economic sectors (agriculture, mining, forestry, etc.), while contributing to more intensive development of manufacturing and tertiary activities (trade, services, rural tourism, etc.). At the same time, the contribution of human capital and entrepreneurship to these processes is very significant.

The activities of the service sector that give a particularly high contribution to the growth of entrepreneurial activities in rural areas with high outdoor amenities are the following: computer services, engineering services, legal services, financial and banking services, insurance services, accounting services and the like. The level and structure of the represented entrepreneurial activities in individual regions can be very different. These differences may be due to a number of factors, such as: the level of development of industrial production, the level of income of the population, available human capital, population density, unemployment rate, outdoor amenities and the like.

In the implementation of the entrepreneurial activities in rural areas, and especially when starting a business, other relevant empirical research (Gottlieb, 1994) shows that the main factors influencing the location of companies in rural areas are the adequate labor supply and market proximity, while the factors such as cheap labor, lower tax rates and taxes and the like, do not have a decisive impact.

Since entrepreneurial activities are closely related and conditioned by the elements of human capital, one of the new terms introduced in the articles dealing with the interconnection of human capital and entrepreneurship is *entrepreneurial human capital*. It represents the knowledge and skills (competencies) of entrepreneurs. The level of entrepreneurial human capital in rural areas is significantly influenced by both formal (level of education, training, various training courses) and informal elements (work experience, environment, business experience, etc.). As entrepreneurship focuses primarily on new profitable ventures, the question can be raised how attractive rural areas with their outdoor amenities are to attract and retain the highest quality entrepreneurs, i.e. to accumulate entrepreneurial human capital.

The theorists point to the fact that in rural areas there is a much greater connection between the economic goals of the entrepreneurs and the goals of the economic development of these areas than in urban areas (Harpa, 2017). The concept of rural entrepreneurship is especially important in rural areas that are characterized by high outdoor amenities, because these areas have significant comparative advantages for successful entrepreneurial ventures, especially in rural tourism, the organization of cultural and business events, realization of certain types of production and services. The role of entrepreneurs in these areas is reflected in the creation of new economic value by using specific combinations of local natural resources. It can be said that a rural entrepreneur is a type of manager who is ready for ventures associated with investment risk, but also with high profits if the investment proves to be successful. For these purposes, the rural entrepreneur is able to provide the adequate financial resources, human resources, material infrastructure, etc., but also to boldly apply innovative solutions where necessary and which are estimated as economically justified.

The main motive for entrepreneurial investments in rural areas is, first of all, the possibility of achieving appropriate profits, then using the comparative advantages of rural areas, and based on that, realizing monopoly profits, increasing employment of local population, but also better use of others, especially natural resources and

the like (Vuković et al., 2018). According to Korsgaard et al. (2015), the basis of rural entrepreneurship is the ability to adequately combine in the long run and more efficiently use specific resources of a particular rural area.

In the development of rural areas, the development and application of innovative solutions, the establishment and growth of new enterprises, which are also indicators of smart rural development of new enterprises (Naldi et al., 2015), are found to be particularly important. Entrepreneurship, which is an important carrier and implementer of entrepreneurial ideas, plays a crucially important role in this process. Depending on entrepreneurial abilities, it is possible to create new economic value by producing new products, providing new services, and introducing innovative business methods. All this can have a positive impact on promoting local economic, but also overall development of a particular rural area.

The research undoubtedly shows that rural areas, especially those with high natural amenities, have many advantages for the development of rural entrepreneurship, in comparison to the areas with low natural resources. The given advantages concern primarily natural resources, conveniences for the development of recreational activities, lower prices of land, labor and other resources, etc. However, doing business in rural areas also has certain limitations that often pose barriers to faster business development. These barriers are as follows: underdeveloped local infrastructure, limited market, low level of human capital, weak representation of necessary institutions, social and cultural factors, etc.

Modern tendencies of rural development indicate the necessity of fostering and implementing innovations and entrepreneurship in this process. Highly educated individuals, as an essential element of human capital, can contribute to the economic development of rural areas by moving to these areas, working, and applying their knowledge and creative ideas.

If entrepreneurial capital is defined as the ability of a particular entity to encourage and assist the implementation of new entrepreneurial activities through the provision of adequate forms of assistance, such as simplification and acceleration of various procedures, organizing various trainings within the rural population, providing more affordable financing, etc. (Audretsch et al., 2008), then all these measures can develop rural entrepreneurial capital and thus contribute to the economic development of a particular rural area. The elements of entrepreneurial capital can also include the existence of the appropriate experience, tradition, natural and business environment, institutional environment, etc., which can positively affect entrepreneurial behavior and the determination to take risks of entrepreneurial ventures.

Human capital represents a remarkably important factor of the overall, as well as rural development, especially the part related to entrepreneurship. Entrepreneurial capital plays a vital role in linking the elements of human capital - knowledge and competences, on the one hand, and rural development, on the other. In the process of rural development with a special combination of knowledge and ideas, entrepreneurship can enable

greater inflow of funds, faster implementation and commercialization of innovations, employment growth of local people and thus increase their living standards, through the establishment of small and medium entrepreneurial companies. All of the above should contribute to faster and better economic growth in rural areas.

Model of economic growth of rural areas of Serbia

Rural areas of Serbia are facing a number of demographic, economic and social issues. Developmental disparities between rural areas in the north and rural areas in the south of the country are steadily growing. The demographic structure of rural areas belonging to the region of Šumadija and Western Serbia and the region of Southern and Eastern Serbia is more unfavorable compared to the region of Vojvodina. These rural areas have poorer performance in terms of demographic indicators compared to rural areas belonging to the Vojvodina region. Similarly, a number of these areas are facing structural problems regarding the current state of labor market performance. In contrast to the South Bačka region, which has the most favorable demographic structure⁵, Kolubara, Pomoravska, Rasinska, Borska, Braničevo, Zaječar and Pirot areas maintain the worst degree of performance in terms of demographic indicators. Also, these rural areas (except Kolubara) have the most unfavorable position in terms of labor market performance, which is measured by indicators such as the rate of subsisted population, the rate of social importance of the young population, the rejuvenation population rate, the rate of substitution of the working age population, etc. The South Bačka area is also characterized by the highest gross value added per capita, whereas the Jablanica, Podunavlje and the Pčinja areas have achieved the lowest values. In addition to low gross value added, the Jablanica area is also characterized by the largest number of unemployed persons per thousand inhabitants.⁶

In contrast to less favorable demographic and economic performance, rural areas in Šumadija and Western Serbia, and the regions of Southern and Eastern Serbia show better performance in terms of social welfare indicators, such as rich natural amenities and preservation of the environment.

In the course of the last two decades, the development based on the use of domestic outdoor amenities has become a relevant development concept not only for developed countries, but also for countries that are late in transforming the rural economy such as Serbia. There is no universal definition as to what constitutes the concept of rural amenities. The concept can be seen as multidimensional, given that different definitions point to its different aspects. To comprehend it fully, it is important to look at the different components that make it up and whose number

5 Population density (152), participation of young population (15.48%), participation of working age population (69.26%), participation of population over 65 years of age (15.26%), change of population between two censuses in 2002 and 2011 (21,705).

6 For more on the state and performance of rural areas and the rural economy in Serbia, see: Josipović (2019).

expands as it becomes a significant factor in the socio-economic development of rural areas. At the very least, the concept of rural amenities can be observed through natural amenities. These amenities refer to the conditions of the natural environment and depict a clean natural environment as well as to attractive natural beauties that rural areas possess due to the rich natural resources and the world of wildlife. The concept of rural outdoor amenities is found to be broader than the concept of rural natural amenities. Given that natural resources can be used as inputs for a rich supply of recreational activities, an important component of the concept are recreational amenities. In addition to natural amenities, the concept of outdoor amenities refers to recreational amenities related to the construction of the appropriate infrastructure in rural areas, such as a modern road network and infrastructure related to providing a rich offer of various recreational activities in course of the year. In relevant academic literature, amenities are seen as non-market inputs of the production process of the local economy (Marcouiller, 1998).

Starting from the already performed regionalization of Serbia in accordance with the NUTS⁷ classification, Josipović (2018), Rikalović & Josipović (2018), and Drobnjaković et al. (2022) have performed mapping and evaluation of locally specific outdoor amenities of Serbia by applying the methodology that resulted from the researched theory and conducted empirical research. The value of natural and total outdoor amenities of rural areas was estimated using the land valuation method based on the assumption that the differences in the suitability of the environment between rural areas are reflected in differences in property prices between rural areas that abound and do not own significant outdoor amenities. According to the empirical results (Rikalović & Josipović, 2018), rural areas with high natural amenities are the three areas located in the Region of Šumadija and West Serbia (Raška, Zlatibor and Moravica) and the three areas located in the Region of South and East Serbia (Pčinja, Bor and Toplica). These rural areas (with the exception of Toplica) are also identified as rural areas with high outdoor amenities (Drobnjaković et al, 2022).

Although the size of the population generated by human capital and the volume of available entrepreneurial capital is found to be lower in rural than in urban areas, they are also recognized as the initiators of rural socio-economic development of Serbia. According to Josipović & Molnar (2018) and Rikalović et al. (2020), education, knowledge, creativity and entrepreneurial skills can be significant drivers of economic recovery, diversification of economic activities and improvement of rural living conditions areas of Serbia, and, in particular, those with high outdoor amenities. The mapping of rural Serbia according to the level of human capital can be done by taking into account two indicators of the available human capital in a particular area which are generally accepted in the literature: the volume of the rural population with a university degree (Armington and Acs, 2002; Josipović & Molnar, 2018), and the size of the rural population performing creative occupations

7 NUTS - Nomenclature of Territorial Units for Statistics.

(McGranahan & Wojan, 2007; McGranahan et al., 2011; Josipović, 2018). Rikalović et al. (2020) have identified three major groups of employees who perform creative occupations in Serbia:

1. Legislators, senior officials and managers (e.g. Chief Executives, Senior Officials and Legislators; Administrative and Commercial Managers; Production and Specialized Services Managers; Hospitality, Retail and Other Services Managers);
2. Professionals (e.g. Science and Engineering Professionals; Health Professionals; Teaching Professionals; Business and Administration Professionals; Information and Communications Technology Professionals; Legal, Social and Cultural Professionals);
3. Technicians and Associate Professionals (e.g. Science and Engineering Associate Professionals; Health Associate Professionals; Business and Administration Associate Professionals; Legal, Social, Cultural and Related Associate Professionals; Information and Communications Technicians).

Most rural areas in Serbia are characterized by a larger population that performs creative occupations than the population that has a university degree. The exception is six rural areas⁸, which are characterized by approximately the same size of the population with high levels of human capital quantified by using these two generally accepted indicators. In these rural areas, the share of employees with a university degree and the share of employees who perform creative occupations in the total number of the employed is approximately the same. Two rural areas with rich outdoor amenities (Raška and Pčinja), South Bačka, Pomoravlje, Šumadija and Nišava have the above average values of both human capital indicators. Given that the values of the human capital indicators for other areas of rich outdoor amenities are below the average, it is to be concluded that, in Serbia, the developmental potential of domestic outdoor amenities is still not recognized as well as their socio-economic role. The Raška area is the only area rich in amenities with a significant entrepreneurial activity, from which we can conclude that the outdoor amenities are not used as an instrument to attract human and entrepreneurial capital, as is the case in the developed countries of the EU and US. In addition to Raška, significant entrepreneurial activity is present on the territory of South Banat and Kolubara areas. The share of the number of entrepreneurs in the total number of the employed in these areas is about 30%.

Starting from the theoretical framework and research results on models of rural development with regard to their specific outdoor amenities, the Model of Rural Economic Growth of Serbia was developed (Josipović, 2018; Josipović & Molnar, 2019; Rikalović et al., 2020). The model is based on the assumption that due to the specific quality of the rural environment, the key factors of economic development of rural areas of Serbia can be education, creativity and entrepreneurial skills of the rural population. In order to empirically test this assumption, the model was evaluated three

⁸ Mačva, Rasina, Bor, Zaječar, Nišava and Pirot.

times depending on the way of quantifying the available human capital in rural areas in Serbia. Table 1 shows the results of testing the Rural Economic Growth Model of Serbia using appropriate econometric methods and panel models.

Table 1. Test results of the Rural Economic Growth Model of Serbia

Variables	First model		Second model		Third model	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Human capital	8.137	0.002	3.827	0.052	6.881	0.010
Entrepreneurs	2.303	0.000	1.717	0.014	1.660	0.001
Human capital x Entrepreneurs	-0.103	0.002	-0.048	0.062	-0.091	0.009
Employment - Primary sector	1.677	0.000	1.573	0.000	1.663	0.000
Employment - Secondary sector	1.133	0.001	1.073	0.001	1.087	0.002
Employment - Tertiary sector	1.660	0.000	1.628	0.000	1.693	0.000
Employment - Quaternary sector	0.434	0.172	0.419	0.176	0.478	0.143
Working age population (15-65)	-1.484	0.000	-1.355	0.001	-1.174	0.008
Young population (0-14)	2.040	0.000	2.034	0.000	1.946	0.000
Rural areas with high outdoor amenities	-4.575	0.002	-3.772	0.007	-3.195	0.029
Rural areas with medium outdoor amenities	-1.891	0.228	-1.074	0.507	-0.613	0.706
Constant	-210.023	0.001	-687.766	0.016	-175.252	0.004
R2 (R2 adj.)	0.41 (0.35)		0.40 (0.34)		0.38 (0.32)	
F statistic	6.71 (0.00)		6.46 (0.00)		5.98 (0.00)	

Source: Josipović, 2018; Josipović & Molnar, 2018; Rikalović et al., 2020.

The first evaluated model observes the volume of human capital by rural areas through the employed population who has a university degree (the application of the traditional method of quantifying human capital). The second evaluated model is concerned with the volume of human capital through the employed population performing occupations belonging to the developed classification of occupations performed by representatives of the creative class in Serbia (the application of the creative class concept to measure available human capital in a particular area). The third evaluated model tests the significance of the part of the population equipped with human capital, which consists of the employed who hold a university degree as well as those engaged in occupations belonging to the classification of occupations performed by the representatives of the creative class in Serbia.

Relying on the presented results of the evaluation of the model of rural economic growth of Serbia, we can conclude that the initial assumption of the model has been confirmed. The employees who hold a university degree ($p < 0.05$, the first model), the employees who perform occupations defined in the literature on rural development as creative occupations performed by representatives of the creative class exert a significant and positive impact on the rate of economic growth in rural areas in Serbia ($p < 0.05$, the second model), and the individuals starting and running their own business ($p < 0.05$ in all three models). A negative placed in front of the variable of interaction between human capital and entrepreneurship may indicate that in the case of rural areas with high outdoor amenities, two key preconditions have not been provided for establishing an appropriate model of economic growth, a significant part of the employed with high levels of human capital and a significant number of the employed who are carriers of entrepreneurial activity. This additionally confirms the negative artificial variable related to rural areas with high outdoor amenities, which indicates that these rural areas have a lower rate of economic growth compared to rural areas with low outdoor amenities.

Since the research shows that natural resources will play a very important role in the future development of the world economy, and consequently, in the development of the domestic economy, as well as that they will be one of the most important foundations of development, the domestic economy must significantly change or adjust the approach to this area (Kokeza, 2017). The rich outdoor and natural amenities of the region of Šumadija and Western Serbia and the region of Southern and Eastern Serbia can contribute to ensuring the economic and social well-being of the rural population (Urošević et al., 2018; Kahrović et al., 2020). In order to effectively use the developmental potential of domestic outdoor amenities, it is necessary to provide conditions for social improvement (the improvement of living conditions of rural population, ensuring access to educational institutions, availability of health services, better conditions for raising a family, etc.), and economic improvement (per capita income growth, employment, entrepreneurial activities, etc.) of the rural population. Also, in the coming period, through the appropriate rural development measures and policies, it is necessary to provide incentives and support in order to use domestic outdoor amenities as an instrument to retain the existing and attract new rural residents who will be willing to use these amenities as basic input for initiating and leading own business.

Conclusions

This paper analyzes the impact of human capital and entrepreneurial activities on the process of economic growth and development of rural areas, which have gained importance in recent years. The paper particularly points out new approaches to rural development, which imply respect for the very important role of human capital and entrepreneurship in this process. Entrepreneurship is seen as a link between natural amenities, knowledge, skills, competencies and other abilities of the population and entrepreneurial ventures that result in more intensive economic growth of rural areas.

Consequently, we have concluded that the main preconditions for ensuring smart, sustainable and inclusive rural development are the protection and preservation of outdoor amenities of rural areas, the improvement of knowledge and skills of rural population and social capital, the application of new technologies and development of entrepreneurship and entrepreneurial spirit among rural population. We argue that the realization of the adequate development of rural areas implies the application of such a growth model that can integrate the outdoor amenities of rural areas, human capital and entrepreneurial elements and direct them towards the realization of economic growth of a particular rural area. The conducted research also indicates that when initiating faster economic growth in rural areas, the appropriate attention should be dedicated to the adequate investments in research and development, as well as to the encouragement and development of entrepreneurial activities. When it comes to the domestic economy, many negative factors of rural development are found (unfavorable demographic and educational structure of the population, insufficient diversification of economic activities, low quality of public services, low level of entrepreneurial activities of rural population, low per capita income), which prevent the usage of the developmental potential of domestic rural outdoor amenities, so they should be eliminated in the future. To ensure better rural economic and social development of Serbia, it is necessary to create an appropriate institutional environment (local educational and financial institutions) that will support the development of knowledge and skills of the rural population, as well as support for starting new and successful management of the existing rural entrepreneurial businesses.

Conflict of interests

The authors declare no conflict of interest.

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