VALUE OF AGRICULTURAL LAND AS NATURAL RESOURCE

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Abstract: *For some of the natural resources, productive economic use in the function of development is conditioned by monetary investments and technological innovations. The change of ownership rights over natural resources, especially agricultural land as a natural capital asset is specific, because natural resources represent the national wealth of the countries in which they are located. This paper presents the approach by which the market prices of agricultural land are formed indirectly on the basis of the volatility of market prices of the products arising from the exploitation of natural capital assets. The paper contains the empirical analysis of the prices of agricultural land in Serbia. Protected natural resources, as special forms of natural capital assets, do not have market value, and indirect evaluation is based on hedonistic models as well as the expenditure models to cover the costs of protection and readiness to pay for the maintenance of biodiversity.*

Keywords*: natural resources, natural capital assets, agricultural land, price of agricultural land*

1. INTRODUCTION

Natural resources, natural capital assets, land in general, agricultural and forest land, mineral resources, hydrocarbon deposits and ore represent fundamentally different factors of production compared to other factors, such as labor and capital. The created capital, as physical assets in the form of equipment and applied technologies, is relatively easily change location. Unlike natural resources, these created assets as production capacities are relatively easy to move from one location to another. Innovations as a product of the development of human knowledge and its application in production represent a universal common good, which in short term is characterized by relative immobility. In a long term innovations are goods which become a general value available to people regardless of territorial divisions.

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Innovations are products of human knowledge, i.e. intangible assets. Innovations influence the production of economic values through practical production, changing the previous and introducing new, more economically efficient ways of production. The key feature of this process is to reduce the participation of immediate human labor and increase the volume of material production of goods and services. Schumpeter (1975) calls this process 'creative destruction'. The created capital that is present in the form of buildings and infrastructure, as a different spectrum of physical assets, is located within a market. Over these assets, property rights can be changed relatively easily, while their market location remains unchanged.

Physical assets presented in the form of manufactured goods easily change the market, moving from the market where they are manufactured to the markets where they will be spent. Services, depending on their form and structure, are mostly related to the immediate local market where they are rendered. In such cases, the services are offerd only at the local markets where they are rendered (tourist services, servicing, warehousing services, transport, etc.). Service users in such cases represent a demand market, so consumers (customers) of services move to places where these services can be rendered. However, there are service sectors that are market-differentiated according to the market where they appeared and the market where they may be consumed. In such cases, the rendering of services and their use are settled at completely separate locations. These services are conditioned by the development of new information technologies and include the following: financial services, intellectual services and education services. A special form of created capital consists of financial assets which, in the conditions of the developed global market, move from one market to another relatively easily, even in few minutes. These are transfers of financial assets, loans, bonds and receivables. Labor as a special form of natural capital assets or the ability of a human being is a relatively mobile factor of production and is conditioned by the allocation of production resources, differences in economic development between countries, the level of education, differences in individual capabilities of human capital, characteristic for each individual.

Agricultural land, as an integral part of total land or part of total natural resources, represents a resource with a fixed offer. Natural resources are bound to the borders of a state whose territory they make and are one of the essential constituent elements of the existence of the state. Land, i.e. the territory along with population and sovereignty make the three interrelated preconditions for the constitution and existence of a community organized in the form of a state. Agricultural land as a fixed natural, production and existential factor is defined as inherited natural capital asset. From the economic point of view land as a natural resource and

natural capital asset may be considered as total fixed assets. Agricultural land as the subject of market transactions does not change its market position. However, as a factor of production it is subject to the change of ownership over it, depending on national or regional regulations. The change of title rights between citizens and legal entities within individual countries is most often liberal with certain anti-monopoly restrictions.

There are no defined property rights over certain parts of land, forest ecosystems and biodiversities that enjoy special protection. These are areas that represent special natural values and ambiences such as national parks, nature reserves, special protected areas, waters, ponds, forest ecosystems. In these cases, these are common natural assets (Ostrom, 2006) whose survival is protected by special customary norms or state regulations.

The explanation of the method by which the price of agricultural land is formed requires a complex approach and cannot be reduced only to the forms of the standard model of supply and demand. A number of factors influence the formation of prices of agricultural land as a natural asset, that is, natural capital asset. It may seem that the prices of agricultural land reflect the changes in supply and demand for agricultural land as a natural resource. However, they are determined indirectly and depend on the demand for agricultural land products. According to the facts mentioned above, the price of aricultural land depends on the changes in supply and demand for goods generated from production processes, which take place alongside the combination of the use of natural capital assets (agricultural land) and fixed i.e. created capital. Fixed or created capital (technology, innovation, financial assets) significantly affects the deformation of prices of agricultural land as a natural resource. Regarding the use of created, i.e. fixed capital and agricultural land as a natural resource (capital), the priority is given to the created capital in relation to natural resources. The consequence of this approach is can undisputedly be interpreted, as follows: if prices of agricultural products grow, the market price of agricultural land increases and vice versa. The standard matrix for displaying changes in the impact of supply and demand on the prices of agricultural products is logical and satisfactory at first sight. However, it has a limited value in explaining the change in the price of agricultural land. The limitation is due to the fact that the total supply of agricultural land as a natural asset or natural capital asset is fixed. The supply of agricultural products resulting from the use of agricultural land is variable and depends on a number of other factors. In addition to the application of technological innovations and improvements arising from agri-technical measures, restrictions also arise because agricultural production in developed countries is stimulated by a series of economic policy measures.

In particular, this applies to direct and indirect subsidies. Changes in the use of natural capital depend on the application of technology and innovations in the processing of agricultural land. The question arises whether it is theoretically and methodologically acceptable to observe agricultural land exclusively as any other created capital. This controversy is discussed in this paper. Unlike agricultural land where its economic value is derived from the market effects of products obtained from the use of that resource. The value of protected natural resources, i.e. common goods, does not have any implicit values. It has general social value and is most often measured indirectly with the application of subjective considerations, usefulness and readiness to pay or willingness to accept it.

In addition to the introduction and conclusion, the paper contains literature review, the theoretical and methodological aspects as well as the empirical analysis of the prices of agricultural land in Serbia.

2. LITERATURE REVIEW

Katić, Simonović (2007) analyze the Law on Agricultural Land of the Republic of Serbia from 2006. These authors state that agricultural land is a basic, irreplaceable and non-renewable factor of agricultural production. Katić, Simonović (2007) consider that agricultural land is of a crucial importance for the survival and development of a particular community. Plantinga et al. (2002) determine the value of agricultural land at the national level for the United States. Bastian et al. (2002) also determine the value of agricultural land taking into account ecological conditions. Planting, Miller (2001) explore the value of agricultural land as well as the value of the rights for future land development.

Paraušić, Cvijanović (2014) analyze agricultural holdings in the Republic of Serbia according to their economic size and present them in a comparative analysis with selected European Union (EU) countries. These authors note the extremely low economic power of domestic agricultural producers in comparison with farmers in developed EU countries, which initiates proposing of the measures and activities aimed at their economic empowerment and creating a sustainable competitive advantage on the domestic and foreign markets. Lovrinčević, Vizek (2008) analyze the prices and rent of agricultural land in Croatia and other EU member states from 2001 to 2006. Renwick et al. (2013) examine the potential impact of the agricultural and trade policy reform on the use of land throughout the EU, focusing on the issue of land abandoning. Grbić et al. (2016) analyse contemporary trends in agriculture of European Union.

Pejanović (2009) considers the development problems of agriculture in the Republic of Serbia. The author analyzes the importance of agriculture in the Serbian economy, the contribution it provides through the foreign trade exchange of agricultural products. Pejanović (2009) points out six groups of problems in agriculture in the Republic of Serbia: (1) unfavorable agricultural structure and non-organization of commodity producers; (2) the unregulated turnover of agrarian products; (3) non-competitiveness; (4) the inadequate role of the state; (5) demographic problems of the agricultural population; (6) the impact of the global economic crisis. Pejanović (2007) analyzes the concept of development of sustainable agriculture in the Republic of Serbia. This author believes that this concept is potentially the best solution for the Republic of Serbia. Pejanović (2007) states that the concept of developing sustainable agriculture goes along with the modern European model of agricultural development.

The term ecological agriculture implies a specific system of sustainable management in agriculture with the aim of producing healthy foods, that is, satisfying the appropriate social and household needs while preserving natural ecosystems and landscapes (Pejnović et al., 2012). Kljajić et al. (2012) consider the land as an ecological factor of agricultural production in Serbia. Therefore, these authors cite the types of land in the Republic of Serbia, the rating classes, the structure of the land use, the causes of degradation, the flooded areas and the areas defended from the floods, as well as the main harmful processes that take place in agricultural land, the main polluters of land and finally the basic protection measure and the strategic goals of sustainable land use. Pejnović et al. (2012) explore the problems and possibilities of development of ecological agriculture in Croatia from the perspective of ecological producers. The results of the survey by these authors show that this form of agricultural production in Croatia faces numerous problems and is still at a low level of development. Ecological agricultural production in Croatia is analyzed by Puđak, Bokan (2011) and Petljak (2011). Milanović, Cvijanović (2009) analyze the problems of sustainability[1] and the possibility of economic evaluation of agri-ecological resources. Subić et al. (2005) consider that economic activity in agriculture is directly and indirectly related to the land, as its basic means of production and an important element of agricultural capital. Subić et al. (2005) state that the land is not only the basic factor of production, but also the basis of food safety for the population; it is the most valuable natural resource, which directly influences the development of rural communities and the survival of a rural family.

[1] Sousa Andrade (2007) explains mobility of capital and external sustainability of the Portuguese economy.

Alonso (1964) develops a general theory of soil values and land use in cities and regions. Namely, Alonso expands the theory of renting, which is explicitly formulated only for agriculture, to urban area. This author shows that the rent theory is complex and includes variations in the size of location, income, profits and other costs. Alonso (1964) includes mathematical models on the theory of renting and the location and density of residences and firms, agricultural rent and uniform land value structure as well as the use of land in urban and rural areas. Capozza, Helsley (1989) analyze the basic land prices and their growth in urban areas. Namely, these authors consider that the forecasting of urban land prices has four components: the value of renting agricultural land, the cost of conversion, the value of accessibility and the expected increase in revenue in the future, the growth premium. Shi et al. (1997) combine models for the value of agricultural land and those for urban areas. While Hardie et al. (2000) use the land-rent models, including farms, forests and urban land.

Plantinga, Miller (2001) explore the value of agricultural land and the value of the rights of future land development. These authors developed the model of the value of agricultural land that was derived from the theoretical model of the market for developed and agricultural land. Plantinga, Miller (2001) showed that the data from their application are consistent with the theory of the value of agricultural land. Therefore, their findings have implications for future research on the value of agricultural land.

Drašković et al. (2014) analyze the importance of protected natural areas for the sustainable development of Serbia, while in Drašković et al. (2013) the problems of the value and valuation of natural resources and their cost-benefits are considered. Drašković (2012) discusses the economic aspects of environmental policy in Serbia, while in Drašković (2013) management of resources in protected areas in Serbia are discussed. Drašković (1998) considers the economy of natural capital, valuation and protection of natural resources. Minović et al. (2016) makes a model and observes the behavior of prey-predator species. Drašković, Minović (2012) are trying to determine the external costs in ecological systems as parameters of sustainable management. Serbian natural resources and their influence on the development are studied by Drašković, Minović (2013).

3. THEORETICAL AND METHODOLOGICAL ASPECTS

Since the end of the 19th century modern economics has been focused on studying, analyzing and discovering the ways of economic functioning of the created fixed and financial capital and their mutual relations. The analysis and observation of natural assets as natural capital has not been the focus of economic research. The

exceptions are the areas of ecological economy, which deal with complex relations between economy and environmental protection. The subjects of research of the ecological economy are the following: sustainable development, environmental damage, trading pollution rights, measures of economic policy related to 'polluter pays' and damages that arise from global warming and climate change. Except for environmental protection economics, economic science has not explored the issues of the economic importance of natural capital, set by Ricardo (1821, 2012). Contemporary economic theory, unlike the classical one, neglected to consider complex issues related to the mutual relationship between created and natural capital. Nowadays, natural capital and natural capital assets in the prevailing economic theory are treated exclusively regarding their utility by applying fundamental models of supply and demand analysis for rare or scarce resources. In theory, the trends in economic science have differentiated in relation to the problem of the theory of value in two directions: the first, which is dominant today is the marginalist, i.e. the subjective theory; the second, work theory of values originates from the classical economic theory. The work theory of values sets human labour at the center of attention and considers it the creator of values. This theoretical concept was abandoned since the first decades of the twentieth century, after the socialist revolution in Russia. In the socialist countries, the model itself is simplified and ideologized. Both approaches marginalized the role of natural resources as a constituent of commodity value.

This paper deals with agricultural land as a natural capital asset. For the needs of the analysis, a methodological classification of capital forms is made as follows: natural capital, human capital and created capital. The common characteristic of the first two capitals is inherent in nature. Natural capital in a wider sense represents the entire natural wealth that has been created independent of human activity, regardless of being the object directly used in the production process. Also, a human being is *de facto* a being of nature. Natural capital includes continual resources, solar energy, gravity force, wind power, circulation of air and water in various states. Natural capital includes non-renewable and renewable resources, flora and fauna, mineral resources and hydrocarbons. Human capital is actually a human being as a natural and social being, who is educated, who carries cultural heritage and the ability to innovate through interventions within natural laws. Created capital includes cumulative fixed and financial capital assets. The origin of fixed capital lies in the activities of previous and current generations of people. It covers the infrastructure, buildings, machines and equipment. Financial capital represents cumulative money and financial assets, or financial capital.

The influence of natural capital on the creation of economic values has remained out of the interest of contemporary economic theory. The role of natural resources

is analyzed from two points of view. The first refers to the issues of economic aspects of environmental pollution and economic implications arising from climate change. The second group of issues relates to problems related to the dynamics of natural capital exploitation, i.e. renewable and non-renewable natural resources. Natural resources are understood as natural capital assets and as a condition for the emergence of commodity and, therefore, market values. It follows that natural capital assets are viewed as an important factor in the creation of commodity or market value.

It is necessary here to try to define the essential dimensions of the content of the terms such as natural wealth, natural values and natural capital assets. Natural wealth is broader terms and includes all goods created independent of human activity. These goods are "natural gifts". They consist of the following: land, geological heritage, air, sea, oceans, and therefore all waters, plant and animal species as well as renewable and non-renewable, as well as continual resources. Natural wealth assumes features of natural values, depending on how and in what way the human being manages to discover and use the laws of nature. Men wanted to subdue them to their civilization and economic progress and make them serve their needs. Men have managed to subdue many natural resources with the aid of technological innovations and bring them into the form of useful power and ready for human use.

Natural wealth, when used as production resources and consequently in economic activities, become natural capital assets and are later transformed into a created capital. This process is conditioned by the development of human knowledge and the discovery of new production technologies. Depending on the technological development, some natural assets were inaccessible to human productive activity prior to the emergence of technological innovations. After the discovery of new technological knowledge, natural assets become economically useful production resources. They become natural capital assets, as a source for the creation of created or produced capital. Part of natural assets or natural values such as protected natural areas, national parks, ambiental areas have ambiental but not economic value due to legal constraints. Natural wealth, suitable for economic exploitation under the conditions of defined title rights and market oriented production, become the means of exchange of goods. Obtaining this feature they get a market price. Innovations and technological advancements based on them are of the fundamental importance for the transformation of the natural wealth, i.e. natural capital into the market capital. Technological advances based on scientific knowledge and discoveries allow the elements of untouched nature to be transformed into goods, giving it market value in the context of supply and demand.

Firstly, the land represents a natural good and a natural resource that, through human usage, has been transformed from natural capital to market capital, i.e., economic capital. The process was developed in two ways. The first arises and is based on the fact that the land as a natural wealth contains a lot of natural resources. They are influenced by other resources, the power of the sun and the natural resources of the influence of the climate and the humidity as well as the heat, and as such represent an environment in which nature independent of a man, creates flora and fauna as the material and the substance necessary for human existence. Prior to any organized production activities of human beings, food harvesting and hunting represent the primary use of raw materials for immediate existential consumption. Human activity was reduced to the amount of time that is needed to carry out the activity of collecting or the activity of hunting.

The other method related to land refers to the transformation of land as a natural capital asset into the created capital, on the basis of products obtained from the use or processing of agricultural land. Products obtained from the use of land as natural resources become commodities. Goods are nothing but material substances obtained from the nature, which become created capital. Economic relations are developed on them, which in the following iterations of economic development lead to the emergence of money capital. Money capital is created through the exchange of products between different social groups within the division of labor. Land as a natural wealth, i.e. natural capital asset, represents the basis from which capital is created, a market product that, in the competition of production, exchange, supply and demand, receives a monetary form. Land as a natural wealth without economic function cannot be defined as natural capital asset because it is not a commodity yet and has no essential characteristics of the created capital.

In order to avoid confusion in understanding the concepts, the created capital represents the capital that emerged from the economic or productive activity of a human being, and which has become the subject of market transactions. Agricultural products derived from the use of land as a natural wealth are created, i.e. produced capital and, through exchange, they acquire market value. Due to the historical development of mankind and the creation of institutions, title rights have been established over land as a natural wealth. The process took place through the growth of population and establishment of settlements at empty spaces, the conquest and division of rights over land within communities. The land as a natural wealth, under the influence of market relations, becomes a classical capital even though it is not created by men. Establishing the title rights over land as a natural asset results in the fact that land becomes the subject of market transactions. These transactions are carried out in the same way as in the case of created or produced capital. The land as a natural wealth is transformed into the natural capital asset by

the market economy. It gives him the character of buying and selling, regardless of the fact that the land itself has not been created as a product of any kind of human activity.

Agricultural land as a self-sufficient natural resource, after the negotiation of title rights, becomes natural capital asset and as such, regardless of the fact that it is not created by human labor, it is subject to free market transactions. Being the subject of supply and demand the land acquires derived market value under the conditions of competition[2]. Taking into consideration the historical context, it can be noted that different systems had different treatment of property rights over land (territory) in general and therefore over agricultural land. Regarding the consideration of the relationship between natural assets, natural and created capital, the issue of the irreversibility of created, fixed and financial capital into natural capital is not less important. In the previous part of this paper, some of the aspects of mutual relations between natural and created capital have been explained. Consequently, natural assets and natural capital, along with the creative work of human beings, are the source of the created fixed and financial capital. The emergence and dynamics of the production of fixed, created capital depends on the available natural resources, the development of the capabilities of human labor and technological innovations.

Agricultural land is a natural self-renewable resource that can be renewed with a combination of "resting" the land (restriction from exploitation) for a certain period of time, as well as financial investments in irrigation, maintenance of biodiversity, applying natural methods of self-replenishment of land. A wider aspect of the protection of agricultural land is of global character and refers to the reduction of negative effects of economic activity on climate change.

Land in general, as well as forests, waters, lakes, oceans and the atmosphere, are natural self-renewing resource. All of them are directly or indirectly an indispensable condition for the economic activity of a human being. Land as a complex and diverse geological structure serves as a source for the production of fixed assets and financial capital. Products based on natural capital become marketable goods and are subject to the laws of supply and demand and derived market values or prices.

[2] This paper does not deal with the aspects of changes in market prices of agricultural land on the occasion of the change of its purpose from agricultural land into a construction site.

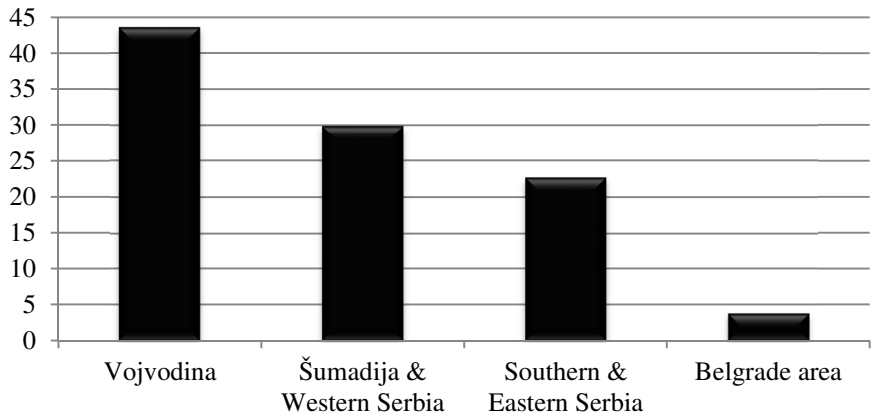
4. PRICES OF AGRICULTURAL LAND IN SERBIA

In accordance with the standard theory of supply and demand, the prices of agricultural land are conditioned and change depending on the quantities offered as well as the trends in demand for agricultural land. In fact, supply and demand for agricultural products, on the basis of which the prices of products obtained from the use of agricultural land are formed, are those that determine the fluctuation of agricultural land prices as a natural resource. Along with the change in prices of agricultural products, important factors affecting the prices of agricultural land are the following: fertility, its vicinity to road and transport infrastructure, the size of the land and state subsidies that are allocated per hectare. The prices of agricultural land in urban settlements are higher, and are conditioned by the possibility of building residential and commercial buildings.

In 2017 in Serbia subsidies amounted to about RSD 4,000 per hectare or about 34 €/ha. The mentioned amount of subsidies per hectare refers only to agricultural holdings that have up to 20 ha. Surfaces that exceed 20 ha are not covered by subsidies. Total state incentives for agriculture in 2017 amounted to RSD 29.28 billion or approximately € 244 million. The calculation of total subsidies includes subsidies given per hectare to agricultural holdings and they are increased by special subsidies which include the following: incentives for cultivation of certain crops, cattle breeding, premiums on milk production and purchase of agricultural machinery and equipment. The total sum of all subsidies on an annual level is approximately € 24 million. If divided by the total cultivable area of agricultural land in Serbia of 3.8 million ha, the calculated average amount of subsidies totals € 64.21/ha. If surfaces of about 0.4 million hectares that are not used and for which subsidies cannot be obtained are subtracted from the total area of agricultural land, it is estimated that about 3.4 million hectares are used.

Analysis of the above data shows that, in comparison to the used agricultural land, the total subsidies per hectare, on average, amount to about € 72/ha. Average subsidies per hectare within the European Union countries are far higher than in Serbia. They go over € 250/ha or it can be said that they are 3.47 times higher than in Serbia. In comparison to the European average, Serbia belongs to countries that have relatively abundant agricultural land as a natural wealth. The structure of total agricultural, forest and other land is relatively satisfactory. Namely, out of the total of 5.4 million hectares, agricultural land covers 3.8 million hectares or 72.2%, out of which 64.3% is used, and 7.9% of it is not used. Forest land is slightly above 1 million hectares or 19.1%, and the rest is about 462 thousand hectares or 8.7% (Statistical Office of the Republic of Serbia, 2012).

Figure 1: Dispersion of the total agricultural land (in %) in Serbia by regions



Source: Authors' calculation based on Statistical Office of the Republic of Serbia (2012).

Out of the total available agricultural land in Serbia, about 252 thousand hectares is state owned which is about 6.63%. It is located mainly in the region of Vojvodina. State land is leased out by local self-governments. Depending on the location and quality of the land, the average rent is about € 191/ha. In Vojvodina, the average rent is higher and ranges from 240 to €390/ha. Higher lease prices for agricultural land in Vojvodina are conditioned by the size of fields, the position and fertility of the land.

In assessing the value of agricultural land, in addition to market indicators on realized transactions, the calculation may be applied based on the discounting of rents from the leased land. The rents for cultivable agricultural land of higher fertility depending on location and quantity offered in Vojvodina are higher than in other regions of Serbia. Western and Eastern Serbia is characterized by less fertile land than Vojvodina and Šumadija.

If the amount of lease is denoted by *r*, and a discount factor with *i*, then the value of the land *x* on the basis of discounting infinite lease annuities can be calculated as follows:

$$x = \frac{r}{i} \qquad (1)$$

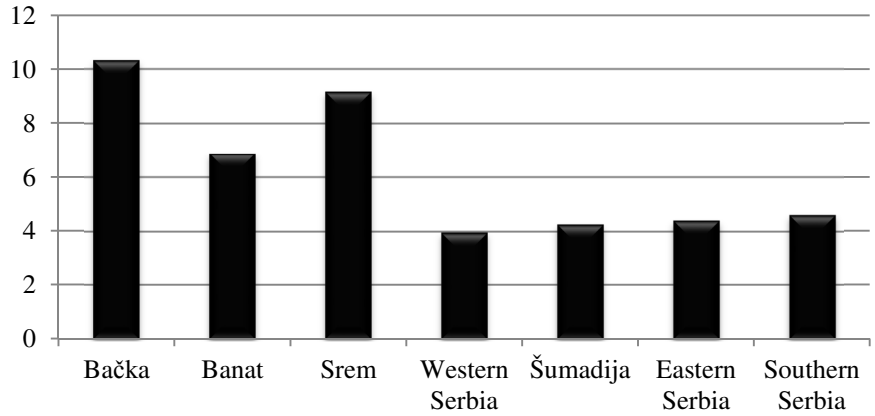
The average rent per hectare of agricultural land in Vojvodina is the mean value calculated from €240 to 390/ha or €315/ha. If the discount factor *i* is further

defined by the reference interest rate in Serbia in 2017 in an average of 4%, then, having applied the mentioned parameters in equation (1), the average value of one hectare of land is obtained and amounts to x = € 7.875/ha is obtained.

Less fertile land is rented for a lower price and with certain differences related to the cultivation of certain profitable crops, such as raspberries in Western Serbia, the amount of lease may range from the zero lease for cultivating land to protect it from decay, to the maximum rent of €150/ha in Eastern Serbia. Taking the lease amount for leasing agricultural land and applying the same discount rate of 4%, the value of agricultural land x = € 3,750/ha is obtained. The lease amount is variable in the long term and depends on the movement and stability of prices of agricultural products. The discount rate, as the reference interest rate, is also variable over the long term and depends on monetary and credit developments in the economy of a country.

The described procedure was applied for the calculation of the average based on the empirical data on the movement of the amount of rent, i.e. the lease paid for the use of agricultural land in Serbia in 2017. Certainly, the amounts of lease, and therefore the prices of agricultural land determined on the basis of the methods described above, applied to the micro location in Serbia, show that in certain depopulated rural areas in Western, Eastern and Southern Serbia, such prices are very low. Hence the value of the land using this methodological procedure cannot be calculated. There is also no market demand for the purchase of land in these areas.

Figure 2: Prices of agricultural land (€/ha) obtained in market transactions by the regions in Serbia in 2017



Source: Authors' calculation based on data provided by The Registry of real estate turnover, The Republic Geodetic Authority (2017)

For the purpose of this analysis, a sample of transactions with agricultural land in Serbia has been defined. 159 transactions were analyzed in seven regions in Serbia, where the turnover of 167 hectares of agricultural land was made, with the average transaction of 1.05 ha. The selection of data excluded some of the illogical values from the sales contracts that showed enormously low prices. This is due to the intention of the buyer and seller to display low transaction price in order to pay the lowest possible tax.

Based on the presented data, the conclusion can be drawn that the highest market prices of agricultural land are recorded in Vojvodina ranging from € 6,9 to 10,3 thousand/ha. The lowest prices of agricultural land are recorded in Western Serbia and amount to € 3.9 thousand/ha. The average price in Serbia is € 7,490/ha. The average prices of agricultural land within the EU exceed € 20,000/ha. In some areas they reach over € 50,000/ha. From the data presented above, it can be concluded that the value of agricultural land obtained by the application of the yield method from the net lease is far below its market value. Regarding market prices recorded through supply and demand on the market, the supply is relatively low, while the demand is continuous in the areas where the land is more fertile.

5. CONCLUSION

The application of standard economic methods of supply and demand does not provide a sufficiently reliable basis for explaining the value of natural wealth and natural capital assets. Agricultural land represents a special segment of natural values, i.e. natural capital assets and serves as a resource for agricultural production. Modern economic science marginalized the aspects of the analysis of agricultural land as a natural factor, which, in addition to the created fixed and human capital, participates in the creation of the market value of goods. The concept of subjective value theory is theoretically dominant which explains economic processes through supply and demand and the concept of consumer surplus. The commodity character and the formation of agricultural land prices are based on the realized demand for products produced on and from natural resources. Along with utilization of human and created capital, natural capital has the capacity to generate final agricultural products whose market price is an indicator for the revaluation of agricultural land. The specific character of agricultural land as a natural capital requires that the price formation should be observed from several points of view. Prices of agricultural land in Serbia in comparison with prices in developed countries are significantly lower. It is very important to develop methods for evaluation and preservation of natural diversity found in protected natural areas, nature reserves and national parks. In evaluation of these natural assets, methods based on standard procedures for calculating the market

equilibrium of supply and demand cannot be applied. In fact, natural assets do not have explicit economic value.

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