Determinants of competitiveness of agricultural producers in the Republic of Serbia

Violeta Babić*, Vera Rajačićb, Ljiljana Stankovićb

a University of Niš, Faculty of Agriculture in Kruševac, Serbia
b University „Union - Nikola Tesla”, Belgrade Faculty for Business Studies and Law, Serbia

Abstract

In Serbia, agriculture is a traditional economic sector, with a competitive advantage whose components are agricultural producers themselves, regional specialization, trade agreements with the EU and the Russian Federation, EU funds, organic production, domestic market, free land in Serbia, and agricultural products themselves - fruits, vegetables, industrial plants and cereals - which account for almost a quarter of total exports. Favorable climatic conditions and natural potentials are a comparative advantage of Serbian agriculture, but they are not sufficiently used, so they represent a weakness. The quality of agricultural products, the consolidation of agricultural holdings, which would directly affect the reduction of costs and prices, marketing and management are determinants of competitive advantages. Their improvement would significantly increase sales in target markets, increase export activities, and direct the agricultural economy and the overall economy of Serbia through development.

Keywords: agriculture, competitiveness, product quality, marketing, management

1. Introduction

Competitiveness is a measure of the success of individuals, business entities, economic sectors or the economy as a whole. Whether an economic entity, economic sector or economy will be competitive on the world market depends on various factors and the possibilities and ways of combining them. It is the ability of an economic entity to maintain and develop in the long run in the conditions of international competition, and the economy to provide an increase in standard of living and a reduction in the nation's poverty. It is the ability to change comparative advantages into competitive advantages - changes in quantity into quality.

The Serbian economy and Serbian agriculture have significant comparative advantages that can be transformed into competitive advantages. Measures to improve competitiveness can influence the determinants of competitiveness of agricultural producers and transform quantity into quality. Thus, agricultural production and the overall economy would achieve better
results, considering the significant contribution of agriculture to overall economic growth and development.

The paper first points to competitiveness as a measure of success of each individual business entity, economic sector or economy as a whole, with the need for long-term observation of supply and demand factors, as well as internal and external factors. Through the analysis of the Global Competitiveness Index, the authors point out the unfavorable position of Serbia in the world economy, pointing out the elements in which there is room for improvement. Serbian agriculture has weaknesses and shortcomings, but it has the strengths and opportunities to improve competitiveness. Institutional support and support programs of the competent Ministry certainly contribute to that.

2. Competitiveness as an indicator of performance

Competitiveness is an indicator, a measure of the success of the national economy, economic sector, individual economic entity, or enterprise. More competitive on the market are those economic entities that are more successful, more profitable, more innovative, more productive, more economical, more efficient, more creative ... more capable of creating value. Such economic entities have a competitive advantage, which depends on many different qualitative factors, which can be influenced by the economic policy of the state or the business policy and strategy of the company itself. Unlike competitive advantages, comparative advantages are based solely on available natural factors and resources. It is necessary to combine them with technique and technology, innovative solutions, modern knowledge and achievements in science, organization, marketing and other qualitative factors, because only such comparative advantages will be in the function of increasing the competitiveness of individual economic entities and the economy as a whole.

Competitiveness is the country's ability to produce products and provide services in the international market, with an increase in income and a long-term improvement in the living standards of the population. The fourth industrial revolution and the process of globalization of the world economy create new opportunities for improving international competitiveness, but also increasingly complex challenges and requirements, especially in the field of strengthening and improving the innovation capacity of countries as one of the key factors of competitiveness and long-term sustainable economic development (Stojanovic, 2021).

The country's ability to produce goods changes over time, as a result of changes in various factors, including technology and human capital. Therefore, the comparative advantage has a pronounced dynamic dimension (Obadi, 2016).

2.1. Competitiveness factors

Regardless of whether competitiveness is observed at the micro level (level of individual economic entities) or meso level (level of economic branch) or macro level (level of national economy as a whole) it is affected by:
- factors on the supply side (scope, price, quality, production and export structure);
- factors on the demand side (economic trends in the world, customer behavior and desires, market trends);
- factors that lead to the merger or rejection of supply and demand (product quality and technological properties (standards), foreign trade policy of importing and exporting countries, method of payment, delivery deadlines, organization of market performance, marketing).

Macroeconomic trends, public sector, infrastructure, legal environment, administration, education and financial system are external factors of competitiveness, and internal factors are related to human resources, innovation, quality, management and productivity. All these factors can significantly affect prices, but there are also situations when they do not affect prices, which is why they can be classified in the group of price or non-price factors of competitiveness (Filipović & Petrovic, 2017).

<table>
<thead>
<tr>
<th>Table 1. Factors of micro and macro competitiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Micro competitiveness</strong></td>
</tr>
<tr>
<td>Lower business costs</td>
</tr>
<tr>
<td>Quality, price</td>
</tr>
<tr>
<td>Human resources</td>
</tr>
<tr>
<td>Factor productivity growth</td>
</tr>
<tr>
<td>Sales trends in the domestic and international markets</td>
</tr>
<tr>
<td>Strategy</td>
</tr>
<tr>
<td>Innovation, research and development</td>
</tr>
<tr>
<td>Market share and change (increase) in market share</td>
</tr>
<tr>
<td>Ability to maintain and develop the company in the long run in the conditions of international competition</td>
</tr>
</tbody>
</table>


M. Porter significantly contributed to the theory of international enterprise competitiveness and competitiveness of economic sectors, identifying four basic determinants (variables) of competitive advantage, which are interrelated and conditioned, thus forming a whole, known as the diamond model (Porter, 1998a). These are: factor conditions - human resources, physical resources, capital resources, knowledge resources, infrastructure; domestic demand and its quality - customer...
needs, size of domestic market, growth and rate of domestic demand; related and supporting industries - suppliers, current and future subcontractors; strategy, structure and rivalry of companies - conditions under which companies are established, relationship with competitors, competition in the domestic market, the existence of clusters - groups of related supporting industries in the country. Also, Porter identifies two additional variables - state administration (the role of the state) and opportunities (chances).

The Global Competitiveness Report was first presented in 1979, and provides insight into the assessment of the main drivers of productivity and long-term economic growth. In the global report on competitiveness trends from 2018, a significant revision of the current methodology was used, which was used to assess the competitive position of economies. Competitiveness is still monitored on the basis of 12 pillars, but their position, structure and method of calculation have changed, as well as the names.

In 2016, the Serbian economy was ranked better than in 2011 in most of the observed pillars, and the number of points (score) generally recorded a slight increase. Only the position is worse in health and primary education, innovation and financial market development.

The Global Competitiveness Index, in 2019, shows that the Serbian economy was better ranked, that it was more competitive than in 2011 and 2016. However, compared to 2018, there is a decline in competitiveness in seven of the twelve observed pillars, which is shown in the next table. Despite the fact that there are opinions that competitiveness indicators before 2018 and after the modification are not comparable, due to significant changes in methodology, it remains common to observe the competitiveness of economies through factors that are key factors of productivity, which is considered the most important determinant of long-term economic growth.

Based on the data of the World Economic Forum, which show that Serbia is ranked mainly in the second half of the ranked (141) world economies, we can state that our country is lagging behind. Serbia ranks worse in the areas of infrastructure, ICT, health, labor and goods markets, the financial system and innovation. What is encouraging is the relatively favorable position of Serbia in terms of innovation capacity, which leaves room for Serbia to make significant and faster progress in terms of improving international competitiveness.

Porter's diamond model emphasizes the importance of both internal and external sources in creating a company's competitive advantage. What happens inside companies is important, but the business environment outside companies also plays an important role (Porter, 1998b). Porter views the company's innovation activities as the main internal source of achieving and maintaining competitiveness. Innovation is viewed very broadly, including new technologies, new product design, new production process or new marketing approach or new method of training (Porter, 1990). Innovation enables companies to penetrate completely new markets, to achieve international leadership, and for the innovation process, as a process of continuous improvement and upgrading, to be part of the company's strategy (Porter & Locations, 2000). In terms of factor conditions, Porter argues that access to specialized and advanced inputs (such as highly skilled human resources or scientific and technological infrastructure) leads to competitive advantage in knowledge-intensive industries. These factors of production are scarce and expensive, but they can have a stimulating effect by putting pressure on companies to innovate in order to overcome the lack of these factors.

Demand conditions affect competitiveness through three mechanisms. If the domestic market is large, demanding customers will put pressure on companies to meet high standards and introduce innovations, and the demands of domestic customers should anticipate the needs of foreign customers. According to Porter, such a large domestic market is a great support for international competitiveness. Related and supporting industries and relationships between companies and suppliers are key to innovation and improvement, as they help companies establish new methods and technologies. A solid strategy and rivalry result in constant pressure on each company to offer competitive products and improve quality.

The names of GCI pillars from 2018 are: institutions, infrastructure, adoption of information and communication technologies, macroeconomic stability, health, skills, product market, labor market, financial system, market size, business dynamics and ability to innovate. These 12 pillars are classified into 4 related categories (supportive environment, human capital, market and innovation ecosystem), and by 2018 these were three related categories (factor-driven economy, efficiency improvement and innovation, and sophistication).

Porter's Diamond Model

The goal of every economy, including ours, but also agriculture as an economic sector, is to increase exports, which contributes to the realization of higher foreign exchange inflows and the creation and maintenance of macroeconomic stability. The quality of agricultural products, as a non-price factor, thus becomes a necessary factor in achieving a competitive advantage. The offer of high quality and safe products with reasonable prices, innovation and flexibility of the offer, contribute to a greater share of agricultural exports in total exports, which has significant economic effects.

3. Characteristics of Serbian agriculture

Comparative advantages, primarily geographical position, characteristics of relief and climate, have determined that Serbia is traditionally an agricultural country. Agriculture is a very important economic sector, and the development of the food industry is directly related to the growth of primary agricultural production.

Agriculture participates in the creation of GDP with slightly more than 20% (Gulan, 2018), and if we take into account that the capacities of the processing industry directly depend on agricultural production, then this share increases and ranges from 40-43% (Mirkov, 2018). Agriculture participates in exports with about 20%, but the structure of exports is unfavorable, because primary agricultural products (fruits, vegetables, cereals) dominate - 75%. In the structure of imports of agricultural products, primary agricultural products (raw coffee, southern fruits) are also dominant - 62%. (Statistical Office of the Republic of Serbia, 2018). Today, when the world economy is in trouble caused by the COVID-19 pandemic, a significant positive contribution to GDP is given by the industrial sector, and a positive trend was achieved by agriculture (growth rate, compared to the same period last year, of 4.5%) (Statistical Office of the Republic of Serbia, 2020)

In the structure of agricultural production, plant production dominates - 70%, and is characterized by low yields and a large number of small producers. Livestock production is represented by 30%, but is characterized by a constant decline in the number of livestock.

In addition to being a significant factor in overall economic development, agriculture is the driver and carrier of rural development. Its share in total employment and the reduction of unemployment is significant, which in recent years has reduced unemployment to below 10%. The share of the agriculture, forestry and fisheries sectors in total employment is at the level of 15-16% of total employment. (Statistical Office of the Republic of Serbia, 2014) At the same time, agriculture is an important source of income for the majority of the population, as 1/3 of the total population lives from agriculture. Another negativity is noticed here - the average age of the head of the family farm is 59 (Statistical Office of the Republic of Serbia, 2013)

The structure of agricultural holdings in Serbia is dominated by farms with an area of up to 5 ha (77%), 8% are farms with an area of over 10 ha, and only 0.98% of

| Table 2. Index of global competitiveness of the Serbian economy, in the period 2011-2019. |
|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Factor-driven economy               | 93      | 4.1     | 74      | 4.5     | 179     |
| Infrastructure                      | 120     | 3.2     | 104     | 3.4     | 103     |
| Macroeconomic stability             | 109     | 4.0     | 72      | 4.6     | 139     |
| Health and primary education        | 50      | 6.0     | 52      | 6.0     | 109     |
| Improving efficiency                | 93      | 3.7     | 82      | 4.0     | 107     |
| Higher education and training       | 74      | 4.0     | 59      | 4.6     | 98      |
| Commodity market efficiency         | 125     | 3.6     | 110     | 4.0     | 112     |
| Labor market efficiency             | 102     | 4.1     | 92      | 4.0     | 114     |
| Financial market development        | 94      | 3.8     | 101     | 3.6     | 119     |
| Technological preparedness          | 80      | 3.4     | 72      | 4.2     | 105     |
| Market size                         | 72      | 3.6     | 74      | 3.7     | 106     |
| Innovation and sophistication       | 107     | 3.0     | 104     | 3.3     | 108     |
| Business sophistication             | 125     | 3.2     | 110     | 3.5     | 110     |
| Innovation                         | 88      | 2.9     | 95      | 3.1     | 111     |

agricultural holdings have an area of over 50 ha. (Statistical Office of the Republic of Serbia, 2013) The average size of an agricultural farm in Serbia is 5.4 ha (Statistical Office of the Republic of Serbia, 2013), in France 58.7 ha, in Germany 58.6 ha, in Great Britain 92.3 ha, and the EU average is 16.1 ha. (Eurostat, 2013) The extent to which the agricultural potential in Serbia is unused is shown by the fact that in Serbia, 1 farmer feeds 5 inhabitants (Statistical Office of the Republic of Serbia, 2014), in the EU, where about 9.5 million workers are employed in agricultural production, 1 farmer feeds about 50 inhabitants, and in France 80 inhabitants. (Eurostat, 2022).

4. Competitiveness of agricultural production in Serbia

Although we can say that the Serbian economy has comparative advantages, we still cannot boast of competitive advantages, neither for the economy as a whole (macro-competitiveness), nor for agriculture as a separate activity, nor for individual agricultural producers (micro-competitiveness). Factors of competitiveness that can be influenced are primarily the quality of agricultural products, better utilization of production potentials, but also the improvement of management and marketing of agricultural products and agricultural enterprises.

The quality of agricultural products is a non-price factor of competition, but the optimal ratio of price and product quality must certainly be made. With an innovative and flexible offer of high-quality health safe products, the level of customer satisfaction will be at a higher level. The growing trend for "healthy food" implies certain standards related to production conditions and quality, while from the consumer's point of view it is often an individual and psychological category. The consumer does not buy "healthy food" only to satisfy hunger, but also for other motives - health, tradition, prestige … (Milisavljević, 1995) As the needs, desires and demands of consumers are in the center of attention of both producers and trade, it is necessary that the quality of agricultural products be an element that will significantly influence the purchase decision. This will have positive economic effects on agricultural producers themselves, and through an increase in export activities and effects on overall economic growth and development.

Insufficient utilization of production capacities in Serbian agriculture is one of the elements that negatively affects competitiveness. Labor productivity and property size are directly correlated. The problem of weak utilization of production capacities directly affects the increase of production costs, which directly results in an increase in prices and a decrease in competitiveness on the world market. As price is a basic element of competitiveness, this is a significant weakness of Serbian agriculture, which is why in the future we should work on increasing the share of large producers, both in total agricultural production and in exports of agricultural products.
In modern business conditions and the process of Serbia's accession to the European Union, management and marketing are becoming an increasingly important determinant of the competitiveness of agricultural production. Agricultural production has a seasonal character, and the demand for food is constant, so conquering new markets, introducing new products and improving existing ones, improving process and product technology, permanent learning and acquiring new knowledge, innovations in healthy food, marketing mix, brand, geographical origin of products, as well as the improvement of the organization, contribute to achieving the ultimate goal, which is to attract new and retain existing consumers (Babic & Stankovic, 2018).

Marketing, as a determinant of the competitiveness of agricultural producers, also has several limiting application factors. This refers primarily to the fragmentation of agricultural holdings, which increases costs, the characteristics of agricultural products and their excessive supply, the separation of producers and consumers. It is necessary for manufacturers to appear on the market with a quality, innovative and functional product, with the appropriate price, which will be presented to potential customers with appropriate packaging. The ways of combining the instruments of the marketing mix are different, as well as the distribution channels and the ways of promoting the agricultural products that the producers will decide on (Kotler, 2006).

In the agriculture of our country, plant production is dominant, so the agriculture of Serbia has competitive advantages in the production of fruits (cherries, raspberries, apricots, plums, pears, peaches, strawberries), vegetables (peppers, cabbage, carrots), industrial plants (sugar beet, soybean) and cereals (corn and wheat). There are a lot of problems in the field of livestock production, so we are facing a decline in the competitiveness of products of animal origin. Regional specialization, free land, trade agreements with the EU, CEFTA and the Russian Federation, EU funds, exceptional opportunities for development and improvement of organic production as well as opportunities provided by the Danube as a waterway, are just some of the advantages that Serbia has, and which it should use in improving its competitive position on the world market. In order to improve the competitiveness of Serbian agriculture, it is necessary to carry out the following activities: (Tomic & Tomic, 2011)

- Improve the market of agricultural products and placement in foreign markets;
- Influence the reduction of monopolies on the demand side;
- Work on changing the structure of production in favor of production intended for export;
- Increase the role of the state - increase subsidies and premiums, increase the agricultural budget, stimulate investment in rural areas, increase foreign investment;
- Construction of irrigation systems, because Serbia has significant water resources, but their utilization is low;
- Education of the rural population;
- Application of new technologies;
- Preservation of available agricultural capacities and consolidation of holdings;
- Development of agribusiness and entrepreneurship;
- Application of standards in food production;
- Production high-end and high-quality products;
- Climate Engineering.

Having in mind the low competitiveness of domestic agriculture, underdeveloped rural economy and high rural poverty, we can talk about the need, advantages and contribution of cluster networking to the development of Serbian agriculture and building competitiveness. In this sense, through institution building, existing clusters would be more successful and at the same time create a favorable environment for the development of new clusters, which would lead to the creation of their sustainable competitive advantages and their greater recognition in domestic and international markets (Parausic & Cvijanovic, 2014).

The current volume and structure of agricultural production, high extensiveness, low productivity and inefficient organization are factors that limit the achievement of competitiveness of domestic producers and exporters in the international market. The impact of the cluster on the competitiveness of the involved members in which the cluster operates is emphasized in encouraging the growth of productivity and efficiency of enterprises and individual agricultural producers while reducing production costs. Cluster networking contributes to more efficient access to all inputs, especially specialized workforce, suppliers, technical-technological and market knowledge, information and ideas. The contribution of the cluster to strengthening the innovative potential of the involved members is especially significant (Mitrovic & Mitrovic, 2020).

Competitive Agriculture Project of Serbia, implemented by the Ministry of Agriculture, Forestry and Water Management in cooperation with the World Bank, in the period 2020-2024. year, aims to strengthen micro, small and medium agricultural producers and enterprises, which would improve agricultural production and competitiveness. The project provides direct support to individuals, holders of commercial family farms, cooperatives, entrepreneurs, micro, small and medium enterprises, but also vulnerable groups in the agricultural sector in Serbia: women, young farmers in vulnerable areas (underdeveloped/poor municipalities).

Beneficiaries can receive grants, in the amount of 50% of the total value of the investment, for the implementation of projects that will improve the agricultural production of farms and participate in the development of agricultural competitiveness in the Republic of Serbia. The project includes two basic incentive programs (Projekat konkurentne poljoprivrede Srbije, n.a.):

1. Support program to improve competitiveness and strengthen links within the market chain in the field of primary agricultural production and income diversification in rural areas.
2. Support program for improving competitiveness and links within the market chain in the field of purchase, processing and marketing of primary agricultural products, as well as improving the marketing of home-made products.

The project is being implemented in compliance with environmental measures and sociological principles. The project provides support to agricultural development institutions in the Republic of Serbia by working on capacity building and helping them reduce costs by using ITC technology, sustainable environmental access and effective results, and connecting farmers with banks and the market.

5. Conclusion

Agriculture is an extremely important economic sector in Serbia, considering its contribution to the creation of GDP, participation in foreign trade and employment of the total population of the country. The natural characteristics of the land, favorable climatic conditions and water resources represent a great potential of agriculture that can significantly contribute to the acceleration of the overall social and economic development of our country. Agriculture has a competitive advantage in agricultural producers themselves, regional specialization, trade agreements with the EU and the Russian Federation, organic production, as well as agricultural products themselves - fruits, vegetables, industrial plants and cereals - which account for almost a quarter of total exports. Livestock production is much less competitive than plant production, there is a decline in livestock, and the existing problem must be solved by systemic measures.

Improving the competitiveness of agricultural production and the competitiveness of agricultural producers themselves can be achieved by increasing product quality and enlarging holdings and total agricultural capacity, which would directly affect cost reduction and increase price competitiveness. Also, the other two elements of the marketing mix (distribution and promotion) are a significant factor of competitive advantage, and in modern business conditions require special attention. Improvements in the field of marketing, management and the organization of business are significant in order to achieve the expected level of sales in target markets, which affects the achievement of the overall business result. Serbia's agriculture has many opportunities, but also weaknesses, which can be mitigated and eliminated by measures to improve competitiveness, and the Serbian agricultural sector can be directed through development.

Clusters are one way to reduce costs and increase productivity and efficiency in agriculture. The Competitive Agriculture Project of Serbia is currently in progress, implemented by the Ministry of Agriculture, Forestry and Water Management in cooperation with the World Bank. This project can provide grants for the implementation of projects, which will improve agricultural production and contribute to the development of agricultural competitiveness.

References


BizInfo (Blace), 2022, Volume 13, Number 1, pp. 57-64

63