THE IMPORTANCE OF AGRICULTURE IN FORMING GROSS VALUE ADDED IN SERBIA IN THE PERIOD OF 2008-2017

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A R T I C L E I N F O	A B S T R A C T
	The subject of the research of this paper is the realized value of agricultural production, which significantly contributes to the formation of gross value added. The share of gross value added of agriculture in total GVA is one of the most important indicators of the importance of agriculture in the economic structure. The goal of the research is to point out the adequacy of the size and contribution of the agricultural sector to the creation of gross value added, as well as the impact of individual branches on the formation of total gross value added, i.e. on overall economic development. The simple linear regression method was applied to examine the impact of GVA in agriculture on total GVA. The results of the analysis show that the movement of agriculture GVA has a statistically significant influence on the movement of total GVA.

Introduction

Agricultural production is one of the key activities of the economy of the Republic of Serbia, given the availability of significant natural and human resources, as well as the achieved level of production and processing. As a production economic activity, it is a part of overall economic system, and therefore the status of agriculture reflects also on the economic system, i.e. the whole economy (Mitrović, et.al, 2017). The agricultural sector, in less developed countries, represents the basis of GDP growth, development and competitiveness of the national economy (Gerdien and Pim, 2007). However, as a consequence of the transition, this activity operates in extremely unstable conditions. Agricultural production, in the period after the breakup of the former SFRY, is characterized by unchanged production structure in, above all, capital-intensive production (with particular emphasis on livestock farming). All of the above occurs as a

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result of insufficiently effective agricultural policy measures of the Republic of Serbia (Gulan, 2013). Since the beginning of the 21st century, the contribution of agriculture to GDP has been gradually declining, primarily due to faster growth in activity in the non-productive sectors, before all in trade and the services sector. Despite this, the share of agriculture in the gross value added (GVA) structure of the economy of the Republic of Serbia is still high. The high share of agriculture, expressed in the basic macroeconomic indicators of Serbia, in comparison with other countries, can be attributed to the abundant natural resources and favorable climatic conditions for agricultural production, as well as slower processes and the lack of structural reform of the rest of the economy of the Republic of Serbia. Agriculture, food production, food security of the country, production of raw materials for other industries, foreign trade, social, demographic and other aspects determine the multiple importance and role of agriculture in the socio-economic development of the Republic of Serbia (Madžar, 2014). With adequate strategic planning, agriculture can make a significant contribution to the country's economic development.

In defining the role and the meaning of agriculture, it's necessary to go back to the original meaning of this term. Recent definitions, such as of Z. Zakić and Ž. Stojanovic (2008), treat agriculture as: ,,an area of production in which primary products of plant and animal origin are produced, refined or processed in order to meet specific human needs." When it comes to the place and role that agriculture plays in the economic development of a country, it should start from the legality. The more a country is economically developed in its economic structure (for example in gross domestic product), agriculture has less relative (percentage) share. However, the absolute importance of agriculture in the economies of developed countries is never questioned. The calculation of indicators of the contribution of agriculture to overall economic development is purposeful, first of all, due to the fact that these indicators can be a good basis for identifying development problems, and thus creating a macroeconomic policy that will eliminate these problems or at least mitigate their impact.

The application of development indicators in order to look at the macroeconomic situation and developments in individual cases may face different problems. Therefore, when selecting indicators that determine the importance, that is, the contribution of agriculture in economic development, it is justified to take into account how realistic, accurate and comparable quantifiable indicators are.

The contribution of agriculture to the development of gross domestic product is also an indicator of the degree of general economic (un)development and the relative importance of agriculture in the economic structure. Significant percentage of agricultural involvement in the gross domestic product is a characteristic of economic systems where the primary dominates over the secondary and tertiary sectors, that is, less developed economic systems. The decrease in the percentage share of agriculture in the total domestic product of the determinants is inherent in the later stages in the process of economic development.

The most famous and most used aggregate of the System of National Accounts is gross domestic product (GDP), which is the result of production activities of all resident institutional units[3], and is calculated at current and constant prices. From this, economic science and economic policy makers often see GDP per capita as a key indicator of the success of an economy and the level of well-being. Gross domestic product is a measure of the results of a country's economic activity and its production capacity to meet the needs of different forms of consumption (SORS, Statistical Office of the RS, 2018). Together with price movements, it can be an indicator of success in guiding the economic policy of the country (Krstić and Šoškić, 2015).

The analysis of GVA can lead to factors that can ultimately contribute to a better realization of GDP. Due to the correlation between GDP and GVA, GDP formation is shown. The national accounts system contains theoretical concepts that can be represented in the form of macroeconomic-size identities. The results of identities are the various macroeconomic aggregates contained in national accounts. There are three methods of calculating GDP: product, income and expenditure. The product method of calculating GDP is represented by aggregating the value of total production minus intermediate consumption by sectors, which at the level of the overall economy is increased with taxes on products minus subsidies.

$$GDP = P + Pr - Sb - MP$$

Where: P- production value at base prices, Pr - taxes on products and services, Sb - subsidies, MP- intermediate consumption (part of output not used in further production process)[4]

If we deduct the intermediate consumption from total production of P, MP can be replaced by gross value added, so the following equation holds:

$$GDP = GVA + Pr - Sb$$

The above equation shows that GDP is calculated as the sum of gross value added plus taxes on products, minus subsidies on products. Therefore, it can be concluded that gross value added (GVA) equals the difference between production value (P) and intermediate consumption (MP). Therefore, gross value added of agriculture is one of the most important balance items in the economic accounts of agriculture.

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3   Institutional units carry out economic activities and transactions with other institutional units on their own account, own goods and assets, assume financial obligations and make decisions and hold them accountable (Krstić i Šoškić, 2015).

4   Intermediate agricultural consumption represents the value of consumed inputs and services (inputs) in agricultural production. The elements of intermediate consumption are: 1. Seeds and planting material; 2. Energy and lubricants; 3. Fertilizers and other means for improving soil quality; 4. Plant protection products; 5. Veterinary expenses; 6. Animal fodder; 7. Maintenance of materials; 8. Maintenance of facilities; 9. Agricultural services, 10. Other goods and services (Đurić, 2018).

Subject and aim of research

Agricultural production represents a factor affecting the economic growth and development of a national economy. The agricultural sector has a traditional significance within the Serbian economy, so it is often viewed as an area of great potential (Atanasijević and Danon, 2014). Due to its interconnectedness and influence on other sectors it's extremely important for the development of Serbia, since it contributes significantly in foreign trade, ensures the food security of citizens, and contributes to rural development and ecological balance. Today, about two million people are engaged in agriculture in our country, which indicates that it's an important factor in engaging (directly or indirectly) a large number of the workforce. Therefore, the subject of the research of this paper is the realized value of agricultural production, which significantly contributes to the formation of gross value added. The share of gross value added of agriculture in total GVA is one of the most important indicators of the importance of agriculture in the economic structure.

The aim of the research is to point out the adequacy of the size and contribution of the agricultural sector to the creation of gross value added, as well as the impact of individual branches on the formation of total gross value added, i.e. on overall economic development. The goal is to observe the impact of agriculture on the increase or decrease in GVA. In accordance with the obtained results, the goal is to further divide plant production into crop, fruit and wine growing production and to further determine which line of plant production contributes most to the formation of value of agricultural production, and therefore the total GVA. Secondly, the goal is to quantify the impact of individual livestock production lines on the formation of total GVA, which can be classified into cattle production (which also includes milk production), pig farming, poultry farming, (including egg production) and sheep farming.

In line with the research goal, the starting hypothesis in the research is:

H_0: The total value of the GVA of agriculture has a statistically significant effect on the realized value of the total GVA.

H_1: The total value of the GVA of agriculture does not have a statistically significant effect on the realized value of the total GVA.

In accordance with the set subject and goal, the paper also starts with the following research questions:

1) Does GVA share in agriculture remain unchanged in total GVA in Serbia in the analyzed period?

2) What is the representation of individual branches of agricultural production in the structure of total GVA?

Materials and methods

The research will use the official data of the Statistical Office of the Republic of Serbia (*SORS*) (database). In addition to the database, available publications were used, such as: Statistical Yearbooks of the Republic of Serbia 2014 and 2018, Gross Domestic

Product (GDP) Calculation Methodology 2018, Regional Gross Domestic Product, 2017. Gross value added for the period 2008-2015 is taken from the mentioned publications, which is represented in current prices (in millions of RSD).

In order to make the data comparable for a longer period of time, deflation of the observed values was carried out using consumer price index previously reduced to base indexes, where 2010 was taken as the base year (following the recommendation of the World Program for the Census of Agriculture 2010 (FAO - UN)). In this way, gross value added for the observed period is converted into constant prices from the base year 2010. The calculation of GDP at constant prices aims to show real dynamic and structural changes that have occurred independently of the impact of prices.

The gross value added of other activities together with the GVA of agriculture was first examined, in order to examine the structure of total gross value added. Agriculture is observed in this paper only as the primary sector, while the upward and downward industries were not included in the GVA formation related to food sector (agribusiness). The analysis covers the movement trend of gross agricultural value added. For the purpose of further analysis, the value of plant production was divided to field, fruit and vine growing production. When it comes to the values of livestock faming production, here is a division in accordance with the data available for possible cattle production (which includes the production of milk), poultry farming (also includes egg production), pig and sheep farming. The total values of all products are primarily expressed in current prices (millions of RSD), so it is also necessary to reduce them to constant prices from the base year 2010 in the manner explained.

The descriptive statistics method was applied. The measures of central tendency (arithmetic mean) and variability (interval of variation and coefficient of variation) were used. The average annual rate of change is calculated by the formula:

$$r = (G - 1); \quad G = \left(\frac{Y_n}{Y_1}\right)^{\frac{1}{n-1}}$$

r - annual rate of change, G - constant relative change in value, Y_n - absolute value of the last member of the series, Y_1 - absolute value of the first member of the series, n - total size of the series, (Čobanović et al., 2005).

The paper also presents regional agriculture GVA. According to the official SORS methodology, regional GVA represents the sum of value added of all local units operating in the territory of a given region (plus product taxes with deduction of product subsidies).

Finally, a simple linear regression analysis was performed. The regression method was applied to examine the impact of GVA in agriculture on total GVA. The general form of the regression model is:

$$Y_i = \beta_0 + \beta_1 X_1 + \varepsilon_i Y_i = \beta_0 + \beta_1 X_1 + \varepsilon_i$$

where Y_i is the value of the dependent variable, X_1 is the value of the independent variable, and β_1 is the regression parameter. The parameter β_0 represents the average of the initial dependent variable, while εi is a random error (Mladenović and Petrović, 2015).

The significance of the t model as a whole was tested using the regression variance analysis, as well as the significance of the estimated parameters using appropriate tests. A coefficient of determination (corrected coefficient of determination) was also calculated, which shows the proportion explained in the total variability. The level of statistical significance used was $p < 0.05$. The SPSS software package was used for data processing and analysis.

Results and Discussion

The results of the research were grouped into two:

a)   GVA analysis of agriculture and share structure in total GVA

b)   Analysis of the impact of agriculture GVA on total GVA

It is possible to show the value of GVA by activity and thus see the activities that are the largest contributors to the total GVA. Figure 1 shows the structure of GVA for the period 2008-2017 in the Republic of Serbia.

Figure 1. The structure of GVA by activities in the Republic of Serbia, for the period 2008-2017
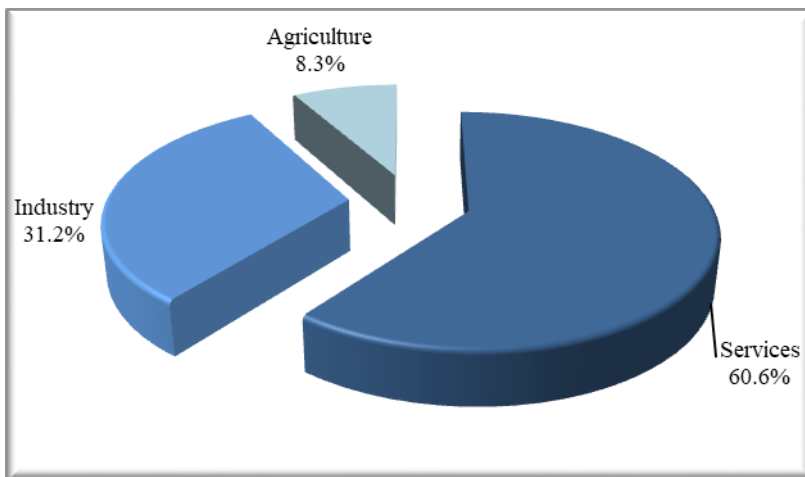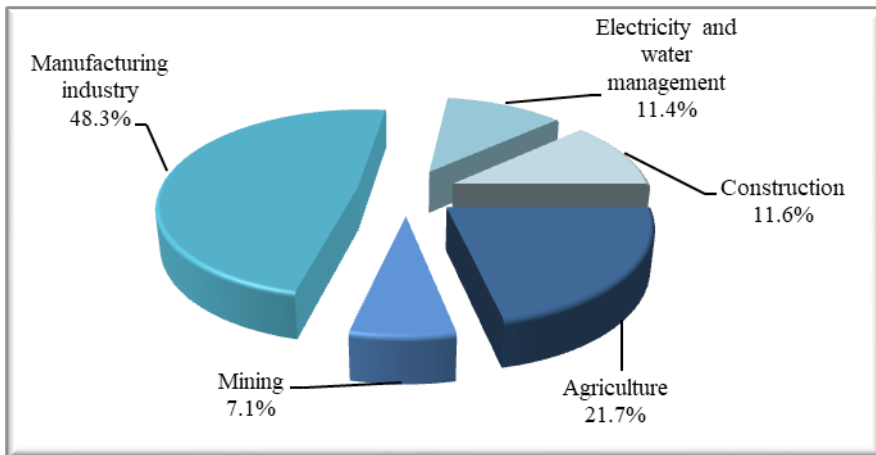

Source: Author's calculation based on data from the Statistical Office of the Republic of Serbia

Services account for 60.6% of total GVA and they are the largest share in the formation of GVA. Services include activities where no specific production is achieved, such as wholesale and retail trade, repair of motor vehicles, transport and storage, accommodation and catering, information and communication, various financial activities, real estate business, scientific, innovation and professional activities, education , arts, entertainment and recreation, health and social care, public administration, household activities and other activities. On the other hand, industry includes mining, manufacturing, electricity and gas production, construction and water management. The average share of industry in the formation of total GVA is 31.2%. Agricultural activity, which includes field production, fishing and forestry, is specially featured (Novaković, 2019). Agriculture

plays a significant role in the overall economy of the Republic of Serbia. The agriculture industry is the most important economic area, and as shown in the figure, its share in the creation of GVA in the period from 2008 to 2017 averaged 8.3%.

Sectors of agriculture and industry together account for 39.5% of the total GVA share. Figure 2 shows the structure of industry and agriculture GVA.

Figure 2. The structure of industry and agriculture GVA in the Republic of Serbia for the period of 2008-2017
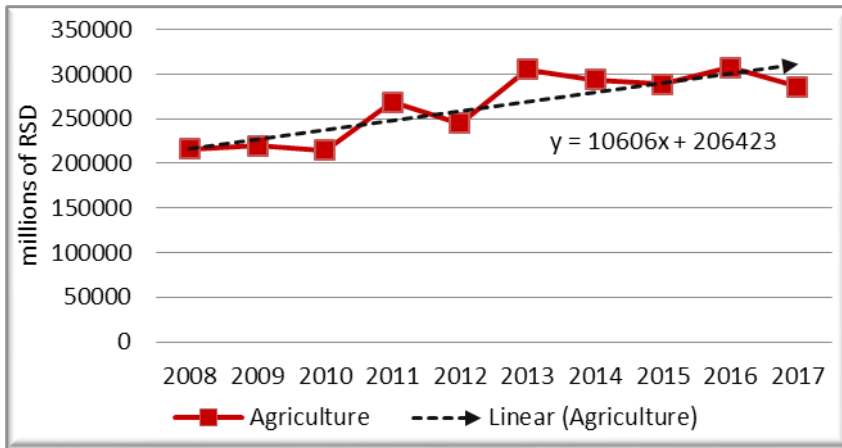

Source: Author's calculation based on data from the Statistical Office of the Republic Of Serbia

As shown in Figure 2, manufacturing industry has a dominant share in the GVA structure that provides manufacturing activity. In addition to the manufacturing industry, agriculture is also heavily involved. The remaining activities participate to a lesser extent in the following order: Construction 11.6%, Electricity and water management 11.4% and Mining 7.1%.

Given the richness of Serbia's natural resources in agriculture, and the global tendencies in food production and consumption, it's evident that agriculture is of particular importance to Serbia. It's reflected in the fact that it provides nutrition not only for the agricultural population, but for the rest of the population. Of particular importance is the amount of so-called market surpluses, that is, the amount of food produced that is not consumed in the agricultural sector but can be used in other sectors. The increase of these surpluses over time is necessary for several reasons: firstly, it is an indicator of productivity growth in agriculture, and secondly, for the nourishment of the population that derives its livelihood outside agriculture, (Njegovan and Đurić, 2016). Also, agriculture in the initial stages of development is a source of foreign currency inflow, which is necessary to cover the supply of imported inputs and evening out the trade balance.

The importance and role of agriculture was particularly pronounced in the time of sanctions in the 1990s, when agriculture proved to be the most vital economic sector. The present state of agriculture of the Republic of Serbia, its potentials and limitations, continue to show the same trend of investing less in agriculture than is necessary and, accordingly, receiving less from it (Pejanović, 2009).

Figure 3: Trends in the agriculture GVA in the period 2008-2017

Source: Author's calculation based on data from the Statistical Office of the Republic of Serbia

It is of utmost importance to look at the further trend of the agriculture GVA as well as the basic indicators of the agriculture GVA for the period 2008-2017. Average value of agriculture GVA for the period 2008-2017 amounts to RSD 226.805 million, with the maximum value recorded in the initial year of analysis - 2008 (RSD 264.380,3 million), while the minimum value was recorded in the last year of analysis - 2017 (RSD 203.034,3 million). Also, the gross added value of agricultural activity for the observed period is also characterized by relatively low variability, in support of which speaks the coefficient of variation of 8.54%. GVA of agriculture tends to decline by 2.79% annually in the observed period.

Table 1: Agriculture GVA parameters at constant prices (2010 = 100) for the period 2008-2017, million RSD

	Average value	Interval variation		CV (%)	Rate of change (%)
		Min	Max		
Agriculture GVA	226.805,0	203.034,3	264.380,3	8,54	-2,79

Source: Author's calculation based on data from the Statistical Office of the Republic of Serbia

In addition to the basic indicators, it's necessary to consider the share of GVA of agricultural production in the total GVA for the period 2008-2017, which is presented in Figure 4.

Figure 4: Agricultural participation in GVA (%) of the Republic of Serbia from 2008 to 2017
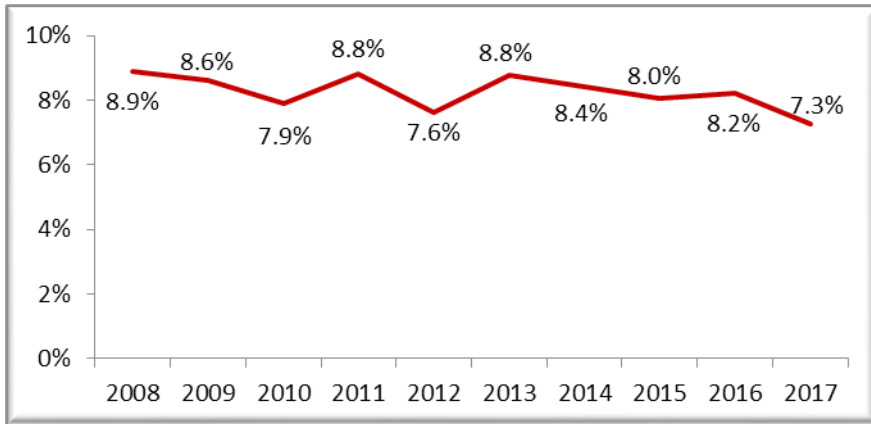
Source: Author's calculation based on data from the Statistical Office of the Republic of Serbia

It can be observed that the share of agriculture GVA in the observed period decreased from year to year, and that from the initial 8.9% in 2008 it was reduced to 7.3% in 2017, and the reduction rate was 2.3 % per year. The reason for the reduced share of agriculture GVA is reflected in the fact that service activities have significantly improved their position in the structure of total GVA.

The real growth of total GVA in 2017, compared to the previous year, was 2.1%, (SORS, 2018). Table 3 shows the real growth rate of agriculture GVA in the period 2008-2017. It can be observed that in the last year of the analyzed period, the real decline in gross value added was recorded in the agriculture, forestry and fishing sector by 11.20%.

Table 2. Real GVA growth rates (2010 = 100),%

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Agriculture, forestry and fishing	8,60	0,80	-0,40	0,90	-17,00	21,00	2,00	2,00	8,30	-11,20

Source: Author's calculation based on data from the Statistical Office of the Republic of Serbia

According to preliminary GVA calculation results, the value of total GVA and the share of the region in the value of the national GVA are: for the Belgrade region 40.41%, for the Vojvodina region 26.52%, for the Šumadija and Western Serbia region 19.21%, and for The Region of Southern and Eastern Serbia 13.86%. It's also interesting to look at the structure of the agriculture GVA in the regions of the Republic of Serbia. As shown in Figure 5, the largest contribution to the formation of the agriculture GVA is the Region of Vojvodina with 48.21%, while the least significant contribution to the structure of the GVA is the Belgrade Region with 7.09%.

Figure 5: Participation of the regions in the agriculture GVA of the Republic of Serbia for year 2017
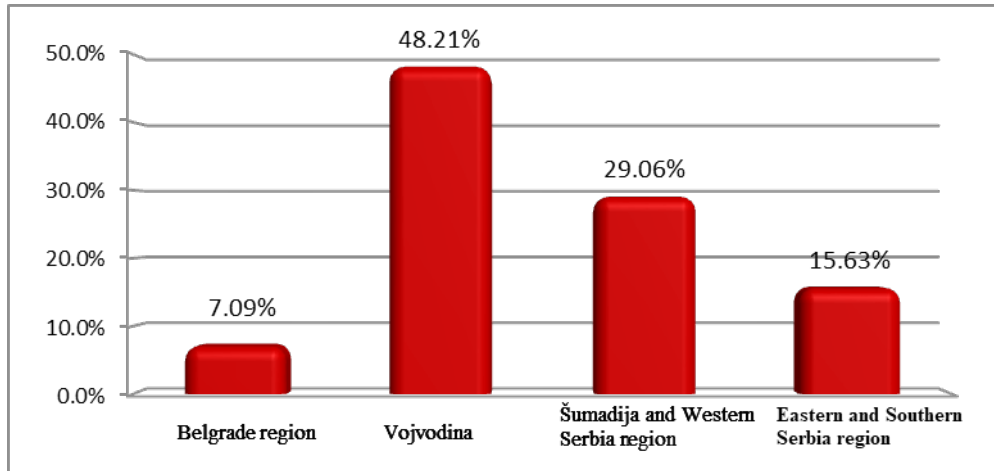
Source: Author's calculation based on the data of Regional Gross Domestic Product, 2017

Within agricultural production, we distinguish between plant production and livestock farming. In the total value of agricultural production in 2017, plant production accounted for 61.7% and livestock production for 38.3%, (Statistical Yearbook RS, 2018). In plant production statistics, data are collected on areas and yields for field, fruit and wine production, while livestock production distinguishes cattle, pig, sheep and poultry production. Types of production to a different extent participate in the realization of the total value of agricultural production, and therefore the GVA of agriculture. Table 3 below presents the share of value of plant and livestock production in the total value of agricultural production for the period 2008-2017.

Table 3. Basic indicators of the share of value of individual types of production in the total value of agricultural production, for the period 2008-2017, %

Variable	Structure	Interval variation		Variation coefficient
		Min	Max	
Field farming	51,5	40,1	59,1	9,6
Fruit growing	10,7	9,0	13,0	14,8
Winegrowing	5,7	3,8	8,4	26,5
Cattle farming	12,6	11,2	13,9	7,9
Pig farming	11,1	9,4	12,9	10,1
Sheep farming	1,6	1,0	1,9	15,8
Poultry farming	5,1	4,3	6,1	11,0

Source: Author's calculation based on data from the Statistical Office of the Republic of Serbia

Within the plant production, in addition to the dominant share of the value of field production, which participates with more than 50%, there are also fruit production with 10.7% and winegrowing with 5.7%. On the other hand, in the cattle farming sector, the largest contribution gives cattle, which participates with 12.6% in the total value of

production, followed by the value of pig farming by 11.1%, poultry farming with 5.1% and sheep farming with 1.6% share in the total value of agricultural production, from which the values of agricultural services are excluded.

According to official statistics, field production includes the production of cereals, industrial plants, fodder and vegetables. Table 4 presents the basic parameters concerning the basic three forms of plant production for the period 2008-2017.

Table 4. Plant production parameters by branches for the period 2008-2017 (in million RSD)

Variable	Mean	Interval variation		Variation coefficient (%)	Rate of change
		Min	Max		
Field farming	222.184,3	168.397,6	269.550,4	14,4	-4,77
Fruit growing	45.963,2	37.443,6	54.787,1	12,2	1,44
Winegrowing	24.429,3	15.815,9	36.681,2	28,1	-0,13

Source: Author's calculation based on data from the Statistical Office of the Republic of Serbia

As can be seen from Table 3, the values of plant production tend to decline, except for fruit growing, which has a trend of growth of 1.44% per year. Field production has the highest value of production in the amount of 222,184.3 million RSD. The fall in value of 4.77% a year was caused by numerous weather conditions, particularly drought, which caused great damage in 2010, 2012 and 2014. Among the causes that contributed to this movement of agricultural production, in addition to adverse climatic conditions, we can identify insufficient investment, that is, insufficient investment that would affect the productivity and volume of production and reduce the impact of these climate factors. On the other hand, fruit and wine production account for much less in the total value of plant production with average values of 45,963.2 and 24,429.3 million RSD. However, wine production is also characterized by an extremely high value of interval variation, which ultimately contributes to the high coefficient of variation of 28.1%.

Significant variations in the volume of agricultural production caused by climate fluctuations, which were recorded in our country from 2007 to 2015, are one of the key indicators of underinvestment in the modernization of agricultural production. Specifically, a high degree of dependence on climatic conditions is one of the key characteristics of underdeveloped agriculture. On the other hand, the declining value of intermediate consumption in almost all its elements indicates a low level of income generated by agricultural producers in Serbia.

Livestock production is characterized by a drastic decline in production. First of all, it refers to the total number of cattle, pigs, but also sheep and goats. The current livestock stock is down by as much as 50% compared to the 1980s. The share of animal husbandry in total agriculture has been reduced to around 30%, which indicates a decrease in the intensity of production in this branch of the economy. The Republic of Serbia has favorable conditions for the development of livestock production, given the fact that it owns over 1.4 million hectares of permanent high-capacity grasslands,

as well as significant unused capacities for breeding cattle and sheep (Official Gazette of the Republic of Serbia, 2014). Despite the aforementioned benefits, this sector of agriculture has been recording negative trends for over 20 years. This fact is indicated by the data in Table 5.

Table 5. Livestock production parameters by branches for the period 2008-2017(in million RSD)

Variable	Mean	Interval variation		Variation coefficient (%)	Rate of change (%)
		Min	Maks		
Cattle farming	54.412,1	47117,1	67317,5	10,72	-3,89
Pig farming	47.740,4	39650,4	57062,5	11,74	-2,14
Sheep farming	7.069,6	4382,2	8516,4	18,96	-3,55
Poultry farming	22.042,0	19.437,3	25.024,7	8,62	-1,41

Source: Author's calculation based on data from the Statistical Office of the Republic of Serbia

Cattle production has the highest value of production in the amount of 54,412.1 million RSD, while the smallest value of realized production is recorded by the sheep farming with only 7,069.6 million RSD. All the mentioned branches in the observed period recorded a downward trend of production, which is indicated by the negative change rates shown in the table. The largest decrease is present in cattle production, at a rate of 3.89% per year, and the reason for this is a permanent decrease in the number of breeding heads that are the basis for reproduction, and therefore for the production of basic agricultural products. In view of the aforementioned, there has been a decrease in the production of meat and milk, as well as the inability to create market surplus meat and milk, sufficient to meet the needs of domestic and foreign demand.

The impoverished livestock stock in Serbia is obviously the consequence of both an inadequately managed agricultural policy and an extremely problematic privatization process, which has resulted in a significant reduction in the number of employees on large, and in the meantime privatized, farming households (i.e. farms), (Madžar, 2014). The described tendencies of gradual and persistent reduction of the livestock stock are leading Serbia to grow from a well-known exporter into a significant importer of meat and meat products. Finally, it should be emphasized that Serbian livestock farming occupies a significant place in the country's economy, as it creates great value added by engaging natural and human resources.

Regression analysis of the GVA

A regression model has been formed where the total GVA is dependent variable and the GVA of agriculture is independent variable. The model is of the following form:

$$Y_i = \beta_0 + \beta_1 X_1 + \varepsilon$$

where Y - total GVA is expressed in constant prices (2010 = 100);

X_1 - GVA value of agriculture (constant prices, 2010 = 100)

ε - Random error

First, the regression model as a whole was tested. In this case, the starting hypothesis is H_0: $\beta_1 = 0$ and the testing process itself was conducted using regression variance analysis. The value of F statistics (which is 6,179) and the last column of Table 6 indicate the statistical significance of the regression model as a whole.

Table 6. Evaluation of the regression model as a whole

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	36562620830,105	1	36562620830,105	6,179	,038
1	Residual	47337623074,678	8	5917202884,335		
	Total	83900243904,784	9			

Source: Author's calculation

It can be observed in Table 7 that the parameter under the variable GVA is agricultural shows statistical significance (column Sig.). The direction of action is positive, so it can be concluded that with the increase of the GVA of agriculture by one unit of measure, the total GVA also increases.

Table 7. Basic indicators of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2000559,895	301077,123		6,645	,000
1	Agriculture GVA	3,289	1,323	,660	2,486	,038

Source: Author's calculation

Table 8 shows the coefficient of determination (as well as the adjusted coefficient of determination - Adjusted R Square), which actually indicate the percentage explanation of the dependent variable by assuming independent variable. It's noticeable that looking at the adjusted coefficient of determination, 36.5% of the variability of GVA is explained by the value of GVA of agriculture. The remaining 63.5% refers to the influence of other factors not observed in this model.

Table 8. Correlation coefficient, determinations, standard regression errors

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,660[a]	,436	,365	76923,35721

Source: Author's calculation

Conclusions

The agriculture sector in Serbia represents a great development opportunity for economic growth. However, it's evident that in addition to all the benefits for the development of agriculture in our country, there are still some problems. The analysis concludes that the predominantly extensive way of production is dominating, and that livestock production has a downward trend in production decades back.

Within the total GVA, the share of agricultural activity is significant, at 8.3%. Agricultural production in its overall economic development has its absolute importance, primarily because of the demand for agri-food products. Within plant production, the share of field production is dominant with 51.5%, while on the other hand, the value of cattle production is the largest contributor to livestock production, which accounts for 12.6% of the total value of production. The results of the analysis show that the movement of agriculture GVA has a statistically significant influence on the movement of total GVA. To this end, it's necessary to work to improve the agricultural sector and increase agricultural production.

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Conflict of interests

The authors declare no conflict of interest.

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