# AGRO-FOOD TRADE BETWEEN SERBIA AND EU WITH FOCUS ON COUNTRIES OF DANUBE REGION

*Boris Kuzman*[1], *Milan Stegić*[2]

## Abstract

*This paper analyzes the foreign trade of agro-food products between Republic of Serbia and the European Union with special emphasis on trade with the nine European Union member states that are part of the Danube Region (EU9). Period between 2004-2013 has been analized, covering three enlargements of the European Union and implementation of the Interim Trade Agreement between Serbia and the European Union. Data used are the official data of the Statistical office of the Republic of Serbia and EUROSTAT, in order to identify changes in the relative importance of EU9 in trade with Serbia. The research results will confirm importanceof EU9 in relation to all EU Member States and that Serbia, with its natural characteristics and geographic location, have opportunities for improvement of mutual trade relations that are still not used to a greater extent.*

**Key words:** *Danube region, EU, Serbia, agro-food, international trade*

## Introduction

Serbia, as a country in which the agro-food sector has greater significance than the EU average (Ministry of Agriculture and Environmental Protection of Republic of Serbia 2014), tended to take full advantage of the trade liberalization with the EU as its most important market, but was also concerned primarily as a result of low level domestic agro-food sector competitiveness. The liberalization of agricultural prices began in the 1990s and has continued during the 2000s. As in the previous decade, the agricultural price policy has been characterized by instability and the

[1] Boris Kuzman, Ph.D., Institute of Agricultural Economics, Volgina Street no. 15, 11060 Belgrade, Serbia, Phone: +381 63 590129, E-mail: kuzmanboris@yahoo.com

[2] Milan Stegić, M.sci., Ph.D. student, Faculty of Economics and Engineering Management, Cvećarska street No.2, 21000 Novi Sad, Serbia, Phone: +381 63 8998804, E-mail: stegicmilan@gmail.com

lack of long-run, systematic solutions (Bogdanov and Christmas 2010). On the other hand, the potential of the EU market stems from the fact that the EU is a net importer of agro-food products as an opportunity for exporting countries which are predominantly agrarian-oriented (Puškarić and Kuzman 2014).

Nine EU Member States (hereinafter referred to as the EU9)are part of the Danube region and among the most important trade partners of Serbia in the agro-foodsector. Precisely for this reason, we analyzed agro-foodtradebetween Serbia and the EU9 making the parallel with respect to agro-foodtrade with all EU Member States (hereinafter referred to as the EU28). The observed period is also significant for the fact that the Interim Trade Agreement (ITA) between Serbia and the EU, which entered into force in 2009, contributed to the liberalization of mutual trade relations, especially in terms of customs duties reduction of Serbia towards the EU Member States, but also due to the fact that in the observed period the three EU enlargements took place. The process of integration of Serbia and the EU directly increases the opportunities for development of agricultural production, development of animal husbandry and fisheries (Antevski et al. 2012).

## Methodology

This paper analyzes trends in agro-foodtrade between Republic of Serbia and the EU Member States belonging to the Danube Region. Under agro-foodsector, for the purpose of this paper,we refer to all products of Section 0 - Food and beverage and 1 - Beverages and tobacco of the Standard International Trade Classification, version 4 (United Nations Statistic Division 2006).

The data used for research purposes are the official data of the Statistical office of the Republic of Serbia (SORS) and official data of the Directorate General Eurostat (EUROSTAT) as the official statistical body of the EU, bearing in mind that the methodology of presenting information are completely harmonized presenting the FOB type in exports and CIF type in import. In the case of the EU, analyzed data includeIntra and Extra trade.

Data published by the SORS and EUROSTATare statistical data, and all values are expressed in current prices. Bearing in mind that the survey covers a period of 10 years, presenting the results of research in current prices will not provide realistic results of trade changes. In this respect, all values used in the study, are re-calculated into constant prices in order to realistic results that can be followed over time. Converting current to constant prices, in this paper unit value index (Unit Value Index)is applied, which is calculated using the following formula (IMF 2009):

$$P_{cons}^{t}=P_{cur}^{t}/ P_{U}^{0}$$

where$P_{cons}^{t}$shows export/import values in time*t*expressed in constant prices, $P_{cur}^{t}$ shows export/import values in time*t*expressed in current prices, $P_{U}^{0}$is indexof unit value in the base year*0*.

In order to provide comprehensive analysis, standard statistical methods such as mode, median, arithmetic mean and trends are used in this research.

## The volume of agro-food trade between the Republic of Serbia and the European Union

Serbia, as a country whose strategic goal is EU membership, in the last 15 years has strengthened its political and economic relations with EU member states.

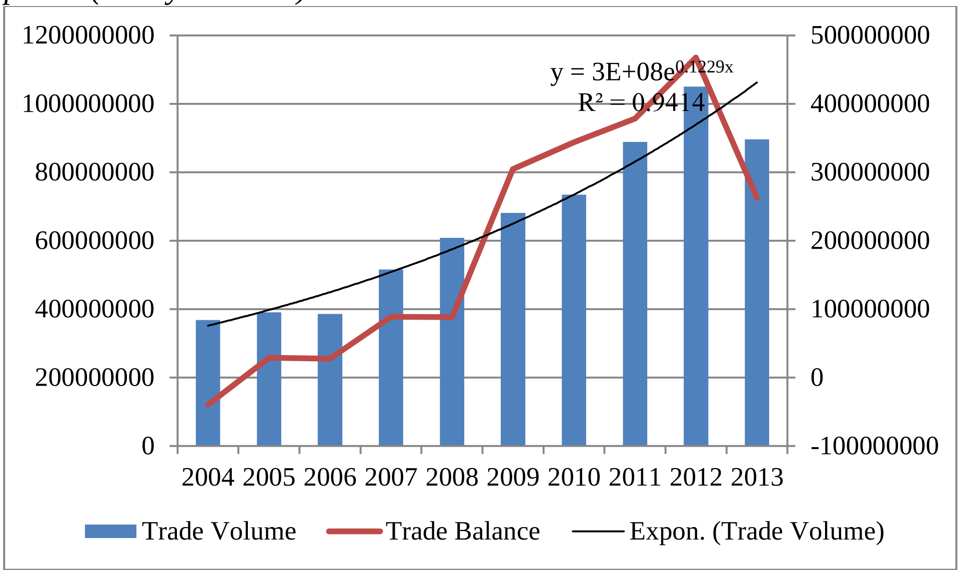
Particularly important step in mutual cooperation has been achieved through the Process of stabilization and association, and the implementation of the Interim trade agreement (ITA) that is in force since 2009.

Today, the EU is the most important foreign trade partner of Serbia in general, but also in agro-foodtrade (53% share in 2013). The largest number of countries of the Danube region are among the EU member states (Figure 1).

The volume of foreign agro-food trade between Serbia and the EU28 records a constant exponential growth with the total trade value of EUR 11.5 billion in the observed period, expressed in constant prices (Chart 1).

The annual average growth rate is 8% with relatively low variability of 23.6% with a constant surplus of Serbia in mutual trade. During the whole period, Serbia has reached a surplus of EUR 2.8 billion, expressed in constant prices. Within the EU, agro-food trade between Serbia and EU9, makes 56.6% of total trade with EU28 with the fastest growth rate of 11.3% and a moderate variation of 35%. In relation to EU9, Serbia recorded a surplus of 1.95 billion EUR, which makes 69.1% of Serbia'ssurplus with EU28.

**Chart 1.** *Volume and balance of agro-food foreign trade between Serbia and the EU9 in the period 2004-2013, expressed in EUR at constant prices (base year 2013)*




**Source:** *Author's calculations based on the SORS and EUROSTAT data.*

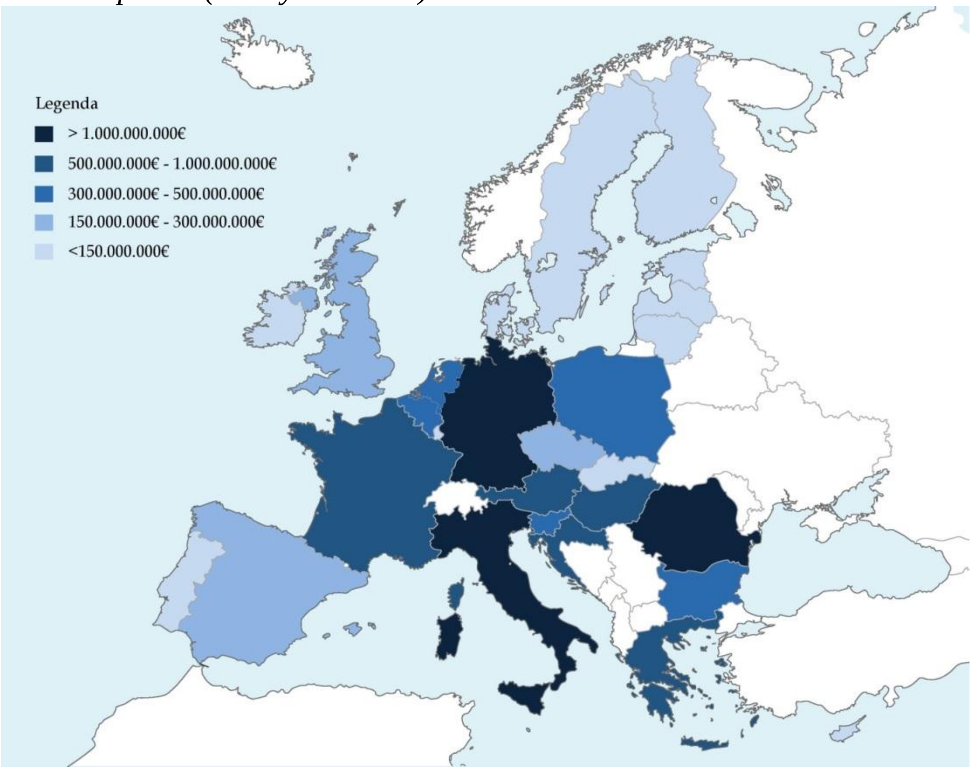
In trade with EU9 and EU28, the most important trade divisions are division 05, division 04 and division 06 (Chart 2). In contrast to the EU28, where the most important is division 05 with an average trade share of 31.8%, in the case EU9, the most important is division 04 with an average trade share of 32.5%.

During the first half of the period, division 05 had the most significant relative trade, share, but in the second half of the period division 04 took over the dominant position.

The highest relative importance of division 04 was recorded in 2012 when it accounted 49.5% of total trade.

The third most important division, both for EU28 and EU9 is division 06 with the observed trend of declining in relative importance which is recorded to be greater in case of EU28. The highest relative importance in trade with EU9 was recorded in 2005, when it stood at 17.9%, while the lowest was recorded in 2011 and amounted to 9.1%.

**Figure 1.** *The importance of individual EU28 countries in agro-food trade volume with Serbia in the period 2004-2013, expressed in EUR at constant prices (base year 2013.)*

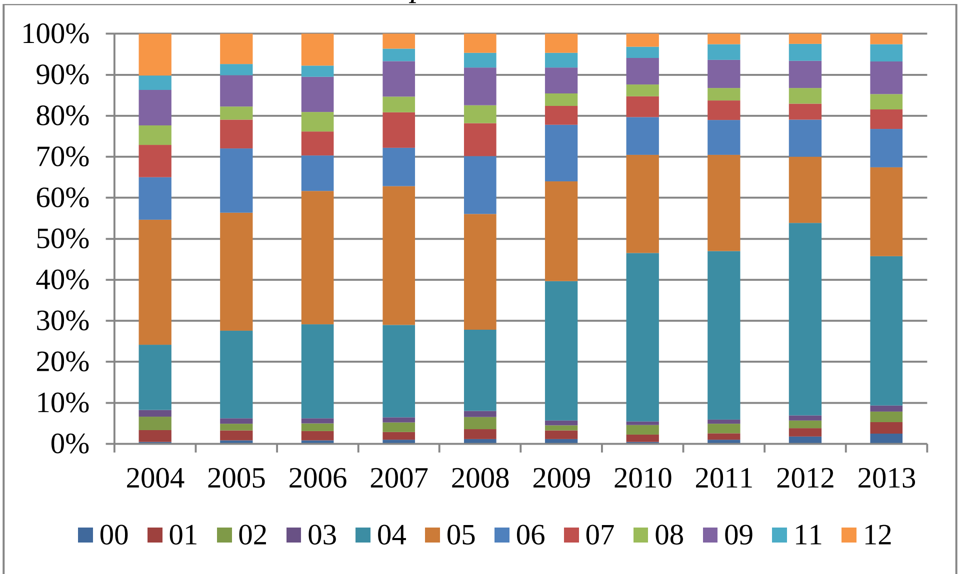



**Source:** *Graphic illustration of the authors based on SORS and EUROSTAT data.*

The most important foreign trade partner of Serbia in EU9 in the reporting period was Germany with a share of 26.1% and the realized trade value of EUR 1.7 billion.

In trade with Germany, Serbia registers surplus in mutual trade, which amounted to EUR 429 millionin the reporting period expressed in constant prices. Trade volume is growing at an annual average growth rate of 4.6% and relatively low variability of 15.2%.

**Chart 2.** *The relative importance of SITC divisions[3] in agro-food trade between Serbia and EU9 in the period 2004-2013*




**Source:** *Author's calculations based on the SORS and EUROSTAT data.*

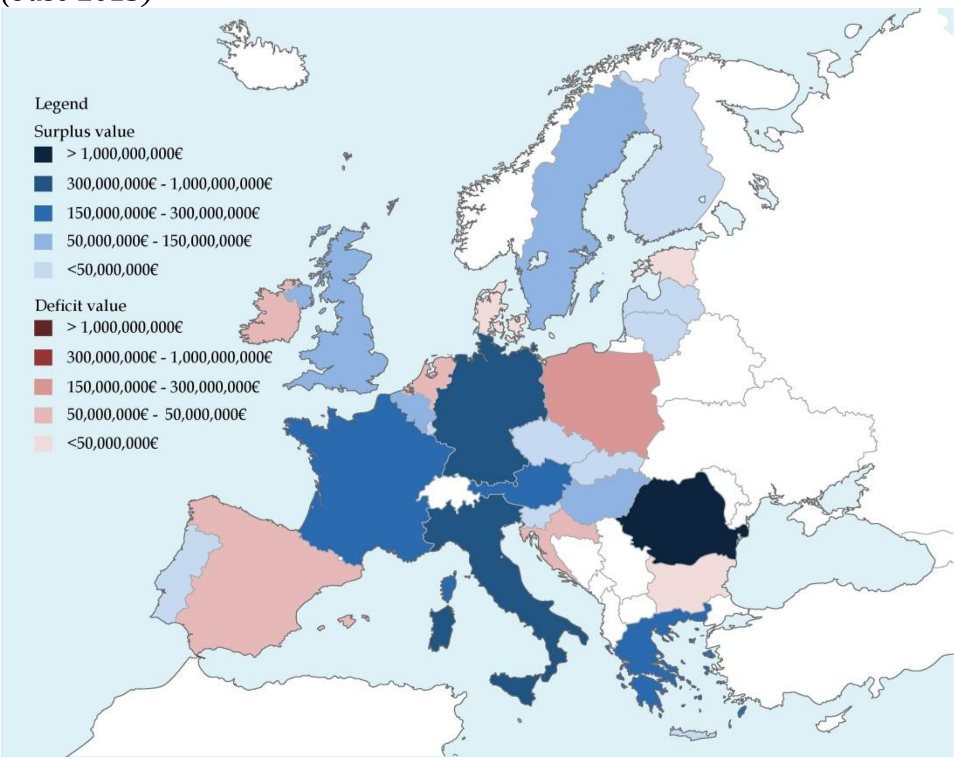
Besides Germany, the most important trade partner of Serbia among EU9 countries is Romania, which together with Germany accounts for almost half of the trade between Serbia and the EU9. The trade volume of agro-food products between Serbia and Romania in the reporting period reached a level of EUR 1.48 billion expressed in constant prices, which makes 22.7% of total trade agro-food products with the EU9. In the trade with Romania, Serbia registers a surplus in mutual trade, which in the reporting period amounted to EUR 1.3 billion indicating an extremely high importsto exports coverage. Trade with Romania recorded a very dynamic growth at an average annual growth rate of 55.1%, with strong variability of 92.3% as a result of the intensification of trade in the second half of the period.

Croatia, as the youngest EU member state is the third most significant trade partner of Serbia among EU9 countries. Croatia can again be seen as a preparatory test for the Serbian agro-industrial complex in terms of compliance with EU standards and placement of agro-food products to

[3] 00-Food and Live Animals, 01-Meat and meat preparations, 02-Dairy products, 03-Fish, 04-Cereals, 05-Fruits and vegetables, 06-Sugar, sugar preparations and honey, 07-Coffee, tea etc., 08- Feeding stuff for animals, 09- Miscellaneous edible products and preparations, 11- Beverages, 12- Tobacco and tobacco manufactures

the EU market (Kuzman 2014). The trade value with the Croatia in the reporting period reached the value of EUR 951 million, expressed in constant prices with a share of 14.6%. Unlike trade with Germany and Romania, with which Serbia has a surplus in mutual trade, in the case of Croatia, Serbia recorded deficit of EUR 122.6 million during the reported period. Trade between Serbian and Croatian is growing at an average annual growth rate of 7.6% and relatively low variability of 27.6%.

**Figure 2.***Balance of foreign exchange between Serbia and the EU28 in the reporting period 2004-2013, expressed in EUR at constant prices (base 2013)*




**Source:** *Graphic illustration of the authors based on SORS and EUROSTAT data.*

If we look at the trade results between Serbia and individual EU member states, we observe that there are significant differences in the results achieved (Figure 2). With 20 EU member states, Serbia recorded a surplus in the mutual trade of agro-food products, while with eight Member States Serbia recorded a negative trade balance. Looking at EU9, only in trade with Croatia and Bulgaria, Serbia recorded a deficit in mutual trade, while with the other EU9 countries recorded a positive balance. The highest surplus value of EUR 1.3 billion, Serbia has reached in trade with Romania accounting 46.6% of the total surplus. Only in the first reporting year, Serbia recorded negative balance in mutual trade, comparing to reaching positive balance in all subsequent years. Apart from Romania, Serbia recorded good results results in trade with Germany and Austria with which a surplus was recorded in all observed years, while in trade with Hungary deficit has been recorded in some years.

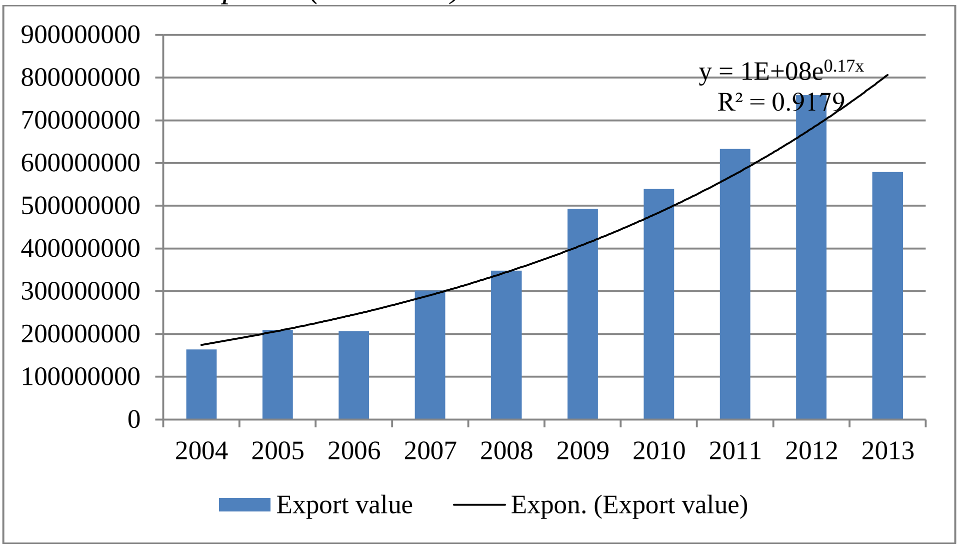
**Agro-food export of the Republic of Serbia to the European Union**

Agro-food export from Serbia to the EU28 reached EUR 7.2 billion in the period expressed in constant prices. Year after year, Serbia achieved growth of export value at an average annual growth rate of 9.9% and relatively low variability of 28%. In relation to the first year observed during the period, the value of exports increased more than twice the EUR 457 million in 2004 to over one billion euros in 2012, when it recorded the largest export value. The export of agro-food products on the EU9market, Serbia has realized agro-food export worth EUR 4.2 billion, which makes 59.1% of total exports to the EU28. It is important to stress that exports to the EU9 is more dynamic with an average annual growth rate of 18.5% and a moderate variability of 46% (Chart 3).

The agro-food export to the EU9 market, fluctuations between the most important export divisions have been observed during the reporting period (Chart 4). Exports of products in the division 05, recorded a total export value of EUR 1.5 billion, expressed in constant prices, with an average share of 42.4%. The highest relative importance was noted in the first reporting year when it stood at 62.4%, with a noticeable tendency of declining in relative importance of exports, which is the lowest in 2012 with a share of only 20.4%.In parallel with the decline in the relative importance of the division 05, growth of the relative importance of the division 04 has been recognized with the lowest share of 6% recorded in the first reporting year, but with significantly higher relative importance in the second half of the period. In 2012, the relative share of export of division 04 in total export to the EU9 is the largest and has reached 57%.

The relative importance of division 06 products, export recorded the total export value of EUR 571 million, with the largest relative share achieved in the second reporting year with a share in 24% of exports. Over the years, the relative importance of exports declines with the lowest recorded value share of 10.1% in 2011 with a relatively stable share in the last observed years.

**Chart 3.** *Agro-food exports of Serbia to the EU9 2004-2013, expressed in EUR at constant prices (base 2013)*



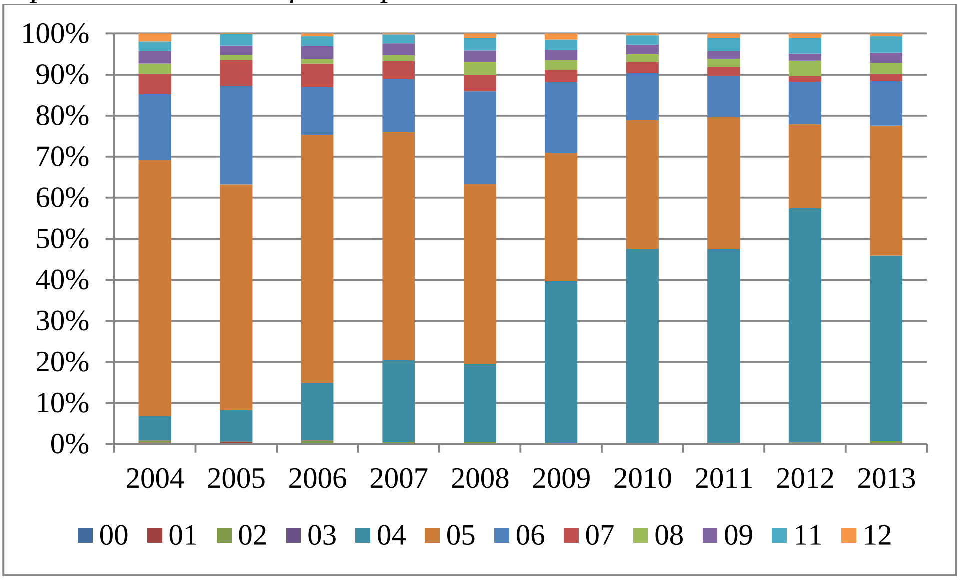

**Source:** *Author's calculations based on the SORS and EUROSTAT data.*

The most important trade partner of Serbia in export of agro-food products in the EU market is Romania with exported goods worth EUR 1.4 billion, expressed in constant prices, which makes 33% of total exports to the EU market.

The growth of exports of agro-food products on the Romanian market is extremely dynamic after the entry of Romania into the EU, which contributed to achieving high average annual growth rate of 67%, with very strong varying intensity of 96.1%. Extremely high annual growth is a result of the increase in value of grain exports, primarily corn. It is particularly interesting that in the first reporting year, Serbia's export to Romania was at the level of EUR 5 million, and after the entry of Romania into the EU, Serbia used the privileges of liberalization of free trade agreement withthe EU.

Significant growth in export value occurs continuously from 2008 to 2012when export value reached the maximum amount recorded in the reporting period of EUR 409 million. A total of 96.8% of the value of exports to the Romanian market was realized in the period from 2008. The export of agro-food products to Romania entirely dominated by products under the *division 04* constituting 91.2% of total exports to Romania.

**Chart 4.** *Relative importance of SITC divisions in Serbian agro-food export to EU9 market for the period 2004-2013*

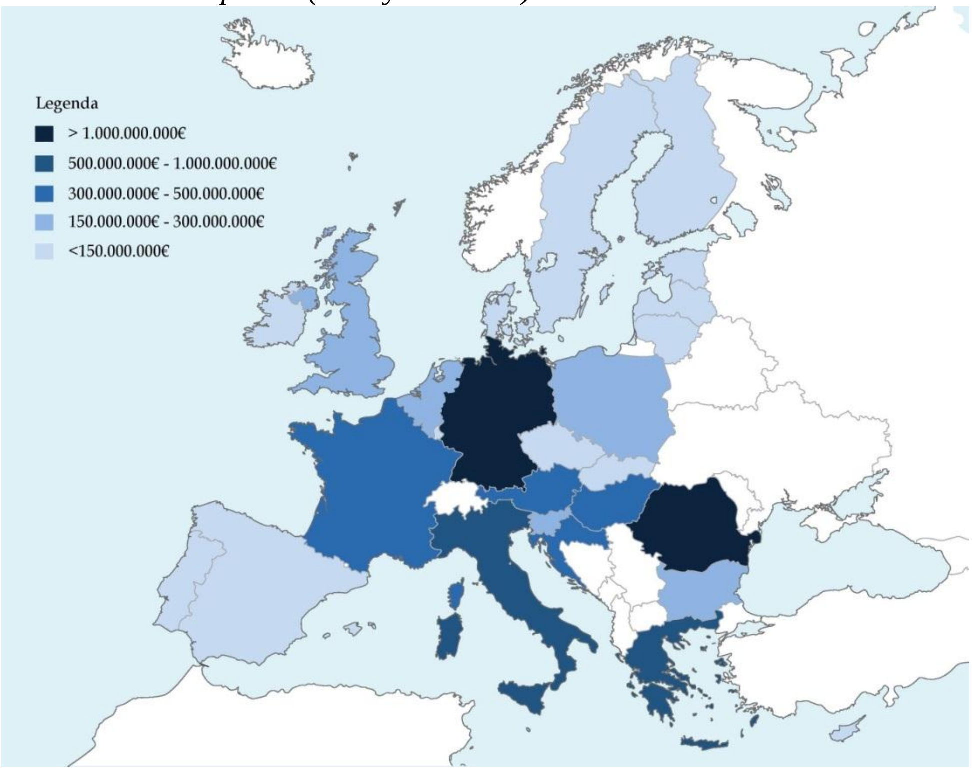



**Source:** *Author's calculations based on the SORS and EUROSTAT data.*

Apart from Romania, as the most important export trade partner of Serbia in the EU9, the second most important export market for Serbia on the EU9 is Germany in which Serbia exported agro-food products worth EUR 1.1 billion expressed in constant prices, which makes 25.2% of total Serbian exports to the EU9 market. In contrast to the dynamic development of exports to Romania, exports to Germany was stable at an average annual growth rate of 6.6% and relatively low variability of 20.9%.

The maximum value of exports to the German market was recorded in 2011 when it reachedEUR 135 million of agro-food products expressed in constant prices. The export of agro-food products to Germany was entirely dominated by products under the *division 05* with a share of 84.1% of total exports, while exports of frozen raspberries and other berries was the most important export product of Serbia.

**Figure 3.** *The importance of individual EU9 member states in agro-foodexport of Serbia in the entire period from 2004 to 2013, expressed in EUR at constant prices (base year 2013.)*




**Source:** *Graphic illustration of the authors based on SORS and EUROSTAT data.*

In addition to Romania and Germany as the most important partners of Serbia in export of agro-food products within the EU9, equal relative importance in Serbia's exporthadexport to Hungary (10.2%), Austria (9.9%) and Croatia (9.8%). In all three cases, there is a trend of growth in export value of agro-food products. The importance of SITC divisions among the mentioned countries is different. Namely, in exporting to the Hungarian market, export of division 06 products dominated with a share of 53.4% in exports to the Hungarian market[4], while the export share of the division 05 product was lower by 18.8%.The Austrian market completely dominated by the export of *division 05* products with a shareof total exportsto the market of Austria by 71.8%, of which the most

[4]The most important export product of Serbia within the *division 06* on the Hungarian market is sugar

significant was the export of frozen raspberries and other berries.Unlike exports to Hungary and Austria dominated by the export of products from a single division, in the case of a Croatia wider range of divisions were represented. However, in export the most important is*division 12* with the share of exports to the Croatian market from 34.3%[5] and *division 05*, with a share of 27.2%.

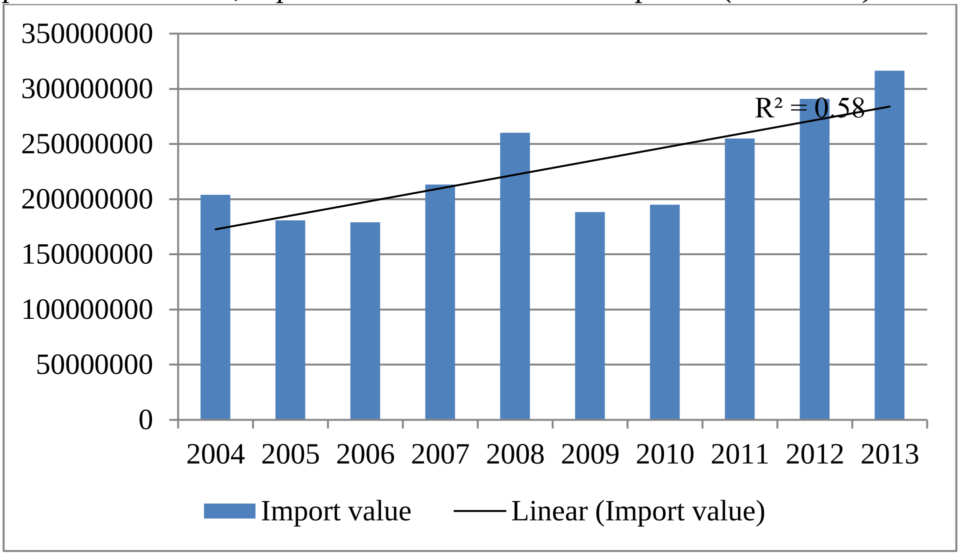
## Imports of agro-food products of the Republic of Serbia from the European Union market

Imports of agro-food products in Serbia from the EU28 in the reference period reached EUR 4.3 billion, expressed in constant prices. Imports of agro-food products from the EU28, on average, grew more slowly than the increase in the export value at an average annual growth rate of 5.4% with relatively low variability of 22%. The largest decline in the import value was recorded at the height of the global economic crisis (in 2009) with the realized value of imports of EUR 337 million, and it continued upward trend in imports in the following years. The highest value of imports was recorded in 2013 and amounted to EUR 620 million. Imports of agro-food products from the EU9 in the reporting period amounted to EUR 2.3 billion, which makes 52.5% of total Serbian imports from EU28. The results achieved withEU9 countries are almost identical with the results of the EU28 bearing in mind that in the reporting period the growth of import values is realized at an average annual rate of 5.4% and relatively low variability of 20.4% (Chart 5).

Certain deviations from the import structure from EU9 compared to the EU28 have been observed. While in the case of imports from the EU28 most important is*division 05*, in the case of EU9 import products from the *division 05* do not belong to major import products group. The main import products are *division 09* products with a share of 18.3% in EU9 imports, *division 12*, with a share of 11.9%, *division 07*, with a share of 11.7% and *division 04* with a share of 10.3%. In all major divisions, the downward trend is observed in the relative share of imports, which is strongestwith*division 12* products, while in the case of the most significant import *division 09* tendency of relative importance growths is visible.

[5]The most important export product of Serbia under *division 12* on the Croatian market are cigarettes containing tobacco

**Chart 5.** *Imports of agro-food products of Serbia from EU9 market in the period 2004-2013, expressed in EUR at constant prices (base 2013)*



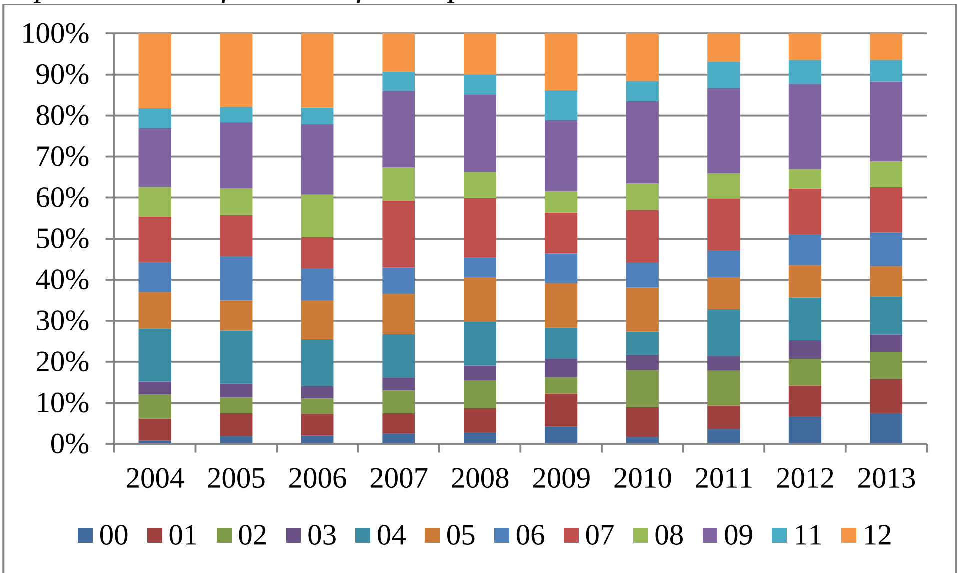

**Source:** *Author's calculations based on the SORS and EUROSTAT data.*

On the import side, the most important trade partners of Serbia from the EU9 are Germany, Croatia, Hungary and Austria. The most important trade partner of Serbia in import is Germany with a total value of imports of EUR 637 million in the reporting period, expressed in constant prices, which accounts for 27.9% of total EU9 imports of agro-food products.

Imports from Germany grew at an average annual growth rate of 2.7% with relatively weak variability of 16%, indicating a rather high stability of growthvalue. Unlike Serbian exports to the German market, which is completely dominated by the export of fruits and vegetables, imports of agricultural products is diverse with six divisions having the share of imports exceeding 5%, as well as three divisions with a share of 4% to 5%.

The most significant relative importance is with *division 09* and the realized import value of EUR 265 million and a share of 25.8% with a constant tendency to increase the import value. As the second most important division appears *division 12* with the realized import value of EUR 134 million and a share of 21%, withobserved oscillations in the imports value during the period under review, anddeclining trend at an average annual rate of 7.1%[6]. In addition, the significant divisions are also *division 07* (10.3%), *05* (8.8%), *02* (8.7%) and others.

**Chart 6.** *The relative importance of SITC divisions in the agro-food import in Serbia from EU9 for the period 2004-2013*



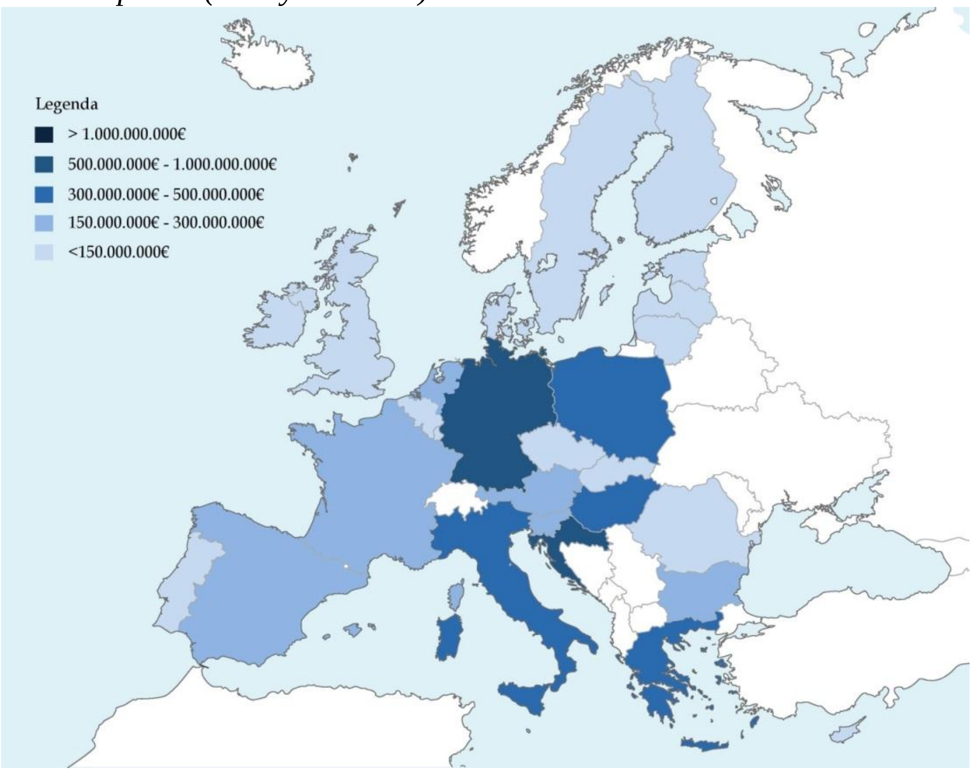

**Source:** *Author's calculations based on the SORS and EUROSTAT data.*

Croatia as EU member state since 2013, is long-time trading partner of Serbia in the exchange of agro-food products. Although Croatia is not a relatively important trading partner in agro-foodexport from Serbia[7], in imports significance is far greater with a realized imports value of EUR 537 million, expressed in constant prices, which makes 23.5% of agro-foodimports from the EU9. The significance of the Serbian imports from Croatia, is manifested through negative result in mutual exchange with the recorded deficit of EUR 122 million. Imports from Croatiais realized at an average annual growth rate of 7.7% and relatively low variability of 23.1%. In case of Croatia, diversification can be seen in the import divisions also. A total of seven divisions recorded a share higher than 5%, of which the most important is *division 09* with a realized value of imports of EUR 107 million and a share of 19.9%, with apresent permanent tendency to increase. In addition, the import of *division 12*

[6]The most important import product from Germany within *division 09* is other food preparations, while in *division 12* the most important import product is cigarettes containing tobacco.
[7]Croatia is ranked 8th Serbia's export partners among EU28

product realized import of EUR 91 million, with recorded total agro-food imports share of 16.9% from Croatia[8]. In addition to these major import divisions, important divisionsare*division 03* (11.9%), *division 07* (11.2%), *division 05* (10.2%), *division 04* (7.5%) and others.

**Figure 4.** *The importance of individual EU countries in agro-food imports in Serbia in the entire period 2004-2013, expressed in EUR at constant prices (base year 2013.)*




**Source:** *Graphic illustration of the authors based on SORS and EUROSTAT data.*

In case of Hungary, diversification among import divisions is also recognized. Thus, the most important products in imports are within the *division 04* and *division 09* with the share of 14.6% respectively. Although not as significant in total imports, in the case of Hungary the third and fourth most important products are located within the

[8]As in the case of imports from Germany, the most important import product within the *division 09* is other food products, while in the case of *division 12* most important import product is cigarettes containing tobacco

*division08*-Products of animal feed (13.2%) and *division 01*-Meat and meat products with a share of 12.2%. Finally, in the case of Austria, the most important import products are within the *division 09* with a share of 20.7%, *division 07*, with a share of 16.2%, *division 05*, with a share of 12.6% and *division 11* with a share of 12.2%.

## Conclusion

Trade liberalization between Serbia and the EU28, with no doubt contributed to the enhancement of mutual trade relations in agro-food sector, which is manifested, above all, with trade value growth. On the other hand, the trade relations between Serbia and EU9 in the observed period were characterizedby dynamic growth in the trade value compared to the EU28 due to the fact thatentry of Romania, created better usage of river transportation by the Danube, primarily in corn export, which has contributed directly to the dynamic growth of trade value.

Also, a significant difference in the structure of agro-food trade comparing EU28 and EU9 has been recognized bearing in mind that *division 04* has greater significance in EU9, while in the case of EU28 significance is with*division 05*.

Analyzing all agro-food products at SITC level during the implementation of ITA, we observed that the number of traded products increased. However, the wide possibilities of liberalization of mutual trade relations have not been exploited fully, which leaves room for further improvement of trade relations.

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