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## Agricultural Trade Competitiveness of EU Candidate Countries and Eastern Partnership Countries

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**Abstract:**

**Purpose:** The purpose of this paper is to examine agricultural trade competitiveness of EU candidate countries (CCs) and Eastern Partnership countries (EPCs) compared to Polish agriculture, based on available 1992–2017 EUROSTAT and FAOSTAT data.

**Design/Methodology/Approach:** This paper uses selected indicators of trade competitiveness.

**Findings:** The study attempts to tell which of the countries covered are in a position to become competitive in European Union (EU) markets. As shown by the calculated competitiveness indicators, compared to Polish agriculture (which is competitive in respect of many agri-food products), some of the countries surveyed are also likely to become competitive players in the Union market. Due to increasing specialization indicator, Belarus and Ukraine are well positioned to become competitive in the dairy market. The market for cereals is dominated by three countries: Moldova, Ukraine and Serbia which demonstrate high levels of SI, CR and XRCA. In turn, the largest group of countries covered by this analysis specialize in fruit and vegetable exports, and are likely to attain the highest competitiveness levels in that very market.

**Practical Implications:** The study of the foreign trade competitiveness using statistical methods is an important element in testing economic theories in the field of competitiveness research in the CCs and EPCs and it shows which countries may become competitive in the future in the EU market.

**Originality/Value:** Showing the importance of foreign trade in the CCs and EPCs with the EU we can observe its impact on the future integration process of the CCs and EPCs. The results of the research are important from the point of view of the contribution to the economy of European integration, both in theoretical and empirical terms, but above all in the field of sectoral policy, which is the Common Agricultural Policy (CAP). A comprehensive approach to the subject of research and its multidirectional nature, as well as the obtained results will be important both for the agricultural policy of the studied countries, as well as for the CAP and for the Polish agriculture.

**Keywords:** Competitiveness, international trade, EU candidate countries, Eastern Partnership countries, agricultural production.

**JEL classification:** F11, F15, Q17.

**Paper Type:** Research study.

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## 1. Introduction

Competitiveness is a term that dates back to the very beginnings of economics. When analyzing the economic situation, it can be concluded that people have competed at virtually any time and any place. Competitiveness is found in each area of activity. Its main assumption is the commitment to attain a certain advantage (adequate competitive edge) through growth, economic development and use of own resources and productive inputs. This is a very broad term which evolved in line with the development of economics. As new economic theories emerge, competitiveness takes on a new nature. New aspects are included while people change the way they think of management and revise their approach to social and economic life.

At the same time, defining competitiveness is highly challenging. This is a very complex multifaceted phenomenon which can be analyzed in terms of many different factors and across many dimensions. The literature explains competitiveness with many definitions. “However, there is consensus that competitiveness should always be thought of as a relative term which judges value and clearly specifies the competitive battlefield” (Olczyk, 2008). Generally, there are two essential approaches to defining economic competitiveness: the one related to the international trade theory, and the sector or overall performance concept existing within the economic growth or development theory (Poczta and Siemiński, 2010). The first approach means deriving benefits from trade and being capable of maintaining or increasing one’s share in the volume of goods traded.

Each theory of international trade can be shown through the evolution of the theory of competitiveness. The first pre-classical theory is mercantilism. Mercantilists believed that all countries compete with each other, and that competitive advantage goes to the one with the largest resources of ore and precious metals (Rymarczyk, 2006).

The second theory is underpinned by classical economics and is believed to be mainly authored by Adam Smith (Bartkowiak, 2008). As the creator of the theory of absolute cost advantage, Smith opined that differences in manufacturing costs (measured with labor inputs) are the most important aspect in international trade. If two countries exist, and one of them is more efficient in manufacturing a specific good and less efficient in manufacturing another whereas it is the opposite in the second country, these countries derive benefits from international trade (Budnikowski, 2001). “Smith perceived competition as a process that requires an essentially large number of sellers and groups of resource owners well informed of profits, wages and rents in the economy, based on the free movement of resources between sectors of the economy” (Maniak, 2017).

D. Ricardo is another important contributor to the theory of international trade. He created the comparative costs theory as an enhancement to the Smith’s theory. Accordingly, rather than on absolute costs, the structure of trade depends on relative costs, i.e. costs of alternative production processes. The differences in manufacturing

costs result in a country becoming specialized in the production of goods which provide it with a relative advantage (Budnikowski, 2001).

Representatives of the classical theory believed the “invisible hand of the market” to be the main condition for a beneficial international trade transaction. In this case, an important aspect is the country’s commitment to free market and competition processes which drive an efficient allocation of resources, without any additional operators (e.g. governments) that would intervene in economic activities.

Next comes the Marxist approach to competitiveness, with K. Marx believed to be the main representative of that school. He asserted that competitiveness means not only a market exchange process but also competitiveness in the area of capital distribution and production. Marx also claimed that instead of balancing the market, competitiveness has an opposite effect by bringing disequilibrium and an uneven allocation of capital. Capital is the very factor of competitiveness for the economy (Maniak, 2017).

The next approach is underpinned by the neoclassical theory, with Heckscher, Ohlin and Samuelson believed to be the main representatives. They created the theory of abundant resources. In seeking competitiveness, each country with a larger amount of capital resources, i.e. one where that productive input is cheaper, should export and specialize in the production of capital-intensive goods while importing products which require the use of a less abundant (i.e., more expensive) productive input (Olczyk, 2008).

The neoclassical theory was expanded with the neo-factor proportions theory which identifies a larger number of factors affecting specialization and international trade. In addition to labor and capital, authors of that theory (including Vanek (1963)) take account of natural resources and of the heterogeneity of labor and capital inputs (simple and complex labor, human capital). Supporters of the neo-factor proportions theory show that each country has specific resources of land, labor and capital. Hence, it is important to multiply domestic resources as this will enable gaining a competitive edge at a global level while driving the development of international trade (Misala, 2011).

The ability to gain a competitive edge in international trade is also indicated in the neo-technology theory. It identifies the growing changes between countries resulting from different advancements in technology and knowledge (e.g., Posner’s theory) (Misala, 2011).

The theories of international trade analyzed in this paper show that country-level competitiveness is related to a skillful use of specific productive inputs, and depends on the ability to increase or maintain a country’s market share based on an appropriate economic policy which allows to derive benefits from international trade (Pawlak and Poczta, 2011). Note however that as the economy develops, competitiveness takes on

a new nature. Knowledge- or technology-based economic development allows to take a broader look at competitiveness, not only at a macro- and microeconomic national level but also as an international process.

Krugman's remarks on competitiveness also need to be remembered. His article makes three points. First, it argues that concerns about competitiveness are, as an empirical matter, almost completely unfounded. Finally, it argues that the obsession with competitiveness is not only wrong but dangerous, skewing domestic policies and threatening the international economic system. Thinking in terms of competitiveness leads, directly and indirectly, to bad economic policies on a wide range of issues, domestic and foreign, whether it be in health care or trade (Krugman, 1994).

The purpose of this paper is to examine the trade competitiveness of agriculture of CCs and EPCs compared to Polish agriculture, based on available 1992–2017 EUROSTAT and FAOSTAT data. The study also attempts to tell which of the countries covered are in a position to become competitive in EU markets.

## 2. Materials and Methods

The basic groups of international competition indicators are ex-post indicators calculated for historical data, and ex-ante indicators which refer to future competitiveness. This paper used a selection of quantitative ex-post indicators in analyzing the competitiveness of the agricultural sector of the countries surveyed.

The share in worldwide exports and imports shows the proportion a country has in global exports or imports. If a country's share in exports is constant or grows, it means that country maintains or strengthens its international competitiveness. Conversely, if the same is true for imports, it means the county becomes less competitive in the global market.

The specialization indicator (SI) allows to compare the share of a product in national exports to the share that product has in worldwide exports. Usually, the two indicators are used together. If the import penetration indicator is low and the specialization indicator is high, this is considered to be an advantageous situation and means that the country is competitive in exporting the product concerned.

$$SI_k = \frac{X_{ik}}{X_k} : \frac{X_{iw}}{X_w} \quad (1)$$

X: exports; i: product category; k, w: countries.

The exports-to-imports ratio (CR) indicates how much exports exceed imports. It is assumed that a country has an advantage over its partners if that ratio is over 100.

$$CR_k = \frac{X_k}{M_k} \cdot 100\% \quad (2)$$

X: exports; M: imports, k: countries.

The relative comparative advantage in exports (XRCA) is presented as the ratio between two quotients. The first one is the relation between exports of a product in one country to exports of that product in another country. In turn, the second one is the relation between total exports (other than the product considered) in the countries covered by the analysis. If that ratio is higher than 1, it means the country is competitive whereas a value below 1 means the absence of competitiveness.

$$XRCA_{ik} = \frac{X_{ik}}{X_{im}} : \frac{\sum_{j, j \neq i} X_{jk}}{\sum_{j, j \neq i} X_{jm}} \quad (3)$$

X: exports; i, j: product categories; k, m: countries.

The relative import penetration index (MRCA) is interpreted similarly to the relative comparative advantage in exports, the only difference being that it takes account of imports instead of exports. If that ratio is higher than 1, it means the country is not competitive whereas a value below 1 means the presence of a competitive edge.

$$MRCA_{ik} = \frac{M_{ik}}{M_{im}} : \frac{\sum_{j, j \neq i} M_{jk}}{\sum_{j, j \neq i} M_{jm}} \quad (4)$$

M: imports; i, j: product categories; k, m: countries.

The relative trade advantage (RTA) index is the difference between the relative comparative advantage in exports and the relative import penetration index. In this case, a positive value means the country has a competitive advantage. When assessing the summative value of that index, it is assumed that a positive value of relative trade advantage and a relative comparative advantage in exports greater than 1 are indicative of high competitiveness, whereas a negative value of relative trade advantage and a relative import penetration index greater than 1 indicate the absence of competitiveness.

$$RTA_{ik} = XRCA_{ik} - MRCA_{ik} \quad (5)$$

(Pawlak, 2013).

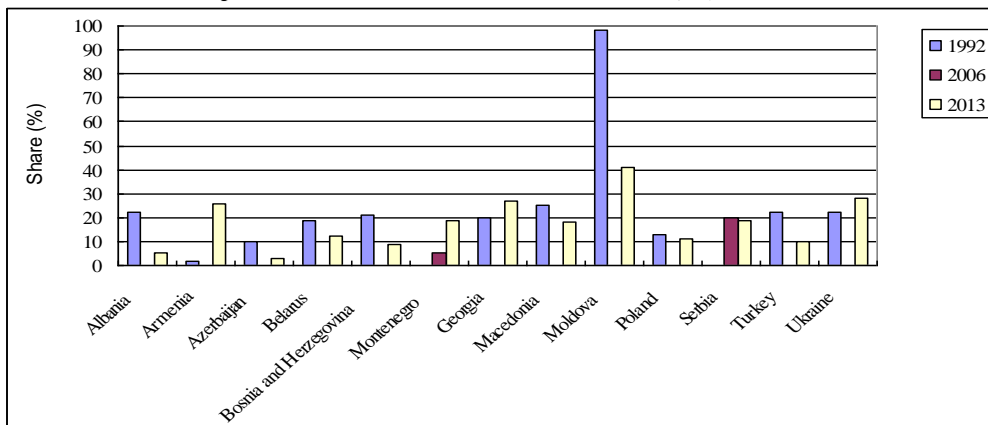
### 3. Results

#### 3.1 Trade Value and Balance

Today, international trade is an important part of the economy of each country. Globalization processes and the development of international relations are the reasons why it has a decisive impact on national competitiveness levels. Due to limited resources and production capacity, each country focuses its production efforts on selected commodities it can manufacture in the most efficient way. The demand for other products is met through trade (Jaszczyński, 2016).

When analyzing the share of agri-food exports in total exports, it can be noted that it decreased over the 1992–2013 period in all countries surveyed except for Armenia, Montenegro, Georgia and Ukraine (Figure 1).

**Figure 1.** Share of agri-food exports in total exports in EU candidate countries, Eastern Partnership countries and Poland in 1992–2013 (%)



*Source:* Own elaboration based on FAOSTAT data (2020).

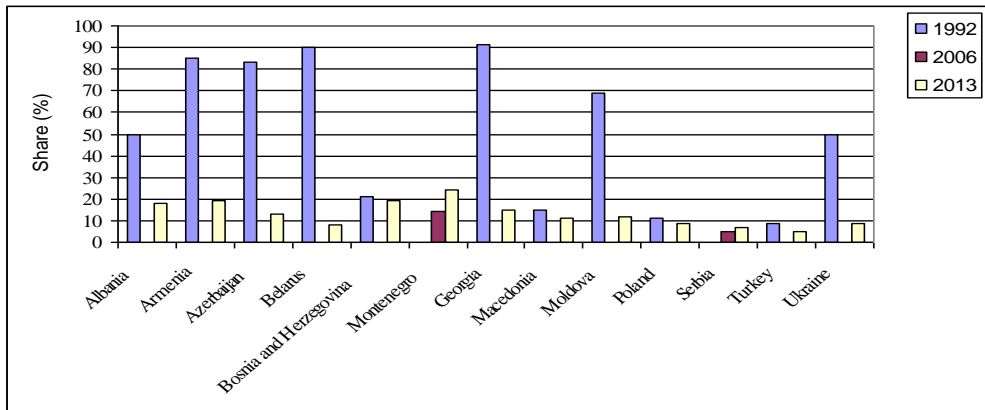
In 1992, the largest share of agri-food products in total exports was recorded in Moldova. That year, Moldovan exports were nearly entirely based on agricultural produce. In 2013, that ratio went down to 42%. This reflects the extreme importance of the agricultural sector in Moldova, a country with the largest share of agricultural land in total landmass (over 70%). Nevertheless, the value of its agricultural production and exports is small compared to other countries. Countries with a large share of agricultural produce in total exports (slightly over 20% in 2013) also include Ukraine, Georgia and Armenia.

Furthermore, Ukraine is a country which largely owes its great agricultural potential to a considerable proportion of fertile soils. In turn, Georgia and Armenia are countries which report a high share of agricultural exports in total exports and yet have a negative net trade balance. The smallest share of agricultural produce in total exports was found in Albania and Azerbaijan. Note that countries with a small share of agricultural land in their total land area (or with marginal agricultural production) form a group where—although the agricultural sector does not play a significant role—the share of agricultural produce in total exports is higher than in countries which enjoy

better conditions for agricultural production. That share is identical in Poland and Turkey. From 1992 to 2013, there was a great decline in the share of agri-food exports which shows the growing importance of international trade in all countries covered by this analysis. This could suggest these countries have experienced development and have expanded their international cooperation.

In 1992, the share of agri-food imports in total imports was very high mainly in EPCs (Figure 2).

**Figure 2.** *Share of agri-food imports in total imports in EU candidate countries, Eastern Partnership countries and Poland in 1992–2013 (%)*



*Source:* Own elaboration based on FAOSTAT data (2020).

The economic transformation witnessed in these countries (primarily including the dissolution of the USSR) placed them in a difficult economic situation. Their basic goal was to ensure the supply of food. As years passed by, the countries improved their economic condition and reduced agri-food imports. In 2013, it went down to ca. 10–20%. Currently, Montenegro has the largest share of agri-food products in total imports (24%, 10 percentage points higher than in 2006). This is because the volume of domestic agricultural production is very small and the population’s demand needs to be met by importing agricultural produce. A similar situation exists in Armenia and in Bosnia and Herzegovina. In the group covered by this study, only two countries (Turkey and Serbia) have a smaller share of agri-food imports than Poland.

The changes in both export and import figures can be driven by a redirection of agricultural production efforts towards products which can be produced domestically in the most efficient way, providing the country with a competitive edge. Usually, it depends on natural conditions, on the availability of productive inputs and on the development level of the national or global economy. The remaining part of agri-food products is imported.

The net trade balance is of considerable importance to a country’s competitiveness. It

allows to determine the differences in value between a country's exports and imports. In addition to Poland, the dominant players in agri-food trade are Turkey and Ukraine. Also, these three countries report the highest net trade balance. Their surplus is much higher than in other countries, which confirms how much agriculture is important to them. Of the CCs and EPCs, the greatest surplus in international agri-food trade (which is only 1.6 times smaller than Poland's) is recorded in Ukraine. This testifies to the large potential of Ukrainian agriculture. Thanks to a large area of agricultural land, it has a high value of agricultural output which is used domestically while also enabling international trade. Another member of the group covered by this study with a considerable surplus in international agri-food trade is Turkey, with a net trade balance being 3.7 times smaller than Poland's. These are countries which, due to their geographic conditions, are much better positioned to become competitive in agricultural production. A positive net trade balance was also recorded in Belarus, Serbia and Moldova. Other countries had a trade deficit, with the highest levels found in Azerbaijan and in Bosnia and Herzegovina.

The competitiveness of the agricultural sector is also impacted by a country's share in Union trade and its capacity to meet the conditions for agricultural product quality and EU requirements. In the group of countries surveyed, the highest share of agri-food exports to the EU (71%) was reported in Albania (Table 1). This is similar to the level recorded in Poland which has the greatest importance among all EU trade partners. Poland exports ca. 76% of agricultural products to Union markets. The inflow of Union funds and the need to adjust to quality standards resulted in modernization and development of the Polish agri-food industry and enabled growth of production value. Today, in the group of countries covered by this analysis, Poland is viewed as a leader of agricultural exports in the EU market ([www.obserwatorfinansowy.pl](http://www.obserwatorfinansowy.pl), accessed on April 12, 2020). A high level of exports to the EU, varying in the range of ca. 30% to 43%, was also recorded in Macedonia, Serbia, Bosnia and Herzegovina, Moldova and Turkey. Ukrainian exports to the EU are at a relatively significant level as they make up 27% of total agricultural exports. This is caused by the conflict between Russia and Ukraine and the Russian embargo on goods imported from Ukraine.

That situation forced Ukraine to seek and access other markets. As a buyer of agri-food products, the EU is of least importance to Armenia, Azerbaijan, Belarus and Montenegro, which could suggest these countries are not competitive in the Union market. This is the consequence of a generally low level of exports from these countries. In this context, note that most countries (except for Azerbaijan, Belarus, Macedonia, Serbia and Turkey) experience an increase in the share of agricultural products in their exports to the EU. Russia continues to be a key trade partner for Eastern Partnership countries; indeed, the Russian market is the destination for as much as 84% of total Belarusian exports and 80% of total Armenian exports. Usually, trade partners for the countries analyzed are their neighbors or countries who were formerly territorially bounded, e.g. Serbia and Montenegro. For Turkey, the key trade partner (next to the EU) is Iraq, the destination of ca. 20% of total agricultural exports. It can be said that non-EU members are in a much worse position to enter into trade



cooperation and to gain a competitive edge in the Union market.

EU is a major partner in agri-food imports for all countries covered by this analysis (Table 2). Of the countries covered by this analysis, Poland is not only the largest exporter but also the largest importer of agricultural products from the EU market. In Poland, ca. 86% of agri-food products originate from the Union market. In Serbia, Albania, Montenegro and Macedonia, ca. 50% of these products are imported from the EU. The smallest share of imports from the EU were recorded in Armenia and Georgia for which Russia continues to be a major partner. Just like in the case of exports, agricultural imports mostly originate from neighboring countries.

### **3.2 International Trade and its Competitiveness**

The competitiveness of the agricultural sector can be presented with relevant indicators which allow to indicate which country could be the dominant producer of a product group. The competitiveness of countries covered by this analysis in meat and offal production, shown against the background of the European Union, is presented in Table 3. The metrics of international competitiveness include the SI. The group of countries surveyed, except for Poland, have the SI below 1 which reflects a small volume of meat and offal exports. In 2017, Poland was in a significantly different situation, with the SI above 1. Note also that Poland has witnessed an increase in SI since 2006, which testifies to its growing specialization in meat and offal exports. In Poland, the share of meat and offal in total exports is ca. 70% higher than the corresponding ratio for the EU.

Also, Poland is the only country with the XRCA above 1, which means it has a comparative advantage in trade in meat and offal with the EU. All other countries covered by this study report the XRCA below 1, meaning that they do not have a comparative advantage in exports of these products. MRCA is interpreted in the opposite way; in countries such as Bosnia and Herzegovina, Montenegro, Georgia, Macedonia and Moldova, it was above 1 which means they do not have a comparative advantage in the meat and offal market (are unable to produce meat and offal at a lower cost than other countries). In turn, Poland is the only country with a positive RTA which suggests it has a comparative advantage in trade in the EU market for meat and offal. However, note that (for instance) the strong competitive position of Poland in meat exports is true for beef and poultry whereas the situation for pork is disadvantageous. If RTA is positive and XRCA is above 1, it means that the market for meat and offal is highly competitive. The strong competitiveness results from the share of meat and offal in agri-food exports and from the increasing levels of SI. Countries such as Bosnia and Herzegovina, Montenegro, Georgia, Macedonia and Moldova are not competitive in the EU market for these commodities because they have a negative RTA and the MRCA above 1. In turn, the results for other countries are ambiguous.

Over the recent years, none of the countries surveyed has become specialized in dairy products in the EU market because the SI has not exceeded 1 (Table 4). The highest SI was recorded in Bosnia and Herzegovina (0.53 vs. 0.88 for Poland in 2017). In other countries, the value of that indicator is low, reflecting a small share of dairy in total exports in relation to dairy exports in the EU. Another metric is the CR. It was over 100% throughout the study period in Poland, and in 2017 in Ukraine. This means that dairy exports largely exceed dairy imports, and therefore Poland and Ukraine have attained a relative advantage over their partners, even though CR levels have decreased considerably since 2006. In the CC and EPC group, Ukraine was the only country where that ratio was higher in 2017 than in other years (just like in Poland, it went beyond 100%). This could suggest these products play an increasingly important role in Ukrainian exports. In other countries, it was below 100% which means imports exceed exports. In turn, the XRCA above 1 was recorded only in Bosnia and Herzegovina in the two first years covered by this analysis (1.2 and 1.5 in 2006 and 2010, respectively).

However, later on, it went below 1 which means that country lost its comparative advantage in exports. Currently, although the highest XRCA levels can be found in Poland, they still are below 1, implying that neither Poland nor other countries surveyed have a comparative advantage in trading these products with the EU. MRCA levels are below 1 in all countries except for Azerbaijan and Armenia, which means these countries, just like Poland, have a comparative advantage in dairy imports. In turn, when it comes to RTA, it can be concluded that positive values were recorded only in Poland (in all years of the study period) and in Belarus (in 2017). This suggests that Belarus could become competitive in the EU market for dairy products and, therefore, could start competing with Poland.

In the cereals market in 2017, the SI reached the highest levels in Ukraine and Moldova (8.5, on average) which reflects the strong competitiveness of these products (Table 5). Compared to other countries, Serbia also recorded a high level of 3.4. In Poland, that ratio is 0.82, implying that the share of cereal exports in total Polish exports is smaller (by ca. 20%) than the share of cereal exports in total EU exports. The CR is also very high in countries at high levels of export specialization, namely in Moldova, Ukraine and Serbia. This suggests that cereals play a more important role in exports than in imports of these countries. Poland has a CR above 100%, implying that cereal exports exceed cereal imports. The XRCA in excess of 1 was recorded only in Moldova, Ukraine and Serbia, which means these were the only countries to attain a comparative advantage in cereal exports to the EU market. Thus, they can be concluded to be highly competitive in the EU cereals market, as reflected by a positive RTA and the XRCA greater than 1.

**Table 1.** Share of agri-food exports to major trade partners from the group of EU candidate countries, Eastern Partnership countries and Poland in 2013 (%)

	Albania	Armenia	Azerbaijan	Belarus	Bosnia and Herzegovina	Montenegro	Georgia	Macedonia	Moldova	Poland	Serbia	Ukraine	Turkey
EU	70.6	2.2	3.4	3.6	39.2	8.0	20.1	43.4	33.8	75.8	40.9	29.8	27.4
Serbia	13.0	.	.	.	14.0	44.4	.	16.4	.	.	.	.	.
Russia	.	80.0	29.6	84.0	.	.	14.2	.	19.3	6.0	6.7	6.9	10.7
Ukraine	.	5.0	.	1.7	.	.	15.8	.	8.6	2.0	.	.	.
Turkey	5.7	.	.	.	8.1	.	.	.	4.0	.	.	.	4.0
Macedonia	4.5	.	.	.	.	.	.	.	.	.	.	.	.
Georgia	.	7.0	.	.	.	.	.	.	.	.	.	.	.
Afghanistan	.	.	10.8	.	.	.	.	.	.	.	.	.	.
Montenegro	.	.	.	.	8.2	.	.	.	.	.	10.4	.	.
Iraq	.	.	30.0	.	.	.	.	.	.	.	.	19.4	.
Egypt	.	.	.	.	.	.	.	.	.	.	.	.	8.9
Others	6.2	5.8	26.2	10.7	30.5	47.6	49.9	40.2	34.3	16.2	42.0	43.9	49.0

**Source:** Own elaboration based on FAOSTAT data, <http://www.agricistrade.eu/> (accessed on March 26, 2020).

**Table 2.** Share of agri-food imports from major trade partners from the group of EU candidate countries, Eastern Partnership countries and Poland in 2013 (%)

	Albania	Armenia	Azerbaijan	Belarus	Bosnia and Herzegovina	Montenegro	Georgia	Macedonia	Moldova	Poland	Serbia	Ukraine	Turkey
EU	50.2	13.7	19.2	33.8	29.5	49.1	15.5	48.8	38.1	85.9	56.7	20.8	36.7
Serbia	7.5	.	.	.	23.1	30.0	.	20.1	.	.	.	.	.
Russia	6.4	29.3	15.6	25.1	.	.	21.8	.	9.2	.	.	14.5	10.9
Ukraine	.	13.6	2.1	13.8	.	.	21.5	.	31.0	.	.	6.5	.
Brasil	.	10.3	.	.	4.4	.	7.5	7.0	.	.	.	3.1	.
Turkey	.	.	1.7	.	.	.	11.1	.	6.3	1.1	.	.	7.6
Bosnia and Herzegovina	.	.	.	.	.	6.3	.	.	.	.	.	.	.
Macedonia	.	.	.	.	.	.	.	.	.	.	6.6	.	.
Others	35.9	33.0	61.5	27.3	43.0	14.6	22.6	24.1	15.4	13.0	36.7	55.1	44.7

**Source:** Own elaboration based on FAOSTAT data, <http://www.agricistrade.eu/> (accessed on March 26, 2020).

In the market for fruits and vegetables, the highest value (7.9) of the SI was reached in Azerbaijan (Table 6). It was half that level in Montenegro (4.1), and varied in the range of 3.2 to 3.6 in three countries (Belarus, Georgia and Turkey). Such a high level of this ratio is caused by a large share of these products in total exports, and suggests that these countries are in a position to attain an export advantage over other ones in the market for fruits and vegetables. In Poland, that ratio was 0.66 and was observed to be lower than the level recorded in 2006. The highest exports-to-imports ratios were found in Turkey and Azerbaijan. This suggests these products have a large share in the domestic production volume. It can be noted that all countries except for Armenia, Belarus, Montenegro and Poland had a CR above 100%, which means that exports exceeded imports. In turn, XRCA goes beyond 1 in all countries except for Armenia, Ukraine and Poland, implying that these countries have a comparative advantage in exports. A negative RTA was recorded in Armenia, Belarus, Poland and Ukraine; however, as Belarus was the only country with the MRCA above 1, only Belarus can be found non-competitive. In turn, Azerbaijan is highly competitive as a trader in fruits and vegetables. This could mean that despite its small share in total exports to the EU, it is specialized in fruit and vegetable exports.

It can be concluded that only some CCs and EPCs are able to become competitive in trading selected products in the EU market. Compared to Poland, which is competitive in meat and offal as well as in dairy exports, Belarus is likely to become competitive in the dairy market due to its increasing specialization indicator. The market for cereals is dominated by three countries: Moldova, Ukraine and Serbia. These are countries with high levels of SI, CR and XRCA which place them in a position to become competitive in the EU market. The largest group of countries covered by this analysis specialize in fruit and vegetable exports, and are likely to attain the highest competitiveness levels in that very market.

#### **4. Conclusions**

1. In the group of EU CCs and EPCs covered by this study, only 3 countries (Bosnia and Herzegovina, Albania and Azerbaijan) had a share of agri-food exports in total exports at a level lower than in Poland, whereas Turkey had a level similar to that found in Poland. In turn, all countries surveyed, including Poland, witnessed a decline in the share of agri-food imports, with the largest drop being recorded in EPCs. Only three countries (Belarus, Serbia and Turkey) had a share of agri-food imports in total imports at a lower level than Poland.
2. Of the EPCs, only Ukraine and Moldova had a positive balance of trade in agri-food products with the EU. In the EU CC group, this was true only for Serbia and Turkey. In Ukraine and Turkey, that figure was 36.4% and 73.2% smaller, respectively, than the corresponding balance of international trade in these products recorded in Poland.

**Table 3.** Meat and offal competitiveness indicators for EU candidate countries, Eastern Partnership countries and Poland in 2006–2017

Specification	SI				CR				XRCA				MRCA				RTA			
	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017
Albania	0.08	0.12	0.08	0.08	4.43	5.14	4.41	6.43	0.07	0.11	0.07	0.08	0.24	0.32	0.46	0.41	-0.17	-0.21	-0.39	-0.34
Armenia	.	.	.	.	.	.	.	.	.	.	.	.	0.62	0.63	0.59	0.64	.	.	.	.
Azerbaijan	0.16	.	.	.	18.64	.	.	.	0.14	.	.	.	0.21	0.17	0.31	0.26	-0.07	.	.	.
Belarus	0.08	0.03	0.00	0.02	0.79	0.24	0.27	2.17	0.07	0.03	0.00	0.02	1.89	2.82	0.12	0.09	-1.81	-2.79	-0.12	-0.07
Bosnia and Herzegovina	0.00	0.20	0.00	0.00	0.00	7.13	0.04	0.04	0.00	0.18	0.00	0.00	0.29	0.58	1.68	1.57	-0.29	-0.40	-1.68	-1.57
Montenegro	.	.	.	0.00	.	.	.	0.00	.	.	.	0.00	.	3.89	4.09	4.11	.	.	.	-4.10
Georgia	.	.	.	0.03	.	.	0.20	1.12	.	.	0.01	0.02	0.53	0.49	3.27	1.10	.	.	-3.27	-1.08
Macedonia	0.68	0.72	0.42	0.36	54.66	35.49	15.82	13.56	0.65	0.70	0.40	0.34	1.17	1.58	2.28	2.22	-0.52	-0.88	-1.88	-1.89
Moldova	0.00	.	.	0.00	0.05	.	.	0.00	0.00	.	.	0.00	1.46	0.56	0.72	1.04	-1.46	.	.	-1.04
Poland	1.55	1.40	1.60	1.69	299.64	150.64	214.37	216.58	1.67	1.47	1.72	1.83	0.70	1.18	1.04	1.09	0.97	0.29	0.67	0.74
Serbia	0.14	0.06	0.02	0.03	156.81	41.80	4.07	3.60	0.13	0.06	0.02	0.02	0.13	0.21	0.62	0.76	0.00	-0.15	-0.60	-0.73
Turkey	0.01	0.01	0.00	0.00	265.60	1.02	6.06	2.58	0.00	0.00	0.00	0.00	0.01	0.93	0.11	0.23	0.00	-0.93	-0.11	-0.23
Ukraine	0.00	0.00	0.16	0.21	0.43	0.04	84.13	113.84	0.00	0.00	0.15	0.19	0.18	0.92	0.57	0.53	-0.18	-0.92	-0.42	-0.34

Source: Own elaboration based on ComExt-Eurostat data, accessed on March 26, 2020.

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**Table 4.** *Competitiveness indicators for dairy products for EU candidate countries, Eastern Partnership countries and Poland in 2006–2017*

Specification	SI				CR				XRCA				MRCA				RTA			
	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017
Albania	0.02	0.47	0.16	0.09	0.61	17.56	7.46	6.76	0.02	0.45	0.15	0.08	0.41	0.34	0.52	0.41	-0.40	0.10	-0.37	-0.32
Armenia	.	.	.	0.01	.	.	.	0.02	.	.	.	0.01	0.83	0.63	3.66	3.52	.	.	.	-3.51
Azerbaijan	.	.	.	.	.	.	.	.	.	.	.	.	0.81	1.41	1.32	1.68	.	.	.	.
Belarus	0.08	0.02	0.03	0.21	29.39	2.31	1.41	14.87	0.08	0.01	0.03	0.20	0.04	0.12	0.31	0.16	0.03	-0.10	-0.28	0.04
Bosnia and Herzegovina	1.16	1.46	0.05	0.53	19.82	31.73	1.09	12.92	1.18	1.53	0.05	0.51	0.81	0.96	0.75	0.78	0.37	0.57	-0.70	-0.27
Montenegro	.	.	.	0.12	.	.	.	0.42	.	.	.	0.11	.	0.66	0.63	0.64	.	.	.	-0.53
Georgia	.	.	0.00	0.00	.	.	0.01	0.00	.	.	0.00	0.00	1.37	0.87	0.64	0.95	.	.	-0.64	-0.95
Macedonia	0.22	0.01	0.01	0.04	21.32	0.58	0.62	3.84	0.20	0.00	0.01	0.04	0.89	0.62	0.64	0.73	-0.69	-0.61	-0.63	-0.69
Moldova	0.32	.	0.22	0.20	198.56	.	52.39	49.21	0.30	.	0.20	0.18	0.16	0.38	0.63	0.84	0.13	.	-0.43	-0.66
Poland	1.14	0.97	0.82	0.88	431.75	228.03	194.16	185.39	1.16	0.97	0.80	0.87	0.33	0.49	0.52	0.60	0.83	0.48	0.28	0.27
Serbia	.	0.07	0.10	0.08	.	18.76	27.46	17.25	.	0.06	0.09	0.07	0.22	0.49	0.37	0.43	.	-0.42	-0.28	-0.36
Turkey	0.02	0.01	0.02	0.02	30.59	8.61	9.57	15.99	0.01	0.01	0.01	0.02	0.15	0.19	0.25	0.20	-0.13	-0.18	-0.23	-0.18
Ukraine	0.10	0.03	0.13	0.19	39.73	9.79	84.77	137.84	0.09	0.03	0.12	0.17	0.22	0.29	0.42	0.37	-0.13	-0.26	-0.30	-0.19

*Source:* Own elaboration based on ComExt-Eurostat data, accessed on March 26, 2020.

**Table 5.** Competitiveness indicators for the cereals market in EU candidate countries, Eastern Partnership countries and Poland in 2006–2017

Specification	SI				CR				XRCA				MRCA				RTA			
	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017
Albania	.	.	0.03	.	.	.	0.06	.	.	.	0.00	.	0.91	2.10	1.22	0.56	.	.	-1.22	.
Armenia	.	0.02	0.03	0.01	.	0.07	60.83	9.64	.	0.02	0.03	0.01	0.03	1.72	0.01	0.01	.	-1.70	0.03	0.00
Azerbaijan	.	.	.	.	.	.	.	.	.	.	.	.	0.06	0.03	0.06	0.14	.	.	.	.
Belarus	.	0.68	0.21	0.00	.	34.47	5.27	0.00	.	0.67	0.20	0.00	1.12	0.33	0.54	0.82	.	0.34	-0.34	-0.82
Bosnia and Herzegovina	0.04	0.10	0.06	0.06	0.23	1.01	0.39	0.56	0.04	0.10	0.06	0.06	2.21	2.14	2.37	2.00	-2.18	-2.04	-2.31	-1.94
Montenegro	.	0.00	0.01	0.00	.	0.00	0.38	0.01	.	0.00	0.01	0.00	.	0.12	0.09	0.09	.	-0.12	-0.08	-0.09
Georgia	.	0.00	0.00	0.00	.	0.00	0.00	0.02	.	0.00	0.00	0.00	0.68	1.36	0.13	0.15	.	-1.36	-0.13	-0.15
Macedonia	0.01	0.06	0.04	0.28	1.56	10.58	6.28	33.13	0.01	0.06	0.03	0.28	0.59	0.40	0.39	0.58	-0.58	-0.34	-0.35	-0.30
Moldova	2.14	2.99	5.00	7.27	4502.81	983.98	783.32	1263.73	2.22	3.24	5.90	9.27	0.05	0.25	1.00	1.18	2.18	2.99	4.91	8.09
Poland	0.51	0.69	0.84	0.82	54.56	130.66	194.37	160.45	0.50	0.68	0.84	0.82	1.19	0.60	0.55	0.63	-0.69	0.08	0.29	0.18
Serbia	9.07	4.20	4.63	3.39	2196.69	1190.13	599.91	365.82	12.29	4.80	5.37	3.70	0.59	0.47	0.85	0.89	11.70	4.33	4.52	2.81
Turkey	0.43	0.44	0.24	0.32	120.27	28.14	14.84	11.49	0.43	0.43	0.23	0.32	1.08	2.72	2.87	4.25	-0.65	-2.29	-2.64	-3.93
Ukraine	4.92	1.88	11.32	9.71	687.47	188.77	1659.20	1485.06	5.63	1.94	18.75	13.86	0.63	0.95	1.99	1.84	5.00	1.00	16.76	12.02

**Source:** Own elaboration based on ComExt-Eurostat data, accessed on March 26, 2020.



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**Table 6.** *Competitiveness indicators for the fruit and vegetable market in EU candidate countries, Eastern Partnership countries and Poland in 2006–2017*

Specification	SI				CR				XRCA				MRCA				RTA			
	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017	2006	2010	2015	2017
Albania	0.93	0.95	1.56	1.95	12.27	17.77	80.20	149.92	0.92	0.94	1.69	2.25	1.07	0.71	0.45	0.38	-0.15	0.23	1.24	1.86
Armenia	0.03	0.06	0.07	0.07	2.60	3.89	3.29	4.01	0.02	0.05	0.06	0.06	0.09	0.11	0.18	0.16	-0.06	-0.05	-0.12	-0.10
Azerbaijan	7.00	6.07	7.75	7.90	2347.02	256.75	641.01	1681.21	50.57	20.22	112.59	144.72	0.07	0.20	0.30	0.14	50.50	20.02	112.29	144.59
Belarus	5.32	3.37	2.23	3.22	77.25	38.94	7.12	9.90	13.99	5.02	2.69	4.62	1.16	1.67	8.82	6.18	12.83	3.34	-6.14	-1.56
Bosnia and Herzegovina	1.50	1.55	2.65	2.85	49.58	80.99	76.52	105.15	1.62	1.68	3.44	3.82	0.39	0.38	0.50	0.48	1.23	1.31	2.94	3.34
Montenegro	.	6.19	4.21	4.06	.	70.30	24.66	16.71	.	21.82	7.54	6.99	.	0.34	0.53	0.52	.	21.48	7.01	6.47
Georgia	3.84	5.00	6.17	3.57	7749.82	1828.92	1798.47	860.56	6.47	11.19	21.61	5.52	0.05	0.14	0.24	0.17	6.42	11.06	21.36	5.36
Macedonia	1.75	2.56	2.09	1.65	400.68	289.24	292.45	244.45	1.95	3.26	2.46	1.81	0.35	0.59	0.48	0.44	1.60	2.67	1.98	1.37
Moldova	1.83	1.92	1.78	1.36	207.38	103.47	202.57	376.75	2.08	2.20	2.00	1.43	0.97	1.80	1.48	0.73	1.11	0.40	0.52	0.70
Poland	1.03	0.76	0.69	0.66	115.11	75.10	93.64	88.12	1.03	0.74	0.66	0.63	1.22	1.27	0.97	0.96	-0.19	-0.53	-0.30	-0.33
Serbia	2.58	2.69	2.87	2.67	503.30	401.52	356.28	322.19	3.35	3.52	3.87	3.46	0.76	0.94	0.90	0.80	2.58	2.58	2.97	2.66
Turkey	3.65	4.05	3.68	3.57	4503.34	3180.12	2549.55	2551.49	5.89	7.01	5.84	5.50	0.23	0.20	0.22	0.17	5.66	6.82	5.62	5.32
Ukraine	0.89	0.45	0.27	0.28	122.05	50.91	131.76	160.73	0.88	0.42	0.24	0.25	0.66	0.87	0.55	0.45	0.22	-0.44	-0.31	-0.20

*Source:* Own elaboration based on ComExt-Eurostat data, accessed on March 26, 2020.

3. In the group of countries surveyed, Albania has a share of agri-food exports to the EU at the level of 71% which is similar to what is recorded in Poland. In turn, Serbia, Albania, Montenegro and Macedonia are important partners in importing agri-food products from the EU market; this represents 50% of their total imports. However, that ratio is by ca. 35.9 percentage points lower than in Poland which is the largest importer of agri-food products from the EU market of the countries covered by this study.
4. The countries surveyed differ in their competitiveness with respect to various agri-food products. None of the countries covered can compete with Poland in the market for meat and offal where Poland holds a comparative advantage. In the EU dairy market, only Belarus and Ukraine have an opportunity to become competitive and, thus, could become competitors to Poland. In turn, when it comes to the Union market for cereals, high levels of competitiveness are found in Ukraine and Moldova (with Serbia being slightly less competitive). These countries demonstrate high levels of SI, CR and XRCA. The largest group of countries surveyed specialize in fruit and vegetable exports, and are likely to attain the highest competitiveness levels in that market.
5. Countries where the agricultural sector does not play a significant role primarily include Albania, Bosnia and Herzegovina and Montenegro. This is mostly due to climate conditions (mountainous area) which largely reduces the opportunities for agricultural production. For other countries, it is much more difficult to become competitive in the agri-food market. The reasons include low development levels, lack of investments in the agricultural sector, lack of access to international markets and low productivity (which also is the consequence of the farm structure). The situation of the agricultural sector was also largely impacted by the many economic transformations, primarily including the agricultural reforms.
6. The agricultural sector of EU candidate countries and Eastern Partnership countries is much less developed than in Poland. These countries often face limited opportunities to become competitive players in agri-food trade. The exceptions are Turkey and Ukraine which may become competitive thanks to large resources of productive inputs (mainly including land) and Belarus with its advantageous agrarian structure.

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