AGRONOMY SCIENCE
wcześniej – formerly
Annales UMCS sectio E Agricultura
VOL. LXXIX (1) 2024

https://doi.org/10.24326/as.2024.5295

[1] Department of Microeconomics and Applied Economics, Institute of Economics and Finance, Maria Curie-Skłodowska University, Marii Skłodowskiej-Curie 5, 20-031 Lublin, Poland
[2] Warsaw School of Economics, Niepodległości 162, 02-554 Warsaw, Poland
* e-mail: anna.budzynska@umcs.pl

ANNA BUDZYŃSKA[1]*, MAŁGORZATA DURAKIEWICZ[2]

# The role of food trade in the European Single Market in the years 2000–2022

Rola handlu żywnością na Jednolitym Rynku Europejskim w latach 2000–2022

**Abstract.** This article examines the role of food in the external trade of the Member States of the European Union. The paper is based on literature and data collected from international databases of the World Bank, EUROSTAT and the Statista service. A statistical-descriptive analysis method was applied to the data on export volumes and their structure, as well as to the comparison of gravity index values and their deviations. The results of the research indicate an upward trend in food trade between EU countries. Between 2000 and 2022, the value of the intarnal market of EU food trade tripled. Four product groups play a dominant role in intra-EU trade: meat products, dairy products, cereals and fruit and vegetables. On the other hand, the Benelux countries, Germany and France have the largest trade flows. Belgium is an exporter with a significant role in trade for all the main food groups. The main intra-EU trade flows take place mainly between the closest neighbours.

**Keywords:** trade, food, EU, European Single Market

**JEL:** F18; F15; Q17

## INTRODUCTION

International trade reveals the economic relationships that characterise both the global economy and bilateral relations between individual countries or groups of

**Citation:** Budzyńska A., Durakiewicz M., 2024. The role of food trade in the European Single Market in the years 2000–2022. Agron. Sci. 79(1), 101–112. https://doi.org/10.24326/as.2024.5295

countries. Jeníček and Krepl [2009] explain that, looking at international trade in a simplified way, it can be defined as the exchange of part of the production surplus of one country over domestic demand with the unmet demand of the domestic production of another country. In practice, international trade processes operate under the influence of price, trade and political factors [Jeníček and Krepl 2009]. Puri and Kumar [2021] identify the correct allocation of factors of production and their efficient use as one of the tasks of economics as a science. These authors argue that the most important role in this process is played by the foreign exchange of products on the basis of free trade principles. Thus, in the global economy, production takes place in the most efficient centres at the lowest cost. On the other hand, in developed economies with access to the most technologically advanced resources, the focus is on the efficient use of the resources at hand, without producing fewer demanding products that are necessary to meet the needs of domestic consumers [Puri Kumar 2021]. According to Klimiuk [2016], scholars who studied the problems of foreign trade began their observations even before the science of economics was developed. The best known is the classical theory of international exchange, started by Smith and developed by Ricardo. They focused on the optimal allocation of factors of production in the world economy [Ricardo 1975].

Due to the spatial distribution of agricultural production, which is directly dependent on available natural and climatic resources, trade in agricultural commodities is an important and irreplaceable part of international exchange. In the last century, European and American countries played the leading role in foreign trade in agricultural products [Wojciechowski 1977]. In the international exchanges of the 1930s, European countries accounted for 66% of world imports and 35% of world exports of agricultural products. Almost one hundred years later, in 2020, operators from European Union countries accounted for about 43% of world exports and 41% of imports [UNCTAD 2023]. This confirms the thesis of Pawlak [2022], who found that over the last decades, EU Member States have gained importance as global exporters in this market segment, reducing the penetration rate of food imports during this period.

The aim of this study is to examine the role of the dominant products of EU Member States' food trade in intra-Community trade. The hypothesis of the study is that EU food trade is mainly characterised by direct exchanges between immediate neighbours.

## MECHANISMS OF THE COMMON AGRICULTURAL POLICY IN RESPONSE TO FOOD PROBLEMS IN THE EU

Food is one of the products that satisfy basic and secondary human needs. However, it does not only serve for nutrition, but also stimulates the growth and development of the entire human organism [Daniek 2018]. For this reason, Eather et al. [2022] claim that sufficient food for the citizens of each country is the most important national policy goal for leaders around the world. Zero hunger is also the Sustainable Development Goal adopted by the United Nations in the 2030 Agenda [Kowalska et al. 2022]. In this way, the human right to food is realised and protected not only at the national level, but also at the regional and international levels. As Kowalska [2017] argues, an important area in this regard is the development of ways to improve measures in order to prevent and combat food loss and waste more effectively. Different political and socio-economic systems and laws mean that the realisation of the human right to food is not uniform

everywhere. However, the state and its policies always play a central role in ensuring adequate access to food [Kowalski and Kowalska 2022]. Klikocka et al. [2022] noted that for EU Member States, a key challenge for agriculture is to ensure adequate food for citizens. To this end, the Common Agricultural Policy [CAP], in place since 1967, was created to support the agricultural sector in EWG/EU countries. It started with the creation of a common agricultural market with combined and unified agricultural policies of individual member states [Kowalski 2011].

Sadłowski [2012] noted that during the period in which the described instruments were in force, many reforms of direct support were carried out to increase the flexibility of the agricultural sector and improve its market orientation [Jarosz-Angowska 2017]. The 2023 reform introduced eco schemes. This is a new type of direct payment that no longer aims to support agricultural development but to mitigate climate change and protect natural resources.

Despite the extensive use of CAP instruments in the EU, more than 40 million people in the Community were affected by food shortages in 2010 alone. As assessed by Babiak [2011], difficulties in food availability are related to uneven distribution rather than insufficient resources. Jiren et al. [2020] point out that the policies pursued not only by individual countries but also by groups of countries and communities play an important role in solving these problems. The issue continues to require the search for new solutions, as the FAO predicts that the demand for food will continue to grow, doubling by 2050 [FAO 2018].

In addition to the development of government policies, it would be worthwhile to use international trade to solve the difficulties mentioned. Pawlak [2022] notes that the turn of the 20th and 21st centuries saw an intensification of international trade in agricultural and food commodities, thanks to an increase in export potential and a process of trade concentration in more developed countries. Increasing economic and integration links between trading partners play a positive role in this process [Pawlak 2022]. Benton et al. [2021] found that trade in food and agricultural products is also beneficial for the development of the economy as a whole, as it enables and promotes technological progress. This drives economic growth, which can reduce poverty and increase people's ability to purchase food directly, through increased incomes of employed workers, or indirectly, through increased government revenues. Trade also facilitates investment in agriculture, making it more profitable. Nowadays, the development of economies, industries and companies is assessed on the basis of their competitiveness in the global market, which is measured by their performance in international trade. Sujová et al. [2021] believe that the foreign trade balance should be used as a starting point to explain the achieved competitive advantages.

When assessing EU trade, it should be noted that food products do not occupy a key position, but are of great importance. This importance is confirmed by the fact that the EU budget consists of only a few parts, and one of them is the income from the agricultural market of the member states. 80% of this quota, consisting of agricultural customs duties, mainly from sugar market, is transferred to the Community budget. The remaining 20% of the quota is retained by the countries in their budgets and is treated as a collection cost [Janiak 2015]. However, it is worth remembering that in the case of the EU market, trade in agricultural commodities is subject not only to food law, but also to the rules resulting from the creation of a trade union, i.e. the rules of free movement of goods, common trade policy, health and consumer protection, harmonisation of laws for

the functioning of the internal market and the common agricultural policy [Korbutowicz 2016]. Its competitiveness is therefore influenced by a wide range of factors.

## MATERIALS AND METHODS

The study uses a variety of research methods, ranging from a literature review and analysis of European Union documents to a statistical-descriptive analysis of trade data and a comparison of theoretical trade gravity index values with historical empirical data. According to the gravity model described by Tinbergen [1962], the volume of trade between countries is directly proportional to their gross national product and inversely proportional to the distance between them. The formula of Gravity is presented in the following functional shape:

$$TT_{ijt} = \gamma\left(\frac{GDP_{it} \times GDP_{jt}}{D_{ij}}\right)$$

where: $TT_{ijt}$ – volume of total bilateral trade, $i$, $j$ – respective countries, $t$ – time period, $\gamma$ – gravitational constant, GDP – Gross Domestic Product of countries $i$ and $j$, $D_{ij}$ – distance between two trading countries (normally between capital cities). The empirical material collected is presented in tables and graphs.

This study has used data from international databases of the World Bank, EUROSTAT, UNCTAD and the Statista service, statistical offices of member countries. According to the classification of the data presented in the mentioned databases, the following items were included in the food group: food and animal products, beverages and tobacco, animal and vegetable oils, fats and waxes. The distance between countries was measured by the distance between the capital of the importer and the capital of the exporter.

It should be noted that intra-EU trade is presented as a single figure because, according to trade theory, every export within the EU is an import for another EU Member State, so exports and imports should balance each other out.

## RESULTS AND DISCUSSION

EU food trade has been on a steady upward trend since the beginning of the 21st century. The value of food sold has tripled between 2002 and 2022 (Fig. 1). In intra-EU food trade on both the import and export side, four groups of products stood out the most, primarily meat and meat products (Tab. 1), dairy (Tab. 2), cereals (Tab. 3) and fruit and vegetables (Tab. 4).

The main exporters of meat and meat products in the European Union are Belgium, Germany, Spain and the Netherlands. Between 2000 and 2005, Belgium exported most to France; in 2010, Belgium's exports to the Netherlands were equal to those to France. Between 2015 and 2020, Belgium exported most to the Netherlands. Exports to Germany varied between 11% and 18%. This share of export to Germany decreased in each five-year period, with a drop of 18 percentage points between 2000 and 2020.

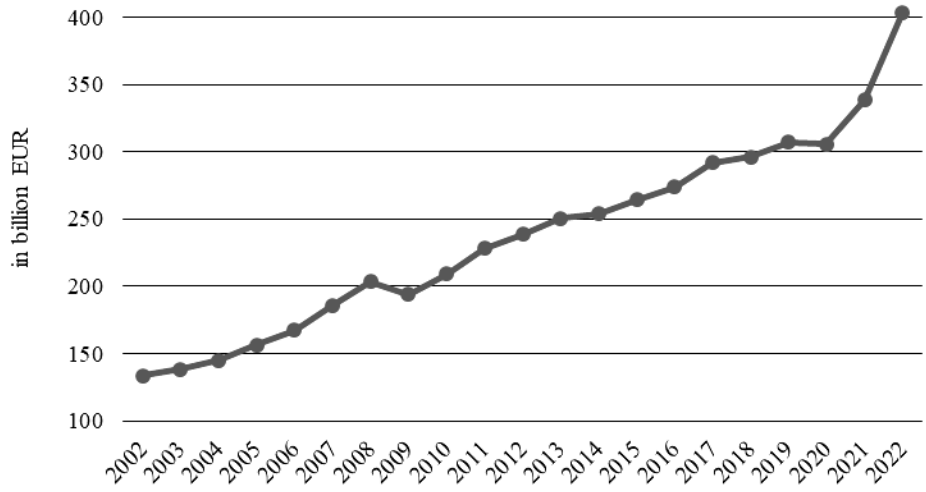


Fig. 1. Intra-EU export in years 2002–2022 [own elaboration based on data from Statista database]

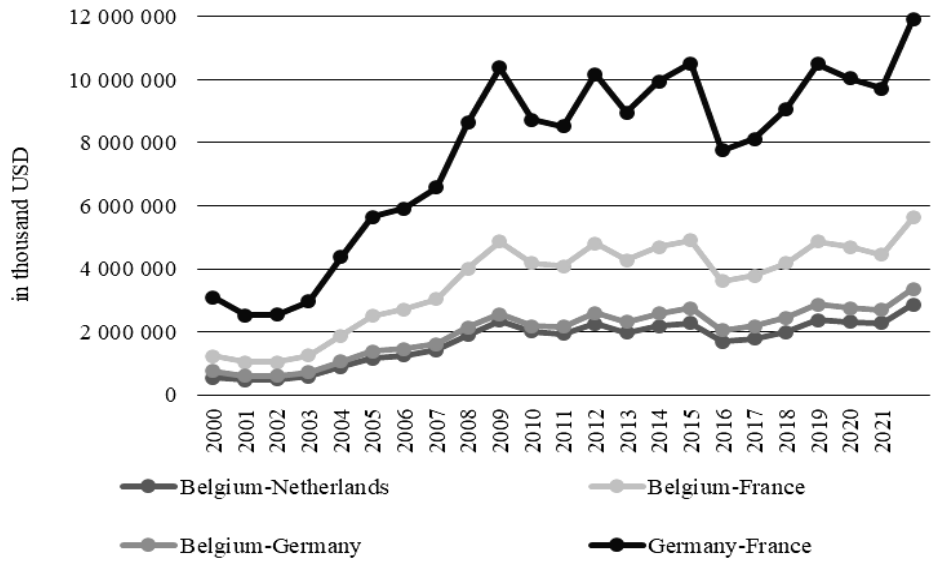


Fig. 2. Trade gravity model beetween two EU countries in years 2000–2021 [own elaboration based on data from World Bank database]

In the case of the Netherlands, the value, meat and meat products imported from Belgium increased by 17 percentage points over the two decades. Another country that has been an important exporter is Germany. It exports meat products to the Netherlands, Belgium and Denmark. The highest values were exported from the Netherlands, which

in 2020 exported 8.8 billion euros worth of meat, making it the biggest exporter of meat in the EU [Statistics Netherlands 2021]. Germany's exports are not as high as those of Belgium, mentioned above, as total exports to the three main countries account for 53% of the total export value. Most meat products are exported to the Netherlands, with share varying between 23 and 40% of the total export value in each year. Among main importers of meat and meat products from the Netherlands can be mentioned Germany, Belgium and Poland. In 2000, the share of exports of meat and meat products from the Netherlands to Poland was 0.2%, but in the following years there was an upward trend and in 2020 the value of exports was 11.8 percentage points higher. In the case of sales of products to Germany, there was an upward trend of 4 percentage points over the twenty years of the period analysed. There was an upward trend in the value of exports between 2000 and 2010, but a decrease in value in the later years. In 2022 Germany exported almost 2.9 million tons of meat and meat products [German Federal Statistical Office 2023]. The share of exports of meat and meat products to Belgium fell by 18 percentage points between 2000 and 2020.

Table 1. Structure of meat and meat product exports between EU countries from 2000 to 2020 (%)

| Main exporters | Receiving countries | 2000 | 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|---|
| Belgium | Netherlands | 23 | 28 | 29 | 32 | 40 |
| | France | 46 | 34 | 29 | 24 | 21 |
| | Germany | 11 | 17 | 18 | 16 | 13 |
| Germany | Netherlands | 29 | 23 | 26 | 28 | 30 |
| | Belgium | 19 | 19 | 15 | 12 | 10 |
| | Denmark | 14 | 14 | 15 | 10 | 8 |
| Spain | France | 35 | 33 | 34 | 31 | 26 |
| | Portugal | 29 | 25 | 24 | 22 | 20 |
| | Italy | 15 | 13 | 14 | 14 | 15 |
| Netherlands | Germany | 29 | 37 | 41 | 37 | 33 |
| | Belgium | 44 | 35 | 31 | 27 | 26 |
| | Poland | 0,2 | 3 | 7 | 9 | 12 |

Source: own elaboration based on data from EUROSTAT database

Table 2 shows that the top four exporters of dairy products and birds' eggs among the EU Member States between 2000 and 2020 are Germany, the Netherlands, France and Belgium. The main export destinations for these products from Germany were Italy, the Netherlands and France. The average share of sales to France did not exceed 10% between 2000 and 2020. Most products were sold to Italy, but the share of exports of dairy products and birds' eggs fell by 20 percentage points over the twenty years. Sales to France remained at a similar level. Between 2000 and 2010, the share fell by 2 percentage points. Between 2015 and 2020, the value of exports increased, but not significantly, as it returned to its initial value. The highest average value of exports to the three main countries was recorded in Belgium.

Table 2. Structure of exports of dairy products and birds' eggs between EU countries from 2000 to 2020 (%)

| Main exporters | Rcceiving countries | 2000 | 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|---|
| Germany | Italy | 36 | 30 | 25 | 20 | 16 |
| | Netherlands | 21 | 21 | 18 | 19 | 21 |
| | France | 10 | 9 | 10 | 9 | 9 |
| Netherlands | Germany | 42 | 42 | 44 | 40 | 40 |
| | Belgium | 25 | 22 | 20 | 22 | 22 |
| | France | 13 | 12 | 11 | 14 | 14 |
| France | Spain | 15 | 20 | 22 | 23 | 23 |
| | Germany | 14 | 17 | 20 | 18 | 15 |
| | Netherlands | 22 | 17 | 19 | 17 | 15 |
| Belgium | Netherlands | 28 | 31 | 33 | 34 | 39 |
| | France | 31 | 33 | 33 | 31 | 29 |
| | Germany | 24 | 22 | 19 | 22 | 17 |

Source: own elaboration based on data from EUROSTAT database

The leading exporters of cereals and processed cereals in the European Union are France, Germany, Italy and Belgium. For France, Germany is the main export destination (Tab. 3). In 2000, 28% of the value of France exports went to Germany. However, there was a downward trend in the following years and in 2020 the value was 7 percentage points lower than in 2000. For the other countries, there was no characteristic trend. German exports to France were the most important. The averag share of trade in cereals and cereal products from Germany to France between 2000 and 2020 was 21%. The volume of imports of cereals to Italy showed a downward trend over the twenty years, except for 2005. The value of exports was 2 percentage points lower in 2020 than in 2000. The main destinations for Belgian cereal exports were France, Germany and the Netherlands. The main country to which Belgium exported was France. In most years, more than 50% of cereals and cereal products were exported there. Between 2000 and 2005 there was an increase in value, but in other years there was a downward trend. Between 2005 and 2020, an increasing share of products was exported from Belgium to the Netherlands. Between 2000 and 2020, the share of exports to this country increases by 9 percentage points.

From the analysis of the data in Table 4, it can be seen that the main exporters of fruit and vegetables among the EU countries were Spain, the Netherlands, Belgium and Italy. Over the twenty years of the period analysed, the average value of exports from Spain was $9 billion and 64% of this amount between 2000 and 2020 was sold to Germany, France and the Netherlands. Most of the fruit and vegetables were exported to Germany. Between 2000 and 2005, there was a decrease of 4 percentage points in the share of products sold, but there was an upward trend between 2010 and 2020. Compared to Germany, trade in fruit and vegetables to France showed the opposite trend. Between 2000 and 2005, the value of exports increased and in the following years the value of exports decreased. In 2020, the share of exports was 3 percentage points lower

than in 2000. The main destinations of Italian exports were Spain, France and the Netherlands. The Netherlands was the only country to show an upward trend over the period. In 2020, the share of exports was 3 percentage points higher than in 2000. However, it was Belgian exports of fruit and vegetables that showed the largest increases in the country's share of trade, reflecting Belgium's important position in the EU's internal trade. The most striking change was the increase in the share of Belgian fruit and vegetable exports to the Netherlands, which increased almost sixfold between 2000 and 2020.

Table 3. Structure of exports of cereals and processed cereals between EU countries from 2000 to 2020 (%)

| Main exporters | Rcceiving countries | 2000 | 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|---|
| France | Germany | 28 | 27 | 27 | 24 | 21 |
| | Belgium | 22 | 24 | 22 | 22 | 21 |
| | Italy | 26 | 26 | 23 | 21 | 24 |
| Germany | France | 37 | 26 | 23 | 17 | 14 |
| | Italy | 17 | 18 | 16 | 15 | 15 |
| | Netherlands | 11 | 11 | 10 | 11 | 13 |
| Italy | France | 59 | 43 | 31 | 25 | 20 |
| | Germany | 15 | 20 | 17 | 18 | 14 |
| | Austria | 9 | 11 | 11 | 13 | 11 |
| Belgium | France | 54 | 58 | 53 | 50 | 46 |
| | Germany | 21 | 20 | 20 | 19 | 14 |
| | Netherlands | 12 | 11 | 12 | 14 | 21 |

Source: own elaboration based on data from EUROSTAT database

From the analysis of the export shares of the main EU's food trades, it can be concluded that Belgium ~~is~~was the main exporter of food in the four main product categories. Germany, France and the Netherlands also played an important role in intra-EU food trade.

Trade between Germany and France has the highest values of the gravity index for bilateral trade over the period considered. Despite the fact that these countries are separated by the greatest distance (1056 km between their capitals), the prediction of trade turnover is the highest due to the high values of national income obtained. However, in order to verify the research hypothesis and to examine the impact of the distance between trading partners and the dependence of the economic growth of both entities on food trade, the value of the trade gravity index for the main actors involved was compared with the empirical values of the actual trade turnover between the countries in question (Tab. 5).

A comparison of the estimated values of trade flows between two countries in the gravity model, as a function of the national product achieved and the distance separating them, with the actual values of food trade carried out, leads to the conclusion that criteria other than economic development are decisive for food trade. Food is a specific product

and it is therefore not easy to predict the value of trade flows. In the case of countries close to each other, such as Belgium and the Netherlands (the capitals are only 210 km apart), it was possible to estimate the value of trade flows between the partners. On the other hand, the most divergent values were obtained for the countries furthest apart, despite being direct neighbours. It should be added that the value of GDP increased significantly in all countries during the period under study, which significantly inflated the value of the indicator.

Table 4. Structure of fruit and vegetable exports between EU countries 2000–2020 (%)

| Main exporters | Rcceiving countries | 2000 | 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|---|
| Spain | Germany | 31 | 27 | 27 | 29 | 31 |
| | France | 27 | 29 | 28 | 25 | 24 |
| | Netherlands | 11 | 10 | 10 | 9 | 9 |
| Netherlands | Belgium | 28 | 30 | 29 | 28 | 29 |
| | Spain | 27 | 27 | 26 | 28 | 27 |
| | Germany | 18 | 19 | 16 | 18 | 16 |
| Belgium | Netherlands | 25 | 37 | 55 | 76 | 141 |
| | France | 32 | 34 | 38 | 47 | 44 |
| | Spain | 16 | 23 | 28 | 33 | 39 |
| Italy | Spain | 33 | 31 | 28 | 36 | 36 |
| | France | 20 | 21 | 23 | 16 | 14 |
| | Netherlands | 12 | 12 | 13 | 14 | 15 |

Source: own elaboration based on data from EUROSTAT database

Table 5. Difference between the gravity index and the actual value of the trade turnover between the different countries of the European Union from 2000 to 2020 (%)

| Trade countries | 2000 | 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|
| Belgium–Netherlands | 191 | 123 | 101 | 129 | 121 |
| Belgium–France | 95 | 56 | 43 | 48 | 42 |
| Belgium–Grermany | 116 | 74 | 56 | 54 | 41 |
| Germany–France | 37 | 22 | 21 | 21 | 18 |

Source: own elaboration based on data from World Bank database

Similar conclusions were reached by Pigłowski [2023], who also studied the food trade of EU countries. He found that intra-EU trade increased by 15% in the period studied (i. e. in years 1999–2019), with the main internationally traded product groups being beverages, cereals, fruit and vegetables. Focusing on the eastern part of the EU, the author noted that countries mostly traded with their closest neighbours, and the sources of competitive advantage used were lower food prices and food production based on traditional methods [Pigłowski 2023]. The above considerations are confirmed by a study by

Bruno et al. [2021], according to which food was among the top five most important sectors for the EU, also in terms of employment and value added. In their analysis, the authors highlight the widening productivity gap between southern and eastern EU countries. On the other hand, Ascani et al. [2020] point out that international exchanges allow the integration of local resources with externalities, which is particularly necessary in the agri-food sector, which is the least linked to the global economy.

In view of the above results, it is worth noting that in the current international market situation, in the era of the ongoing armed conflict between Russia and Ukraine and its increasing impact on global food trade, it will be necessary to change the trade strategy pursued so far. As noted by Ambroziak et al. [2022], EU exporters may need to focus more on Asian countries. Nowak et al. [2022] also point out that Ukraine has a much higher agricultural production potential than some EU Member States, and therefore its importance in global agricultural trade could increase significantly in the long term. This will require significant changes in EU trade policy [Nowak et al. 2022].

## CONCLUSIONS

The role of food in intra-EU trade has been increasing. During the studied period, i.e., the years 2000–2022, the total value of trade turnover increased. In the case of intra-EU food exports, these were tripled. This indicates the significant role of international trade in the efficient allocation of production resources. The applied trade gravity index confirmed that geographical proximity and strong economic ties between countries are key to the intensity of food trade. However, the analysis results suggest that in addition to economic factors, such as GDP and the distance between countries, other criteria, such as the specificity of food products and trade policies, also play a crucial role. The increase in the shares of food sold to major counterparts, which are other EU Member States, confirms the thesis that the removal of trade barriers stimulates exports. In the case of intra-EU food trade, the Benelux countries, Germany and France played the largest roles. EU exchanges most frequently occurred among the closest neighbors in 4 main product groups: meat products, dairy, cereals, and fruits and vegetables. In this last group of intra-EU trade, the highest increases in export shares were recorded.

However, despite the extensive use of CAP instruments, there are still challenges related to uneven access to food. Predictions that the demand for food will continue to grow require the search for new solutions, especially in light of the current international situation. The armed conflict between Russia and Ukraine has a huge impact on global food trade, and the EU's current trade strategy needs to be reviewed.

## REFERENCES

Ambroziak Ł., Szczepaniak I., Pawlak K., 2022. Prospects for the development of Polish agri-food exports to the regional comprehensive economic partnership countries. Zag. Ekon. Rol. 373(4), 46–74. https://doi.org/10.30858/zer/155841

Ascani A., Bettarelli L., Resmini L., Balland P.A., 2020. Global networks, local specialisation and regional patterns of innovation. Res. Policy 49(8), 104031. https://doi.org/10.1016/j.respol.2020.104031

Babiak J., 2011. Możliwości produkcyjne rolnictwa a sytuacja żywnościowa świata [Production capacities of agriculture and the world food situation]. Polityki Eur. Finanse Mark. 5(54), 5–16. https://sj.wne.sggw.pl/pdf/PEFIM_2011_n54_s5.pdf [access: 30.10.2023].

Benton T., Harwatt H., King R., Muzammil M., Watts C., Wellesley L. Williamson D., 2021. How trade with the UK affects food and nutrition security in developing countries. Resources Trade Earth, Chatham House, The Royal Institute of International Affairs. https://resourcetrade.earth/publications/how-trade-with-the-uk-affects-food-and-nutrition-security-in-developing-countries [access: 30.10.2023].

Bruno R.L., Douarin E., Korosteleva J., Radosevic S., 2022. The two disjointed faces of R&D and the productivity gap in Europe. J. Common Mark. Stud. 60(3), 580–603. https://doi.org/10.1111/jcms.13260

Daniek K., 2018. Potrzeby żywieniowe jako determinanta rozwoju rynku żywności funkcjonalnej [Nutritional needs as a determinant of the growing functional food market]. Probl. Drob. Gospod. Rol. 4, 5–18. https://doi.org/10.15576/PDGR/2018.4.5

Eather J., Duver A., Fell J., 2022. Foods: the role of international trade and support. ABARES Insights, vol. 4. https://doi.org/10.25814/95ap-fj06

EUROSTAT database, 2024. https://ec.europa.eu/eurostat/databrowser/view/ds-059268__custom_10176646/default/table?lang=en [access: 01.03.2024].

FAO, 2018. The future of food and agriculture – Alternative pathways to 2050, Rome

German Federal Statistical Office, 2023. Meat exports decreased by 19% in the last five years. Wiesbaden. https://www.destatis.de/EN/Press/2023/03/PE23_N018_413.html [access: 01.03.2024].

Janiak K., 2015. Budżet Unii Europejskiej [The EU budget]. Departament Ekonomiczny Unii Europejskiej Ministerstwo Spraw Zagranicznych Rzeczpospolitej Polskiej [The Department of Economic Cooperation with EU in Ministry of Foreign Affairs Republic of Poland]. https://www.gov.pl/documents/1149181/1150183/Budzet_Unii_Europejskiej.pdf/a5f9e073-fae8-0262-a8cc-6e002cd5e7cf [access: 30.10.2023].

Jarosz-Angowska A., 2017. Instrumenty Regulacji rynków rolnych w uwarunkowaniach wspólnej polityki rolnej UE [Instruments of agricultural markets regulation in the conditions of the EU common agricultural policy]. Stud. Ekon. Zesz. Nauk. Uniw. Ekon. Kat. 312, 40–50.

Jeníček V., Krepl V., 2009. The role of foreign trade and its effects. Agric. Econ. 55, 211–220. https://www.agriculturejournals.cz/pdfs/age/2009/05/01.pdf [access: 30.10.2023].

Jiren T.S., Dorresteijn I., Hanspach J., Schultner J., Bergsten A. M., Jager N., Senbeta F., Fischer J., 2020. Alternative discourses around the governance of food security. A case study from Ethiopia. Global Food Sec. 24, 100338. https://doi.org/10.1016/j.gfs.2019.100338

Klikocka H., Jarosz-Angowska A., Nowak A., Skwaryło-Bednarz B., 2022. Assessment of Poland food security in the context of agricultural production in 2010–2020. Agron. Sci. 77(3), 101–122. https://doi.org/10.24326/as.2022.3.8

Klimiuk Z., 2016. Ewolucja tradycyjnych koncepcji handlu zagranicznego w teorii ekonomii [The evolution of traditional concepts of foreign trade in the economic theory]. Zesz. Nauk. Państw. Wyż. Szk. Zaw. Płocku, Nauki Ekon. 2(24), 7–25. https://bibliotekanauki.pl/articles/446900

Korbutowicz T., 2016. Standardy żywności w handlu między państwami członkowskimi Unii Europejskiej [Food standards in the trade between members countries EU]. Finanse, Rynki Finansowe, Ubezp. 3(81), 131–141. https://doi.org/10.18276/frfu.2016.81-12

Kowalska A., 2017. The issue of food losses and waste and its determinants. LogForum – Sci. J. Logist. 13(1), 7–18. http://dx.doi.org/10.17270/J.LOG.2017.1.1

Kowalska A., Budzyńska A., Białowąs T., 2022. Food export restrictions during the COVID-19 pandemic. Real and potential effects on food security. Intern. J. Manag. Econ. 58(3), 409–424. https://doi.org/10.2478/ijme-2022-0023

Kowalski J., Kowalska A., 2022. The realization of the human right to food: preliminary remarks on assessing food security. Prz.d Praw.-Ekon. 1, 9-31. https://doi.org/10.31743/ppe.13009

Kowalski S., 2011. Uwarunkowania funkcjonowania Wspólnej Polityki Rolnej Unii Europejskiej [Determinants of the European Union's Common Agricultural Policy]. Płock, 8–10.

Nowak A., Kovaliv V., Rulitska K., 2022. Assessment of the productive potential of agriculture and its efficient utilisation in Poland and Ukraine. Agron. Sci. 77(4), 23–32. https://doi.org/10.24326/as.2022.4.2

Pawlak K., 2022. Competitiveness of the EU agri-food sector on the US Market. Worth reviving transatlantic trade?. Agriculture 12(1), 23. https://doi.org/10.3390/agriculture12010023

Pigłowski M., 2023. Eastern European Union countries in the intra-EU food trade in 1999–2019. Sci. J. Gdyn. Marit. Univ. 126(23), 19–32. https://doi.org/10.26408/126.02

Puri S.R., Kumar S., 2021. Analysing the role of foreign trade on economic development of nation. Elementary Education Online 20(1), 4006–4011. https://doi.org/10.17051/ilkonline.2021.01.441

Ricardo D., 1957. Zasady ekonomii politycznej i opodatkowania. Nakład Gebethnera i Wolffa [Principles of political economy and taxation. Gebethner and Wolff edition]. Warszawa–Kraków. https://rcin.org.pl/dlibra/doccontent?id=31352 [access: 30.10.2023].

Sadłowski A., 2012. Wpływ płatności bezpośrednich na warunki konkurencji na wspólnym rynku europejskim [The impact of direct payments on the conditions for competition on the common European market]. Wieś Roln. 2(155), 82–96.

Statista database, https://www.statista.com/ [access: 01.03.2024].

Statistics Netherlands, 2021. The Netherlands is the EU's largest meat exporter. https://www.cbs.nl/en-gb/news/2021/25/the-netherlands-is-the-eu-s-largest-meat-exporter [access: 1.03.2024].

Sujová A., Simanová L., Kupčák V., Schmidtová J., Lukáčiková A., 2021. Effects of foreign trade on the economic performance of industries – evidence from wood processing industry of Czechia and Slovakia. Economies 9(4), 180. https://doi.org/10.3390/economies9040180

Tinbergen J., 1962. Shaping the world economy, suggestions for an international economic Policy. New York.

UNCTAD, 2023. UNCTAD Data Center. https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=24397 [access: 30.10.2023].

Wojciechowski H., 1977. Światowy rynek żywności: powstanie-rozwój-przemiany [The world food market: emergence-development-transformations]. Ruch Praw. Ekon. Socjol. 39(3), 153–171. https://repozytorium.amu.edu.pl/items/2604c749-1802-42f5-add1-e9215533a9b0 [access: 30.10.2023].

World Bank Database, 2024. https://wits.worldbank.org/CountryProfile/en/Country/BLX/Year/LTST/TradeFlow/Export/Partner/by-country/Product/06-15_Vegetable [access: 01.03.2024].

**The source of funding:** The research and publication costs were funded by the Maria Curie-Sklodowska University in Lublin (the 3rd edition of the programme supporting scientific activity entitled the "UMCS Mini-Grants" and the Faculty of Economics and the Institute of Economics and Finance).

Otrzymano/Received: 6.11.2023
Zaakceptowano/Accepted: 27.06.2024
Publikacja/Publication: 07.08.2024