

## Foreign trade in goods of Ukraine with EU countries: value dimension

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### ABSTRACT

Ukraine is trying to become a full member of the EU. In 2022, it received the status of a candidate for joining the EU. Ukraine's foreign trade with EU countries takes a significant share in its total foreign trade: in 2021, exports of goods from Ukraine to EU amounted to USD 26,792,969.3 thsd. or 39.36% of the total export of Ukrainian goods; the import of goods from the EU to Ukraine amounted to USD 28,954,281.2 thsd. or 39.75% of the total amount of goods imported to Ukraine. However, the war in Ukraine made adjustments to trade in goods between Ukraine and the EU. The purpose of the article is to analyze the value indicators of Ukraine's foreign trade in goods with EU in 2021 and to determine the impact of the war on Ukraine's export and import operations with the EU in 2022. At the first stage of the study, an ABC analysis of EU countries was carried out separately according to the indicators of export of goods from Ukraine and import of goods to Ukraine. At the second stage of the study, a structural analysis of export/import indicators was carried out for those eight countries that in both cases fell into group A (Poland, Italy, Germany, the Netherlands, Spain, Hungary, the Czech Republic, Slovakia) in order to determine the goods with the largest export/import potential in 2021. At the third stage of the study, the indicators of export/import of goods between Ukraine and the EU for 2022 were analyzed.

**KEYWORDS:** export, import, goods, Ukraine, EU countries

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**1. Introduction.** Ukraine is a European country and aspires to join the European Union (EU). It has now been granted EU candidate status. One of the areas of rapprochement and cooperation of Ukraine with EU countries is mutual foreign trade in goods and services. This is facilitated by Ukraine's convenient geographical location and common borders with some EU member states. In particular, in 2021 Ukraine exported goods to the EU in the amount of USD 26,792,969.3 thsd., which amounted to 39.36% of the total amount (USD 68,072,328.8 thsd.) of exports of Ukrainian goods. During the same period, Ukraine imported goods from the EU in the amount of USD 28,954,281.2 thsd., which amounted to 39.75% of the total amount (USD 72,843,126.6 thsd.) of imports of goods to Ukraine (State Statistics Service of Ukraine, 2022a, 2022b). As Ukraine's trade with the EU countries plays a significant share in its overall foreign trade, it is advisable to analyze in more detail the financial aspects of such relations. This is especially relevant in the context of the strategy of economic recovery of Ukraine after the war.

**2. Literature Review.** Ukraine's foreign economic relations with the EU countries have been analyzed in numerous scientific publications. They can be divided into three groups:

1. Cooperation of Ukraine with one EU country.
2. Cooperation of Ukraine with several EU countries.
3. Cooperation of Ukraine with the EU in general.

Regarding the first direction, Kastakova and Bebiakova (2016) studied the development of foreign trade relations between the Slovak Republic and Ukraine. Based on the analysis of globalization processes taking place in Ukraine and foreign trade, they carried out a SWOT-analysis of the prospects of foreign trade relations between Slovakia and Ukraine.

Korovaichenko and Shevchenko (2015) considered the dynamics and structure of Ukraine's trade with Germany in order to study the mechanism of crisis spread through foreign trade relations between countries. They studied the patterns of spread of local crises to the regional level. The gravitational model was used to determine the degree of impact of the crisis on the national economy and bilateral trade.

Lazhnik et al. (2019) investigated the current state of economic relations between Ukraine and the Czech Republic, identified the main trends of modern commodity trade between Ukraine and the Czech Republic, and examined the regional structure of Ukraine's foreign trade with the Czech Republic.

Lazhnik et al. (2020) studied the state of Ukrainian-Polish bilateral trade relations, identified regional features and disparities in trade in Ukrainian goods with Poland. The coefficients of balance and connectivity of commodity trade with Poland have been calculated for 25 regions of Ukraine.

Motoryn et al. (2020) determined the determinants of the asymmetry of foreign trade turnover between Ukraine and Poland based on the analysis of the competitiveness indicators of the studied countries in the period 2003-2017. They focused on calculating the comparative advantages of individual product positions in Polish exports in the domestic market of Ukraine, assessed the potential directions of intensification of bilateral trade.

Pidhirna (2011) analyzed the levels of openness of the national economies of Ukraine and Romania to foreign trade and investment, systematized the areas of openness of national preferences and proposed measures to increase the pace of foreign trade operations, which significantly affect market openness.

Totska (2022a, 2022d) carried out predictive modeling of foreign trade between Ukraine and Romania in separate groups of goods of the agro-industrial complex; detailed analysis of financial aspects of trade in agricultural products of Ukraine and Romania.

Regarding the second direction, Blikhar (2009) conducted a study of empirical assessment of the impact of Central and Eastern Europe (CEE) countries on the performance of the Ukrainian economy. The mutual causality between the indicators of industrial production and GDP of the CEE countries and Ukraine is analyzed.

Didkovska (2013) developed regression models that describe the indicators of merchandise exports and imports of Ukraine with Western Europe.

Matyushenko et al. (2021) assessed the current state of cooperation between Ukraine and the Scandinavian countries and identified the most important factors for its further development in the new industrial revolution. It has been found that economic diplomacy plays a vital role in establishing and expanding trade relations.

Moroz et al. (2017a) in their study considered the main trends and prospects for the development of trade relations between Ukraine and the countries of the Visegrad region. The results of their analysis of Ukraine's export trade with the V4 countries showed that the country's operations with Poland, the Czech Republic and Slovakia were focused mainly on raw materials, and exports of the machine-building sector to Hungary showed significant growth. At the same time, poor economic conditions and high inflation in Ukraine led to a decline in imports of goods, in particular with the V4 countries.

In a study by Nagyova et al. (2018) assessed the development of exports of goods between Ukraine and the countries of the Visegrad region. It was found that Ukraine's export operations are affected by exports to other trading partners and GDP per capita. Poland has the strongest positive relationship with Ukrainian exports from the V4 group. It was found that when the GDP per capita of a country increases, exports to that country decrease. To a large extent, Ukraine's exports are focused on plant products.

Regarding the third direction, Koliadenko et al. (2020) investigated the state and perspective directions of Ukrainian agricultural exports to the EU countries and introduced effective forecasting using the method of mathematical modeling of a continuous system of aperiodic components.

Lyskova (2017) illustrated the dynamics of foreign trade between Ukraine and the EU in 2008–2015 and Ukraine's main trading partners in the EU. It identifies the most acute problems in the development of trade relations between Ukraine and the EU in agriculture.

Polkovnychenko and Nahorny (2018) assessed the level of realization of Ukraine's national interests in foreign trade with the European Union. They proposed ways to protect Ukraine's national interests in the European vector of foreign trade.

Tsygankova et al. (2020) devoted their research to the characteristics of the partnership between Ukraine and the EU in the context of the Deep and Comprehensive Free Trade Area (DCFTA), which entered into force on 1 September 2017 and is part of the Association Agreement. They quantified the dynamics of indicators of economic development of Ukraine and the foreign economic sphere. They point to the existing asymmetry of trade and economic integration of Ukraine and the EU, which is

manifested in technological disparities, exports of raw materials from Ukraine and high-tech imports, a negative balance and a steady growth of the negative trade balance of Ukraine.

Vošta et al. (2016) analyzed key issues of bilateral cooperation between the EU and Ukraine in the framework of the Eastern Partnership initiative. Particular attention is paid to the political and economic components of this interaction, in particular good governance, the signing of association agreements and the establishment of the DCFTA.

In a study by Yatsenko et al. (2020) proposed to modernize the format of Ukraine's trade integration with the EU in the context of DCFTA implementation. Three main vectors for updating the Agreement have been identified as priorities: deepening sectoral integration; increase of duty-free exports to the EU market; the abolition of non-tariff measures restricting trade with the EU, as well as the signing of a number of agreements for the above purpose.

In addition, the study by Vasylieva (2021), who studied the dynamics of prices for basic crop and livestock products in Ukraine and neighboring EU countries, is interesting. Let's pay attention to the study of foreign trade of Ukraine at the regional level by Malyarets et al. (2022), Moroz et al. (2017b) and at the national level by Totska (2022b).

**3. Methodology.** The purpose of the article is to analyze the value indicators of Ukraine's foreign trade in goods with EU in 2021 and to determine the impact of the war on Ukraine's export and import operations with the EU in 2022. To achieve this, the first stage will use ABC-analysis, with which all EU countries will be divided into the following three groups:

A – countries with a large volume of Ukrainian exports (about 80 % of total exports from Ukraine to the EU);

B – countries with an average level of exports of goods from Ukraine (about 15 %);

C – countries with a small volume of purchases of Ukrainian goods (about 5 %).

A similar classification of EU countries will be based on the indicator of imports of goods from the EU to Ukraine.

ABC analysis is based on the Pareto method (20/80), according to which 20% of the total number of objects usually gives about 80% of the results.

Note that Totska (2022c) used ABC analysis to classify EU countries by the volume of Ukrainian exports of grain crops, fats, and oils in 2021.

In the second stage, for those countries that in both cases fell into group A, ie were the largest foreign trade partners of Ukraine with the EU, a structural analysis of export/import indicators will be carried out.

At the third stage of the study, the indicators of export and import of goods between Ukraine and the EU for 2022 will be analyzed.

Data from the official website of the State Statistics Service of Ukraine will be used for analysis (excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the temporarily occupied territories in Donetsk and Luhansk regions), as well as the Ministry of Economy of Ukraine.

#### 4. Results.

**4.1. Ukrainian exports of goods to the EU.** Indicators of exports of goods from Ukraine to 27 EU countries are shown in **Table 1**. It will also calculate the share and accumulated share of each country in total exports of Ukrainian goods to the EU. Finally, determine the group into which they fall according to the results of ABC-analysis. Note that the countries in **Table 1** are listed in descending order of exports of goods.

**Table 1.** Ukraine's foreign trade in goods with EU – exports, 2021 (thsd. USD)

| Country        | Exports      | Share in total exports to the EU, % | Accumulated share in total exports to the EU, % | ABC group |
|----------------|--------------|-------------------------------------|---|-----------|
| Poland         | 5,227,413.1  | 19.5                                | 19.5  | A         |
| Italy          | 3,469,269.2  | 12.9                                | 32.5  | A         |
| Germany        | 2,866,373.4  | 10.7                                | 43.2  | A         |
| Netherlands    | 2,262,530.2  | 8.4                                 | 51.6  | A         |
| Spain          | 1,677,241.7  | 6.3                                 | 57.9  | A         |
| Hungary        | 1,622,073.1  | 6.1                                 | 63.9  | A         |
| Romania        | 1,543,445.3  | 5.8                                 | 69.7  | A         |
| Czech Republic | 1,414,558.4  | 5.3                                 | 75.0  | A         |
| Slovakia       | 999,275.1    | 3.7                                 | 78.7  | A         |
| Austria        | 915,155.5    | 3.4                                 | 82.1  | B         |
| France         | 896,493.5    | 3.3                                 | 85.4  | B         |
| Bulgaria       | 835,270.9    | 3.1                                 | 88.6  | B         |
| Belgium        | 659,034.3    | 2.5                                 | 91.0  | B         |
| Lithuania      | 576,917.6    | 2.2                                 | 93.2  | B         |
| Portugal       | 341,202.1    | 1.3                                 | 94.5  | B         |
| Latvia         | 288,575.1    | 1.1                                 | 95.5  | C         |
| Denmark        | 285,816.4    | 1.1                                 | 96.6  | C         |
| Greece         | 212,785.1    | 0.8                                 | 97.4  | C         |
| Estonia        | 168,628.9    | 0.6                                 | 98.0  | C         |
| Finland        | 110,813.2    | 0.4                                 | 98.4  | C         |
| Sweden         | 107,554.5    | 0.4                                 | 98.8  | C         |
| Ireland        | 97,882.3     | 0.4                                 | 99.2  | C         |
| Slovenia       | 75,524.5     | 0.3                                 | 99.5  | C         |
| Cyprus         | 47,441.0     | 0.2                                 | 99.7  | C         |
| Croatia        | 45,742.3     | 0.2                                 | 99.8  | C         |
| Malta          | 30,209.6     | 0.1                                 | 99.9  | C         |
| Luxembourg     | 15,743.2     | 0.1                                 | 100.0   | C         |
| EU 27          | 26,792,969.3 | 100.0                               | -   | -         |

Source: Author's calculations based on data from the State Statistics Service of Ukraine (2022a)

Thus, group A includes nine EU countries: Poland, Italy, Germany, the Netherlands, Spain, Hungary, Romania, the Czech Republic, and Slovakia. In 2021, Ukrainian goods worth USD 999.3 million to USD 5,227.4 million were exported to each of them. The share of these countries in the total amount of Ukrainian exports of goods to the EU ranged from 3.7 to 19.5%.

Group B brought together six EU countries: Austria, France, Bulgaria, Belgium, Lithuania and Portugal. The volume of purchases of Ukrainian goods by these countries ranged from USD 341.2 million to USD 915.2 million. Their contribution to the total exports of goods to the EU ranged from 1.3 to 3.4%. The difference between the lower position of exports in group A (USD 999.3 million) and the upper in group B (USD 915.2 million) amounted to USD 84.1 million.

Group C includes 12 EU countries: Latvia, Denmark, Greece, Estonia, Finland, Sweden, Ireland, Slovenia, Cyprus, Croatia, Malta, and Luxembourg. To each of them, exports of goods from Ukraine were less than USD 300 million. Their share in the total amount of exports of goods to the EU ranged from 0.1 to 1.1%. The difference between the lower position of exports in group B (USD 341.2 million) and the upper in group C (USD 288.6 million) was USD 52.6 million.

In general, the spread of export amounts ranged from USD 15.7 million to USD 5,227.4 million. It should be noted that Ukrainian goods were exported to all EU countries.

The results of the ABC-analysis of the EU countries by the value of Ukrainian exports of goods in 2021 are shown in **Fig. 1**.

| Group of countries | Number of countries | Share of countries, % | The cost of exports, thsd. USD | Share of exports, % |
|--------------------|---------------------|-----------------------|--------------------------------|---------------------|
| A                  | 9                   | 33.3                  | 21,082,179.6                   | 78.7                |
| B                  | 6                   | 22.2                  | 4,224,073.8                    | 15.8                |
| C                  | 12                  | 44.4                  | 1,486,715.9                    | 5.5                 |
| Together           | 27                  | 100.0                 | 26,792,969.3                   | 100.0               |

**Figure 1.** The results of the ABC-analysis of the EU countries by the value of Ukrainian exports of goods in 2021

Source: Author's calculations based on data from Table 1

As we can see, in 2021 a third of EU countries purchased Ukrainian goods worth USD 21,082.2 million (78.7% of Ukrainian exports of goods to the EU); 22.2% of EU countries – in the amount of USD 4,224.1 million (15.8%); 44.4% of EU countries – in the amount of USD 1,486.7 million (5.5%). That is, the lion's share of goods (94.5%) was exported from Ukraine to 55.5% of EU countries (groups A and B).

**4.2. Imports of goods to Ukraine from the EU.** Indicators of imports of goods to Ukraine from 27 EU countries are shown in **Table 2**. It will also calculate the share and accumulated share of each country in the total imports of goods from the EU to Ukraine; define the group into which they fall according to the results of ABC-analysis. Note that the countries in **Table 2** are listed in descending order of imports of goods.

**Table 2.** Ukraine's foreign trade in goods with EU – imports, 2021 (thsd. USD)

| Country        | Imports      | Share in total imports from the EU, % | Accumulated share in total imports from the EU, % | ABC group |
|----------------|--------------|---------------------------------------|---|-----------|
| Germany        | 6,284,374.9  | 21.7                                  | 21.7  | A         |
| Poland         | 4,962,500.1  | 17.1                                  | 38.8  | A         |
| Italy          | 2,675,493.0  | 9.2                                   | 48.1  | A         |
| France         | 1,764,887.6  | 6.1                                   | 54.2  | A         |
| Hungary        | 1,571,028.5  | 5.4                                   | 59.6  | A         |
| Czech Republic | 1,480,804.9  | 5.1                                   | 64.7  | A         |
| Lithuania      | 1,290,895.4  | 4.5                                   | 69.2  | A         |
| Netherlands    | 1,012,585.8  | 3.5                                   | 72.7  | A         |
| Spain          | 975,882.5    | 3.4                                   | 76.0  | A         |
| Slovakia       | 923,213.6    | 3.2                                   | 79.2  | A         |
| Austria        | 860,067.0    | 3.0                                   | 82.2  | B         |
| Romania        | 796,433.7    | 2.8                                   | 85.0  | B         |
| Belgium        | 752,305.6    | 2.6                                   | 87.6  | B         |
| Sweden         | 724,637.9    | 2.5                                   | 90.1  | B         |
| Bulgaria       | 542,297.9    | 1.9                                   | 91.9  | B         |
| Greece         | 495,622.7    | 1.7                                   | 93.6  | B         |
| Finland        | 306,066.4    | 1.1                                   | 94.7  | B         |
| Denmark        | 305,260.6    | 1.1                                   | 95.8  | C         |
| Slovenia       | 287,793.7    | 1.0                                   | 96.7  | C         |
| Ireland        | 231,456.2    | 0.8                                   | 97.5  | C         |
| Latvia         | 210,303.4    | 0.7                                   | 98.3  | C         |
| Estonia        | 169,808.0    | 0.6                                   | 98.9  | C         |
| Malta          | 116,047.5    | 0.4                                   | 99.3  | C         |
| Portugal       | 88,770.4     | 0.3                                   | 99.6  | C         |
| Croatia        | 67,379.3     | 0.2                                   | 99.8  | C         |
| Cyprus         | 38,039.1     | 0.1                                   | 99.9  | C         |
| Luxembourg     | 20,285.6     | 0.1                                   | 100.0   | C         |
| EU 27          | 28,954,281.2 | 100.0                                 | -   | -         |

Source: Author's calculations based on data from the State Statistics Service of Ukraine (2022a)

Note: In some cases, the sum of the components may not be equal to the result due to rounding data

According to **Table 2**, group A includes ten EU countries: Germany, Poland, Italy, France, Hungary, the Czech Republic, Lithuania, the Netherlands, Spain, and Slovakia. In 2021, goods worth USD 923.2 million to USD 6,284.4 million were imported to Ukraine from each of them. The share of these countries in the total amount of imports of goods from the EU ranged from 3.2 to 21.7%.

In turn, group B brought together seven EU countries: Austria, Romania, Belgium, Sweden, Bulgaria, Greece and Finland. The volume of purchases of their goods to Ukraine ranged from USD 306.1 million to USD 860.1 million. Their contribution to the total imports of goods from the EU ranged from 1.1 to 3.0%. The difference between the lower import position in group A (USD 923.2 million) and the upper in group B (USD 860.1 million) was USD 63.1 million.



Group C includes ten EU countries: Denmark, Slovenia, Ireland, Latvia, Estonia, Malta, Portugal, Croatia, Cyprus, and Luxembourg. Imports of goods to Ukraine from each of them were less than USD 306 million. Their share in the total imports of goods from the EU ranged from 0.1 to 1.1%. The difference between the lower import position in group B (USD 306.1 million) and the upper in group C (USD 305.3 million) was USD 0.8 million.

In general, the spread of import amounts ranged from USD 20.3 million to USD 6,284.4 million. It should be noted that imports of goods to Ukraine were carried out from all EU countries.

The results of the ABC-analysis of the EU countries by the value of imports of goods to Ukraine in 2021 are shown in **Fig. 2**.

| Group of countries | Number of countries | Share of countries, % | The cost of imports, thsd. USD | Share of imports, % |
|--------------------|---------------------|-----------------------|--------------------------------|---------------------|
| A                  | 10                  | 37.0                  | 22,941,666.2                   | 79.2                |
| B                  | 7                   | 25.9                  | 4,477,431.1                    | 15.5                |
| C                  | 10                  | 37.0                  | 1,535,143.8                    | 5.3                 |
| Together           | 27                  | 100.0                 | 28,954,281.2                   | 100.0               |

**Figure 2.** The results of the ABC-analysis of the EU countries by the value of imports of goods to Ukraine in 2021  
Source: Author's calculations based on data from Table 2

As you can see, in 2021, 37% of EU countries imported goods to Ukraine worth USD 22,941.7 million (79.2% of imports of goods to Ukraine from the EU); 25.9% of countries – in the amount of USD 4,477.4 million (15.5%); 37% of countries – in the amount of USD 1,535.1 million (5.3%). That is, a significant share of goods (94.7%) was imported to Ukraine from 52.9% of EU countries (groups A and B).

#### 4.3. Structural analysis of Ukraine's export-import operations with individual EU countries.

According to the results of the ABC-analysis of the EU countries on the value of export-import operations with Ukraine, in both cases the following eight EU countries were included in group A: Poland, Italy, Germany, the Netherlands, Spain, Hungary, the Czech Republic, Slovakia.

Let's define the goods which in structure of foreign trade of Ukraine with each of these countries had the largest shares ( $\geq 10\%$ ) in 2021. The export results are shown in **Fig. 3**, in relation to imports – in **Fig. 4**.

As you can see, the following Ukrainian goods were mostly exported to specified EU countries: ores, slags and ashes; ferrous metals; seeds and fruits of oilseeds; electric machines; cereals; fats and oils of animal or vegetable origin. Their share in the total volume of export of goods to individual EU countries



ranged from 10.0 to 59.9%, the amount – from USD 197,772.6 thsd. up to USD 2,040,651.9 thsd.

| EU country to which Ukrainian goods were exported | Goods                                       | Share in the total volume of exports of Ukrainian goods to this country, % | Export value, thsd. USD |
|---|---|--|-------------------------|
| Poland  | ores, slags and ashes                       | 10.6   | 555,902.7               |
|   | ferrous metals                              | 26.6   | 1,391,325.0             |
| Italy   | ferrous metals                              | 58.8   | 2,040,651.9             |
| Germany   | seeds and fruits of oilseeds                | 20.3   | 582,033.3               |
|   | ores, slags and ashes                       | 10.0   | 286,578.4               |
|   | electric machines                           | 15.3   | 438,719.1               |
| Netherlands                                       | cereals                                     | 24.4   | 552,241.3               |
|   | fats and oils of animal or vegetable origin | 33.7   | 762,964.6               |
| Spain   | cereals                                     | 38.4   | 644,882.9               |
|   | fats and oils of animal or vegetable origin | 28.1   | 470,808.0               |
|   | ferrous metals                              | 11.8   | 197,772.6               |
| Hungary   | electric machines                           | 59.9   | 971,037.8               |
| Czech Republic                                    | ores, slags and ashes                       | 48.7   | 688,686.0               |
|   | electric machines                           | 16.8   | 237,129.8               |
| Slovakia  | ores, slags and ashes                       | 47.8   | 478,086.3               |

**Figure 3.** Ukrainian goods with the greatest export potential in individual EU countries in 2021

Source: Created by the author based on data from the State Statistics Service of Ukraine (2022a)

As you can see, the largest imports from certain EU countries to Ukraine were observed for the following goods: nuclear reactors, boilers, machinery; means of land transport except rail; mineral fuels; oil and products of its distillation; electric machines. Their share in the total volume of imports of goods

from individual countries ranged from 10.4 to 23.5%, the amount – from USD 99,922.2 thsd. up to USD 1,181,679.7 thsd.

| EU country from which the goods were imported to Ukraine | Goods  | The share in the total volume of imports of goods from this country to Ukraine, % | Import value, thsd. USD |
|--|--|---|-------------------------|
| Germany  | nuclear reactors, boilers, machinery                     | 18.8  | 1,181,679.7             |
|  | means of land transport other than rail                  | 16.6  | 1,043,398.6             |
| Poland   | means of land transport other than rail                  | 10.4  | 516,686.0               |
| Italy  | nuclear reactors, boilers, machinery                     | 23.3  | 622,066.4               |
| Hungary  | mineral fuels; oil and products of its distillation      | 15.8  | 247,585.4               |
|  | electric machines  | 22  | 345,458.4               |
|  | means of land transport other than rail                  | 14.5  | 227,693.3               |
| Czech Republic   | mineral fuels; oil and products of its distillation      | 20  | 295,830.5               |
|  | nuclear reactors, boilers, machinery                     | 13.5  | 200,190.6               |
|  | electric machines  | 13.5  | 200,290.4               |
|  | means of land transport other than rail                  | 16.4  | 242,314.8               |
| Netherlands  | mineral fuels; oil and products of its distillation      | 14.3  | 144,506.0               |
| Spain  | the share of any product did not reach the level of 10 % |   |                         |
| Slovakia   | mineral fuels; oil and products of its distillation      | 10.8  | 99,922.2                |
|  | nuclear reactors, boilers, machinery                     | 17.5  | 161,196.4               |
|  | means of land transport other than rail                  | 23.5  | 216,922.9               |

**Figure 4.** European goods with the greatest import potential in Ukraine in 2021

Source: Created by the author based on data from the State Statistics Service of Ukraine (2022a)

Comparing **Fig. 3-4** we can see that the lists of goods with the greatest export and import potential differ, except for electric machines.

#### **4.4. The impact of the war on Ukraine's export-import operations with the EU in 2022.**

According to the Ministry of Economy of Ukraine (2023), the EU is Ukraine's main trade partner. Thus, according to the results of 2022, the specific weight of trade in goods and services with the EU amounted to 53.6% of the total volume of trade of Ukraine (in 2021 – 39.1%). In 2022, the foreign trade turnover of goods (the total amount of exports and imports) between Ukraine and EU countries amounted to 54.9 billion dollars USA, that is, there was a decline of 1.5% compared to 2021.

Export of goods from Ukraine to EU countries in 2022 amounted to 27.9 billion dollars USA (increased by 4.1%, compared to 2021), including the export of certain goods changed as follows:

- grain crops – ↑141.7%;
- fats and oils – ↑29.4%;
- seeds and fruits of oil plants – ↑96.5%;
- ferrous metals – ↓48.7%;
- ores, slag – ↓21.0%;
- electric machines – ↓10.0%;
- wood and wood products – ↑13.2%;
- energy materials – ↑59.5%.

Import of goods to Ukraine from the EU amounted to 27.0 billion dollars USA (decreased by 6.7%, compared to 2021), including the import of certain goods changed as follows:

- energy materials – ↑103.7%;
- means of land transport, except railway – ↓10.5%;
- nuclear reactors, boilers, machines – ↓50.1%;
- different – ↑2532.7%;
- electric machines – ↓25.4%;
- plastics, polymeric materials – ↓24.2%;
- pharmaceutical products – ↓35.9%;
- various chemical products – ↓20.2%.

Note that the final detailed data for 2022 on the commodity structure of Ukraine's foreign trade with EU countries should be published by the State Statistics Service of Ukraine on May 31, 2023.

**5. Conclusion.** The EU is the main trade partner of Ukraine, since in 2022 the specific weight of trade in goods and services with the EU amounted to 53.6% of the total volume of trade of Ukraine.

According to the results of the ABC-analysis of the EU countries in terms of exports of goods from Ukraine, group A includes nine EU countries: Poland, Italy, Germany, the Netherlands, Spain, Hungary,

Romania, the Czech Republic, Slovakia. In 2021, Ukrainian goods worth USD 21,082.2 million were exported to them (78.7% of Ukrainian exports of goods to the EU). The value of exports of goods to each of these countries ranged from USD 999.3 million to USD 5,227.4 million.

According to the results of the ABC-analysis of the EU countries in terms of imports of goods to Ukraine, group A includes ten EU countries: Germany, Poland, Italy, France, Hungary, the Czech Republic, Lithuania, the Netherlands, Spain, Slovakia. In 2021, goods worth USD 22,941.7 million were imported to Ukraine from these countries (79.2% of imports of goods to Ukraine from the EU). The value of imports of goods from each of these countries ranged from USD 923.2 million to USD 6,284.4 million.

A structural analysis of Ukraine's export-import operations with those EU countries that fell into group A in terms of exports and imports in 2021 showed that the following products had the best export / import potential in terms of value:

1) in trade with Poland – ores, slags and ashes; ferrous metals (for export); means of land transport other than rail (for import);

2) with Italy – ferrous metals (for export); nuclear reactors, boilers, machines (for import);

3) with Germany – seeds and fruits of oilseeds; ores, slags and ashes; electric machines (for export); nuclear reactors, boilers, machines; means of land transport other than rail (for import);

4) with the Netherlands – grain crops; fats and oils of animal or vegetable origin (for export); mineral fuels; oil and products of its distillation (for import);

5) with Spain – cereals; fats and oils of animal or vegetable origin; ferrous metals (for export);

6) with Hungary – electric machines (for export); mineral fuels; oil and products of its distillation; electric machines; means of land transport other than rail (for import);

7) with the Czech Republic – ores, slags and ashes; electric machines (for export); mineral fuels; oil and products of its distillation; nuclear reactors, boilers, machines; electric machines; means of land transport other than rail (for import);

8) with Slovakia – ores, slags and ashes (for export); mineral fuels; oil and products of its distillation; nuclear reactors, boilers, machines; means of land transport other than rail (for import).

The war in Ukraine affected its trade with EU countries as follows: in 2022, the foreign trade turnover of goods decreased by 1.5%, compared to 2021, including an increase in the export of goods by 4.1% (reorientation to safe channels transportation of goods) and a decrease in imports by 6.7% (decrease in demand for certain groups of foreign goods).

In order to outline ways of further economic cooperation between Ukraine and the EU countries, it is also advisable to study the commodity structure of Ukraine's foreign trade based on the final detailed data of the State Statistics Service of Ukraine for 2022.

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