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UKRAINE’S EXPORT OF GOODS UNDER WAR CONDITIONS:
ANALYSES OF STATE AND PROBLEMS

Abstract. During recent years, particularly after the Revolution of Dignity, Ukrainian authorities have taken significant steps to reform the national economy, transform foreign trade policy and reorient exports to the European country’s markets. Russia's occupation of the eastern regions and the annexation of Crimea decisively confirmed the non-alternativeness of Ukraine’s pro-European geopolitical course. In 2014 Ukraine and the European Union (EU) signed an Association Agreement (AA), which without exaggeration, can be considered the most extensive international legal document in the history of Ukraine. Within the implementation of the AA, dozens of laws in various spheres of the economy were adopted to approximate national legislation to EU legal acts, norms, and standards. That, in turn, contributed to creating preconditions for developing the functioning market economy, improving national product quality and competitiveness in foreign markets. Trade and economic restrictions imposed by the Russian Federation on Ukrainian products led to a substantial reduction of its share in Ukrainian export. During 2013-2021 export to Russia decreased by 76.9%, and at the beginning of 2022 comprised 1.3%. Contrarily, the share of exports to the EU increased by 65% and amounted to 63% in 2022 [1]. For comparison, in the early 1990s, the share of Russia in Ukraine's foreign trade reached almost 40%, while that of EU countries represented only 20%. In addition, Ukraine actively developed foreign trade relations with other regions of the world, in particular, the share of Asia in 2021 reached 32%, Africa 9 %, and America 4% [1]. However, with the beginning of a full-scale war, enormous losses were caused to the export potential of Ukraine, which affected the reduction of commodity exports and, in turn, rolled back the efforts of the government and businesses for several years.
Keywords: export, foreign trade, gross domestic product, trade liberalization, free trade area, logistics, association agreement.

Problem statement. Export is an essential component of the country's foreign economic activity, which ensures its development and economic security. Ukraine is dependent on foreign trade, so undermining its export potential can negatively affect the state of the economy in general. Monitoring, analysis, and research of the state of commodity exports in war conditions acquire critical importance and relevance.

Analysis of recent research and publications. Foreign and Ukrainian scientists research issues related to Ukraine's foreign trade, particularly Ukraine's trade relations with the EU. Among scientists actively studying this problem are V. Movchan, K. Rogoff, S. Taran, I. Sologub, M. Emerson. The military actions created new conditions and realities in which Ukrainian businesses and exporters must function, therefore, determining the need for further research and clarification of this topic.

The aim of the article is to analyze the state of Ukraine’s export of goods during the war, changes in its value and physical volumes, commodity and geographical structure, as well as the problems with which key export-oriented industries of Ukraine faced.

Results. On February 24, the Russian Federation launched a full-scale military invasion on the territory of Ukraine, which caused large-scale destruction of infrastructure, enterprises' production assets, and the economy's collapse. According to preliminary estimates of the Kyiv School of Economics, which is engaged in the analysis of the information on material losses of Ukraine from the war with Russia, the amount of direct damage to infrastructure reached more than $135.9 billion as of November 2022. Namely, the losses of industrial enterprises amounted to more than $13 billion, which is increasing daily [2]. About 412 large and medium-sized businesses were damaged or destroyed, with a total loss of about $ 9.9 [2]. More than 33% of infrastructure across the country was damaged or completely destroyed, including 305 bridges, 19 airports, 110 railway stations, and 24 thousand km of roads [3].

Before the full-scale invasion, the economy of Ukraine demonstrated positive growth dynamics (Fig. 1). In 2021, in terms of real GDP, growth took place at the level of 3.2%, which made it possible to reach an almost historical maximum of 200 billion US dollars [4].
Numerous missile and artillery attacks, destruction of communal, transport, energy, and production infrastructure, blockade of ports negatively affected the Ukrainian economy. According to preliminary estimates of the Ministry of Economy of Ukraine, the drop in the real GDP of Ukraine in 2022 ranged at the level of 30.2% [6], which is the worst indicator since 1994, when the recession reached 50%. For comparison, during the financial crisis of 2008-2009, the decline of the Ukrainian economy was recorded at the level of 15%, and during the crisis caused by the global COVID-19 pandemic, the GDP decreased by 4% [5].

Export potential is a driver in ensuring the state’s economic growth, economic security, and the integration of national enterprises into global added value chains. The export of goods is the basis of the foreign economic activity of any state and an essential source of currency inflow into the country, ensuring financial stability and solvency, filling the state budget, and forming currency reserves. Ukraine is an export-oriented country in which more than 1/3 of the GDP is formed due to export operations. Stimulation of exports and promotion of national goods to international markets is a key task declared by the government of Ukraine. The number of sales markets for Ukrainian products grew annually. Ukraine's accession to the WTO in 2008, as well as the signing of the AA with the EU, contributed to the implementation of numerous reforms in the field of tariff and non-tariff regulation, which in turn liberalized the access of Ukrainian products not only to the EU market but also to third countries. So far, Ukraine has concluded 19 free trade agreements covering 49 countries' markets [7], that account for more than 53% of Ukrainian exports. In 2018, Ukraine joined the Pan-Euro-Mediterranean (PEM) Convention on preferential rules of origin[8]. This agreement defines unified rules of origin and cumulation, which in turn simplifies the terms of trade among 42 countries and promotes the possibility of using the country's export potential through
the expansion of sales markets. The participants of the convention are the countries of the EU and the European Free Trade Association, as well as Turkey, Albania, Macedonia, Jordan, Montenegro, Serbia, the Faroe Islands, Morocco, Algeria, Tunisia.

The export of goods is the dominant component in Ukraine’s foreign trade structure, while services make up only 1/5 of the total export [7]. The value growth trend of goods exports has been followed since 2016, except for 2020, when a slight drop occurred because of the Covid-19 pandemic (Fig. 2).

![Fig. 2. Dynamics of Ukrainian goods export, 2014-2022, billion US dollars](image)

Built by the author based on the data of the State Statistics Service of Ukraine [9]

According to the results of 2021, the export of goods from Ukraine increased by 38.4% and reached a record level of $ 68.1 billion, which was the best result since 2012. The share of exports in GDP amounted to 34.01%. The positive trend of export growth was maintained during January-February 2022 and made up to 34% in comparison with the same period in 2021, however, as of March, exports decreased by 50% and began to recover only after six months partially [10]. According to operational data, in 2022 the export of goods amounted to $ 44.1 billion, which is 35% less compared to 2021[10]. In physical volume, Ukraine exported 99.8 million tons of products, which is 38.4% less than in 2021 [11].

The main reasons for the decline in export activity are:
- destruction and damage to the production capacities of enterprises exporting Ukrainian products;
- occupation of a significant number of enterprises exporting products located in territories not controlled by Ukraine;
- blockade of seaports and damage to logistics infrastructure for exporting products, the burden on land checkpoints;
- damage to the power system, which caused power outages, significantly reducing enterprises' production potential.
Despite the general decline in exports, the EU remains Ukraine's largest trading partner, accounting for 63% of Ukrainian goods, which is 23% more than last year. According to the results of 2022, the export of goods to the EU increased by 4.2%, reaching $27.9 billion against $26.8 billion in 2021 (Figure 3). It is worth noting that the significant increase in the share of the EU in the total export of Ukraine is related to the EU’s temporary abolition of all tariff barriers and the reduction of product supplies to other regions because of the seaport blockage and damage of the logistics infrastructure.

![Fig.3. Dynamics of export of goods from Ukraine to the EU, 2013-2022.](Built by the author based on data from the World Bank [5])

From 2013 to 2021, the export of goods to the EU increased by 65.3%. The prerequisite for the intensification of export operations was the creation of the deep and comprehensive free trade area (DCFTA) within the framework of the AA between Ukraine and the EU. That contributed to the liberalization of mutual markets access by reducing more than 99% of customs duties for Ukraine and more than 98% for the EU, as well as significant liberalization of non-tariff barriers [18]. As can be seen from Figure 3, the dynamics of exports to the EU remained positive even during the war.

Among factors that contributed to exports to the EU during the war are:
- Adoption by the European Parliament and the Council of Regulation 2022/870 on temporary measures on trade liberalization for Ukrainian exporters, which provides for the suspension of all tariffs, in particular customs duties on industrial products, tariff quotas on agricultural products, the application of the input price system for vegetables and fruits, and anti-dumping duties, as well as global protective measures for goods originating from Ukraine [9].
- The launch of the EU initiative "Solidarity Lanes," which is aimed at the implementation of measures to improve the throughput of transport goods at the borders with the EU, as well as to facilitate the establishment of railway, river and transport connections.
Ukraine's accession to the "Convention on the Common Transit Procedure," which gave Ukraine access to the new computerized transit system (NCTS), which in turn facilitated the simplification of the procedure for the registration of goods and the acceleration of their crossing at the border.

Despite the general decrease in export volumes, there were also changes in the geographical and commodity structure. The EU remains the primary sales market with a share of 63% against 40% in 2021, but the share of other regions has significantly decreased. Among the countries of the largest importers of Ukrainian products are Poland - $6.6 billion, Romania - $3.8 billion, Hungary - $2.27 billion, Germany - $2.23 billion, Italy - $1.5 billion, and Spain $1.5 billion. Turkey is one of the largest exporters of Ukrainian products outside the EU, with an export value of $2.9 billion, which is 29% less than in 2021. Export to China, the key trading partner of Ukraine in 2021, amounted to $2.46 billion which is 69% less. 

Due to the military aggression, trade with the Russian Federation has been suspended, which is regulated by the resolution of the Cabinet of Ministers "On the prohibition of goods export from Ukraine to the customs territory of the Russian Federation."

In the exports structure by product group in 2021, the largest share comprised by ferrous metals - 20.46%, grain - 18.10%, ores, slag, and ash - 10.45%, fats and oils - 10.33%, electric machines - 4.53%. If we consider in terms of commodity positions by export value, the first place was taken by iron ore - $6.91 billion, sunflower oil - $6.4 billion, corn - $5.89 billion, wheat - $5.07 billion, semi-fabricated steel - $4.09 billion, cables - $1.59 billion, barley - $1.28 billion, ferroalloys - $1.04 billion.

In 2022, the essential products in terms of export value are corn - $5.94 billion (+1%), sunflower oil - $5.46 billion which is 14.6% less than the previous year, iron ore - $2.9 billion (-58%), wheat - $2.6 billion (-48%), steel semi-finished products $1.1 billion (-73%), cables - $1.32 billion (-16, 9%). As we can see, in terms of product nomenclature, there was a reduction in exports in value and physical quantities.

In recent years, Ukraine had a leading position in exporting agricultural and food products to the world market. The high yield of the main crops and the reform of the industry contributed to the development of the agricultural sector. In 2021, the export of agricultural products increased by 25% compared to 2020 and amounted to $27.7 billion, which accounted for 40.1% of all Ukrainian exports. According to the analytical service of the Ukrainian Agrarian Council, in the 2021-2022 marketing year, Ukraine took first place in terms of sunflower oil exports, which amounted to 5.4 million tons or 49.5% of world exports. In terms of export volumes of barley, Ukraine ranked 2nd in the world, rapeseed, and corn - 3rd, wheat - 5th. In addition, Ukraine provides almost 10% of the total world grain supply.

At the beginning of the war, there was a threat not only of the loss of the export potential of the agricultural sector but also of a global food crisis. According to
preliminary estimates by the KSE and the Ministry of Agrarian Policy and Food of Ukraine, the direct losses of the agricultural sector amounted to $ 6.6 billion. These losses are related to the destruction or damage of agricultural machinery and granary destruction or looting of manufactured products. Indirect losses amount to $ 34.25 billion [2]. As of December 2022, Ukraine exported 22.024 million tons of grain and leguminous crops, which is 30% less than last year's figure. Corn was the only grain which export increased by 14.6% this year - 12.165 million tons. A decline was observed in other categories, mainly wheat - 8.167 million tons, barley - 1.608 million tons, and rye - 12.5 thousand tons [14].

During the full-scale war with Russia, Ukraine lost about 35% of its export potential of grain and oil crops. The lowest export from Ukraine was in the first months of the war, then it gradually increased, but during this period the potential of about 14 million tons of agricultural products was lost.

The war became a real challenge for Ukrainian metallurgy, which provided every eighth hryvnia in Ukraine's GDP. In the 11 months since the beginning of the war, exports of ferrous metals have decreased by 65.4% compared to the same period in 2021. In monetary terms, the export of products under category 72 Ferrous metals during this period fell to $ 4,359.3 million, which accounted for only 13% of the total export revenue. In 2021, Ukraine sold ferrous metals on foreign markets in the amount of $12,611.4 million, which accounted for 20.49% of the total amount of export revenue [15].

Since most of the metallurgical enterprises are concentrated in the eastern and southern regions, they sustained the most significant destruction. 30-40% of the production capacities of metallurgical enterprises are located in the occupied territories, in particular, the Azovstal metallurgical plants and the MMK named after Ilyich. The production facilities of these enterprises, which provided 40% of pre-war metallurgical production and 70% of steel exports, have been destroyed, and the territory where they are located is under Russian occupation. Among the main centers of metallurgy production, it was partially possible to restore the operations of "ArcelorMittal Kryvyi Rih" and Zaporizhstal metallurgical plants. According to the results of the activity of the metallurgical industry of Ukraine in 10 months of 2022, 5.84 million tons of steel were produced, which is 32.6% less compared to the same period in 2021. As for cast iron, its production amounted to 5.81 million tons or 32.8% of last year's figures. The production of rolled products is also reduced to 5.02 million tons, which is equal to 31.4% of the volume of January-October 2021[16].

In addition to the destruction of production facilities, enterprises of the metallurgical complex faced logistical problems. The blockade of sea ports led to significant losses of metallurgical exports. According to the latest research conducted by the GMK Center, the monthly amount of such losses reaches 420 million US dollars per month. Every month, Ukraine cannot produce and export
1.3 million tons of iron ore, 151,000 tons of pig iron, 192,000 tons of semi-finished products, and 218,000 tons of finished metal products [16].

A significant obstacle to Ukrainian exporters was connected with the blockade of the key ports in the Black and Azov seas. Before the military invasion, 70% of Ukrainian product exports and 90% of grain exports were shipped by sea. Only due to a complex negotiation process with the participation of the UN and Turkey representatives a "grain deal" was brokered. The agreement contributed to the unlocking of the main the seaports such as “Odesa,” “Chornomorsk,” and “Pivdenny.”

To diversify export corridors and reduce dependence on seaports, Ukraine and the EU signed an Agreement on the Liberalization of Transit and Bilateral International Transportation. The agreement simplified the procedure for obtaining permits for bilateral and transit transportation to the EU, which made it possible to avoid delays in exporting Ukrainian products through border checkpoints. Ukrainian trucks finally got the opportunity to cross the border without restrictions on the number of entries and periods of stay. Thanks to the EU initiative, 12 million tons of products were exported by transport, 33.7 million tons by rail transport, which is 3.4% more than last year.

**Conclusions.** The new realities definitely negatively impacted the dynamics of commodity exports from Ukraine. A substantial decrease in both the value and physical volumes of exports took place, as well as changes in the geographical and commodity structure. Key export-oriented industries suffered significant losses. Despite the aggressor’s actions aimed at destabilization and destruction, Ukraine’s economy, due to the consolidation of the efforts of the Ukrainian authorities, businesses, and the international community, withstood the pressure, and this result can be considered as small victory in a big struggle.

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