

UDC 339.56.055

DOI: <https://doi.org/10.32782/2708-0366/2023.15.4>

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## UKRAINE'S FOREIGN TRADE IN A YEAR OF WAR: A CLOSER LOOK AT THE RESULTS OF 2022

### ЗОВНІШНЯ ТОРГІВЛЯ УКРАЇНИ У РІК ВІЙНИ: ДЕТАЛЬНИЙ РОЗГЛЯД ПІДСУМКІВ 2022 РОКУ

*The article looks into the impact of Russian full-scale military aggression on Ukraine's foreign trade in goods in 2022. Key trends, geographical and structural shifts in Ukrainian exports and imports are analyzed. The most resilient and the most vulnerable foreign trade flows are identified. The effects of global supply chain disruptions due to Russian blockade of Ukraine's food exports in the Black Sea are assessed. The outcomes of establishing solidarity lanes and "grain corridor" are outlined. The results of suspension by the EU of all remaining tariffs on industrial products, tariff rate quotas for food and agricultural products, contingent trade-protective measures against Ukrainian goods are explored. Anti-crisis measures taken by Ukrainian government in the sphere of import liberalization are analyzed.*

**Key words:** export, import, merchandise trade, supply chains, grain corridor, Ukraine.

У статті розглянуто наслідки російської широкомасштабної військової агресії для зовнішньої торгівлі України товарами у 2022 році. Стаття має на меті дослідити специфіку функціонування зовнішнього сектора вітчизняної економіки за безпрецедентного в новітній історії України руйнівного впливу військових дій та терористичних ракетних обстрілів об'єктів енергетичної та іншої інфраструктури, а також часткової блокади традиційних торгових шляхів. У дослідженні використано низку загальнонаукових методів пізнання, методи компаративного і статистичного аналізу. Проаналізовано ключові тенденції, зміни у географічній і товарній структурі вітчизняного експорту та імпорту. Визначено товарні групи, за якими відбулося найбільше падіння експортних поставок у вартісному та фізичному обсягах, а також ті групи товарів, експорт яких вдалося збільшити, незважаючи на пов'язані з війною економічні труднощі. У загальних рисах окреслено причини падіння/зростання експортних поставок за відповідними товарними групами. Охарактеризовано наслідки перебоїв у функціонуванні міжнародних ланцюгів поставок харчових продуктів через російську блокаду українського експорту морськими шляхами. Узагальнено основні результати реалізації європейської ініціативи «Смуги солідарності для України», а також ініціативи безпечного транспортування зернових культур і продуктів харчування з українських портів (Чорноморської зернової ініціативи). Досліджено ефекти від призупинення з боку Євросоюзу залишкових ввізних мит на промислові товари, безмитних тарифних квот на продукти харчування та сільськогосподарську продукцію, антидемпінгових і спеціальних заходів щодо продукції походженням з України. Проаналізовано основні зміни у товаропотоках між Україною та її ключовими партнерами по торгівлі. Оцінено результати антикризових заходів уряду України у сфері скасування бар'єрів для імпорту низки товарів, зокрема тих, що стосуються спрощення процедури митного оформлення та звільнення від сплати податку на додану вартість, акцизного податку і ввізного мита на автотранспортні засоби.

**Ключові слова:** експорт, імпорт, торгівля товарами, зерновий коридор, ланцюги поставок, Україна.

**Introduction.** Russia's large-scale military invasion had a disastrous impact on Ukraine's economy that has shrunk more than 30% due to the war. Destruction of industrial sites, terrific infrastructure damage, millions of refugees, maritime routes blocking led to an unprecedented production collapse and supply chain disruptions. Despite the insignificant share of Ukraine in world trade, turmoil caused by the threat of food supply shortages had global economic implications. Obviously, Ukraine's foreign trade has undergone significant changes both in structure and geography, which is quite challenging considering that Ukraine is largely integrated in world markets, as its trade-to-GDP ratio exceeds 80%. In such dramatic circumstances, it is crucial to investigate how war shocks reshaped Ukraine's production and export potential, and what further steps might be taken to mitigate the consequences of these shocks.

**Recent literature review.** The acute topicality of the issue prompted many to examine Ukraine's foreign trade in 2022. For instance, WTO paid close attention to the impact of war on global trade and development, and assessed the response of multilateral trading system to this challenge [1]. The World Bank made an effort to simulate the effects of trade disruptions on logistics, global value chains, and foreign direct investments [2]. UNCTAD explored the reaction of world commodity prices and their impact on global food security [3]. Center for Eastern Studies in Warsaw summarized Ukraine's trade statistics for 2022 in general terms [4]. Giving credit to these investigations, it is necessary to stress that they rely either on mirror estimates (obtained from importers reporting trade with Ukraine) or preliminary data. Thus, it is essential to scrutinize detailed statistics to obtain in-depth insights on recent developments in Ukraine's foreign trade.

**The purpose of the article** is to give a thorough understanding of dynamics, geographical and structural changes of Ukraine's merchandise exports and imports in 2022.

**The main results of the research.** Ukraine's trade turnover declined by 29.4% in 2022. Merchandise exports decreased by 35.1% in value terms and by 40,1% in volume. The value of imports fell by 24.1%, while the volume – by 44.7%. This indicates an increase in world prices for leading goods in foreign trade of Ukraine although prices for imports in general increased more than for exports. As a result, terms of trade index dropped to 78.9 points indicating the worst terms of foreign trade since 2009 Great Recession [5]. Trade deficit soared from 4.8 billion in 2021 to 11.1 billion USD in 2022. It should be taken into account that annual statistics include two pre-war months (January and most of February) when Ukraine's exports grew by 33.9% compared to the same period of 2021. Hence, the impact of hostilities on Ukraine's foreign trade is even more detrimental.

The Russian invasion has curtailed Ukraine's exports in all key product groups. The iron and steel industry suffered the most: exports decreased by 67.5% in value and by 70.8% in volume. The largest production facilities – Azovstal and Ilyich Iron and Steel Works – had been completely destroyed. They produced a third of ferrous metals in the country. A lot of metallurgical plants suspended production due to the close proximity to hostilities. Rest of iron and steel companies were forced to look for new trade routes due to blockade of the Black Sea ports (the share of maritime transport in the pre-war Ukraine's exports of iron and steel reached about 80%). As Ukrainian steel industry is export-oriented at large extent, its output plummeted by 70.1% from 21.4 million to 6.3 million tons. In the list of major steel-producing countries, Ukraine slipped from 14th to 25th place [6].

Exports of iron ores and concentrates decreased by 45.9% from 44.4 million to 24.0 million tons. In 2021, China accounted for 42.9% of Ukraine's iron ore exports; Ukraine has provided China with 19.3 million tons of iron ores and concentrates that year. In 2022, the EU became the main importer of iron ore and concentrates from Ukraine, having purchased over 12.9 million tons of this commodity from Ukrainian suppliers, while China accounted for imports of 4.4 million tons only. Exports fell primarily due to the impact of two negative factors: maritime logistics constraints and drop in world prices. For Ukraine, average annual export price of a ton of iron ore decreased by 21.9% from 155.5 to 121.5 USD. Regarding

trade with China, drop in exports prices was even sharper: Ukraine shipped iron ore to this country at an average price of 85.5 dollars per ton in 2022.

Exports of fertilizers plunged 86.6% in volume terms and 72.7% in value. A shutdown of “Azot” plant (the third largest producer of ammonia and the biggest manufacturer of nitrogen fertilizers in Ukraine) in occupied city of Severodonetsk contributed to these dynamics greatly. Along with this, several plants in the industry stopped production due to high natural gas prices and power outages. Moreover, the Government introduced a number of temporary restrictions on export of Ukrainian fertilizers (lasted from March to the beginning of summer). Still, the key factor of exports drop was reorientation of chemical industry to the domestic market. Before 2022, Ukrainian agricultural sector heavily relied on imported fertilizers. But ban on imports from Russia and Belarus, abruptly interrupted deliveries from the EU, as well as logistics constraints led to a decrease in imports of fertilizers by 73.7%, and put Ukrainian manufacturers in unexpectedly favorable conditions in the domestic market.

A decrease in Ukraine’s food exports was less substantial. Exports of cereals reduced by 24.1% in volume and by 26.2% in value; exports of sunflower oil – by 16.4% in volume and by 15,5% in value terms. Exports of soya-bean oil decreased only by 1.7% in volume and increased by 3.2% in value. Since the beginning of the Russian invasion of Ukraine, Ukrainian exports of cereals, oil seeds and vegetable oils have been disrupted at the same extent as exports of other commodities that heavily rely on maritime transport. However, thanks to the establishment of the “grain corridor” under Black Sea Grain Initiative after over four months of blockade, the fall of annual exports of the most important food products wasn’t too painful, and exports of maize even increased slightly (table 1).

Table 1

**Monthly exports of some food products from Ukraine in 2022, thousand tons**

Periods	Maize	Wheat	Barley	Sunflower oil
January	4 503,5	1 148,9	285,6	611,8
February	4 913,0	1 511,3	155,0	418,0
March	176,6	33,2	6,6	29,1
April	601,0	9,2	11,8	129,6
May	959,3	43,5	11,6	202,7
June	1 013,8	138,4	26,0	267,5
July	1 098,6	411,8	183,1	306,9
August	1 850,7	899,6	206,8	390,6
September	2 260,0	1 906,5	397,4	566,8
October	2 316,6	1 979,5	383,5	433,2
November	2 024,0	1 581,4	296,1	466,4
December	3 261,4	1 554,6	179,0	467,8
Jan.–Dec. 2022	24 978,5	11 218,0	2 142,4	4 290,3
Jan.–Dec. 2021	24 674,9	20 071,3	5 656,3	5 132,1
Annual growth, %	1,2	-44,1	-62,1	-16,4

Source: [7]

The extreme gravity of Black Sea Grain Initiative is determined by Ukraine’s crucial role in global food trade: in 2021/22 marketing year its exports comprised 46% of all sunflower oil, 17% of all barley, 12% of all maize, 9% of all wheat in the world trade [8]. Data in table 1 clearly demonstrate how much the “grain corridor” helped to resume Ukraine’s

food exports starting in August. Undoubtedly, switching to rail transport in order to supply grains through the ports of EU countries (so called solidarity lanes) also helped to avoid the Black Sea blockade to some extent. But it was the opening of the “grain corridor” through the Black Sea that proved to be a decisive step towards relieving supply shortage on the global food market. Dynamics of international food prices explicitly indicate this causation: in March 2022, price of a ton of wheat increased from 390.5 to 486.3 USD, and reached 522.3 USD in May, then went down to 382.9 USD in August; at the same time, price of a ton of maize rose from 292.6 to 348.2 USD, then reduced to 289.8 USD [9].

In addition to maize and soya-bean oil, Ukraine managed to increase exports of a number of other agricultural and food products in 2022. Decline in sunflower oil output prompted manufacturers to sell off unprocessed sunflower seeds, so exports of these seeds reached historical high of 2.75 million tons. Thanks to the fact that the cost of road transport does not undermine the profitability of oil crops exports, Ukraine also increased exports of soya beans by 81.6% up to 2.0 million tons (ranked 8th in global market) and rape seeds by 16.6% up to 444.6 thousand tons. Generous harvest and prioritization of the EU market led to an increase in Ukraine’s exports of fresh apples and pears by 64.0% up to 46.8 thousand tons. There was also an insignificant increase in exports of nuts, potatoes, and grain sorghum.

Worth noting that the EU introduced temporary trade liberalization measures suspending remaining barriers on import from Ukraine, including residual tariffs on manufactured products, all tariff quotas for food and agricultural products, all anti-dumping and safeguard measures against some articles of steel. While suspension of tariffs, anti-dumping and safeguard measures didn’t have tangible effect, removal of tariff quotas stimulated some Ukrainian producers, especially those who used to suffer from high duty rates on imports exceeding the quotas. For instance, Ukraine has exported to the EU 152.5 thousand tons of sugar though annual sugar export to the EU never exceeded tariff quota of 20.7 thousand tons before. Ukraine’s overall exports of sugar increased more than seven times up to 181.0 thousand tons. The same way, tariff quotas suspension prompted Ukrainian producers to surge exports of apple juice, butter and dairy spreads, and ethanol.

After the collapse of the steel industry, there was a sharp increase in Ukraine’s coal exports that grew up to 708.5 thousand tons compared to less than 5 thousand tons in 2021. Due to favorable prices, Ukraine’s export of electricity increased by 129.3% in value, although it decreased by 1.7% in volume to 3.27 gWh. Owing to this, the overall Ukraine’s exports of energy resources rose by 32.6% in 2022. Also, woodworking manufacturers managed to increase exports of plywood by 7.8% up to 111.8 thousand tons and box pallets by 46.7% up to 529.3 thousand tons. Alas, woodworking industry as a whole decreased its exports by 6.0% in value and by 26.4% in volume terms.

Exports of machinery and transport equipment were halved both in value and volume terms, while exports of electrical equipment turned out to be more resilient, and decreased by 18.5% in value and by 22.2% in volume. Nevertheless, exports of electrical equipment were largely concentrated on narrow range of product groups, including HS 854430 “Ignition wiring sets and other wiring sets for vehicles”, HS 851671 “Electro-thermic coffee or tea makers, for domestic use”, and HS 853110 “Burglar or fire alarms and similar apparatus”. These 3 product groups accounted for 60.9% of Ukraine’s exports of electrical equipment in 2022. Ukraine exported 48.1 thousand tons of wiring sets (10.9% less than the previous year), 5.2 million units of electro-thermic coffee/tea makers (13.6% less than the previous year), and more than 5.0 million units of burglar and fire alarms (by 30.7% more than in 2021). The same way, product group HS 860719 “Wheels and parts thereof for railway or tramway locomotives or rolling stock” dominated Ukraine’s exports of transport equipment with the share of 34.5% [10].

All in all, the structure of Ukraine’s merchandise exports was reshaped towards an increase in share of food and agricultural products from around 40% in previous years up to 53% in 2022. The share of another major category – base metals and articles of base metal –

decreased from 23.5% in 2021 to 13.6% in 2022; share of mineral products – from 12.4% to 9.8%. Roughly estimating, in 2022, Ukraine’s exports of primary commodities dropped by 8.4 billion USD, whereas exports of manufactured goods – by 15.4 billion USD (table 2).

Table 2

**Structure of Ukraine’s merchandise exports in 2021–2022**

Product groups	2021		2022	
	million USD	%	million USD	%
TOTAL	68 072,3	100,0	44 148,8	100,0
Live animals; animal products	1 345,2	2,0	1 472,4	3,3
Vegetable products	15 538,1	22,8	13 478,5	30,5
Animal and vegetable fats and oils	7 037,2	10,3	5 949,4	13,5
Prepared foodstuff	3 788,5	5,6	2 497,0	5,7
Mineral products	8 414,4	12,4	4 323,5	9,8
Products of the chemical and allied industries	2 815,6	4,1	1 287,2	2,9
Plastics and articles thereof	1 104,2	1,6	470,2	1,1
Wood and articles of wood; pulp of wood	2 539,8	3,7	2 162,9	4,9
Textiles and textile articles; skins, leather, fur skins and articles thereof; footwear	1 220,4	1,8	951,1	2,2
Base metals and articles of base metal	15 991,0	23,5	6 004,1	13,6
Machinery and mechanical appliances; electrical equipment	5 260,2	7,7	3 736,0	8,5
Vehicles, aircraft vessels and associated transport equipment	676,4	1,0	359,4	0,8
Optical, measuring instruments and apparatus	171,0	0,3	121,5	0,3
Miscellaneous manufactured articles	1 250,0	1,8	972,5	2,2
Other	920,3	1,4	363,1	0,8

Source: [5]

Seeking for new trade routes and enjoying liberalization initiatives from the side of EU, Ukrainian producers increased their exports to EU members by 4.2% in 2022. Given the overall decline in Ukraine’s merchandise exports, the share of the EU in it skyrocketed from 39.4% to 63.2%. Leading export destinations among EU countries (and all countries in general) were Poland with the share of 15.1% in total exports and Romania with the share of 8.7%. Other Ukraine’s major trade partners in the EU were Hungary (5.2%), Germany (5.1%), Italy (3.7%), Spain (3.7%), the Netherlands (3.5%), Slovakia (3.4%), Bulgaria (3.2%). For the first time in Ukraine–EU bilateral trade, merchandise exports (27.9 billion USD) exceeded imports (27.4 billion USD), trade surplus reached 513.3 million USD. The biggest suppliers of goods to Ukraine amongst the EU countries were Poland (9.3% in total imports), Germany (7.5%), Bulgaria (3.5%), and Italy (3.0%) [11].

The share of CIS countries in Ukraine’s exports shrunk from 10.7% to 5.4%. While trade with Russia and Belarus predominantly collapsed, exports to Moldova increased by 6.8%, and its share in total exports – up to 2.1%. The biggest Ukraine’s trade partners in the MENA region in 2022 were Türkiye (6.7%) and Egypt (1.8%). However, merchandise exports to these countries decreased by 28.9% and 58.8% respectively. Türkiye’s share in Ukraine’s imports rose up to 5.7% in 2022. For the first time, Ukraine imported from this

country more goods (3.4 billion USD) than exported to it (2.9 billion USD), trade deficit amounted for 418.3 million USD.

Ukraine suffered the biggest losses in trade with Asian countries, primarily China and India. Exports to China declined by 69.2% from 8.0 billion to 2.5 billion USD in 2022; China's share in Ukrainian merchandise exports dropped from 11.8% to 5.6%. This happened because Ukraine supplied to China mostly iron ore, maize, sunflower oil and oil-cake, exports of which plunged dramatically. As mentioned above, exports of iron ore and concentrates to China decreased by 77.0% from 19.3 million to 4.4 million tons. At the same time, China retained its position as the largest supplier of goods to Ukraine, its share in Ukrainian imports reached 14.6% in 2022. Ukraine's exports to India dropped by 64.3%, from 2.5 billion to less than 0.9 billion USD. India's share in Ukraine's exports decreased from 3.7% to 2.1%. In previous years, sunflower oil accounted for three quarters of Ukrainian exports to India; in 2022, exports of sunflower oil from Ukraine to India decreased from 1.57 million to 0.63 million tons.

Exports to North and Latin America decreased by 59.6% from 23.8 billion to 9.6 billion USD. In 2022, there were barely any exports to Argentina, Dominican Republic, Brazil, Colombia, Mexico, Costa-Rika, Peru, Guatemala, although these countries have been Ukraine's important trading partners in the region in previous years. Exports to the USA dropped by 46.8% from 1.6 billion to 0.86 billion USD. Ukraine supplied to the USA mostly pig iron, pipes of iron and steel, iron ore, and some navigational apparatus. In 2022, pig iron exports dropped by 69.7% in volume, exports of iron ore and apparatus completely stopped. A 20.7% increase in exports of pipes slightly mitigated the overall negative dynamics.

As for imports, falls were recorded in all of the major product groups, with few exceptions directly linked to the war and government's response to it. First, imports of fuels (HS 2710) increased in value by 59.9% up to 8.66 billion USD, although decreased in volume by 17.0% and amounted for 7.3 million tons in 2022. Formerly, Ukraine kept importing oil products for the most part from Belarus and Russia. In 2021, Belarus accounted for 44.1% of Ukraine's imports of fuels, Russia accounted for 24.0%. Abrupt cessation of fuel imports from these countries, and destruction of Ukraine's only working refinery led to petrol shortages and pushed the increase of oil products imports from the EU (imports almost doubled in volume compared to the previous year up to 3.75 million tons, and increased by 3.3 times in value up to 4.8 billion USD), India (imports tripled in volume up to 767.4 thousand tons, and increased almost seven times in value up to 1.0 billion USD), and Israel (imports amounted to 150.1 thousand tons and 175.6 million USD, which is three times more than in 2021 in volume and five times – in value) [10].

Second, at the beginning of the large-scale invasion, the Ukrainian government responded to economic shock with radical imports liberalization, which came into force in April 2022. The government facilitated merchandise imports by simplifying customs procedures, suspending VAT, excise taxes, and import duties, withdrawing customs inspection, phytosanitary control, and other non-tariff measures [12]. This stimulated mainly those imports that used to be highly restricted, especially imports of motor vehicles (customs clearance increases the price of imported motor cars by more than 50% in Ukraine). So, imports under HS 8703 code "Motor cars and other motor vehicles; principally designed for the transport of persons" rapidly reached pre-invasion level of 32.8 thousand units in April, then escalated up to 95.5 thousand units in May and 103.0 thousand units in June. For comparison, Ukraine imported 48.8 thousand motor vehicles in May and 55.0 thousand cars in June of 2021. The Government reacted to this trend by abandoning its liberalization policy swiftly and reestablishing all the restrictions on imports to mitigate rising balance-of-payment difficulties. As a result, imports of motor vehicles dropped to 14.4 thousand units in July, and ranged 17.0–20.7 thousand units in the following months of 2022 [10]. Ukraine's annual imports of passenger vehicles decreased by 37.0% in volume and by 32.8% in value.

Third, massive rocket fire campaigns targeting Ukrainian electricity generation infrastructure have caused a rapid increase in the import of electric generating sets. During January–September 2022, Ukraine imported an average of 14.0 thousand electric generating sets with petrol engines (HS 8502 11–20) per month. This import increased up to 71.8 thousand units in October, to 155.3 thousand units in November, and to 290.0 thousand units in December. Overall, Ukraine imported 643.1 thousand power generators in 2022, which is ten times more than in previous year.

Statistics also recorded boost in import volumes of helmets, menswear, candles, some fruits and vegetables (onions, garlic, white cabbage, carrots, beetroot, and watermelons).

Conclusions. The large-scale invasion undermined Ukraine's export potential significantly and destroyed it completely in some sectors of economy. Exporters of natural resources and base metals suffered the most, while exporters of agricultural products were saved for global food security reasons. Exporters of chemical goods reoriented to domestic market. Woodworking industry and producers of electronic apparatus proved to be the most resilient to war shocks, and managed to maintain or even increase their exports. In general, Ukraine's chronic problem of specializing in export of primary commodities has only worsened. And no major changes in foreign trade patterns are expected without postwar economic recovery and massive capital investment into manufacturing.

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