

The Impact of War on the Reorientation of Trade Flows: The Case of Ukraine

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Abstract

The military aggression of the Russian Federation against Ukraine, which started in 2014 and came to another active phase in February 2022, may change Ukraine's foreign trade in terms of both its geography and product structure. The regions of Ukraine will not only have to recover from the consequences of destruction, but also to seek new directions of foreign economic activity and build connections with reliable partners such as the European Union and the United States. The paper presents an analysis of changes in the foreign trade of Ukraine and its regions since 2014 and examines shifts in trade flows in the direction of Western leaders of global trade. The case of Georgia, another target of Russian military intervention, in the reorientation of its trade flows, is also considered.

Keywords

Ukraine, regions, trade in goods, trade in services, export, import

Introduction

Military-political conflicts, regardless of their geographical scale, depth of aggravation, and duration, cause imbalances in established socio-economic processes among the involved parties. Political and military conflicts make normal economic processes of interaction between the warring parties impossible. As the history of the 20th century shows, wars result in the rupture of existing international economic ties and the establishment of new areas of cooperation – with new partners and in new promising industries, as well as in reorientation to new markets. The war between Russia and Ukraine will be no exception.

The choice of strategic trading partners for a national economy is often determined by the reciprocity of trade, economic interests, and the historical basis of cooperation. For this reason, a significant number of the former Soviet republics developed and deepened trade and economic ties with Russia after 1991, in de facto recognition of its status as regional leader. Other post-Soviet states, such as the Baltic countries, have chosen a clear focus on Western partners and a path of European integration. Finally, a third group of countries, such as Ukraine, Moldova, and Georgia, have been balancing between maintaining traditional trade relations with Russia and developing new Western areas of cooperation. These states now are facing the challenge of decreasing their economic dependence on Russia. Ukraine, as the victim of the latest and the cruellest unprovoked aggression, is now on the path of revising existing trade relations with Russia and deepening existing trade contacts with the leading Western economies and allies, such as the European Union and the United States.

The internal administrative units of the countries play an important role in building new or deepening existing trade and economic relations. In the case of the current war, the foreign economic relations of the administrative units close to the lines of conflict will be radically reorganised. Regions further from the front lines, such as the western regions of Ukraine, will gain new potential to deepen already existing ties with Western democratic countries. In this regard, this paper has a twofold objective:

- to study the current state of Ukraine's foreign trade with the EU and the US and reorientation of trade flows since the start of the conflict with Russia;
- to analyse changes in Ukraine's regional trade with the EU and US between 2014 and 2021 and to identify specific features of trade inherent to the administrative units of Ukraine, depending on their location and economic characteristics.

The case of Ukraine with respect to the reorientation of trade flows will be studied in light of the experience of Georgia, another post-soviet state with tight economic ties to Russia that has chosen a pro-European way of economic development and has suffered from a Russian invasion.

Literature review

A significant number of works by domestic scientists study the realisation of Ukraine's export potential through the transformation of foreign trade policy in the context of rapprochement with the EU and a shift away from close cooperation with the Commonwealth of Independent States countries. According to Diatlova and Polozhentseva (2020), the strategic reorientations of the global course of Ukraine's economic development have challenged the long-established partnerships between regional industrial enterprises and their foreign economic partners. Therefore, the implementation of the new course requires significant effort, especially at the regional level, where the actual trade cooperation takes place.

Some researchers (Rakhman, Yevtushenko and Rudas 2020) focus primarily on the significant potential of Ukraine's economic relations with the EU and the inevitable growth of mutual trade given improvement in the legal framework. Others pay special attention to trade between Ukrainian and European foreign businesses in certain kinds of goods (Artamonova 2019). At the same time, very few researchers are trying to find other priority export areas beyond the EU in case of a final severance of current trade relations with Russia.

To date, the academic interest in trade cooperation between Ukraine and the United States has been rather limited, which can be explained by the geographical remoteness of the two countries and weak American interest in trade with Ukraine stemming from Russia's policy of "patronage". Only a few studies are dedicated to regional specifics of Ukraine's trade with the United States (Lazhik and Melnyk 2012), while others consider the influence of mutual trade on Ukraine's development only at the macro level (Vasylytsya 2017).

Examining the involvement of Ukrainian regions in foreign trade, the authors identify problems such as excessive regional differentiation of foreign economic activity in Ukraine, an export structure dominated by raw materials, and excessive dependence on foreign trade in many regions, which makes their economies vulnerable to foreign markets (Sokolovska 2020). These features are generally common to all regions of Ukraine.

Other studies of foreign economic relations focus on border regions. These regions, being on the periphery, away from the central markets of the country and, in turn, close to those of neighbouring countries, have additional advantages and opportunities for foreign trade operations and other types of foreign economic activity (Zelinska 2020).

Previous Ukrainian research into the deepening cooperation with the EU has focused on the positive role of the Western border regions of Ukraine in the implementation of the foreign economic course of the state. Now, with a rupture of trade relations between Ukraine and Russia becoming inevitable, a question arises about the possibilities of trade reorientation for other border areas (Eastern, Central, and Northern regions) that are remote from the frontier with the EU. Because of recent hostilities, these regions are at greater risk of destruction, and supply chain disruption may discourage or prevent the use of established trade routes.

Methods and data

The study employs general methods of analysis (a study of conditions and indicators of Ukraine's trade with major partners), including retrospective analysis, synthesis (consideration of Ukraine's trade as a set of foreign trade operations in its regions), and generalisation for conclusions. Specific methods of statistical evaluation and graphical display of results (construction of time series and diagrams of exports and imports, calculation of the share of regions in trade in goods and services and displaying them in tables, determining the relative deviations of trade indicators by the basic method) were used. Data provided by the State Statistical Service of Ukraine (SSSU) and the National Statistics Office of Georgia (NSOG) serve as a basis for statistical analysis and comparison.

Results

Overview of general changes in Ukraine's trade with the European Union and the United States in 2014–2021

Foreign trade has a great influence on the economic independence of the country. Relying on imports from a certain trade partner as well as concentration of export flows poses a threat to national security, namely when the partner is aggressive and unpredictable.

Ukraine has made significant progress in economically distancing itself from Russia and reorienting its trade flows to other countries. The share of Russia in Ukraine's turnover of goods and services decreased from 27.7 percent in 2013 to 7.2 percent in 2021. The analysis of export flows shows that the majority of Ukrainian exports now go to the EU. Thus in 2021, the volume of commodity exports from Ukraine to the EU amounted to 26.8 billion USD, which was 39.4 percent of total exports of goods. Commodity imports from the EU amounted to 28.95 billion USD (39.8 percent of total imports). Exports of services to the EU were at 4.49 billion USD (34.2 percent of exports of services from Ukraine), with imports amounting to 3.23 billion USD (42.6 percent of the total).

A breakdown by nation shows that goods from Ukraine mainly go to China (11.8 percent), Poland (7.7 percent), Turkey (6.1 percent), Italy (5.1 percent), and the Russian Federation (5 percent) – see Figure 1. Russia's share was 23.7 percent in 2013.

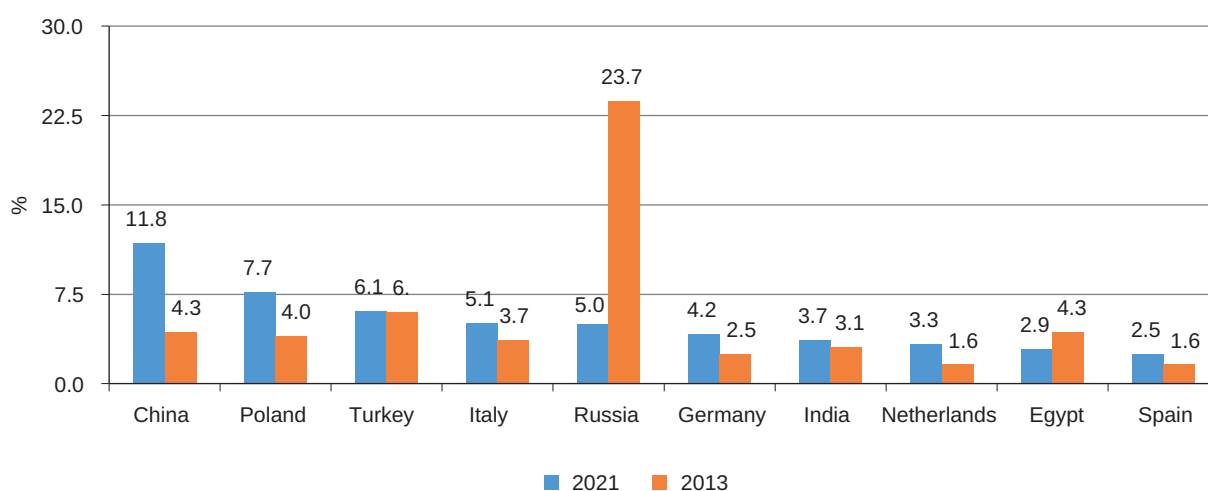


Figure 1. Main commodity export destinations from Ukraine in 2021 compared to 2013, percent of total exports

Source: SSSU 2022a, data processed and visualised by the authors.

Services exports mostly go to the Russian Federation, the USA, Switzerland, the United Kingdom, and Germany (Figure 2). Again, Russia's share has decreased dramatically since 2013.

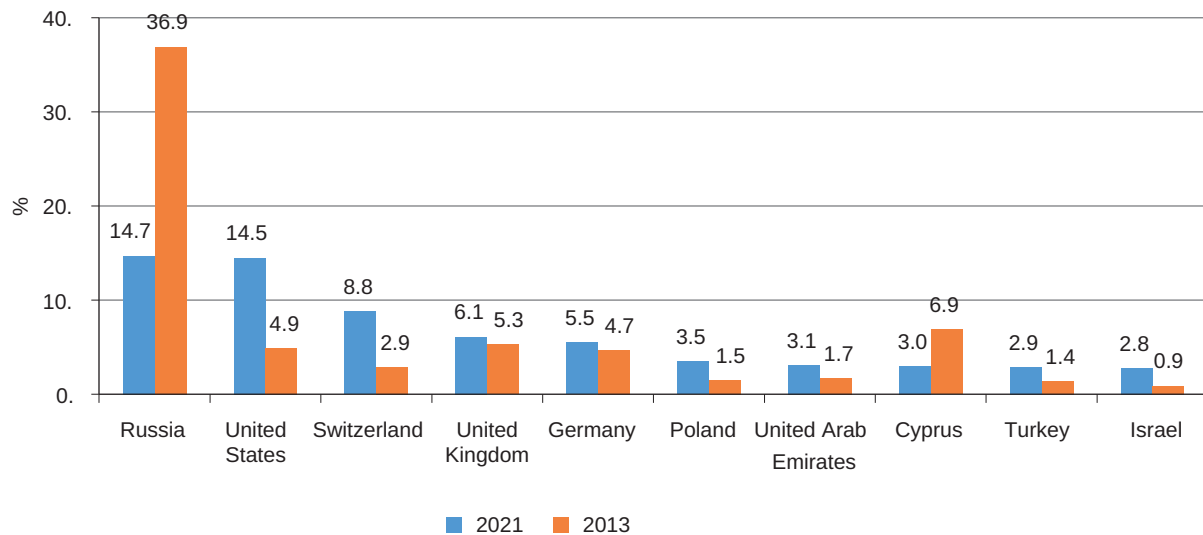


Figure 2. Main services export destinations from Ukraine in 2021 compared to 2013, percent of total exports

Source: SSSU 2022b, data processed and visualised by the authors.

The greatest share of imported goods in 2021 originated from China, Germany, Russia, Poland, and Belarus (Figure 3) while services were imported from Turkey, the United States, the United Kingdom, and Ireland (Figure 4).

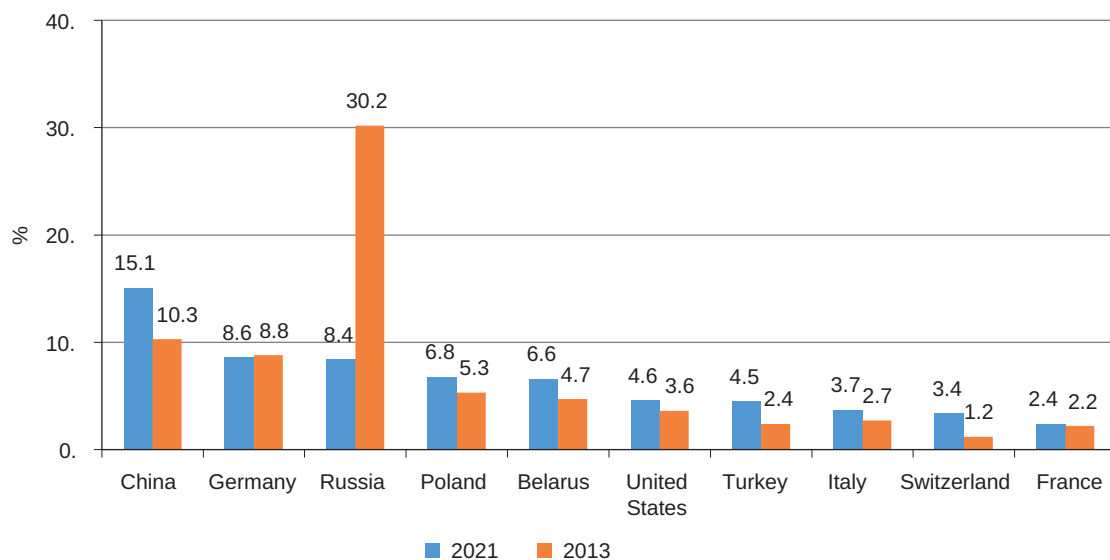


Figure 3. Commodity imports to Ukraine by main partners in 2021 compared to 2013, percent of total imports

Source: SSSU 2022a, data processed and visualised by the authors.

It is noticeable that trade in goods with the United States is much smaller in volume than trade with the EU, while the United States is Ukraine's second-largest trade partner in services. China remains the main buyer of Ukrainian products, and over the past 5 years, supplies to China have been growing by an average 17 percent annually (mainly due to agro-food products). Given the specifics of Ukrainian exports to China (about 55 percent of which is grain) and its supply routes, which have been interrupted by hostilities, forecasting the dynamics of exports in the near future is no easy task; nevertheless, we can assume that China's will retain its leading role as an export destination from Ukraine.

Russia, on the other hand, has seen a complete severing of trade connections with Ukraine, with a total ban on Russian imports made official in April 2022 and export restrictions approved by

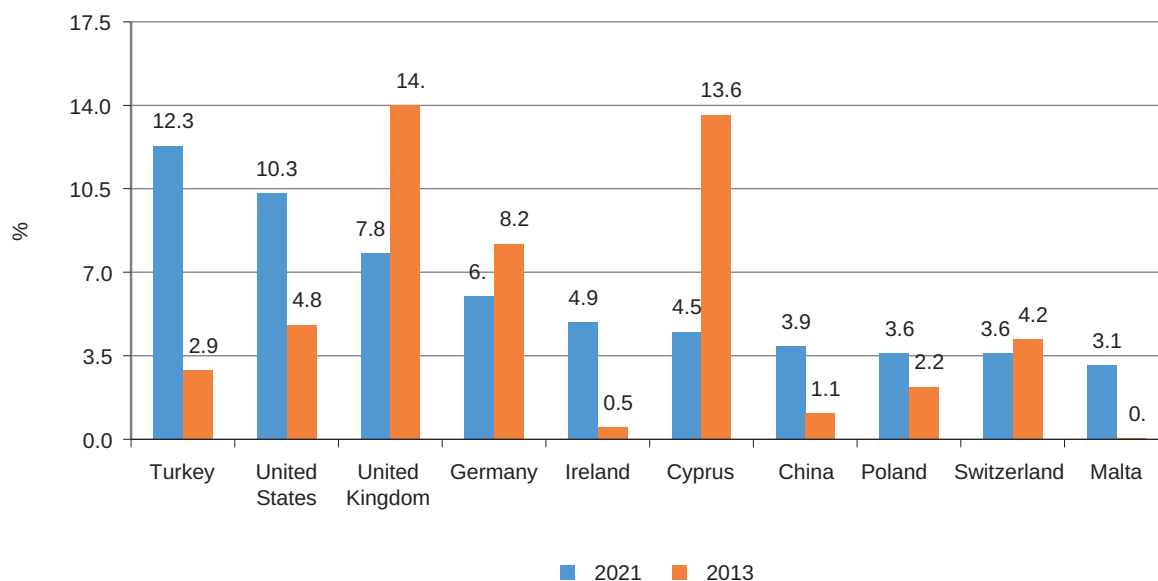


Figure 4. Services imports to Ukraine by main partners in 2021 compared to 2013, percent of total imports

Source: SSSU 2022b, data processed and visualised by the authors.

the Government five months later. This will not only lead to a 6 billion USD annual currency loss for Russia, but will also force Ukrainian companies to reorient to other foreign markets. This will primarily apply to companies selling ferrous metals and products of inorganic chemistry in Russia. As for imports from Russia, 70 percent of which were energy sources, the results of the ban are also obvious – Ukraine has the clear task of gaining complete independence from Russian oil and gas. In our opinion, curtailing trade with Russia will open a new window for increasing trade with other partners. Still, there is a paradoxical situation in trade in services between Russia and Ukraine. Though the refusal to provide Russia with transit services from the Ukrainian seems to be clear and legally grounded, the fuels are still transferred to Europe through Ukrainian territory. Ukraine's commitments and status as a reliable transit country do not yet allow curtailing this activity.

However, Ukraine's export opportunities in the West are the subject of our study, so it is worth turning attention to how Ukrainian trade flows to and from the EU and the United States have been changing since 2014.

Trade flows have undergone a considerable shift since the Russian intervention in Crimea, Donetsk, and Lugansk in 2014. The Russian Federation had previously been Ukraine's main trading partner. However, over the past 8 years, the European Union's share of Ukraine's foreign trade has increased from 32 percent to almost 40 percent, making the EU Ukraine's leading trading partner. Compared to 2013, the import of goods from the EU to Ukraine has increased by 1.9 billion USD in 2021 (7 percent). Exports have grown remarkably, having increased by 10.04 billion USD, or 60 percent. Given such high dynamics of export compared with the rather moderate growth in imports, the negative balance in trade in goods decreased by 79 percent (Fig. 5).

The most dynamic deepening of trade relations between Ukraine and the EU took place after the signing of the Agreement on the Deep and Comprehensive Free Trade Area (economic part of which came in action in 2017), which provided for the reduction of most customs restrictions on a significant proportion of Ukrainian goods. As a result, the import of goods from Ukraine to the EU increased by 5.73 billion USD (+ 25 percent), with exports increasing by 6.64 billion USD (+ 33 percent) from 2018 to 2021.

Before 2014, the balance of trade in services with the EU was negative and amounted to 16.3 million USD. Over the past 8 years, the balance of trade has become positive and increased by 1.28 billion USD. In particular, the export of services from Ukraine to the EU increased by 514 million USD between 2018 and 2021, while imports, on the contrary, dropped by 124 million USD. Compared to 2013, the export of services from Ukraine to the EU increased by 107 percent, while imports fell by 77 percent (Fig. 6).

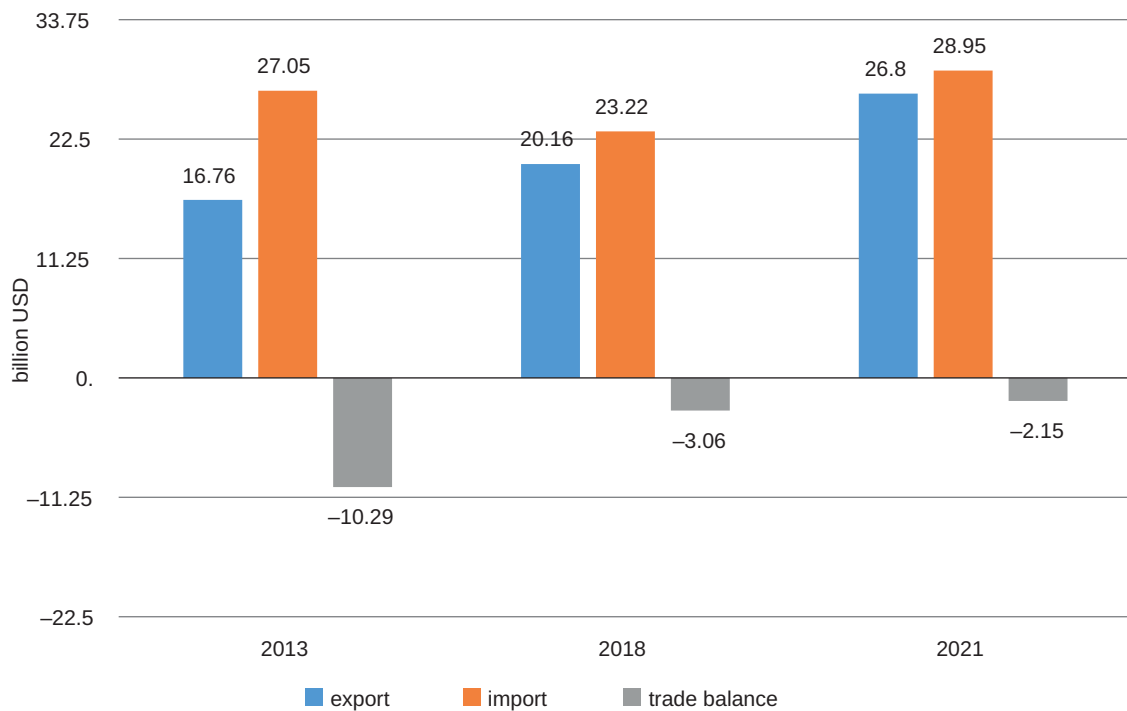


Figure 5. Ukraine-EU commodity trade indicators, 2013–2021, billion USD*

* Excluding Crimea and the occupied territories of Donetsk and Lugansk regions

Source: SSSU 2022a, data processed and visualised by the authors.

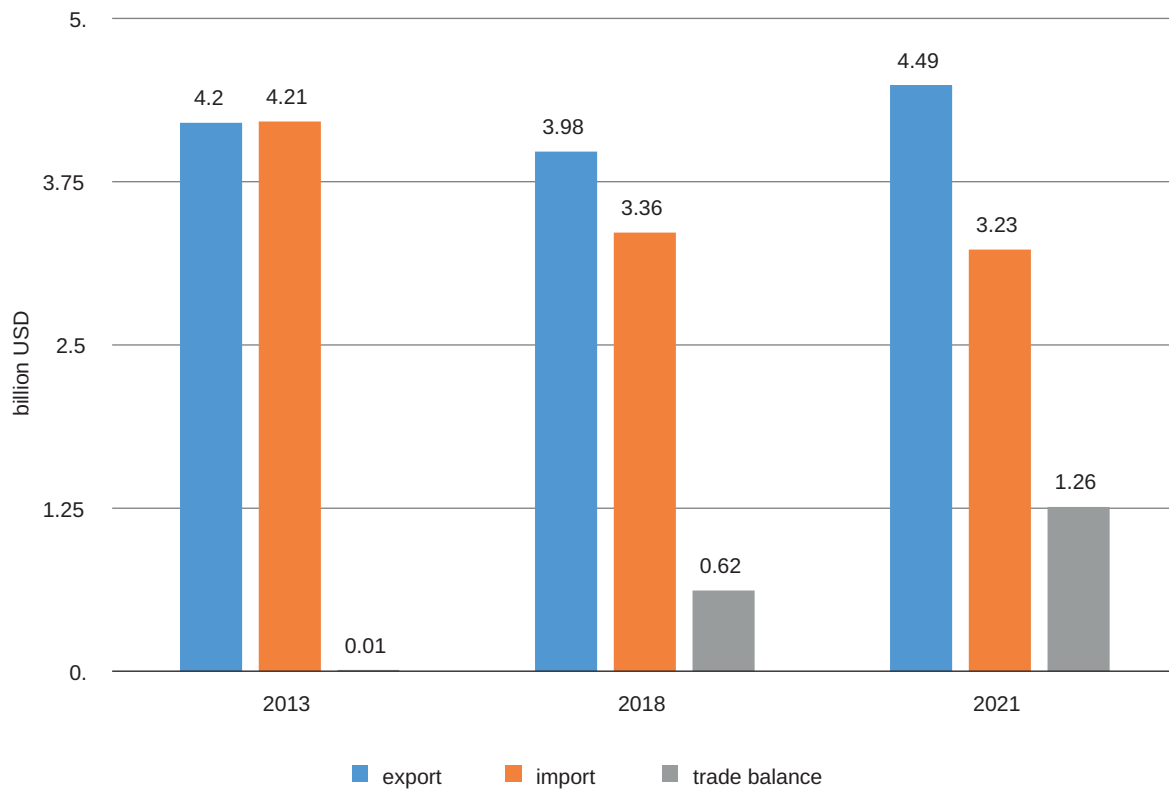


Figure 6. Ukraine-EU trade in services indicators, 2013–2021, billion USD*

* Excluding Crimea and the occupied territories of Donetsk and Lugansk regions

Source: authors' processing using the data (SSSU 2022b, data processed and visualised by the authors).

A similar trend of growing volume and exports exceeding imports is seen in trade relations with the United States. Imports from the United States increased by 21 percent in 2021 from the pre-war level of 2013. Exports from Ukraine increased by 722 million USD, or 81 percent. Both indicators also show higher dynamics of growth than in trade with the EU, though there were no such significant changes in bilateral trade policy and cooperation between Ukraine and the United States as was the case with the EU. The negative balance of commodity trade amounted to 1.72 billion USD in 2021 (Fig. 7), which is eight percent less than in 2013.

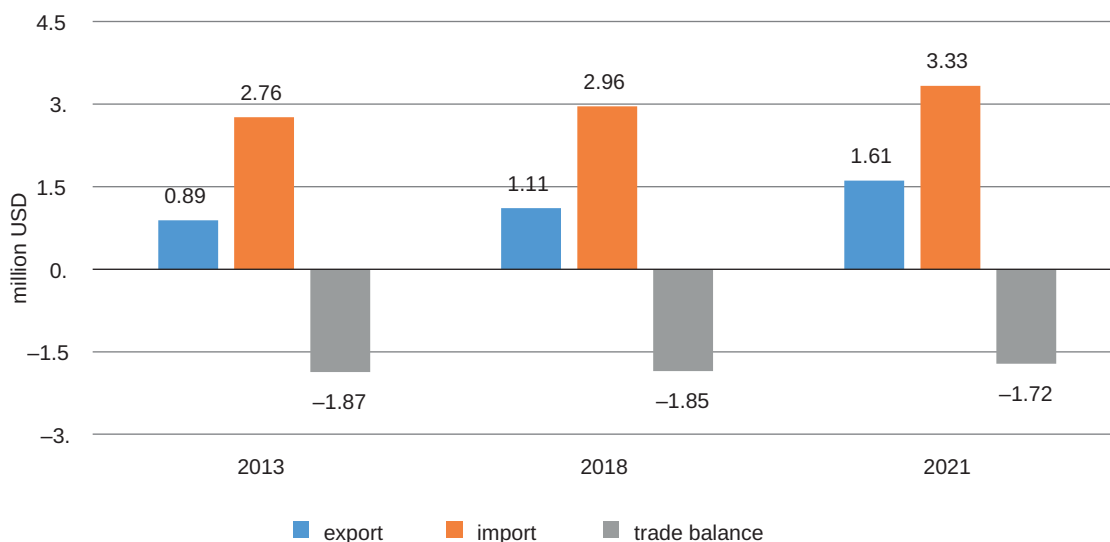


Figure 7. Ukraine-USA commodity trade indicators, 2013–2021, million USD

Source: SSSU 2022a, data processed and visualised by the authors.

The most dynamic deepening of trade relations between Ukraine and the United States happened during the last three years. Between 2018 and 2021, imports of goods from Ukraine to the United States increased by 370 million USD (+ 12.5 percent), with exports increasing by 449 million USD (+ 45 percent). We assume this happened partly due to revision of the US Generalized System of Preference Program for Ukraine in 2019 – tariff preferences for Ukrainian imports had previously been cancelled. As a result, 155 product items were returned to the list of products subject to zero import duty, mainly products with a high degree of processing and so-called „niche”

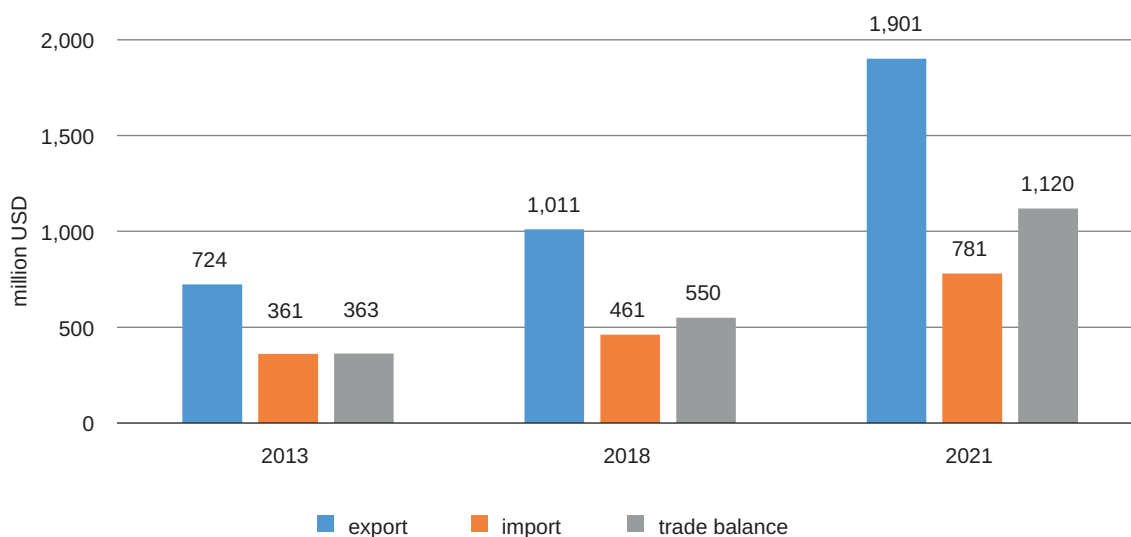


Figure 8. Ukraine-USA trade in services indicators, 2013–2021, million USD

Source: SSSU 2022b, data processed and visualized by the authors.

products, including confectionery, ready-made juices and jams, clothing, haberdashery, electrical and optical products, tools, engines and pumps, and furniture (USTR, 2019).

Trade in services grew much faster than the commodity trade. From 2018 to 2021, exports of services from Ukraine to the United States increased by 890 million USD, and imports by 320 million USD. Compared to 2013, exports of services from Ukraine to the United States increased by 262 percent, and imports by 216 percent; the positive balance increased by 308 percent – see Figure 8.

Noticeably, that trade in services also intensifies in 2018 (as with EU trade), though no significant agreements on trade in services were reached with the US at that time, either. Like the growth in the commodity trade, this sudden change can be partially explained as a side-effect of deepening integration with the EU. That is, infrastructural reforms aimed at Ukraine's integration into the European common market and approximation of national legislation to the legislation of the EU serve as a "green light" for American businesses. In addition, new political leaders of Ukraine expressed a great interest in deepening cooperation with the United States. Such warming in political relations between the states was a new impetus for trade cooperation.

Structural changes in Ukraine's commodity and services bilateral trade with the European Union and the United States

Ukraine's trade with the EU and the US also exhibits structural changes. Tariff liberalisation, which began in 2014 as part of the preparation to the free trade agreement between the EU and Ukraine, has ensured a significant reduction of customs barriers for Ukrainian goods coming into the EU. The most significant liberalisation concerned consumer and intermediate goods (mainly products of animal and plant origin, ready-made food products, and chemical products). As a result, most Ukrainian exports to the EU for the period 2013–2020 were intermediate consumer goods (about 80%) and consumer goods (about 16%; Taran et al., 2022). The change in the structure of commodity exports was also ensured by the existing preferential tariff quotas with a zero import duty rate (primarily for agricultural and food products), which were granted to Ukraine within the framework of the free trade agreement. The size of individual tariff quotas has gradually increased over the past 5 years, so we can see increasing export dynamics in these product groups (grain, flour, barley, processed grain products, processed malt and starch products, honey, apple and grape juices, eggs, etc.).

Currently, the highest increase in Ukrainian exports to the European Union occurred with ferrous metals and iron ores, along with grain and vegetable fats, accounting for about half of exports to the EU. The most noticeable trends in the dynamics of Ukrainian commodity exports to the EU are as follows:

1. Increase in the export of ferrous metals and iron ores. In particular, the export of ores, slag, and ash increased from 1.72 billion USD in 2013 to 3.0 billion USD in 2021 (the share of the total export of Ukraine to the EU increased from 10.3 percent to 11.2 percent). The export of ferrous metals grew by 34 percent between 2013 and 2021, but the share of total exports decreased from 24.5 to 20.3 percent. These data show a moderate decrease in the role of export of metals.
2. There was a 40 percent increase in the volume of agricultural product exports, namely for such commodity items as cereals, seeds, and oil plants (from 1.05 billion USD in 2013 to 1.48 billion USD in 2021). Export growth rates for such commodity items as fats and oils, milk and dairy products, eggs, honey, nuts, vegetables, juices, and meat are also noticeable. However, the share of these groups in total exports remained at about the 2013 level.
3. The export of machines and equipment to the EU has grown significantly. The export of electric machines increased from 1.49 billion USD in 2013 to 2.57 billion USD in 2021 (by 72 percent). There was also a noticeable increase in the export of nuclear boilers, reactors, engines, land transport, ships, and railway locomotives, which proves a positive trend – the growing role of technology-intensive products in Ukrainian exports.
4. There have been significant changes in the structure of commodity exports as to the level of processing. In 2013, raw materials, semi-finished products, and processed products took almost equal shares in exports to the EU (33 percent each). In 2021, the share of raw materials was 29

percent, semi-finished products – 23 percent, and processed goods – 48 percent. At the same time, household goods (furniture, clothing, textiles) and products of Ukrainian engineering are gradually joining the list of export commodities, which shows in the diversification of Ukrainian exports to the EU (SSSU 2015, SSSU 2022d).

The fact is that while Ukrainian exports to the EU have become more diversified, its structure remains mainly raw and low-tech. At the same time, there has been a gradual increase in export quotas for goods with a higher degree of processing and added value (especially certain industrial and agricultural items), as well as an increase in Ukraine's participation in the regional added-value chains of the EU.

The structure of services exports to the EU has also undergone significant changes. A rapid growth in the share of telecommunications, computer and information services can be observed (from 13 percent in 2013 to 28 percent in 2021). The volumes of processing services, construction services, insurance services and services for individuals, and cultural and recreational services have also increased. At the same time, the transport services sector shows the largest reduction in terms of the share in total export – from 47.05 percent in 2013 to 29.6 percent in 2021, which results in large part from the loss of cargo transit flows due to military aggression and transit restrictions set by the Russian Federation. The share of services related to financial activities has also decreased – from 3.36 to 1.1 percent (Table 1).

Table 1. Ukrainian service exports to the European Union, 2013 and 2021*

Types of services	2013		2021		2021 to 2013 percentage change
	Export volumes, million USD	Share in total, %	Export volumes, million USD	Share in total, %	
Material resources processing services	617.06	14.7	958.44	21.3	+55.3
Repair and maintenance services not included in other categories	92.48	2.2	77.01	1.7	-16.7
Transport services	1,974.24	47.05	1,330.02	29.6	-32.6
Travels	73.26	1.74	44.67	1.0	-39.1
Construction services	24.79	0.6	28.12	0.6	+13.5
Insurance	24.89	0.6	98.06	2.2	+294
Financial services	141.41	3.36	50.17	1.1	-64.6
Royalties and other services related to the use of intellectual property	24.49	0.6	23.98	0.5	-2.1
Telecommunication services, computer and information services	551.54	13.15	1,254.68	28	+127.5
Business services	644.27	15.35	593.24	13.2	-7.93
Services for individuals, cultural and recreational services	16.98	0.4	33.09	0.7	+94.8
State and governmental services	10.29	0.25	2.80	0.1	-72.8
Total*	617.06	14.7	958.36	21.3	+55.3

* Excluding Crimea and the occupied territories of Donetsk and Lugansk.

Source: SSSU 2015, SSSU 2022e; table by the authors.

Since the beginning of the 8-year war with Russia, there have been some changes in the structure of Ukrainian exports to the United States, which is, as in the case of the EU, a result of the reorientation of regional trade flows from the Russian to the Western markets. In pre-war 2013, the main merchandise exports to the United States were ferrous metals – 30.4 percent, ferrous

metal products – 14.9 percent, inorganic chemicals – 23.7 percent; agricultural and food products accounted for 3 percent. In 2021, the most important exports to the United States were ferrous metals – 56.2 percent, ferrous metal products – 8.7 percent, ores, slags and ash – 4.6 percent, and fats and oils of vegetable and animal origin – 3.8 percent. The total contribution of agricultural and food products increased to 9 percent. Exports of metals increased due to industrial regions, and volumes of agricultural export increased at the expense of agricultural ones. At the same time, the range of exported consumer goods has expanded and the role of medium- and high-tech goods is growing. The most noticeable trends in the dynamics and structure of Ukrainian commodity exports to the United States are as follows:

1. The growth of agricultural products in volume and share of exports. In particular, export volumes of such commodity groups as fats and oils of animal or vegetable origin have grown from 4.67 million USD in 2013 to 60.9 in 2021. The share increased from 0.9 to 3.8 percent. Sales of vegetable processing products increased from 1.2 million USD in 2013 to 3.88 million USD in 2021, the share changed from 0.1 percent to 2.4 percent. Among others, not so significant in volume, but noticeable in terms of growth (more than 1000 times) are exports of milk and dairy products, eggs, crustaceans, and vegetables.
2. An increase in exports of metal ores and metals. In particular, exports of ores, slags, and ashes grew from 1.87 million USD in 2013 to 75.27 million USD in 2021 (the share in total exports increased from 0.1 to 4.6 percent). Export volumes of ferrous metals increased from 269.77 million USD in 2013 to 912.27 million in 2021.
3. A significant reduction in exports of inorganic chemicals from 210.4 million USD in 2013 (23 percent of total exports to the United States) to 9.97 million USD in 2021 (0.9 percent of total exports) and an increase in exports of organic compounds and finished chemicals.

Table 2. Ukrainian export of services to the United States, 2014 and 2021*

Types of services	2014		2021		2021 to 2014 percentage change
	Export volumes, million USD	Share in total, %	Export volumes, million USD	Share in total, %	
Material resources processing services	0.87	0.1	1.16	0.1	+34.4
Repair and maintenance services not included in other categories	4.49	0.7	5.22	0.3	+16.3
Transport services	166.35	24.2	222.55	11.6	+33.8
Travels	7.70	1.1	12.35	0.7	+60.5
Construction services	1.85	0.3	4.29	0.2	+131.8
Insurance	3.85	0.6	2.81	0.2	-26.97
Financial services	30.49	4.4	31.46	1.7	+3.2
Royalties and other services related to the use of intellectual property	2.30	0.4	4.10	0.2	+37.1
Telecommunication services, computer and information services	360.01	52.3	1,393.60	73.2	+287.1
Business services	105.67	15.4	217.15	11.4	+105.5
Services for individuals, cultural and recreational services	3.15	0.5	2.80	0.2	-11.49
State and governmental services	0.01	0	3.78	0.2	+278.0
Total**	687.44	100	1,901.27	100	+176.6

* Excluding Crimea and the occupied territories of Donetsk and Lugansk.

Source: authors' processing using the data (SSSU 2022b, table by the authors).

4. Changes in the structure of exports of machinery and equipment to the United States. Against a reduction in aircraft exports of almost two-thirds (from 61.7 million USD in 2013 to 20.7 in 2021), there was a significant increase in exports of ships (by 5.01 million USD), optical and photographic devices (by 5.38 million USD), nuclear boilers, reactors, and engines (by 14.13 million USD), and electric machines – by 40.13 million USD. Thus, machinery and equipment sales show a positive trend in terms of both volume and share in the structure of Ukrainian exports.
5. Growth in the share of finished consumer products and general diversification of export structure. Ukraine has begun to supply the US with the products of light industry – ready-made clothing and fabrics, threads, textiles, toys, furniture, and works of art.

The structure of trade in services has also undergone significant changes (Table 2). The increase in the share of high-tech services – telecommunications, computer, and information services – from 52.3 to 73.2 percent of total exports to the US is obviously a positive trend.

The role of transport services, the predominance of which in the structure of exports is a characteristic of most low-income economies, has decreased. In 2013, transport services accounted for 24.2 percent of exports, as compared to only 11.6 percent in 2021. There was a growth in all types of services, except for insurance services and services to individuals, including recreational, which is obviously due to the unstable political and security situation in the country. The growth of state services (more than 300 times) testifies to the strengthening of cooperation at the governmental level.

Regional dimension of reorientation of trade flows

The growth of Ukrainian exports to the EU over the past 8 years is also reflected in the regions. Since 2013, almost all regions of Ukraine were showing increase in the volume of commodity export, with the exception of Donetsk, Lugansk, and the city of Kyiv. The largest share of exports of goods to the EU in 2020 came from Dnipropetrovsk, Donetsk, Lviv, Transcarpathian regions, and the city of Kyiv, which together account for about 60 percent of all commodity export to the EU.

The most rapid growth of commodity exports from 2013 to 2020 was for Chernivtsi (+240 percent), Khmelnytskyi (+220 percent), Chernihiv (+216 percent), Lviv (+208 percent), Kherson (+128 percent), and the Transcarpathian (+124 percent) and Dnipropetrovsk regions (+112 percent). At the same time, the COVID-19 pandemic had a negative impact on export volumes in 2020 compared to the pre-crisis 2019 levels, showing a 10.3 percent overall drop.

The Western regions of Ukraine, namely Lviv, Ternopil, Transcarpathia, Volyn, and Ivano-Frankivsk, supply the EU with machines and equipment, including electrical. In the Eastern regions (Lugansk, Donetsk, Zaporizhzhya, Sumy, Poltava, and Dnipropetrovsk), metals and metal products, chemicals, minerals, and food products form the basis of exports. The central regions (Khmelnytskyi, Odesa, Vinnytsia, Rivne, Zhytomyr, Cherkasy, Mykolaiv, Chernihiv, Kherson, Kirovohrad, and Kyiv regions) are mainly agriculture-oriented and export wood products, fats, and oils of animal and vegetable origin.

The largest share of the total services exports to the EU belongs to the city of Kyiv (48 percent of the total volume in 2020), the Lviv region (11.8 percent), the Odesa region (6.5 percent), and Transcarpathia (6.1 percent). The Volyn, Transcarpathia, Zhytomyr, Lviv, Ternopil, and Khmelnytskyi regions are most concentrated on services exported to the EU (over 80 percent of exported services from these regions go to the Union), while the Donetsk and Mykolaiv regions sell less than 20 percent of their services in this direction – see Table 3.

The capital of Ukraine is the undisputed leader in terms of selling information, scientific, technical, business and transport services to the EU. Western regions focus on services for the processing of material resources, transport services, construction services, as well as cultural and recreational services. Eastern and Central regions specialize in transport and processing services (SSSU 2015, SSSU 2021b).

Table 3. Regional dimension of Ukraine's goods and services exports to the EU, 2020

Regions of Ukraine	Goods			Services*		
	Million USD	% of the total export from the region	% of the total export from Ukraine	Million USD	% of the total export from the region	% of the total export from Ukraine
Vynnytsya	546.06	36.9	2.9	56.74	34.5	1.3
Volyn	501.12	77.9	2.7	79.65	95.0	1.8
Dnipropetrovsk	2,030.25	26.7	10.9	94.83	50.1	2.1
Donetsk	1,822.86	46.3	9.8	15.17	17.9	0.3
Zhytomyr	430.41	63.2	2.3	70.56	87.7	1.6
Transcarpathia	1,274.73	94.5	6.9	274.18	92.7	6.1
Zaporizhzhya	724.25	24.8	3.9	38.92	22.8	0.9
Ivano-Frankivsk	449.13	59.3	2.4	45.44	75.6	1.0
Kyiv (region)	765.30	38.9	4.1	154.74	56.7	3.5
Kropyvnytskyi	249.84	27.4	1.3	8.16	34.4	0.2
Lugansk	73.10	56.4	0.4	7.67	27.5	0.2
Lviv	1,808.02	77.8	9.7	528.48	82.4	11.8
Mykolaiv	364.18	16.2	2.0	52.69	15.2	1.2
Odesa	344.70	25.3	1.8	287.89	34.0	6.5
Poltava	813.05	35.1	4.3	18.18	44.9	0.4
Rivne	385.54	82.1	2.1	37.14	51.8	0.8
Sumy	309.26	31.7	1.7	6.55	22.9	0.1
Ternopil	336.48	75.1	1.8	96.12	86.9	2.2
Kharkiv	363.01	24.7	2.0	143.33	35.4	3.2
Kherson	127.73	45.5	0.7	11.84	36.3	0.3
Khmelnitsk	327.00	49.3	1.8	23.30	93.1	0.5
Cherkasy	303.72	37.5	1.6	13.11	30.6	0.3
Chernivtsi	134.14	79.6	0.7	30.15	65.9	0.7
Chernihiv	328.41	36.9	1.8	18.56	52.8	0.4
Kyiv (city)	3,787.97	30.5	20.4	2,142.74	50.3	48.0

* Including volumes of services not distributed among regions.

Source: SSSU 2021a, table by the authors.

Commodity trade with the United States does not make a significant contribution to the export incomes of the Ukrainian regions. The largest volumes of commodity export to the United States in 2020 were from Dnepropetrovsk, Donetsk, Zaporizhzhya regions. These regions, together with the city of Kyiv, export almost 80 percent of all goods to the United States – Table 4. However, since 2018, there has been no increase in exports from these regions except Zaporizhzhya region, while Lviv, Chernivtsi and Poltava regions showed an increase in exports of goods to the United States even during the COVID-19 pandemic. Thus, export from Lviv region increased by 92 percent in 2020 compared to 2018, Chernivtsi region by 84 percent, and Poltava region 5 times. In pre-crisis 2019, ten regions of Ukraine showed positive dynamics of exports to the United States.

Table 4. Regional dimension of Ukraine's commodity and services export to the US, 2020

Regions of Ukraine	Goods			Services		
	Million USD	% of the total export from the region	% of the total export from Ukraine	Million USD	% of the total export from the region	% of the total export from Ukraine
Vinnnytsya	22.14	1.6	2.3	10.30	6.0	0.67
Volyn	0.23	0.1	0.0	1.13	1.4	0.07
Dnipropetrovsk	192.65	2.6	19.6	36.34	19.2	2.36
Donetsk	263.70	6.7	26.8	0.77	0.9	0.05
Zhytomyr	2.25	0.3	0.2	1.20	1.5	0.08
Transcarpathia	1.56	0.2	0.2	8.21	2.8	0.53
Zaporizzhya	223.51	7.6	22.7	9.53	5.6	0.62
Ivano-Frankivsk	1.14	0.2	0.1	5.00	8.4	0.33
Kyiv (region)	8.93	0.5	0.9	9.99	3.7	0.65
Kirovograd	11.34	1.3	1.2	12.67	53.5	0.82
Lugansk	3.08	2.4	0.3	0.21	0.8	0.01
Lviv	17.80	0.8	1.8	62.75	9.8	4.08
Mykolaiv	2.08	0.1	0.2	4.37	1.3	0.28
Odesa	18.38	1.4	1.9	20.21	23.8	1.31
Poltava	48.06	2.1	4.9	4.16	10.3	0.27
Rivne	3.07	0.7	0.3	2.41	3.4	0.16
Sumy	14.15	1.4	1.4	1.24	4.3	0.08
Ternopil	5.13	1.1	0.5	1.65	1.5	0.11
Kharkiv	15.72	1.1	1.6	114.88	28.4	7.47
Kherson	4.90	1.8	0.5	1.58	4.8	0.10
Khmelnysk	6.46	1.0	0.7	0.11	0.5	0.01
Cherkasy	3.5	0.4	0.4	233.86	54.6	15.21
Chernivtsi	0.42	2.5	0.4	1.21	2.7	0.08
Chernihiv	3.34	0.4	0.3	5.46	17.0	0.35
Kyiv (city)	105.87	0.8	10.8	987.82	23.2	64.27

Source: authors' processing using the data (SSSU 2014, 2021b). Table by the authors.

The share of the United States in services exports is the highest for Kirovograd, Odesa, Cherkasy, and Kharkiv regions and Kyiv, the lowest – for Donetsk, Lugansk, Mykolaiv, Khmelnytsk and Ternopil regions. Over 86 percent of services exported to the USA originate from Kyiv city, Cherkasy, and Kharkiv regions (SSSU 2014, 2021). Thus, there is a high differentiation of regional volumes in Ukrainian exports of goods and services to the US. Undoubtedly, this trade direction is still underdeveloped for some regions, leaving a significant concentration of exports coming from a few regions of Ukraine.

Discussion

Ukraine's progress in decreasing trade connections and thus economic dependence on Russia is even more obvious in comparison with Georgia, which also suffered from the military intervention of the Russian Federation. Ukraine and Georgia have at least two common factors significantly affecting their participation in world trade – close economic relations with an aggressive neighbour and the chosen path to in-depth cooperation with the EU, which took the form of official association.

Even in the active phase of the war, Ukraine is strengthening cooperation with the EU and achieving significant success in this direction – it was granted EU candidate status in June 2022.

The political will of Ukrainian leaders and public support within Ukraine and abroad play an important role in these processes.

Georgia is restoring and increasing trade ties with the Russian Federation that preclude its further integration with the EU. The country is strongly dependent on energy and food imports from the Russian Federation. Thus, according to Transparency International Georgia, energy resources comprise 36 percent of imports from the Russian Federation, which undermines the foundations of the country's economic security. About 94 percent of wheat and flour comes from the aggressor country. More than 55 percent of exported wine – Georgia's leading global export – is sent to Russia. Since the beginning of the military aggression of Russia against Ukraine, the volumes of bilateral trade and Russian investment in the Georgian economy have increased significantly. During March–May 2022, more than 6,400 new Russian companies were registered in Georgia, which is 7 times more than in the same period in 2021 (Transparency International Georgia, 2022).

Despite positive developments and progress in the implementation of the provisions of the Association Agreement with the EU, which entered into force in 2014, Georgia is maintaining active interaction with the Russian Federation, and the reallocation of trade flows towards the EU has not actually occurred. According to Georgian government data, in 2010 (2 years after the military conflict in Abkhazia and South Ossetia), trade with the Russian Federation accounted for only 2 percent of turnover, while by 2014 it had grown to 7.4 percent, and yet further in 2021 to 11.4 percent. Trade with the EU accounted for 18.5 percent in 2010, 21.8 percent in 2014 (the year when the Association Agreement entered into force for Georgia), and 21 percent after 8 years of the agreement. The USA's share in Georgian trade remained the same. In 2021, the country's share in the turnover was 5.9 percent, close to the 2010 figure of 5.3 percent (Statistical Yearbook of Georgia 2009; Statistical Yearbook of Georgia 2015; Statistical Yearbook of Georgia 2021). The recovery of trade ties with Russia will probably have a negative effect both on Georgia's economic security and further integration with the EU.

Conclusions and recommendations

The statistical data show a strong trend of intensifying trade between Ukraine and both the European Union and the United States during the eight years since 2014. This was caused by the need to reorient trade flows away from Russia and the shift in foreign policy from East to West, from partners of the post-soviet environment to democratic economies. Furthermore, the implementation of a Deep and Comprehensive Free Trade Area with the EU is aimed at making Ukraine a reliable trade partner and so we can assume that deepening integration with the EU has a positive effect on Ukraine's trade with the US as well.

Growing trade cooperation with the EU and the US is one of the ways to resolve the most important and difficult task for the modern Ukrainian economy – decreasing economic dependence on Russia. The statistical analysis shows positive trends in both the volume and structure of Ukraine's trade with the EU and the US. Diversification of trade flows, expansion of exports in which Ukraine already has a strong specialisation (foods, metals, and ores) as well as a growing share of high value-added goods, including equipment and machinery are the features of current trade cooperation with the studied partners. However, raw materials still make up a large share of Ukraine's exports to the EU and especially to the US. Growing trade in technology-intensive telecommunication, computer, and information services is also very important from the view of modernising Ukrainian export, bringing it closer to the current trends and demands of the global economy.

Ukraine's trade cooperation with the EU, including regional, has a special character. It is obvious that trade cooperation between the Western Ukrainian regions and the regions of neighbouring EU countries, which was close before, received a new impetus and new opportunities after the signing of the Association Agreement and its entry into force.

Due to their remoteness, differences in the size of their economies, and the post-Soviet influence of Russia, Ukraine is not a strategic trading partner for the United States, though the role of the US in Ukraine's foreign trade has been growing swiftly in recent years. Considering the warming in political relations, the reinstatement of tariff exemptions for Ukrainian imports from the side

of the US, and enormous support in the struggle against the aggressor, trade cooperation between the regions of Ukraine and the United States may intensify in the near future.

The regional trade flows to the US are rather uneven, in contrast to trade with the EU, in which almost all regions of Ukraine are actively involved. However, it is obvious that the large industrial regions of the east and southeast of Ukraine have the closest trade cooperation with the US companies in commodity trade, while services exported to the United States originate primarily from Kyiv and the central regions.

Further development in priority areas of cooperation between the regions of Ukraine, the EU, and the US will depend on the post-war product specialisation of the regions and their ability to refocus on new partnerships. The conditions of access to foreign markets and the political will of the partners to support Ukraine in a difficult political-economic situation will also play a crucial role.

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