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Geopolitical changes in Central and Eastern Europe after February 24, 2022 — a logistics perspective

Zmiany geopolityczne w Europie Środkowo-Wschodniej po 24 lutego 2022 r. — ujęcie logistyczne

Abstract

Central and Eastern Europe has a special place in the logistics service of international trade, not only due to the strategic geographic location determining the transit position in the Trans-Eurasian supply chains. Also due to the significant share of services provided by enterprises located in the countries of the region. The outbreak of the armed conflict on February 24, 2022, initiated by the attack of Russian troops on the territory of Ukraine, should be considered a key determinant of changes in the economic ties that have existed so far. As a result of the so far made and expected subsequent decisions in the field of international political and economic relations, the region's logistic connections will undergo reconfiguration. Importantly, their effects will be visible not only in the countries of Central and Eastern Europe, but also on a supra-regional scale.

The paper addresses the issue of the short and long-term effects of economic disturbances resulting from the Russian-Ukrainian war and their implications for the logistic service system. It is based on the perspective of geopolitical dependencies and changes in the strategic order, which is reflected in the ongoing crisis. The paper uses statistical data determining the hitherto involvement of individual countries in international flows and indicates the potential consequences of restrictions on international trade in goods. Ongoing conflict limitations in access to resources and the possibilities of their effective delivery in supply chains will cause far-reaching changes of global importance. Sanctions and retaliatory sanctions in Russia's relations with the West, preventing the implementation of the current supplies from Ukraine covered by military operations, will shape the market selected goods and logistics services to a large extent. At this stage, it is important to be aware of the consequences of the conflict that has begun.

Keywords:
Russo-Ukrainian war, logistics channels, resource availability changes, supply chains reconfiguration

Streszczenie

Europa Środkowo-Wschodnia zajmuje szczególne miejsce w obsłudze logistycznej handlu międzynarodowego. Wynika to nie tylko ze strategicznego położenia geograficznego, determinującego pozycję tranzytową w transeurazjatyckich łańcuchach dostaw, ale także ze znacznego udziału usług logistycznych świadczonych przez przedsiębiorstwa zlokalizowane w krajach regionu. Wybuch konfliktu zbrojnego 24 lutego 2022 r., zainicjowany atakiem wojsk rosyjskich na terytorium Ukrainy, należy uznać za kluczowy wyznacznik zmian w dotychczasowych powiązaniach gospodarczych. W wyniku podjętych i oczekiwanych kolejnych decyzji w zakresie międzynarodowych stosunków politycznych i gospodarczych powiązania logistyczne ulegają rekonfiguracji. Co ważne, ich efekty będą widoczne nie tylko w krajach Europy Środkowo-Wschodniej, ale także w skali ponadregionalnej.

W artykule poruszono kwestię krótko- i długofalowych skutków zaburzeń gospodarczych, wywołanych wojną rosyjsko-ukraińską oraz ich implikacji dla systemu obsługi logistycznej. Opiera się on na perspektywie zależności geopolitycznych i zmian w porządku strategicznym, co znajduje odzwierciedlenie w trwającym kryzysie. W artykule wykorzystano dane statystyczne określające dotychczasowe zaangażowanie wybranych krajów w przepływy międzynarodowe oraz wskazano potencjalne konsekwencje ograniczeń w międzynarodowym handlu towarami.

Wymuszone trwającym konfliktem ograniczenia w dostępie do zasobów i możliwości ich efektywnego dostarczania w łańcuchach dostaw spowodują daleko idące zmiany o znaczeniu globalnym, zaś sankcje i działania odwetowe w znacznym stopniu ukształtują rynek wybranych towarów i usług logistycznych.

Słowa kluczowe:
wojna rosyjsko-ukraińska, kanały logistyczne, zmiana dostępności zasobów, rekonfiguracja łańcuchów dostaw

JEL: F50, R41

Introduction

The starting point adopted in this article is the essence of geopolitics — the location of strategic and economic resources in relation to the communication lines connecting them. Geopolitics, in another approach is power and its exercise in a specific geographical space, taking into account the limitations, profits and advantages resulting from it. Thus, the geopolitical map consists of marked, specific places of different value determined by resources, including economic and strategic resources (Gray & Sloan, 1999).

In the past, geopoliticians sought to understand how the new industrial capabilities of transportation, communication, and destruction interacting with the largest-scale geographic features of the Earth would shape the character, number, and location of viable security units in the emerging global international system (Deudney, 2013). In everyday practice, geopolitics comes down to coping with, or rather coming to terms with, the limitations of human plans, desires and dreams. In the case of foreign policy, this concerns limitations to the political agenda and state goals. Limitations result from elementary geographic conditions, such as: distance, natural barriers (mountains, swamps, forests, seas and oceans), soil fertility or lack of fertility, rainfall or lack thereof, access to the sea, raw materials, etc. (Bartosiak, 2018).

However, analysis of the geographic influences on power relationships in international relations requires the use of a geostrategic approach. Geostrategy, in turn, describes where and how the political entity: the state directs military and diplomatic efforts to improve its position and optimize its own development, often at the expense of others. Since resources are always limited, even the most powerful powers have to choose where to allocate their efforts and where to exert influence (economic, military, or both), which gives a geographic dimension to foreign policy (Grygiel, 2006).

Russia's full-scale invasion of neighboring Ukraine in February 2022 marked the start of Europe's deadliest armed conflict in decades. After a steady buildup of military forces along Ukraine's borders since 2021, Russia invaded Ukraine on February 24, 2022. It prompted intensive international efforts to respond to the war. The immediate and long-term implications of the war are likely to be far-reaching, affect numerous policy and economics dimensions of concern (Bowen, 2022). The offensive that Russia called a "special military operation" was rightly recognized by the international community as a Russian armed attack on an independent state, and thus a war against Ukraine. Taking into account the above, the concept of "Russo-Ukrainian war" is justified and purposeful.

Strategic importance of the Central and Eastern Europe in an international approach

The father of geopolitics — Sir Halford Mackinder — was a representative of its natural current, which to this day has a considerable intellectual influence on the way Americans and British think about the world and foreign policy. In his epochal book *Democratic Ideals and Reality* (1919), he introduced geopolitical concepts such as: sea power, land power, "World Island" to describe Eurasia along with Africa, Heartland as an area not under the rule of a sea power, but the immanently poorer part of Eurasia corresponding to in a very close approximation to Russia from the time of the summit of the Romanov empire, the geographical pivot of history, which is Eastern Europe — the most important place from the point of view of land power for the control of Eurasia in the situation of the ongoing process of disturbance of the current (old) balance of power (Bartosiak, 2018). In earlier paper *The Geographical Pivot of History* (1904) Mackinder suggested that the control of Eastern Europe was vital to control of the world. Mackinder postulated that the Heartland, also referred to as the "pivot area" and as the core of Eurasia, should be consider all of Europe and Asia as the World Island.

Today, the Central and Eastern Europe remains the point of contact between the Western World and the East. There is no agreement in the sources as to the unambiguous delimitation of the borders of this region. "Central and Eastern Europe" or "East Central Europe" in its usual sense encompasses the countries of Poland, the Czech Republic, Hungary, and Slovakia, which share certain historical commonalities and connections. Specifically, these were extraordinary — at least by European standards: ethnic and religious diversity, the geopolitical context between Germany and Russia, the involvement of the region in imperial contexts over a number of centuries, the subsequent emergence of independent nation states, as well as cultural transfers and concentrations. The term "East Central Europe" is itself a source of much debate, as are the borders of the region which it refers to. In its broadest sense it also includes the Baltic states, Belarus, and Ukraine, as well as southeastern Europe and the Balkans, Brandenburg-Prussia and — for the second half of the 20th century — the German

Democratic Republic (East Germany). However, the narrower concept of East Central Europe referred to above remains the dominant one in the German-speaking countries (Puttkamer, 2015). At the same time, in economic terms, based on the OECD nomenclature, it is assumed that Central and Eastern European Countries is the group of countries comprising Albania, Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic, Slovenia, and the three Baltic States: Estonia, Latvia and Lithuania (OECD, 2001). Eastern Europe defined by the United Nations includes the countries of Bulgaria, Czech Republic, Hungary, Poland, Romania, Russian Federation, and Slovakia, as well as the republics of Belarus, Moldova, and Ukraine.

The multiplicity of approaches and definitions justifies the assumption made for the purposes of this paper that Central and Eastern Europe is an area located between the European Union (partly constituting it) and dividing line defined by the Volga, Don and Dnieper rivers. An area where important logistic processes of flow handling between two of the three largest important commodity world's markets — China and the European Union take place (Figure 1).

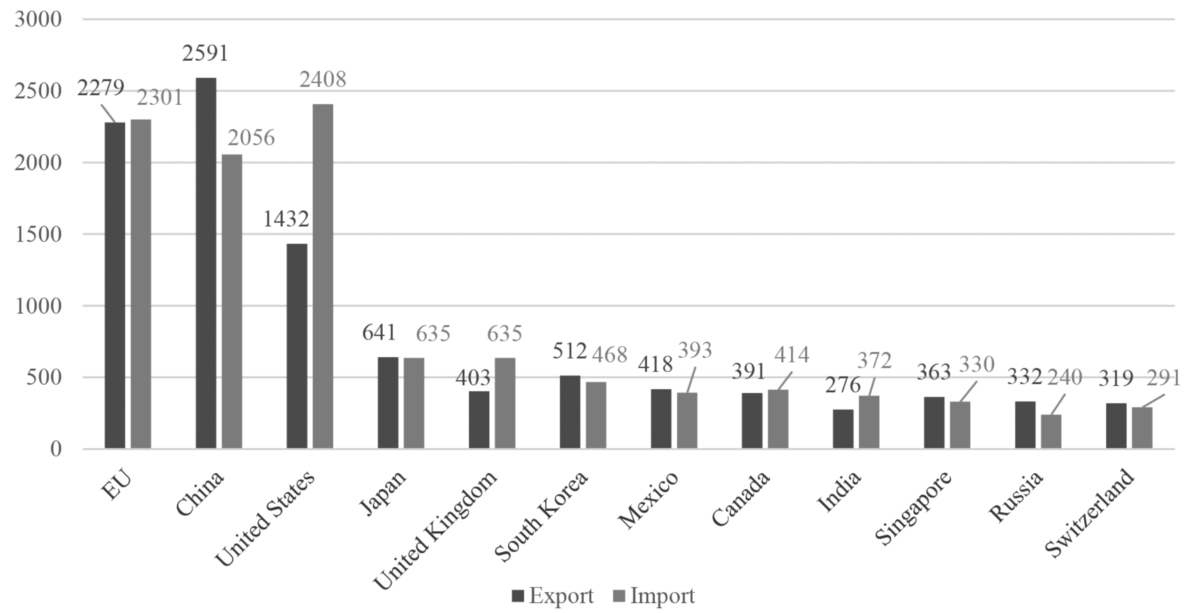
The special role and importance of the Central and Eastern Europe region result not so much from the combined potential of the countries in region. It should be noticed, for example, the political and economic initiative called the *Three Seas Concept*, promoted by the Polish authorities a few years ago, brings together 12 countries of the Baltic-Adriatic-Black Sea basin, covering a total of 28% of the EU territory and 22% of its population, but generating only 10% of GDP (Doński-Lesiuk, 2020). Rather, it results from the role and importance of "countries of contact", such as Poland, Romania, Slovakia, Hungary or the Baltic States in handling land-based flows in Asia-Europe and their importance in the movement of energy resources, mainly from Russia towards the west.

Russia's place and significance in Trans-Eurasian logistics exchange of goods

Due to the specific geographic and spatial conditions on which the Russian logistics infrastructure system is based, it is difficult to imagine a situation where the largest country in the world, located between the two key markets for commodity exchange, would not play a significant role in the commodity exchange system. Russia, the latitudinal extent of which exceeds 9.000 km, and the longitudinal length of 4.000 km, with 60.933 km of borders (of which 38.808 km of maritime

Figure 1

Main players for international trade of goods in 2020 [billion USD]



Source: own work based on: World Integrated Trade Solution, b.d.; World Trade Organization, 2021.

borders running on eleven seas belonging to three oceans and the inland sea) with 16 countries, naturally has the possibility to create supply chains based on different transport, but also to react to phenomena and situations that directly affect the effectiveness and efficiency of supply chains.

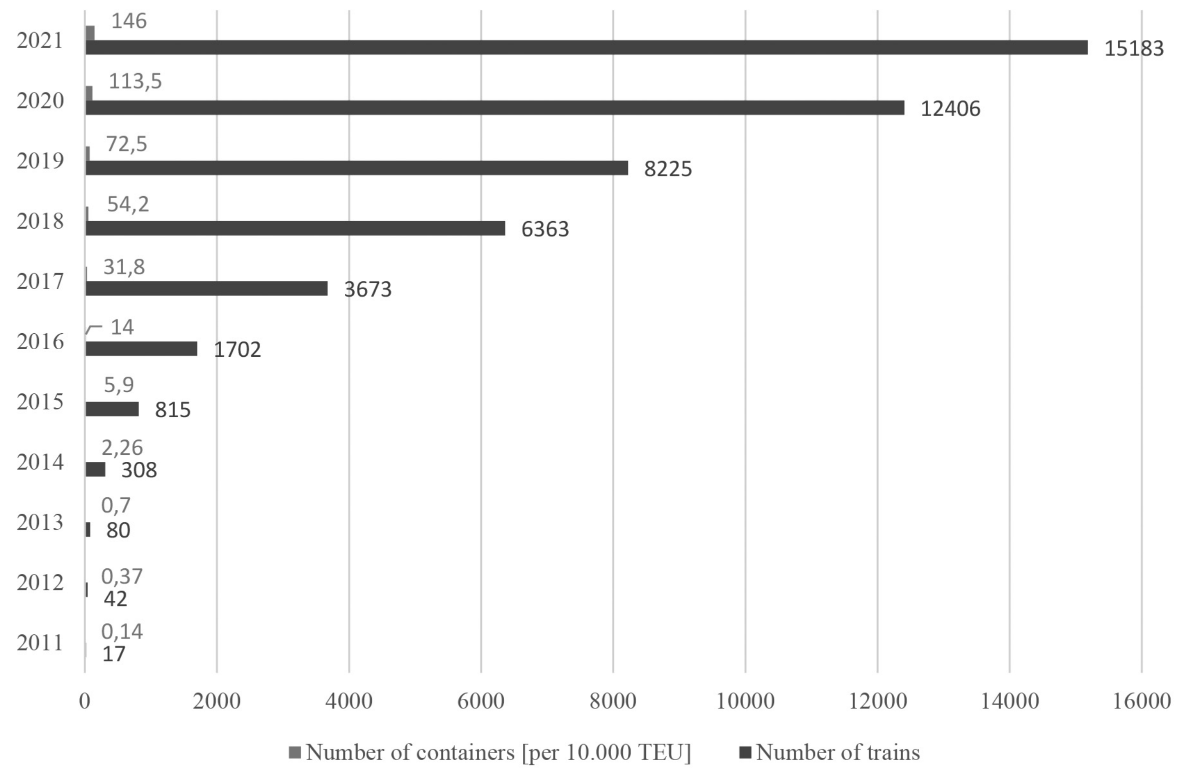
Transport is part of the logistics activity, and the transport processes ensure the functioning of the logistics chains. In the literature, you can meet the concept of a transport system, understood as a combination of all modes of transport into one whole, both externally and internally. From the research point of view, it is appropriate to use the space created by the logistics system. Transport is a branch of the national economy, the activity of which enables efficient and effective functioning of any other economic sphere. It contributes to socio-economic growth and development. Moreover, there is a close relationship between economic development and development transport systems. And this development is generated by the demand for transport, or — more broadly — for logistic services. In economic terms, the role of transport in the economy is inextricably linked with a specific complementary system of the transport system and the economy. It is not possible to introduce substitute solutions, because running any business activity is not possible without the involvement of transport. Direct dependencies between the quantities transport and business cycles in the economy, as well as between transport investment and economic development, prove the relationship between macroeconomics and transport (Doński-Lesiuk, 2020).

Economic sanctions appear to be a common and recurring tool of international relations. Indeed, sender country or more generally, the international community, resorts to economic sanctions in order to punish and attempt to change a target country's objectionable policy behavior. However, economic sanctions imply costs, especially in terms of trade. GATT and WTO rules are not an obstacle to environmental protection, but trade weapon could be counterproductive. An embargo, as an order that restricts commerce with a specified country or the exchange of specific goods, usually was created as a result of unfavorable political or economic circumstances between nations. It is designed to isolate a country and create difficulties for its governing body, forcing it to act on the issue that led to the embargo. The situation started on February 24, 2022, has become the reason for a number of countries and entities of international law to decide to apply this economic measure.

Due to the concentration on the region of Central and Eastern Europe, it is worth mentioning, first of all, the decisions taken within the European Union. The main EU sanctions regime affecting trade with and investment in Russia is contained in Council Regulation 833/2014 (Regulation 833/2014). Since March 8, 2022, the EU has introduced its fourth and fifth packages of restrictive measures against Russia. In particular, Council Regulation 2022/394, Council Regulation 2022/428, and Council Regulation 2022/576 have each amended Regulation 833/2014 so as to introduce several important new prohibitions. The EU agreed its fourth package on 15 March and its fifth package on 8 April. The fourth package introduces, among other things: a far-reaching ban on new investment across the Russian energy sector, with limited exceptions for civil nuclear energy and the transport of certain energy products back to the EU; a full prohibition on any transactions with certain Russian State-owned enterprises across different sectors; an export ban on listed luxury goods; an import ban on certain listed iron and steel products; and a ban on the rating of Russia and Russian companies by the EU credit rating agencies (Latham & Watkins, 2022). On June 3, 2022 sixth package of sanctions against Russia (and Belarus) was imposed. It bans the import of Russian oil into the EU, cuts off more of the key Russian banks from the international payment system (SWIFT) and limits the impact of disinformation actors actively contributing to Kremlin's official war propaganda. A temporary exceptions on oil due to the geographic circumstances was foreseen, however, the new regulations will significantly reduce the supply of Russian stock to the EU. Furthermore, the decision has expanded the list of persons and entities concerned by export restrictions regarding dual-use goods and technology (both Russian and Belarusian entities). The EU also expands the list of goods and technology which may contribute to the technological enhancement of Russia's defense and security sector. This will include 80 chemicals which can be used to produce chemical weapons (Konig & Jakobsson, 2022).

The findings in the sources based on a structural vector autoregression model of the Russian economy suggest that industrial production, consumption, and investment will all decline, and that Russian GDP will contract by –12.5% to –16.5% in 2022. Nevertheless, the Russian economy will continue to rely on its existing export model, which may be difficult to undermine, even with potential oil and gas embargoes (Pestova *et al.*, 2022). But the far-reaching restrictions on economic cooperation with Russia (and, of course, Russia with a number of states as part of retaliatory reactions) pose significant challenges to the logistics processes related to the handling of goods flows, especially in the Trans-Eurasian approach.

Figure 2
Dynamics of the China — EU rail container transport 2011–2021



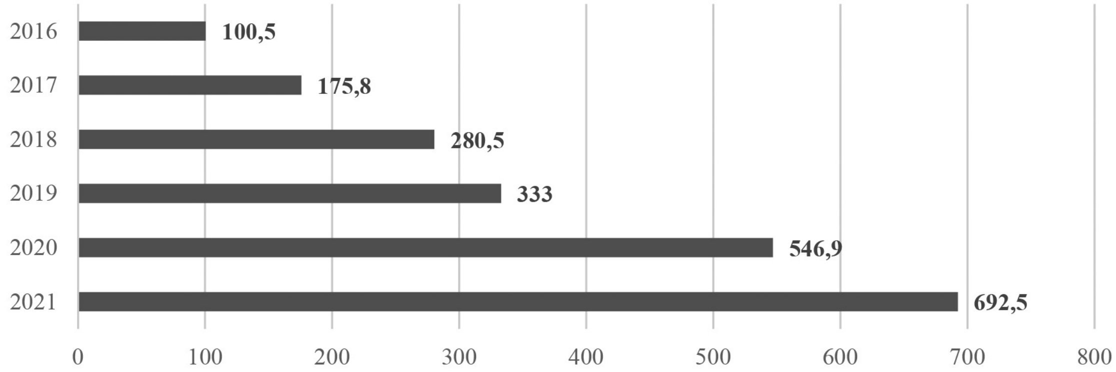
Source: China Macro Economy (b.d.).

It is obvious that shipping is the main branch of transport that serves the dominant part of the goods exchange between China and the European Union (but also other regions). It is estimated that in today's conditions rail transport is able to handle no more than 3% of the cargo volume. Nevertheless, in recent years there has been a clear, dynamic increase in the share of rail transport in Europe-Asia transport. In 2021, a record of 15,183 train trips were made along the Eurasia route transporting 1.46 million TEU containers, according to China's state railway operator (Figure 2).

The vast majority of land transport has been and is still being carried out using the Russian logistics infrastructure, although to a different extent. Intermodal transport is carried out along the longest Russian part of the Trans-Eurasian Corridor — the Trans-Siberian Railway Line (both via Mongolia and Manchuria), and via alternative routes (via Xinjiang and Kazakhstan, from there, however, mostly along the routes crossing the Kazakh-Russian border towards the west). A significant share of it can be seen on the example of the dynamics of the volumes of the United Transport and Logistics Company — Eurasian Rail Alliance (UTLC ERA) who provides services for transportation of containers by regular container block trains on the route China–Europe–China through the territories of the Republic of Kazakhstan, the Russian Federation and the Republic of Belarus (Figure 3).

Of course, at present, unlike transit through the territory of Ukraine, there is no problem of limiting rail transport through the territory of the Russian Federation. Nevertheless, taking into account the possibility of introducing further packages of sanctions and the tightening of mutual economic relations, it cannot be ruled out that this situation will change in the future. It is worth noting that after the war began in Ukraine, there were already some perturbations. The VR Transpoint, the logistics branch of VR Group (Finland's government-owned railway company), suspended rail freight traffic to and from Russia on March 27, 2022. The stoppage was a result of the sanctions imposed on Russia. But VR revised this decision a few days later after it became clear

Figure 3
UTLC ERA traffic volume in 2016–2021 [thousand TEU]



Source: https://www.utlc.com/en/.

that the Western sanctions against the Russian state railways had no consequences for VR's activities in Russia. Rail transport between Russia and the EU is not subject to EU sanctions for now. However, the freight trains have been subject to stricter controls by the EU member states since the beginning of March for the presence of strategic goods that do fall under the boycott.

An important factor in shaping Russia's position in the field of international logistics will also be the expected reduction in the interest of maritime operators in using the Northern Sea Route. This route, which is an alternative to shipping through the Red Sea and the Suez Canal, was — next to the Trans-Siberian Railway Line — a kind of "apple of the eye" of Russian transport policy. However, it can be expected that the dynamics of shipments along the Russian coast of the Arctic Ocean will decline after the events of February 24, 2022. At least for a while.

The importance of Ukraine in the international supply chains

Supply chains are once again being tested, this time by the extraordinary events in Ukraine. The time has long since passed when supply chain disruptions can be treated as one-off events, with organizations scrambling to mitigate the disruption to their business and to keep goods, funds, and information flowing across the supply chain. The conflict in Ukraine reinforces the imperative for most organizations to have in place more resilient supply chains.

Among the most pressing vulnerabilities is an overreliance in Europe on natural gas and crude oil from Russia, as well as dependence on both Russia and Ukraine for key agricultural commodities. According to the Food and Agriculture Organization of the United Nations, Russia and Ukraine account for more than 25% of the world's trade in wheat and for more than 60% of global sunflower oil and 30% of global barley exports, which means any supply shortages, or restricted access, could impact crop yields globally (Kilpatrick, 2022).

Ukraine conducts a significant volume of trade with China, Germany, Poland, Italy, and other EU countries. Additional trade partners include Turkey, and the United States (Table 1). Russia also remains Ukraine's important trade partner from where Ukraine imports petroleum and its products, and natural gas, as well as fabrics, footwear, printed matter, and many other products. Machinery, transportation equipment, and chemicals are both imported and exported. By sea, Ukraine exports its grain, sugar, iron ore, coal, and manganese.

Ukraine's strong agricultural industry makes up a large share of the country's exports in the form of cereals, animal and vegetable oils, and seed oils. These products made up nearly 35% of Ukraine's exports in 2020, at a value of 17 billion USD collectively. Ukraine produces wheat, barley and rye that much of Europe relies on. It is also a big producer of corn. And, in fact, it is not just the European Union that will be hit. Many nations in the Middle East and Africa also rely on Ukrainian wheat and corn, and disruptions to that supply could affect food security in those regions.

Table 1
Ukraine's main economic partners in 2020

Country	Trade with Ukraine (billion USD)	Export from Ukraine (%)	Import to Ukraine (%)
China	15,3	46	54
Germany	7,4	28	72
Poland	7,4	45	55
Russia	7,2	37	63
Turkey	4,8	50	50
Belarus	4,2	32	68
Italy	4,1	48	52
United States	3,9	25	75
India	2,7	73	27
Netherlands	2,6	71	29

Source: own work based on IMF data.

Russia's invasion of Ukraine is rapidly reshaping both countries' international relations and trading partners. Just four days into the recent conflict, Ukrainian President Volodymyr Zelenskyy filed for Ukraine's special admission into the EU, which would further strengthen Ukraine's trade with European Union members. Combining the likely breakdown of Ukrainian-Russian trade with China's lack of condemnation of Russia's actions, Ukraine's trade seems likely to continue shifting towards the European Union and its Western allies.

Although it is possible to determine the results of this conflict and its effects on international trade only partially, it seems logical that the countries supporting Ukraine's defense after February 24, 2022 are likely to become the Ukraine's top trading partners in the future. However, undoubtedly, the decrease in the availability of products that have so far been massively exported through the logistics system (not only of Ukraine itself, but also of neighboring countries with which intensive cross-border trade transactions were carried out) is and will be a key factor in changes in the logistics services market of Central and Eastern Europe. Even prior to the invasion, ship owners started to avoid Black Sea shipping routes, and insurance providers demanded notification of any such voyages. Although container shipping in the Black Sea is a relatively niche market on the global scale, one of the largest container terminals is Odessa. If this is cut off, the effects on Ukrainian imports and exports could be considerable, with potentially drastic consequences as well.

Selected changes for the logistics services market of Central and Eastern Europe — conclusive remarks

Rising oil prices due to the war are a worry not only to shipping but also road carriers, whose share in logistics services in Central and Eastern Europe is significant. Freight rates are already extremely high and could rise even further. The limitations in the handling of selected ships, which should be taken into account in the near future, as well as the reduced importance of some ports (mainly in the Black Sea) caused by hostilities, together with the exclusion of handling in Russian ports, will rather destabilize the burdened maritime trade.

It should also be noticed that in the two-year period preceding the outbreak of the Russo-Ukrainian war, the lack of availability of containers was observed in the supply chains. It caused a significant increase in rates. Pressures are easing after many pandemic-related factors caused shipping costs to increase significantly over the past year. Strong goods demand is diminishing after the traditional peak shipping season (typically from August to October), causing shipping rates to decrease. According to the forecasts of the International Monetary Fund, returning to pre-pandemic shipping rates will require greater investment in infrastructure, digitalization in the freight industry, and implementation of trade facilitation measures. Some underlying supply constraints do not have immediate fixes: backlogs and port delays, labor shortages in related occupations, supply chain disruptions moving inland, and shipping industry challenges such as the slow capacity growth and consolidation that concentrated the market power of a few carriers.

The ban on flights for Russian carriers introduced after February 24, 2022 by the administrations of several countries, along with a similar response from the Russian side, significantly changed the availability of services provided by air operators. While, of course, some airlines (Turkish, Serbian, Chinese) take advantage of the opportunity to increase their importance in flights to/from Russia, the need to change routes or fundamental changes in connection networks are not the only effect. The aerospace industries of the US, Europe and Britain depend on supplies of titanium from Russia. Boeing and Airbus have already approached alternative suppliers. However, the market share and product base of leading Russian supplier VSMPO-AVISMA make it impossible to fully diversify away from it, with some of the aerospace manufacturers having signed long-term supply contracts up to 2028. For all these materials, we can expect disruptions and potential shortages, threatening to lead to increased prices for many products and services (Schiffling & Kanellos, 2022). On the other hand, the aircraft manufactured by Boeing and Airbus will not be serviced and spare parts will not be provided, which may contribute to a noticeable decrease in the safety of air transport in Russia after the next few months.

In land transport, the necessity to change the routes used for transport in Europe–Asia relations may be a specific opportunity for countries such as Azerbaijan, Georgia, Turkey or Iran, through which logistic corridors lead not endangered from the point of view of physical and political security. However, it should be remembered that the capacity of the Caspian-Black Sea corridors is incomparably lower than those that still handle the exchange of goods through the infrastructure of Belarus and Russia. The impact of the increase in the time necessary for transshipment operations, the increase in the number of borders that are, from the logistic point of view, a technical and/or commercial barrier is also not conducive to the profitability of transport while maintaining the current price level and the effectiveness of alternative supply chains.

Another challenge for the logistics sector will be to maintain the ability and willingness to innovate in a situation of general uncertainty. Over the last dozen or so years, entrepreneurs and institutions working to handle flows in the key relationship of the global logistics system, i.e. Europe-Asia, have undertaken a number of activities aimed at optimization, harmonization and interoperability. While some of them also apply after February 24, 2022, it does not seem possible that in the light of the increasing sanctions and the climate conducive to the long-term isolation of the Russian Federation in the international space, the readiness to continue the aforementioned direction of changes could be maintained.

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Absolwent stosunków międzynarodowych o specjalności wschodoznawczej na Uniwersytecie im. Adama Mickiewicza w Poznaniu. Przez długi czas był związany zawodowo z centralną administracją rządową (Ministerstwo Infrastruktury, Ministerstwo Spraw Zagranicznych), następnie zaś z biznesem, pracując w przedsiębiorstwach branży TSL w Polsce i Rosji. Od 2019 r. adiunkt w Katedrze Logistyki i Innowacji Uniwersytetu Łódzkiego. Jego zainteresowania naukowe koncentrują się wokół wpływu polityki i uwarunkowań międzynarodowych na funkcjonowanie rynków i obsługę logistyczną. Pasjonuje go transformacja kanałów logistycznych i systemów transportowych w Eurazji, szczególnie w tzw. przestrzeni postradzieckiej.