Aalborg University

Study Board for International Affairs

Development and International Relations

Interstate conflict and international trade: The Russia – Ukraine War and Russian exports through the Northern Sea Route

Master's Thesis

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May 2023

Abstract

This thesis deals with the observation of Russian exports through the Northern Sea Route (NSR) before and after the start of the war in Ukraine in 2022. A comparative analysis of two selected periods answers the question: *How has the Russia-Ukraine war in 2022 affected Russian exports via the Northern Sea Route (NSR) so far?* The Russian invasion of Ukraine brought many changes at the global level. These changes, among other things, affect Russia's trade relations with European countries. Before the war, Russian energy products regularly arrived via pipelines to Europe. However, after the start of the war in February 2022, the situation changed completely. The argument in this thesis is guided by the logic of the European move away from Russian energy sources. Therefore, the argument is that this war led to increased Russian exports through the NSR precisely because of Russia's need to move exports by sea to more distant markets in Asia. Accordingly, a comparative analysis was conducted in which Russian exports through the NSR were observed in the periods before and after the start of the war. Specifically, by observing the movement of ships on that Arctic route, information is obtained about the amount of exported cargo, the type of cargo, and the export destination. The analysis of the available data partially confirmed the arguments presented. The data indicate an overall increase in Russian exports through the NSR after the start of the war in 2022, with a significant increase in LNG exports to European terminals. The overall export increase was contributed by a significant shift in the export of Arctic crude oil to Asia, which replaced the previous European markets. Following the presented theoretical perspectives that explain the relationship between interstate conflict and trade, the analyzed data indicate the impotence of existing theories to fully explain the observed situation. The focus on Russian exports through the NSR provided a clearer insight into the importance of that transport route for the entire Russian economy. In addition, the results of this research contribute to the overall understanding of the complex relationship between interstate conflict and trade.

Key words: interstate conflict, international trade, Russia, Ukraine, War, NSR, Russian export, LNG, crude oil, Arctic, Asia, EU, sanctions

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1. Introduction

The beginning of the Russian invasion of Ukraine in 2022 led to significant changes in international relations. Unlike previous reactions to Russian actions in the neighborhood, the European Union, the United States of America, and other partners behaved more concretely after the invasion of Ukraine. Significant trade relations between Russia and European countries came into question in the newly created situation. Good trade relations were particularly evident in the export of Russian Arctic resources to European markets. On the other hand, Putin's Russia constantly views the Arctic part of its territory with grand ambitions. The changed global relations after the start of the conflict also concern Russian plans in the Arctic, especially the development of the Northern Sea Route (NSR) as the basis for the further growth of that part of Russia. Accordingly, this thesis answers the question: *How has the Russia-Ukraine war in 2022 affected Russian exports via the Northern Sea Route (NSR) so far?*

Before the beginning of the conflict in Ukraine, European countries were a vital market for Russian oil and gas, which is confirmed by the developed system of gas and oil pipelines. However, the circumstances of the war led to the EU sanctions imposed on Russia and the clear desire of the EU countries to move away from Russian energy sources. Significant Russian exports of Arctic crude oil, LNG, and other resources via the NSR are coming into greater focus under the changed circumstances. This thesis is based on the argument that after the Russian invasion of Ukraine, there was an increase in Russian exports through the NSR because of the need to replace the previously exported quantities with shipments by sea to Asian markets.

To answer the main question in this research, a comparative analysis was conducted comparing Russian exports through the NSR in the periods before and after the start of the war in Ukraine in 2022. The focus is on the movement of ships along that maritime route, which enables detailed insight into the exported quantities, type of cargo, and export destination. Based on the analyzed data, conclusions are also drawn within the framework of existing theoretical approaches that explain the relationship between interstate conflict and trade in different ways.

The Russian invasion of Ukraine draws attention to the complex relationship between trade and conflict. In the latest circumstances, questions are being raised about Russia's capacity to wage a long war in Ukraine. In this direction, exporting Arctic resources is very important for the Russian economy. Accordingly, the analysis of Russian exports through the NSR before

and after the Russian invasion of Ukraine in 2022 will provide specific answers and a clearer picture of the entire problem.

2. Literature review and theory

In this chapter, the selected literature is divided into three groups, starting with authors who focus on the relationship between conflict and trade in the broadest framework, through works that concentrate on trade between the belligerent party and third countries, and up to publications narrowly oriented on Russian exports via the Northern Sea Route (NSR). At the end of the chapter, it is presented how dominant perspectives in international relations approach the relationship between interstate conflict and trade. Recent significant changes in international relations due to the intensification of the war in Ukraine in 2022 have also affected trade relations on a global scale. Accordingly, the previous valuable analyses, especially those concerning the Russian export of Arctic natural resources, may require an update in accordance with the current state of relations. In this direction, this thesis aims to fill the stated gap and contribute to the overall understanding of this topic.

Before reviewing the literature closely related to this paper's topic, it is necessary to highlight research that, in a broader context, talks about interstate conflict and international trade, which many authors have written about so far. Accordingly, numerous works show the connection between these concepts in different ways.

In a series of such works, the one by author Brian M. Pollins (1989) stands out, emphasizing the importance of various variables and discussing the impact of interstate conflict and cooperation on bilateral trade flows. Presenting the model of bilateral trade flows, Pollins focuses in his research on all those key factors that influence the decisions of importers (individuals, interest groups, or nation-states), observing more than 20 cases in the second half of the 20th century. The author argues that different economic subjects, in this case, importers, follow a common logic of decision-making on imports, which, in addition to price and quality, also includes the origin of the goods and political relations between the importing country and the exporting country. In this context, Pollins emphasizes the importance of the general foreign policy orientation of these countries, as well as their current friendly or hostile relationship, which he explains in more detail using the examples of the change in political orientation and trade relations of Egypt in 1973, Iran after the 1979 revolution, and Argentina after the Falklands-Malvinas conflict with the British.

Furthermore, in addition to the mentioned effects of international politics that affect trade flows, the author does not forget to mention the importance of sanctions, and in the presentation of his model, he identifies those factors that affect the ability of a country to produce for the needs of the international market and those factors that affect the desire of consumers to buy foreign goods (Pollins, 1989). He also observes factors that represent an obstacle to international trade, such as geographical distance and shared membership in an international trade organization or economic union and considers data that characterizes a particular activity as conflict or cooperation.

Finally, Pollins (1989) tests his model by monitoring trade flows in the mentioned period with a focus on countries that differ in terms of foreign policy orientation, level of development, and method of production, and concludes that there is a clear and significant impact of international conflict and cooperation on trade between two countries. The research results show that when making import decisions, importing countries, among other things, consider the foreign policy orientation of exporting countries.

Under the literature that broadly explains the connection between interstate conflicts and trade flows, it is important to briefly mention the works of authors who drew attention to other variables necessary to understand this issue. For example, Morrow, Siverson, and Tabares (1998), in their study, indicate an increase in trade between two countries if they are, first, democratic and have common interests, while the alliance itself generally does not have a significant impact on the increasing bilateral trade relations. In this context, it is also worth mentioning authors Li and Sacko (2002), who identify the expected or unexpected onset of the conflict, the intensity, and the duration of the war as factors that have different effects on bilateral trade.

The research above also considers trade flows between the warring parties. However, according to the topic of this paper, the most relevant are those studies that deal with the impact of wars on trade flows between belligerent states and third parties, and then the number of available literature narrows.

In this direction, it is beneficial to look at the article War and Third-party Trade by Nizan Feldman and Tal Sadeh (2018), who base their research on data from the second half of the 19th century until the beginning of the 21st century. At the very beginning of the article, the authors indicate the negative impact of interstate conflicts, which, in addition to embargoes and

boycotts, is also reflected in the costs borne by private entities involved in trade with the warring country, as well as in the burden of the entire logistics.

In addition, Feldman and Sadeh (2018) explain that certain factors increase trade with a third party, such as the situation in which households and companies in a warring country perceive a better business environment in a country that is not involved in the war. Also, they believe that the increase mentioned above can also occur when countries that are not involved in the conflict can serve the warring party as substitute export markets, which they have shown in the examples of trade in the First World War between the warring countries and third parties such as Denmark, Norway, and Sweden.

Furthermore, the authors in this research highlight key variables such as two warring countries and similar interests that a third country has with one of the warring parties and test the assumption that these similar interests influence the increase or decrease of bilateral trade (Feldman & Sadeh, 2018). Through an extensive analysis of trade data for a period of more than a century, Feldman and Sadeh conclude that there is an increase in trade between a warring country and a country outside the conflict if they have similar interests but also a decrease in trade if the third-party shares common interests with the other warring party.

At the end of the review of the literature that generally concerns this thesis, it is useful to briefly touch on the authors who, developing different models and each in their own way, showed a clear impact of war on the decline of trade between one of the conflicting parties and third countries not involved in the war.

Glick and Taylor (2010) stand out among them who, considering various parameters, presented a strong and overall negative impact of wars on trade between conflicting states and neutral ones. Another group of authors reached a similar conclusion in a study focusing on economic interdependence, which showed that conflict reduces trade (Hegre, Oneal, & Russett, 2010). A valuable contribution to this topic was made by Andrew G. Long (2008), who, in his work based on the expectations of companies in times of war, proves that conflicts ultimately lead to a decrease in bilateral trade.

The review of the literature so far gives us a broader picture of the issues related to this thesis, and after that, it is necessary to provide an insight into the works of the authors who deal closely with Russian exports through the NSR. There are many publications on Russian Arctic strategies, Russian exports, and the Russian economy due to war and sanctions. However, when it comes to the NSR and its role in Russian exports, primarily due to significant changes in trade

relations caused by the Russian invasion of Ukraine in 2022, then the available literature narrows. Therefore, in the following, the focus will be placed on those authors who covered the mentioned critical terms in their works.

The book *Russia's Arctic Strategies and the Future of the Far North* by Marlène Laruelle (2015) covers in detail all topics concerning Russian activities in the Arctic and, accordingly, also provides facts about the NSR. The author explains the limits of this maritime route in a very objective manner and thereby provides a realistic picture of the possibilities of its development, in contrast to widespread ambitious predictions that are mainly based on the melting of the Arctic ice due to climate change. Laruelle, in addition to the complexity of the legal status in the waters, talks about the insufficiently developed infrastructure that would enable safe and profitable navigation through the NSR, which implies enormous investments.

The author does not ignore the advantages of the NSR compared to other international maritime routes in the form of a much shorter transit between Europe and Asia, which also brings lower transport costs, and she also talks about interested parties, such as China, who see this as an opportunity (Laruelle, 2015). However, by emphasizing the mentioned limits, Laruelle puts the likely future of the NSR in the context of an essential domestic route primarily in the service of Russian exports of rich Arctic resources. It is important to emphasize here that the mentioned book dates from 2013, and thus this maritime route was viewed in the light of international relations before the events in Ukraine in 2014 and the future sanctions imposed on Russia, especially the latest events in 2022. Accordingly, it was not possible to consider the turn in trade relations between Europe and Russia and analyze the importance of NSR for Russian exports to new markets in that direction.

Furthermore, in the book *The Northern Sea Route: A Comprehensive Analysis*, the author Keupp (2015) draws attention to the geographical location of the infrastructure for the exploitation and export of Russian Arctic resources and its orientation towards the West. Also, Keupp presents information about Russian icebreaker technologies and ice-classed bulk, oil, and LNG ships that allow Russia to direct exports to eastern markets. However, he calls the possible increase in exports to Asia via NSR a structural problem that depends not only on market price movements but also on the urgently needed capital investments in shipping and port infrastructure in the eastern part of Siberia. For these reasons, the author calls the reorientation of Russian exports to the East a somewhat exotic undertaking compared to the previous Western orientation. Keupp (2015) also looks at the international sanctions imposed on Russia after 2014 and sees them as a significant obstacle in Russia's ambitions to develop

the NSR towards Asia due to Russia's inability to access international financial markets. However, the international reactions to the Ukrainian crisis in 2014 were not as large as those in 2022, and there is no analysis of NSR in the context of the European move away from Russian energy sources.

The mentioned shortcomings are complemented in the research after the Russian invasion of Ukraine in 2022 by Liselotte Odgaard (2022), who believes that the intensified conflict forced Moscow to redirect its economy toward Asia. The author concludes that in the new situation, Russia remains to have stronger cooperation with China regarding the development of the Arctic infrastructure and the transport potential provided by the NSR.

Gunnarsson and Lasserre (2023) come to similar conclusions, arguing the impossibility of redirecting the Russian pipeline export infrastructure to China due to the long distance and the required construction time, which gives importance to exports through the NSR. In addition, the authors believe that Russia does not have enough high ice-class ships to make the reorientation of exports as efficient as possible, and they also emphasize the necessity of large investments. Gunnarsson and Lasserre ultimately predict that the war in Ukraine and sanctions will result in a short-term slowdown of Russian projects in the Arctic but will also increase the importance of the NSR in Russian exports to Asian markets.

In conclusion, it is necessary to refer briefly to the recently published book *Russia's Invasion of Ukraine: Economic Challenges, Embargo Issues and a New Global Economic Order* by P. J. J. Welfens (2023), which serves as an overview of all the implications that this war has on the economy in general. The author believes that policymakers in the West are wrong in their calculations that by moving away from Russian energy sources, they will threaten Russian financing of the war precisely because of the high demand for energy sources in China and India. Despite the insight into the latest state of relations, the book does not go into a more detailed analysis of Russian exports of Arctic resources and the opportunities provided by the NSR in this direction.

These articles and books are linked by a focus on the connection between interstate conflict and trade, from the broadest scope of these terms to a specific geographic area. Works whose focus in a broader sense is interstate conflict and trade, based their conclusions on analyzes of wars that took place in different international circumstances than those of today. Significant changes on the global level caused by the Russian invasion of Ukraine in 2022

require a review of happenings that could not be observed until now and thus could not be included in previous explanations of the connection between war and trade.

The mentioned shortcomings are mainly related to research on trade between belligerent states and third parties, mostly due to the lack of a larger focus on specific cases that can show the importance of certain factors that are less visible in a broader analysis. Some of these factors may be the geographical positioning of the warring country's export resources and the availability of more transport routes, such as access to the sea. Observing Russian exports through the NSR before and after the start of the war in Ukraine in 2022 can contribute to the explanations of the relationship between war and trade and to conclusions regarding the development and importance of the NSR.

Dominant perspectives in international relations approach the relationship between trade and interstate conflict differently. Author Katherine Barbieri (2009) presented an overview of these theoretical approaches in her book "*The liberal illusion: does trade promote peace?*" which enabled insight into their fundamental differences. Liberal theorists generally believe that trade ties reduce the possibility of conflict. Also, Barbieri states that neo-Marxists share the same opinion as liberals, but only regarding symmetrical economic ties. If such relationships are asymmetric, they believe there are greater chances for conflict to break out.

When reviewing the theories that look critically at liberalism, Barbieri points out the authors Keohane and Nye, who present an asymmetric relationship between states (Barbieri, 2009). Interdependence represents a relationship in which the actors are equally vulnerable, unlike an asymmetric relationship, which is also a source of power for the less dependent party. Keohane and Nye do not touch directly on the relationship between trade and conflict, but their explanations contribute to the overall understanding of the entire issue.

The author also touches on the realist authors, according to whom trade relations do not reduce the possibility of conflict (Barbieri, 2009). Realists believe trade relations are important, especially with countries providing strategically important resources. Nevertheless, when deciding to enter the war, trade relations and the potential consequences of such relations are not primary for the leaders, unlike military concerns.

With the different views of liberals and realists on the impact of trade on conflict, it is necessary to see how these theories explain the impact of conflict on trade. In the joint research "*Sleeping with the Enemy: The Impact of War on Trade*," the authors Barbieri and Levy (1999) state that both liberal and realist theorists believe that trade between countries will decrease

significantly if these countries go to war with each other. Against such views, the authors offer many historical examples that confirm trade between warring parties in wartime circumstances. Precisely because of the mentioned phenomenon and the fact that in the post-war period trade between warring states often increases, Barbieri and Levy believe that liberal and realist theories of interdependence and conflict require reformulation.

Author Bryan R. Early (2009) offers a different approach. The title of his research, "*Sleeping with Your Friends' Enemies: An Explanation of Sanctions-Busting Trade*," in a certain way, suggests a complement to the previous theoretical perspectives. The author tests liberal and realist explanations of failed sanctions. Bryan R. Early (2009) believes that the attached data mainly supports the liberal theory about the failure of sanctions, which finds the reasons for such an outcome in profit-driven companies in third countries. According to the author, realist theorists are only correct when they claim that third countries participate in breaking sanctions if these sanctions are imposed by their rivals. As a reaction to the Russian invasion of Ukraine, the presence of EU sanctions is important for observing Russian exports through the NSR after the start of the conflict. Accordingly, after the analysis, it will be more evident to what extent the presented data support this theoretical approach.

In the analysis part of the thesis, it will be necessary to refer to the presented theoretical perspectives and give certain conclusions about their relevance according to the analyzed data. In the next section, there will be more discussion about the main variables of the thesis, the use of data, limits, and how the comparative analysis will be set up.

3. Research design

Following the argument that Russian exports through the NSR increased due to the intensified war in Ukraine in 2022, it is necessary to define and present in more detail the critical variables on which further analysis will be based. As a result of the wartime circumstances, the argument for an increase in Russian exports through the NSR follows the logic of Russia's need to deliver its Arctic resources to new markets. In this context, in addition to looking at the NSR, Russian exports as an outcome variable, and the war in Ukraine in 2022, it is necessary to touch on the imposed sanctions and the European move away from Russian energy sources.

3.1. Northern Sea Route (NSR)

Given that this research focuses on one of the Arctic maritime routes, it is necessary to specify the term NSR and clarify how we will approach it in this paper, given the numerous uncertainties, such as legal status and exact geographical definition. In addition, it is also essential to distinguish between different activities on that route, such as transit or navigation within the NSR, so that further conclusions about Russian exports in that direction would be as concrete as possible. In the analysis part of the paper, the complexities related to the term NSR will be explained in more detail according to the observed export of specific cargo. Before that, it is essential to determine what the mentioned term will mean in this thesis.

Although the Russian Arctic coastline stretches from the Barents Sea to the Chukchi Sea, the Barents Sea does not fall under the NSR's legal regime because the legally recognized NSR begins at the western entrance to the Novaya Zemlya straits (Laruelle, 2015). However, for the purposes of this paper, the term NSR will include export activities in the entire area of the Russian Arctic coast and considering that the development of the entire NSR is related to ports and projects in those parts of the Arctic coast that legally do not belong to this maritime route. In this direction, this thesis will accept the term NSR in the scope used by The Arctic Institute based in Washington (The Arctic Institute, 2011b).

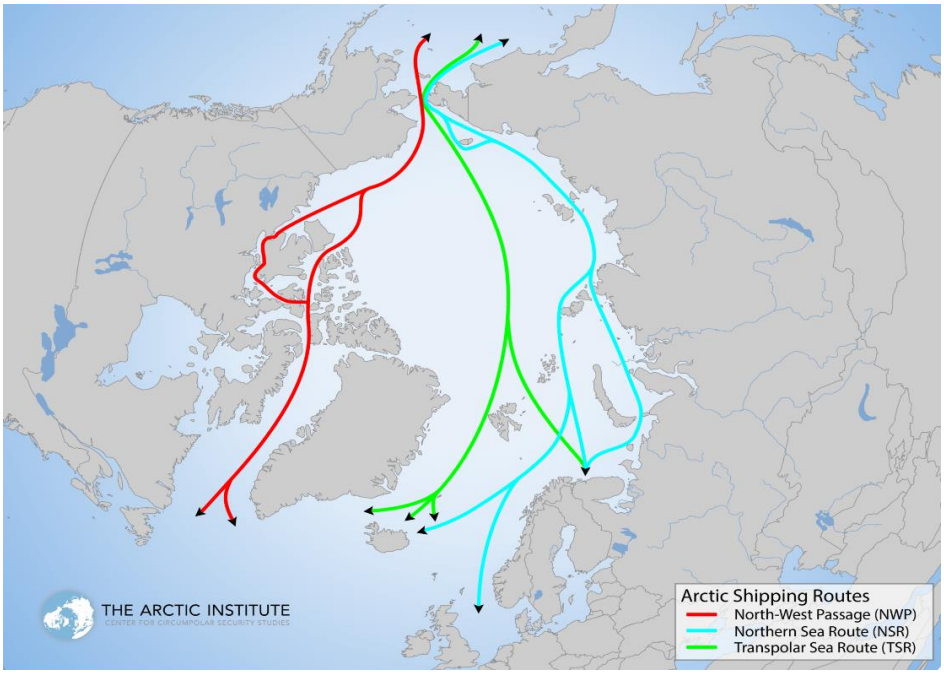

Figure 1. *Map showing the Northern Sea Route, Source: The Arctic Institute, 2011a.*

The term Northeast Passage refers to a maritime route that includes transit through all the seas mentioned above, and the name NSR usually has the same meaning (Pletcher, 2013). Since transit is not within the domain of this paper, in the service of Russian exports, NSR, instead of Northeast Passage, is imposed as a correct name for use in the continuation of the analysis. Also, it is important to emphasize that the analysis will include all those activities related to Russian exports, which excludes the analysis of transit and imports on this sea route.

Also, the activities of ships that do not reveal the amount of cargo exported, such as icebreaker operations or cargo delivery to Arctic projects, will not be considered. Specifically, the focus will be on the movement of those ships that export cargo from Russian Arctic facilities directly to foreign markets or to transshipment export terminals near Murmansk. The following chapters will explain the reasons for choosing to analyze Russian exports instead of other possible trade components.

3.2. Russian exports through the NSR

Given that the outcome variable in this research is export, it is necessary to explain such a choice. After February 2022 and major changes in international relations, a space has opened for observing the impact of the conflict in Ukraine on international trade. Russia's involvement in the conflict has opened numerous questions about its economic capacity to wage war in the long run (Rustamova & Tovkailo, 2022). Economic sanctions by the EU after the invasion of Ukraine were introduced precisely to hit the Russian economy to stop the war financing (Council of the EU, 2022a).

In such circumstances, the logical sequence is to observe those activities that bring profit to Russia. The export of Arctic resources emerges as a relevant point for observation, given their importance in the Russian economy. The figures presented in the introductory part of the analysis sufficiently indicate the significance of Arctic projects for Moscow. The NSR maritime route is an integral part of export activities in the area (Laruelle, 2015). Given that its primary role is related to exports, the observation of imports or transit on that route is less significant in the context of this war.

Russian imports in wartime circumstances are also important, primarily in the form of technologies crucial for the defense industry and the maintenance and functioning of Arctic projects (Humpert, 2022). Such an approach would require looking at all Russian imports.

However, considering the narrow topic and the character of the NSR as an observed maritime route, export as a trade component is imposed as an outcome variable in this thesis.

Observing the impact of the mentioned war on all Russian exports requires significant resources in the form of necessary data and time for the analysis to be successful. For the above reasons and considering the narrow topic of the thesis, the research does not look at all Russian exports. This paper concentrates on a specific geographical location, and the outcome in the form of Russian exports is observed precisely in the context of the NSR. Therefore, the focus is on all the goods that Russia exports via this Arctic route. Since it is a maritime route, the amount of cargo that ships deliver through NSR to other countries is exclusively analyzed.

Other ways of exporting Arctic resources, such as gas pipelines, do not directly concern the NSR. However, they are important to mention because they are relevant for detecting changes in export quantities by sea. In addition to the quantity of exported cargo as a primary measure, the type of cargo and the destination of the export are also valuable indicators.

The geographic position of Arctic resources, which comprise most of the Russian exports via the NSR, is important for several reasons. In addition to the direct export of resources to end markets, there is also a need to use this maritime route for delivery from the exploitation site to Russian Arctic ports. Namely, certain companies transport their cargo via NSR to larger ports, such as Murmansk, where further exports are made by land or sea. In this direction, it is necessary to include such activities during the analysis. Following all the above, the research primarily looks at the amount of cargo that Russia delivers to other countries via this maritime route, along with additional parameters such as the type of cargo and the delivery destination.

3.3. The war in Ukraine in 2022

The explanatory variable in this research is the presence of a conflict, specifically the Russian invasion of Ukraine in 2022. The beginning of the invasion brought a series of international sanctions imposed on Russia but also marked the beginning of significant changes in trade relations, especially between the European Union and Russia. These changes also affected Russian exports of Arctic resources, such as oil and gas. That is precisely why the presence of war, in this case, represents a starting point in comparing Russian exports through the NSR in the period before and after the start of the mentioned invasion. The analysis method will be discussed in more detail in the continuation of the research design.

3.4. Comparative analysis

After defining the key variables, it is necessary to explain the research settings and present the direction in which the argument will be tested. To reach an answer to the main question, a comparative analysis will be conducted in which two different periods will be observed. More precisely, Russian exports through the NSR in the period before the start of the conflict in Ukraine in 2022 will be compared with the period after the start of the invasion. As already mentioned, the amount of cargo transported by the ships in that direction to other countries will be a crucial measure for concluding a possible increase or decrease in exports.

Additional information, such as the cargo type and the export's destination, will be helpful for a more detailed and precise understanding of possible changes. The beginning of the invasion in this context represents a specific variable that separates the two selected periods. The conflict brought significant changes in global economic relations, representing a relevant observation point in comparing Russian exports through the NSR in these two periods.

To reach precise conclusions after the analysis, it is necessary to clearly determine the periods in which Russian exports through the NSR will be observed. When analyzing the pre-war situation, covering a shorter period can avoid overlaps with possible other causes of change. The longer observed period may include certain factors that affect the world economy and whose presence would complicate the judgment about the effect of the conflict on possible changes.

For example, the coronavirus pandemic's emergence should also be considered. Such an impact on the world economy occurred not long before the start of the war in Ukraine and must be addressed in the analysis of the pre-war period. For this reason, it is helpful to determine the starting point of the analysis at least one year before the start of the pandemic. Especially to be able to observe potential changes in the movement of exports even before the war. Such a setting of the research enables a clearer insight into the causes of possible changes in the second observed period, after the beginning of the conflict.

Considering the above, the analysis of Russian exports through the NSR before the war in Ukraine will cover the period from the beginning of 2019 to the end of February 2022. The beginning of the Russian invasion at the end of February 2022 is also the starting point of the second observed period. The situation with exports after the beginning of the conflict will be

observed following the most up-to-date available data, which will be discussed in more detail in a separate chapter.

An alternative to the presented research settings would be a comparison of the export situation on the NSR due to other conflicts in which Russia was involved in the past. However, the international community's reactions to some past Russian military interventions were not as intense as after the start of the invasion of Ukraine in 2022. The latest war started by Russia has significantly changed international relations. Activities in the Arctic must also be viewed in a completely new light, which also applies to the NSR. Therefore, comparing Russian exports via that maritime route before and after the beginning of the conflict in Ukraine, in this case, represents an adequate strategy for analyzing the relationship between conflict and trade.

3.5. Data and limitations

When analyzing the movement of ships through the NSR, data from the Norwegian Center for High North Logistics (CHNL) will primarily be used. Their research team is located within the Nord University Business School in Bodo, and the Norwegian government provides the largest financial support (CHNL, 2023). Since 2016, CHNL has regularly published an analysis of activities on the NSR. The last available data published by this center are related to the first three months after the beginning of the Russian intervention. The exception is the cargo from the Yamal LNG project, which CHNL separately analyzed until the end of 2022.

For the reliability of data sources, it is important to emphasize that the detailed reports of this center are primarily based on automatic identification system (AIS) data. This system's role in the maritime industry is to enable the safe navigation of ships and avoid potential collisions (Yan, et al., 2020). Ships use the AIS signal to send detailed information about navigation, which is recorded in real-time by satellite or other base stations. Monitoring the information of the AIS system provides insight into the movement of ships on a global level, which can be of great use in the study of trade flows.

After the sanctions were introduced, Russian ships began to manipulate this global location system to cover up their trade activities (Braw, 2022). After May 2022, the primary source, CHNL, stopped publishing detailed monthly analyzes of ship movements on the NSR. Accordingly, it is necessary to supplement the primary source with other available data in the second observed period. In this regard, the specialized think tank Bruegel provides relevant information and monitors Russian foreign trade using trade data from other countries (Bruegel,

2023b). Also, other available research will be useful during the analysis, and relevant information from other specialized institutes, media, and authors dealing with this topic.

The ideal situation for conducting the analysis implies the same available data in both observed periods. However, due to the circumstances above, there is a need to introduce new sources in observing Russian exports through the NSR after the beginning of the conflict in Ukraine. Such a situation moves this research away from ideal settings and requires understanding and considering the mentioned complexities when drawing conclusions.

4. Analysis

4.1. Importance of NSR for Russia

Before analyzing the selected periods, it is necessary to explain what role the NSR plays in Russian strategies in the Arctic. In this direction, it is essential to look back at Russia's previous strategic decisions that concerned the development of the NSR and the most important actors operating in that part of the country.

The importance of the Russian Arctic for the entire economy of that country is best reflected in the fact that it makes up 12% of Russia's GDP and represents about a quarter of total exports (Sergeev, Ilin, & Fadeev, 2021). As much as 80% of Russian gas and 60% of oil is extracted in that area. Also, almost all Russian production of nickel and cobalt is located there, as well as more than half of the total Russian production of bronze. These data indicate why Moscow looks towards the Arctic part of its territory in its strategies and development plans.

Climate changes, which have been extremely visible in the Arctic in recent years, have led to significant ice melting (Liu, Fan, Dang, & Zhang, 2021). Such a situation allows Russia to have easier access to significant new quantities of oil and gas. Increasingly longer ice-free periods make it possible to extend the navigation season in that area. Infrastructure development in this context is the basis for all activities there.

During the Soviet Union, Arctic policies were mainly focused on military needs (Liu, Fan, Dang, & Zhang, 2021). However, after the Cold War, and especially with Putin's coming to power, Arctic development in Russian policies, among other things, acquires a strong economic dimension. In 2008, the Russian government specified its plans in the strategic

document "*The Foundations of Russian Federation Policy in the Arctic until 2020 and Beyond*". The NSR has a vital role in this plan. The development of Russian ports along the Arctic coast is listed as a priority in the strategy for regional and national economic progress.

That the NSR is a very important topic in Russian politics is also proven by the reforms from 2013, which concerned new rules for navigating that route (Moe, 2020). The goal of these reforms was primarily to attract foreign actors in order to increase traffic. Such a new regime was the result of a more liberal approach. Not even two years after that, protectionist proposals followed in line with international tensions and were legalized in 2018. With certain exceptions and the right of exemption given to the Russian government, the main goal was to limit the use of foreign ships on the NSR. Preference is given to ships under the Russian flag. This specifically meant that in the territory of the NSR, oil, liquefied natural gas, and coal could be loaded and transported exclusively on Russian ships to the first next destination. It can be concluded that after the failed ambitious Russian wishes to increase transit and attract foreign actors, changes in favor of domestic industrial stakeholders and exploitation projects followed.

The strategies mentioned above show that industries and projects based in the Arctic part of Russia have strong support from the Russian authorities. The reason for this is certainly the role that the exploitation of these resources plays in Russian exports. Therefore, it is important to present the main actors who operate in that region and use NSR the most. In this way, a clearer picture of the overall situation on the NSR will be provided, which is crucial for further analysis of Russian exports via that route.

With its large Yamal LNG project, which was put into operation at the end of 2017, Novatek stands out as the operator and majority owner (Moe, 2020). It is a privately owned gas company that transports gas to foreign markets using LNG carriers from the port of Sabetta. Novatek plans to launch another large Arctic LNG-2 project.

Regulatory changes concerning the use of Russian-made ships directly benefited Russian shipyards (Moe, 2020). A significant company in the NSR is the large Zvezda shipyard near Vladivostok, which is managed by the oil company Rosneft. The United Shipbuilding Corporation operates the remaining shipyards in that region.

Some other important companies that deal with the exploitation of Arctic resources also operate on this maritime route (Moe, 2020). Their activity aligns with the Russian government's ambitions to reach 80 million tons of transported cargo on the NSR by 2024. Accordingly, the Russian government desires to offer certain benefits such as subsidies and tax breaks to all these

companies. First, it is necessary to mention Nornickel as the dominant user of NSR. The oil company that depends on navigation along the mentioned route is Gazprom Neft, which transports oil from the Yamal Peninsula to Murmansk by tanker. Among the oil companies, Neftegazholding also stands out, which, in addition to its significant investments so far, cooperates with Rosneft on the large Vostok Oil project. In addition, it is essential to highlight the coal projects on the Taymyr Peninsula.

Lukoil also operates in that part of Russia, with a fleet of ships used to export its produced oil (Laruelle, 2015). Navigation in that area would not be possible without the active support of the icebreaker fleet managed by Atomflot, a subsidiary of the powerful Rosatom (Gunnarsson & Lasserre, 2023). As a state-owned company, Rosatom manages the entire development and traffic of NSR. Finally, it is necessary to mention the federal state institution, "The Northern Sea Route Administration," which takes care of safe navigation and environmental protection there (CHNL, 2018).

In the further analysis of the presented data, specific details of the actors' operations closely related to the NSR, which were not mentioned in this initial review, will be visible. Also, it will be an opportunity for a detailed explanation of all significant projects, their location, and their importance for Russian exports. Before that, it is useful to refer to other important facts about the NSR confirming this transport route's importance for Russia.

The already mentioned plans on the target volumes of transported cargo until 2024 came as part of the "Northern Sea Route Infrastructure Development Plan to 2035" (Gunnarsson & Lasserre, 2023). The state authorities thereby gave explicit support to the development of the NSR. In the following stages, the plan is to enable year-round navigation in the eastern parts of the route to Asian countries. Given that the further development of the exploitation of Russian Arctic resources is the basis of these ambitious wishes, the authorities in Moscow at the beginning of 2020 began to provide strong financial support to the companies there. In addition, with the involvement of companies they own, the Russian authorities coordinate the development of this area and provide logistical support. An example of such a common framework is the introduction of a control center based in Murmansk, from which activities on the NSR are controlled via satellite.

To ensure the most efficient operation in extremely difficult conditions in the Arctic, Russian companies have adopted certain joint strategies (Gunnarsson & Lasserre, 2023). These strategies include transportation to large supply and service hubs such as Murmansk and

Arkhangelsk. Furthermore, for each Arctic project, companies design specific export terminals suitable for a specific industry due to the underdeveloped and backward existing infrastructure from the era of the Soviet Union. With the help of icebreakers, the availability of many high-ice class ships that can transport large amounts of cargo is essential. In this context, the fact that extractive companies are developing their own shipping fleets is significant, except Novatek, which depends on foreign carriers due to the demanding LNG technology.

The latest changes and additions to the mentioned strategies and plans will be mentioned in the analysis of the period after the start of the Russian invasion of Ukraine in 2022. Activities on the NSR are accompanied by several other very complex problems worth mentioning. These are, for example, sovereignty issues in the Russian Arctic and challenging climatic conditions (Laruelle, 2015). These facts are essential for a complete understanding of the role of the NSR in Russian exports, but in this context, there is no need to open these complexities in detail.

The following sections will focus entirely on observing the variables presented in the research design, which concern Russian exports through the NSR. When comparing two selected periods before and after the start of the war in Ukraine in 2022, emphasis will be placed on all those facts that will help detect specific changes. In the focus of the analysis in both periods, the exported quantities will be observed for each type of cargo separately, with additional reference to the delivery destination.

4.2. Analysis of the period from 2019 to the end of February 2022

4.2.1. Export of LNG from Sabetta (LNG carriers)

The most significant for producing liquefied natural gas is the large Yamal LNG project, which began its work in 2017 (Merkulov, 2020). Novatek manages the project as the majority owner, and shares in the project were initially held by the French oil company Total, the Chinese CNPC, and the Chinese Investment Silk Road Fund. The planned production capacity is initially set at more than 17 million tons of LNG annually, with capacity expansion in the coming years. In the later stages of the project, Novatek introduced its own technologies, which led to significantly cheaper production costs compared to previous American components. Before the start of the entire system, contracts were reached that secured the market for more than the next 20 years. As much as 86% of deliveries are planned in the direction of the Pacific towards Asian countries.

The huge investment in this part of the Russian Arctic indicates noteworthy energy cooperation between Russia and China (Lagutina & Konyshev, 2022). Russia initially hoped for more Western investors. On the other hand, Western companies had great interest, but the sanctions imposed on Novatek after the events in Ukraine in 2014 prevented such a scenario. This was an opportunity for Chinese companies to become co-owners of this large project.

The critical point in this project is the seaport of Sabetta, which primarily serves the year-round export of LNG via the NSR (Lagutina & Konyshev, 2022). The main base for exploitation is in the nearby South Tambeyskoye field. Furthermore, an important part of the infrastructure is the Sabetta international airport, which transports passengers to the nearby settlement, which at the peak of the project's construction, had more than 30,000 inhabitants. During the summer, the planned main export direction is through the NSR towards the Asian markets as the biggest buyers. In winter, export is planned to European terminals as the only possible choice due to the ice in the eastern part of NSR. For the project's needs, special ARC7 ice-class ships were designed, which can operate all year round in the western direction and the eastern part of NSR during the summer months without the support of icebreakers.

The Yamal project is emerging as an integral part of Russian export strategies (Yermakov & Sharples, 2021). Russia wants to maintain its position in the global gas market. This project also enables industrial and economic development, along with the development of good relations with the largest customers. With Gazprom, which mainly exports its LNG via pipelines, Novatek forms the backbone of Russian LNG production with this project.

The latest changes related to Yamal LNG and the planned new LNG projects positioned on the NSR will be explained in the analysis of the second selected period. In the next chapter, there will be a detailed analysis of exports from Yamal LNG from 2019 to the beginning of the Russian invasion of Ukraine in 2022.

4.2.2. Analysis of exports from Sabetta

In 2019, more than 250 shipments left the port of Sabetta for foreign markets (CHNL, 2020). Twenty-three different LNG tankers participated in these activities, and their total gross registered tonnage (GRT) was almost 32 million. Except for slightly more than 15 direct deliveries to ports in Asia, almost all LNG was exported in the western direction. These data indicate a significant increase in LNG exports compared to the previous two years since Yamal

LNG began operations. The reason for this is that the project was finally completed in 2019 and began to produce at full capacity.

The most common destinations of LNG exported from Sabetta in the mentioned year were terminals in the UK, France, Belgium, and the Netherlands (CHNL, 2020). A total of 82% of all volumes with Yamal LNG were sent in this direction. However, it is important to point out that all deliveries to Europe do not necessarily reveal the end customer and given that LNG sent to European terminals can be redistributed further to other countries (Yermakov & Sharples, 2021).

In the following year, export volumes related to this project remained at almost the same levels of around 20 deliveries per month (CHNL, 2021b). Thus, in 2020, the Yamal LNG project once again delivered more than 250 shipments to foreign markets, of which just over 30 went directly to the East. It was about the same distributed GRT as the year before, meaning that the production exceeded the capacities foreseen at the beginning of the project. Most ships delivered cargo to terminals in Belgium, France, Spain, the Netherlands, and China. European terminals continued to lead the way as the main destinations of LNG exports from Sabetta.

A slight export increase can be seen in 2021 when ships sailed from Sabetta more than 260 times (CHNL, 2022a). The reason for the minimal increase is the introduction of another LNG tanker compared to previous years. As a result, the total export volume increased slightly. In the eastern direction directly via the NSR, exports took place at the same levels as before, and the final destinations were mainly Chinese terminals. Of the other important destinations where the largest amount of LNG went, France, Belgium, Spain, the Netherlands, and the UK once again stood out.

In the first two months of 2022, the exported quantities followed the trend of previous years. Thus, in January, including the return of ships to Sabetta, 50 LNG tanker operations took place (CHNL, 2022d), and in February, 44 of them (CHNL, 2022e). These data align with the amounts in the first two months of previous years, from which it can be concluded that this project continued with regular deliveries towards already established destinations.

The explanation for the western orientation of deliveries from Yamal LNG lies in the significantly higher costs of shipping to Asia, whether it is exported directly through the eastern part of the NSR or via a longer route through Europe (Yermakov & Sharples, 2021). In both cases, the cost of exporting LNG from the Yamal project to Asia is twice as high as the cost of exporting to European terminals. Such more favorable export conditions in the mentioned

direction led to a situation where LNG from Yamal intended for transshipment remained there. After selling LNG to European customers, the Russian government and Novatek have no control over further cargo movements.

It was previously emphasized that the initial plans provided most deliveries directly to Asian markets. The analyzed period clearly showed different destinations. However, it should be pointed out that the given data cannot fully reveal the end customer. However, the facts show that more favorable market conditions guided the project operators in those years. Possible changes in this matter will be shown by the analysis of LNG exports from Yamal after the intensification of the war in Ukraine at the end of February 2022.

4.2.3. Export of crude oil from "Arctic Gate" terminal (tankers)

Large amounts of oil and gas were already discovered on the Yamal Peninsula during the Soviet Union (Lagutina & Konyshev, 2022). However, due to the lack of the necessary infrastructure, including the lack of transport capacity, the project started working in 2010. Gazprom then handed over the management of this project to Gazprom Neft, which managed to enable the start of production with its technologies despite the demanding arctic conditions. Novoportovskoye field is also the largest Arctic oil field of this company.

The produced oil is transported by sea to the existing coastal oil pipelines near Murmansk, where it is further distributed to European consumers (Lagutina & Konyshev, 2022). A special terminal, "Arctic Gate," was built for these complex export activities. In addition, the company decided to use its own fleet of seven tankers and two icebreakers for efficient operation in that area. In the future, Gazprom Neft plans to increase oil production by connecting new nearby oil fields to the current export terminal, where the company claims the right to exploit.

4.2.4. Crude oil export analysis

In 2019, 236 oil shipments left this export terminal in the direction of Murmansk (CHNL, 2020). Ten different tankers, who's total gross registered tonnage (GRT) was almost 9 million, participated in these activities. Oil exports continued at the same rate in 2020v(CHNL, 2021b). The same number of tankers headed to Murmansk 219 times.

A smaller number of ships involved in operations at the "Arctic Gate" export terminal is visible in 2021 (CHNL, 2022c). At that time, eight tankers transported oil to Murmansk 200 times. A slight decrease in oil exports can be observed compared to the previous two years. In that year, tankers had to go around Cape Zhelaniya several times due to ice in the Kara Sea area. This also meant a much longer transport than the usual passage through the Kara Gate strait. Also, the first two months of the following year, before the start of the invasion of Ukraine, followed the same amount of oil exports as in previous years (CHNL, 2022e).

If this export terminal's location is considered, it can be assumed that the shipments to Murmansk are intended for European consumers. Given that it is not possible to monitor the further movement of exported oil, the possibility of redistribution to other markets should not be ruled out. However, noticing a possible change in oil exports from this important Gazprom Neft project will be visible only after analyzing the second selected period.

4.2.5. Export of metal (container ships, Nornickel)

In addition to the industrial facilities on the Yamal Peninsula, there is another important complex for exploiting natural resources along the Russian Arctic coast. It is about Nornickel, which used to be called Norilsk Nickel. This industrial giant from the city of Norilsk is one of the world's largest metal producers (Brigham, 2022).

The most important metals produced there are nickel, palladium, platinum, and copper, which are transported by rail to the Yenisey River (Brigham, 2022). There is the port of Dudinka, which is this company's most crucial infrastructure point. Metals are exported from Dudinka to Murmansk and further to European countries in specially designed container ships all year round. In the summer, exports are also carried out via the eastern route to Asian countries.

Due to the high demand for metals from Norilsk, the company established its own export fleet at the beginning of this century (Afonin, Olkhovik, & Tezikov, 2018). The ordered five special icebreaking cargo vessels were completed in 2014 and are the basis of all export operations in these waters. These container ships enable Nornickel to operate without the additional assistance of icebreakers.

4.2.6. Analysis of metal exports

In 2019, a fleet of 5 Nornickel container ships exported metals from Dudinka 71 times (CHNL, 2020). All shipments went to Murmansk, and the total tonnage of the ships participating in these operations was slightly more than 1.2 million GRT. The export volumes in that year stayed consistent with previous years, and a slight increase can be observed.

In the following year, exports from Norilsk took place at similar levels. The company's main export products were mainly white matte, sulfur, and copper cathodes (CHNL, 2021b). The fleet of 5 container ships again operated in all the company's export activities in that direction. In 68 sailings from Dudinka to Murmansk, the amount of exported cargo was almost identical to 2019.

In the second half of 2021, the Russian government introduced export taxes on nickel, steel, aluminum, and copper (Reuters, 2022a). They decided to take such a step in Moscow to stop the further increase in the cost of raw materials due to inflation. These taxes were aimed primarily at protecting domestic defense and construction companies. However, data from the last months of that year show that export activities from Dudinka continued at their usual pace (CHNL, 2021a).

If container cargo volumes in the first two months of 2022 are compared with the previous periods (CHNL, 2022e), it can be concluded that the same volumes of metal exports from Dudinka are involved.

When analyzing exports via NSR from Dudinka, it is necessary to explain the primary function of the terminal in Murmansk. Namely, all deliveries from Dudinka to Murmansk are intended for further processing and export (Khrapov & Yushchenko, 2019). Such finished metal products from Murmansk are delivered further to European ports. However, after the launch of the Russian invasion of Ukraine, it can be assumed that Nornickel products have gained even more importance. This especially concerns the defense industry and the already mentioned attempts by Moscow to try to keep these critical metals for its own needs by introducing export taxes. After analyzing the second selected period, it will be possible to identify potential changes in exported quantities or final destinations of shipments from Dudinka.

4.2.7. Export of gas condensate from Sabetta (tankers)

The port of Sabetta, mainly connected with the Yamal LNG project, also includes another important activity for exports via the NSR. In addition to LNG deliveries to foreign markets, gas condensate is also exported from there (Gritsenko & Efimova, 2017). It is a valuable product used to produce kerosene and high-quality fuels.

Gas condensate is produced in the Yamal complex along with primary LNG and is an essential export product. Namely, the latest transport regulations require low-sulfur fuel, the production of which requires gas condensate (Reuters, 2018).

4.2.8. Analysis of gas condensate export data

In 2019, six tankers were involved in the export of gas condensate in the port of Sabetta (CHNL, 2022b). That year, the mentioned ships voyaged 41 times with cargo, mainly to northern European ports. Among the export destinations, the Netherlands and Norway stood out. Tankers also exported gas condensate from Sabetta to the UK and Denmark.

A significant export decrease is visible in 2020, when only two tankers departed from Sabetta (CHNL, 2022b). On 24 occasions, tankers exported the most to the Netherlands, Denmark, and the UK. In contrast to 10 voyages to Norway the previous year, in 2020, only one tanker ended up in that country. On the other hand, the number of deliveries to the Danish port of Kalundborg increased significantly. In total, about one million tons of gas condensate was transported that year, exclusively to European ports.

The export of the mentioned product from Sabetta in 2021 took place on almost the same scale as in 2020 (CHNL, 2022b). Again, only two tankers participated in cargo export to European markets. That year they exported 21 times, of which 13 times to Rotterdam and seven times to the Danish Kalundborg. Only one shipment of gas condensate from Sabetta ended up in the British port of Southwold. The total amount of exports that year was slightly more than 800 thousand tons of gas condensate.

At the beginning of 2022, there were no changes compared to the previous year's exports in January (CHNL, 2022d) and February (CHNL, 2022e). The presented data indicate an almost two-fold decrease in the export of gas condensate from Sabetta in 2020 and 2021 compared to 2019. Therefore, even before observing the next period, it is necessary to emphasize the

presence of changes in export flows. An explanation of the mentioned situation will be possible after comparison with another selected period.

4.2.9. Other cargo and a summary of total exports through NSR in the observed period

During this period, some other cargoes were also recorded through the NSR (CHNL, 2021c). However, such shipments on the observed route cannot be classified as export activities. Their purpose is primarily to supply places along the Arctic coast where the construction of new projects is planned. This also includes transit and operations of icebreakers and other special vessels.

After the presented data from 2019 to the end of February 2022, it is helpful to summarize the entire export through NSR. Novatek's large LNG project on Yamal is the most responsible for the year-round activity on that route. The most significant amount of cargo was exported from that complex compared to other projects along Russia's Arctic coast. It is followed by Gazprom Neft's "Arctic Gate" terminal, from where significant quantities of crude oil were delivered. Furthermore, Nornickel metals from Dudinka and gas condensate from Sabetta had important shares in exports via the NSR.

Significant changes during this period are visible only in gas condensate export. The next chapter will present the most important changes related to Russian exports and the NSR, which mainly concern sanctions after the start of the Russian invasion of Ukraine in 2022. This will be followed by a detailed analysis of Russian exports through the NSR after the beginning of the mentioned events. Then the space will be opened for comparing the two selected periods and for making conclusions about the reasons for possible changes.

4.3. Analysis of the period after the start of the Russian invasion of Ukraine at the end of February 2022

4.3.1. Export of LNG from Sabetta (LNG carriers)

The first major change for Russian LNG after February 2022 is related to the fifth package of European Union sanctions (Staalesen, 2022a). It covers the key technologies required for the functioning of the LNG plant. Given Novatek's complete dependence on Western LNG technologies, this news also concerned the Yamal LNG project. Primarily, the sanctions called

into question Novatek's planned gigantic Arctic LNG-2 project. However, existing exports from Sabetta could also be jeopardized in case of the need for spare parts for plants on Yamal.

Concerning its stakes in Arctic projects, France's Total has also made certain moves following Russia's launch of a military operation. At the end of April 2022, Total announced the decision to write off more than 4 billion dollars related to its investments in the Arctic LNG-2 project (TotalEnergies, 2022). However, there was no talk of withdrawing from the Yamal LNG project.

Due to the intensified war in Ukraine, this Novatek project found itself in somewhat different circumstances compared to the previously observed period. A detailed review of the available data on the export of LNG from Sabetta in the first months after February 2022 will help conclude possible changes.

4.3.2. Analysis of exports from Sabetta

The Norwegian CHNL has published a detailed trend of LNG deliveries for March, April, and half of May 2022 (CHNL, 2022f). In that period, LNG was exported from Sabetta 63 times. In the same period of 2019, ships sailed to European ports 58 times. Exports mainly occurred to terminals in Belgium, France, Spain, and the Netherlands.

The above shows the continuation of LNG exports, with a slight increase in the months after the intensification of the conflict. Therefore, the launch of the Russian invasion of Ukraine did not significantly affect LNG deliveries from Sabetta. The final cargo destinations and exported volumes suggest an increased interest in Russian LNG in European countries.

The reasons should primarily be sought in the fact that the previous sanctions packages did not directly affect Russian LNG. According to the data presented, the fifth package of sanctions, including LNG technologies (Council of the EU, 2022b), did not directly affect production and deliveries from the plant on Yamal. In such circumstances, no obstacles would threaten exports from Sabetta.

The increased number of deliveries in March, April, and May 2022 is in line with data provided by other specialized researchers. The European think tank Bruegel, specializing in economics, published data on Russian LNG exports based on certain available indicators (Bruegel, 2023b). According to Bruegel, the countries of the European Union have sharply increased the import of Russian LNG by the end of 2022. The amounts reached their highest

levels in September 2022, when EU countries imported almost $2 billion worth of Russian LNG. For the sake of comparison, in the same period of 2019, about 300 million dollars worth of LNG was delivered from Russia. Until the end of February 2023, these quantities are still the highest compared to the observed period of 2019, at a monthly level of around one billion dollars of exports to European terminals.

It is important to note that Bruegel's data does not classify exports by companies and projects but only by the type of cargo. However, given the European sanctioning of most of the gas supplied by pipelines from Russia, it is possible to explain the increased demand for LNG from Yamal (Humpert, 2023). The Novatek project is responsible for the largest quantities of LNG delivered to Europe. Therefore, it can be assumed that the increased quantities towards the EU countries came precisely through the NSR from Sabetta. In this direction, it is necessary to monitor the movement of ships from the port of Sabetta for the entire year 2022, just like in the period before the intensification of the conflict.

Norwegian CHNL summarized the export activities from the Yamal project for 2022 (Hine, 2023). A total of 281 LNG ships sailed from Sabetta, of which as many as 251 shipments were intended for European customers.

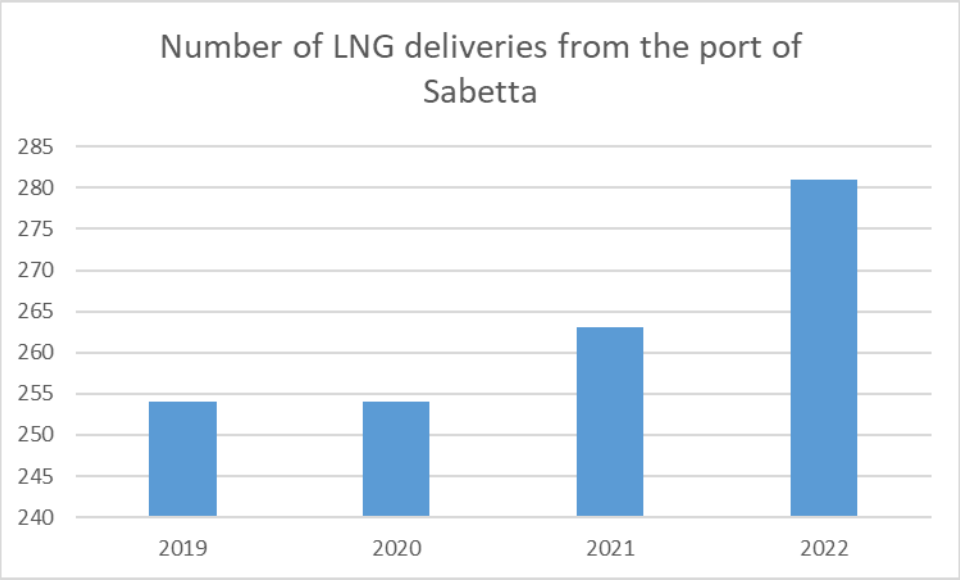

Figure 2. *Export of Russian LNG from the port of Sabetta, Source: Author's own work with data by CHNL*

The presented figures are an indication of a significant increase in exports compared to previous years. By closing the gas pipeline to Europe, Novatek was the biggest winner. As a

result, the role of this company in Russian exports has also strengthened (Energy Intelligence Group, 2023). Given that LNG from Sabetta accounts for the largest share of total exports via the NSR, this Arctic Sea route has gained additional importance.

Also, the information about the French oil company Total remaining in the Yamal LNG project further clarifies the current situation regarding Russian LNG. TotalEnergies states that further involvement in this project is in the interest of the EU to ensure the supply of the necessary gas (Reuters, 2022b).

On the other hand, EU countries are looking for ways to stop importing Russian LNG (Euractiv, 2023). The situation in which the move away from Russian gas from pipelines is replaced by increased imports of Russian LNG is certainly not a situation in which the EU wants to be in for a long time. However, any decisions to move away from Russian LNG have inevitable consequences.

The Center on Global Energy Policy (CGEP) at Columbia University's School of International and Public Affairs has analyzed in detail the possible scenarios in case of stopping the import of Russian LNG (Corbeau, 2023). In the best case, the quantities delivered from Yamal to European countries could be effectively replaced by other LNG exporters. Exports from Yamal would then be affected, given the distance from Asian markets and increased shipping costs. However, the option that assumes the impossibility of finding alternative suppliers would force EU countries to import at higher prices. In that case, exports from Yamal would go to Asian markets at a higher price, and European countries would also have to buy under such conditions. The third possible scenario is also the worst outcome for global gas markets. Regardless of the European possibility of finding alternative suppliers, the Russian decision to stop LNG exports would affect the EU countries the most. In that case, reducing the quantities needed for the global gas balance would mean a huge price increase.

The above analysis explains the European toleration of shipments from Yamal so far. According to all the above, it can be concluded that the war in Ukraine did not have a negative impact on Russian LNG exports from Yamal. On the contrary, Novatek increased its exports through the NSR in wartime circumstances. Given the potential adverse effects of sanctioning Russian LNG, EU countries continue to purchase significant quantities from Sabetta.

4.3.3. Export of crude oil from “Arctic Gate” terminal (tankers)

Western sanctions did not cover Russian exports of Arctic oil by sea until the end of 2022 (European Central Bank, 2023). The EU's decision to ban the import of Russian crude oil by ships entered into force on December 5, 2022. Not long after, a ban on the import of oil products from refineries followed.

Providing maritime services to import Russian crude oil and oil products is also prohibited if their price is above a specific limit (European Central Bank, 2023). Therefore, the export of crude oil from the "Arctic Gate" terminal to European customers is not possible if the price is higher than 60 dollars per barrel. With this decision, EU countries, G7, and other partners are trying to maintain price stability on the global market by allowing the purchase of Russian oil. On the other hand, the limited price aims to reduce the profits of the Russian oil industry due to Russia's war efforts in Ukraine.

Changes related to Russian crude oil from Arctic deposits occurred at the end of 2022. Accordingly, in the first months after the launch of the Russian military operation, Gazprom Neft was able to continue its export activities from Yamal to the facilities in Murmansk without any obstacles. A more detailed insight into the situation after the Russian invasion will be provided by Norwegian CHNL data on ship movements in March, April, and May 2022. Other available data on Russian oil exports after February 2022 will also help in drawing conclusions and comparing the situation with the previous period.

4.3.4. Crude oil export analysis

Unchanged conditions for the export of crude oil made it possible to deliver the same quantities from the "Arctic Gate" terminal in the first months after the intensification of the war. In March 2022, 17 crude oil shipments were delivered to the export terminal near Murmansk (CHNL, 2022g). Tankers delivered in that direction 17 times in the following month as well (CHNL, 2022h). The latest detailed data available to CHNL for May 2022 confirm the exact number of deliveries from Gazprom Neft's terminal to the transshipment facility near Murmansk (CHNL, 2022i).

The displayed quantities coincide with exports in the same months of previous years, which indicates unchanged export activities related to this project. Any changes, in this case, must be sought in the period immediately before or after the decisions that came into force in

December 2022. The mentioned decisions of the EU and partners created new conditions under which Gazprom Neft could continue exporting to its previous European destinations. Additional available data will help in the analysis of the newly created situation. Based on them, it will be possible to observe possible changes in the export of Russian crude oil via the NSR due to the war in Ukraine.

Bruegel specifically classified crude oil in the analysis of Russian exports from 2019 to February 2023 (Bruegel, 2023b). It is important to emphasize that this is data for the entire Russian crude oil export to EU countries. However, such an overview can provide a clearer picture of the situation with exports from the "Arctic Gate" terminal. According to Bruegel, the total export of Russian crude oil to the EU in August 2022 fell significantly for the first time compared to previous years. In all subsequent months, a strong drop in exports is visible. In February 2023, it was about five times smaller quantities than in previous years.

Data on the reduction of Russian crude oil exports to EU countries are in line with the imposed sanctions. After the decisions mentioned above came into force, Gazprom Neft's arctic oil lost customers in European countries.

Based on Bloomberg data, at the beginning of 2023, the High North Center within the Norwegian Nord University announced the movement of Russian Arctic oil for 2021 and 2022 (High North Center, 2023b). The analysis focuses on the Umba export terminal near Murmansk, to which crude oil is delivered from the "Arctic Gate" and nearby oil fields. The movement of ships from Umba reveals unchanged volumes of oil exports for the entire observed period. Drastic changes are reflected only in export destinations, where Asian markets have replaced the previous European buyers entirely. In the second half of 2022, China and India increased their imports of Russian crude oil significantly. Therefore, the EU's decision to introduce price restrictions on Russian oil did not affect exports via the NSR.

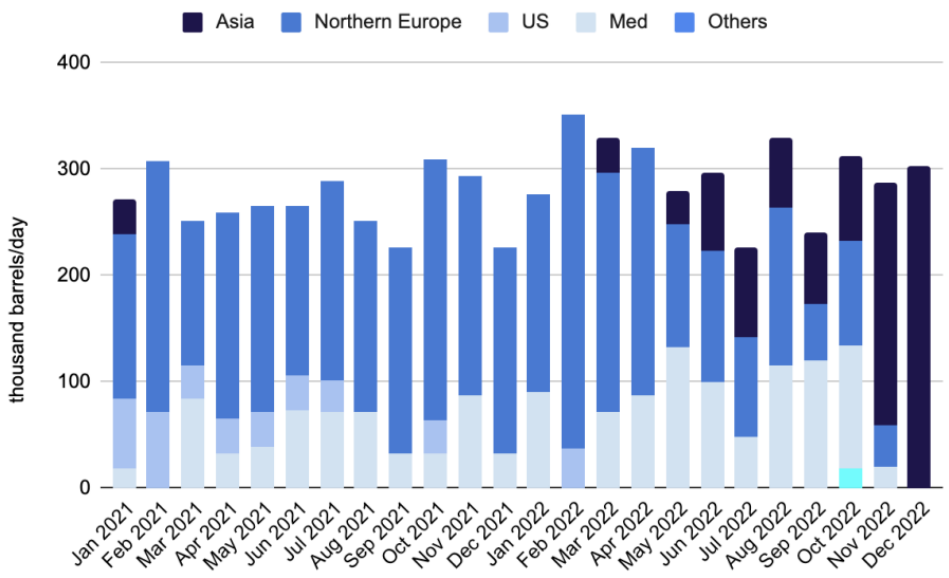

Figure 3. *Exports of Russian Arctic oil by destination 2021-2022, Source: High North Center, 2023b*

In the observed period, Arctic oil was exported to Asian markets via a longer route through the Suez Canal but also via a shorter route along the Siberian coast (High North Center, 2023b). The reasons for the unchanged amount of exports and the shift towards Asia should primarily be sought in the large discounts that Russia offers to buyers there. Also, Russia plans to purchase more than a hundred tankers to continue effectively replacing the lost European market. In the meantime, direct export in the eastern direction with the help of regular non-ice class tankers is planned (High North Center, 2023a). Such a necessary shift of export logistics towards Asian markets also raises the issue of impaired navigation safety in that area.

All the data presented indicate that the war in Ukraine did not affect the quantities of Russian crude oil exported via the NSR. The destination of exports has changed significantly due to the new circumstances. Several sources presented suggest a complete shift in exports to Asian countries. Such a scenario was mostly influenced by EU decisions that came into force at the end of 2022. Russia found itself in a situation where it had to find new buyers for its crude oil. With significant discounts, China and India increased their imports and thus replaced the previous European customers.

The information about Russia's decision to engage a larger number of tankers speaks of Russia's adaptation to the new situation. The consequence of the latest changes is the increased importance of NSR for Russian exports. Export infrastructure, including oil pipelines, has so

far been directed toward European countries. Crude oil exports to Asia can be transferred quickly only by sea. This fact indicates the continuation of the export of large quantities through the NSR and increased activities in the coming years.

4.3.5. Export of metal (container ships, Nornickel)

The company Nornickel entered 2022 with big plans for developing the Dudinka export port (The Barents Observer, 2022). Several new projects are planned in the coming period. Unlike other Arctic resources important for Russian exports, Nornickel products are not covered by sanctions.

The company's business reports at the beginning of this year showed a significantly lower profit in 2022 (Nilsen, 2023). Almost 16% lower earnings on an annual level indicate certain problems due to wartime circumstances. The company clarified that the weaker business results were influenced by logistical problems and reorientation towards new markets, which requires a certain amount of time.

Although the EU, the United States of America, and other partners did not directly sanction Nornickel, the war in Ukraine left consequences for the company's overall operations. It remains to be seen whether, in the newly created circumstances, there have been changes in exports from Dudinka as well.

The United States of America decided at the end of 2022 to target the key person of Nornickel, but not the company itself (Trade and Manufacturing Monitor, 2022). Putin's close associate Vladimir Potanin was thus included in the list of sanctioned persons. Also, the sanctions included his investment fund Interros and Russian bank Rosbank, whose owner is Potanin's fund. The American Office of Foreign Assets Control (OFAC) explained the reasons for avoiding direct sanctions on Nornickel regarding Potanin's shares in that company. Although Potanin is the major shareholder of Nornickel, his shares do not exceed 50%, which is a prerequisite for the sanctions to include the company itself.

In such a situation, this Russian company had the conditions to continue exporting its metals to foreign markets, including European ones. Data on the activities of Nornickel ships from Dudinka will reveal the state of metal exports through the NSR after February 2022.

4.3.6. Analysis of metal exports

In the presentation of ship activities on NSR in March, April, and May 2022, CHNL separates data on Nornickel deliveries from Dudinka (CHNL, 2022i). If other cargoes in that port are excluded, it is evident that the figures coincide with the period before the Russian invasion of Ukraine. Other cargo in Dudinka consisted of deliveries of resources needed to develop new projects in the area, which do not fall under export through the NSR.

Data from the Norwegian CHNL, apart from the unchanged activities in Dudinka, do not reveal any possible changes in the export of Nornickel products. The first part of the analysis mentioned the importance of these metals for the Russian defense and construction industry. The delivery of the exact quantities to Murmansk shows that the wartime circumstances did not significantly affect Nornickel's production. However, the issue of exporting these products remains. The importance of metals from Dudinka for foreign markets can also be seen in the fact that international sanctions did not cover Nornickel. Therefore, it is essential to clarify whether Russia continued with its previous deliveries to Western countries or whether the needs of the war caused these products to remain on the domestic market. Accordingly, it is necessary to supplement current knowledge with other available data.

According to S&P Global, Nornickel's lower revenues in 2022 reflect logistical complications caused by international sanctions (Silva, 2023). One of the main reasons is the impossibility of procuring spare parts needed for maintenance. Also, the sanctions significantly impacted investments and planned new projects. S&P Global also states that Nornickel exports were not affected by the war, and China is mentioned in the context of increased metal imports.

In the middle of 2022, information about the planning of new export routes began to arrive from the company (Staalesen, 2022b). Changed relations with previous European customers forced Nornickel to prepare in case of sanctions, which already included other Arctic exporters at that time. The fifth package of EU sanctions in April 2022 touched Nornickel in the form of a ban on Russian ships in European ports. The company clarified the possibility of transshipment to ports in North Africa. Also, Nornickel confirmed that all production is still directed toward European countries. However, they clearly emphasized the possibility of shifting exports towards Asian markets, in which NSR also plays an essential role.

Such statements by the company from Norilsk confirm that deliveries from Dudinka to Murmansk continue to destinations in Europe. Regardless of the method of further transportation from the export terminal near Murmansk, it can be concluded that the

intensification of the war did not affect the export activities of Nornickel via the NSR. Also, plans for transshipment operations indicate readiness in case of sanctions. Until now, European countries have not decided to ban importing these important products, which enables unhindered business with Nornickel. On the other hand, the company is aware of international circumstances and does not rule out the possibility of a complete change of export direction via the eastern route of NSR towards Asia. Both scenarios, the continuation of exports to western ports or a shift to the east, suggest the importance of the NSR and the continuation of metal exports from Dudinka in the coming period.

4.3.7. Export of gas condensate from Sabetta (tankers)

Observing the period from 2019 to February 2022, certain changes could be observed in the export of gas condensate from the Yamal LNG project. Deliveries from Sabetta in the last two observed years and in the first two months of 2022 were significantly lower compared to 2019. Before comparing with the next period, this tells us about the changes that occurred before the war circumstances. However, the exported quantities of gas condensate stabilized during 2020 and 2021 and can serve as a starting point for comparison with the period after February 2022. Analysis of exports after the intensification of the war in Ukraine will show whether there have been any new changes.

According to the EU decision from February 2023, the gas condensate from the LNG plant on Yamal is exempted from sanctions (Council of the EU, 2023). In the last two years of the first observed period, two tankers participated in export activities. The movements of these ships after February 2022 will reveal potential changes compared to the pre-war period.

4.3.8. Analysis of gas condensate export data

In a detailed analysis of activities on the NSR for March and April 2022, CHNL did not list a single ship involved in transporting gas condensate from Sabetta (CHNL, 2022h). For May of the same year, the data indicate only two deliveries, which is at the same level as in the same month of 2021 (CHNL, 2022i).

Available CHNL data for the first three months after the Russian invasion do not say much about possible changes. The reasons for the absence of deliveries in March and April can

be different, such as the presence of ice. However, other available data will be needed for a clearer picture of the export of gas condensate through the NSR.

Refinitiv, which provides financial market data, presented information on the export of gas condensate from Sabetta for the first four months of 2023 (Chumakova, 2023). The figures show an increase of 14.3% compared to the same period in the previous year. The quantities delivered from the Yamal LNG project correspond to the tonnage of two tankers that regularly carry out export operations via the NSR.

It should be emphasized that in the period after February 2022, there is no information available on the final destinations of exports. In that situation, it is not possible to see whether the ships were still delivering gas condensate to European ports. However, the fact that the EU excluded this product in the imposed sanctions indicates that there were no obstacles to continuing Russian exports to EU countries.

The first part of the analysis explained that the gas condensate comes from the LNG plant on Yamal, where natural liquefied gas is primarily exploited. Gas condensate also represents the last significant cargo in the total Russian export through the NSR. Available CHNL data indicate the absence of exports of this product in the first two months after the start of the war. However, the data for May 2022 suggest the continuation of exports from Sabetta in the same quantities as in the pre-war months. With the additional available information provided by Refinitiv for the beginning of 2023, it is clear that exports continued with a slight increase in delivered volumes.

5. Discussion

After analyzing the two selected periods, it is necessary to summarize the most important observations following the argument presented at the beginning of the thesis. A comparison of Russian exports through the NSR before and after the start of the war in Ukraine in 2022 opened up space for concrete conclusions and a clearer understanding of the entire situation. The analysis part of this work was structured in such a way that it enabled the observation of specific changes separately for different types of exported cargo. In such a situation, it is possible to notice the specifics concerning the most important Russian companies in that area. The intensified war in Ukraine did not equally affect all exports via the NSR. It is precisely these differences that provide the possibility of making the most accurate conclusions.

Yamal LNG is presented as an essential Arctic project that exports through NSR. Therefore, liquefied natural gas from Sabetta was at the forefront of the analysis. Comparing the two selected periods, it is clear that after February 2022, the LNG export from Sabetta grew significantly. Primary data on ship movements also confirm this. Additional sources also present data on a significant export increase that continued in 2023. In addition to the increase in LNG exported through the NSR, the fact of unchanged delivery destinations is also crucial. The analysis showed that even after the start of the war, European terminals continued to be the primary destination.

Crude oil from the "Arctic Gate" terminal is the second most crucial cargo that goes to foreign markets from Russia through NSR. Relevant data in the analysis indicated unchanged volumes of Arctic crude oil exports throughout the observed period. However, after the start of the war in Ukraine, a massive shift towards Asian markets, primarily China and India, is visible.

Other cargo considered in the analysis includes Nornickel metals from the port of Dudinka and gas condensate from the Yamal LNG project. The data show that the conflict in Ukraine did not affect significant changes in the export of this cargo. Minimal deviations could be observed in gas condensate deliveries, but still in the first analyzed period. However, based on the data presented, it can be proved that the wartime circumstances, in this case, did not change the export activities through the NSR.

When considering the overall state of Russian exports through the NSR due to the war, it is possible to single out two crucial observations. Thanks to a significant increase in LNG deliveries from Yamal and almost unchanged volumes of other cargo, total exports via the NSR increased. Also, the picture of activity on this maritime route has changed due to the shift in crude oil exports to Asian markets. Accordingly, it is necessary to emphasize the reasons for the mentioned changes and discuss them in the context of the argument that guides this thesis.

The changes mentioned above should primarily be seen in the context of international sanctions and newly emerging relations between Russia and Western countries. Before the invasion of Ukraine, Russian export infrastructure was directed mainly towards European markets. The conflict at the end of February 2022 led to a series of sanctions packages imposed on Russia by Western countries. In such a situation, Russian exports through the NSR gained importance.

The analysis showed that the Russian company Novatek came out as the biggest winner in the European move away from Russian energy sources. Given that Russian LNG did not

directly fall under sanctions, there were no obstacles to continuing exports. On the contrary, looking at the period after February 2022, there is a clear increase in deliveries to European terminals. The EU countries thereby replaced the necessary quantities that regularly arrived through pipelines in the pre-war period.

Bruegel's data speak of a drastic drop in Russian gas exports to the EU, which accounted for 40% of total European gas imports before the war (Bruegel, 2023a). After the intensification of the war, the EU reduced the import of Russian gas to below 8%, with the almost complete closure of the largest gas pipelines, such as Nord Stream and Yamal.

The stoppage of gas deliveries via infrastructure directed towards European countries is in direct correlation with the increase in LNG exports through the NSR. Given that LNG from Yamal accounts for the largest share of Russian exports via that route, the newly created situation also affected the overall increase in export activities via the NSR. Also, the overall increase in Russian exports through this Arctic maritime route was helped by the fact that deliveries of other cargo were not affected by the events of the war. Crude oil is extremely important in this regard, in which exports to China and India are essential. According to all the above, the war in Ukraine has undoubtedly changed the economic and political relations between Russia and Western countries. Consequently, there have been changes in trade activities on the NSR.

The increase in exports through the NSR after February 2022 and the redirection of crude oil tankers toward Asian markets are the main conclusions based on the analyzed data. However, to be able to state with certainty that the conflict in Ukraine is the main cause of the changes above, it is necessary to consider other possibilities.

Since 2019, which is the starting point of the analysis of the pre-war period, the Russian economy has been affected by certain factors unrelated to the latest conflict in Ukraine. The coronavirus pandemic emerged as a significant problem for the world economy, which did not skip over Russia either. Although the consequences of the pandemic have seriously affected the Russian economy in general, the situation in the NSR has not changed significantly (Rotnem, 2021). Also, in that period, the Russian authorities adopted a new plan for additional investments and increased traffic there, which is summarized in the already mentioned Arctic strategies.

In addition, CHNL's data in the analysis did not indicate significant changes in exports through the NSR during the pandemic. The exception is the export of gas condensate from

Sabetta, where the export decrease is visible in the pre-war period. However, the movement of tankers with this cargo stabilized long before February 2022 and continued in the same quantities in the next observed period. The potential impact of the pandemic on Russian exports of Arctic resources would imply a reduction in deliveries in the observed period. The increase in exports could be associated with the recovery after the pandemic only in the case of observed negative trends before that. However, the analysis of the available data found that the most significant changes in the observed periods do not relate to the reduction of exports through the NSR. Therefore, the coronavirus pandemic is not a relevant starting point for discussing the causes of changes after February 2022.

The same applies to other factors that, before and during the war, negatively impacted the world economy and, thus, the Russian economy. Certain authors deal with the issue of higher inflation rates after the pandemic, which was additionally affected by the war in Ukraine (Wang, 2022). Also, in 2014, Russia already faced sanctions imposed after the events in Crimea (Ashford, 2016). However, the international reaction to Russia's foreign policy actions at the time cannot be compared to the situation after the latest events in Ukraine.

Finally, it is necessary to summarize all the mentioned events in the context of the possible causes of the analyzed changes. Although the pandemic, inflation, and previous international sanctions weakened the Russian economy globally in different ways, exports through the NSR were not threatened. Due to the non-existent negative trends in Russian exports through the NSR during the previous analysis, these phenomena cannot be linked to the observed changes. Therefore, the increase in total exports via the observed route and the shift in crude oil deliveries to Asia should be seen solely as a consequence of the conflict in Ukraine in 2022.

At the very end, it is important to discuss the conclusions based on the analyzed data within the argument from the beginning of the thesis. The hypothesis about the increase in Russian exports through the NSR due to the war and the need for a reorientation towards new markets due to the European move away from Russian energy products proved to be partially correct. The data showed that after the beginning of the war, there was an increase in export activities in the NSR, which is in accordance with the first part of the argument. However, the part about shifting exports to Asian markets needs to be discussed in more detail.

Before analyzing the available data, the guiding thought was the European move away from Russian energy sources due to the newly emerging international relations. The hypothesis

of an increase in exports was closely related to the necessity of reorienting the export of Russian Arctic resources by sea towards more distant Asian markets. Nevertheless, the data showed that the majority of exports via the NSR continued to go mainly to European ports even after the start of the war. Among these cargoes is Russian LNG, which generates the most export activity on that route. Also, the increase in LNG exports from Sabetta is not related to the previous prediction of higher imports from China and India. On the contrary, after February 2022, the EU countries increased the import of Russian LNG.

On the other hand, data on crude oil exports support the second part of the hypothesis about the shift of Russian exports to Asian markets. The overall increase in exports through the NSR would not have occurred if the previous quantities of crude oil had not gone to new customers in Asian countries. The continuation of crude oil deliveries from the "Arctic Gate" terminal in unchanged quantities, along with the increase in LNG exports, ultimately led to changes that are in line with the initial hypotheses.

According to all the above, the analysis showed the correct logic of the arguments but also revealed certain weaknesses. These shortcomings are most evident in the false assumption that increasing exports through the NSR is possible only by finding new markets. Increased deliveries to European countries, despite the changed conditions caused by the conflict in Ukraine, showed the opposite. Also, the reorientation of Arctic resource exports towards new markets is an issue that requires separate research. The decisions of the EU ultimately made it possible for Russian LNG through the NSR to replace the same Russian gas that reached Europe through the existing pipeline system until the beginning of the conflict. This represents a very complex situation for all parties involved, which also requires detailed research. Based on the presented facts, it can be concluded that the analyzed data partially supported the initially presented arguments.

Also, after the presented data, in the discussion chapter, it is necessary to refer to the theoretical framework from the beginning of the thesis. The pre-war situation showed that Russia's trade ties with European countries were strong, with most export infrastructure directed towards the West. Nevertheless, despite the important market for its export resources, Putin's Russia decided to start a war in a neighboring country, regardless of the possible consequences. Such actions of Russia, where security concerns are prioritized despite the potential economic consequences, are closest to the theoretical perspective offered by realists.

However, the links with existing theories diminish when it comes to the impact of the war in Ukraine in 2022 on trade relations. This is particularly evident in the observed Russian exports via the NSR to Western countries that militarily and politically support Ukraine. The observed changes in the monitored periods follow the historical examples mentioned by Barbieri and Levy (1999), which proved the continued presence or even an increase in trade due to the war. Therefore, as Barbieri and Levy point out, it can be concluded that the existing theories are not sufficient in explaining the observed situation.

The analyzed data on Russian exports through the NSR before and after the start of the war in Ukraine in 2022 require a different theoretical approach. The mentioned theories, more precisely the realist theorists, explain Russia's initiation of the war despite the possible loss of the European market, which is important for exporting Arctic resources. Also, the data showed that due to the war, Russian LNG exports through the NSR increased, which does not support either the liberal or the realist explanation of the decline in trade due to the war. On the other hand, the shift of crude oil exports towards Asian markets enabled a total increase in exported volumes through the NSR. Such observations must be placed in the context of imposed sanctions and third countries participating in trade. Such a focus is missing in the aforementioned theoretical approaches, which mainly observe the relationship between conflict and trade in the context of the possibility of conflict outbreaks.

The reorientation of Arctic crude oil tankers towards China and India points to the opportunities offered to Russia despite EU sanctions. The data that presented a more significant movement of ships toward Chinese ports support the realist theory about the obstruction of sanctions. In this case, realists see China as a third country that can also be a rival of the EU, which is the initiator of sanctions. However, the situation with Russian exports via the NSR is much more complex. The presented data do not exclude increased Russian exports to other Asian countries, which do not have to be rivals of the EU but partners.

In addition, the increase in LNG deliveries from Sabetta to European terminals after February 2022 excludes the realist explanation of third countries as rivals threatening the imposed sanctions. In this case, the analysis showed that the EU countries increased the import of Russian LNG. Therefore, the presented data supports the liberal theory that indicates the desire of Western companies for profit despite persistent sanctions. However, as explained in the analysis, the continuation of European imports of Russian LNG is a complex situation that requires separate research.

By comparing Russian exports through the NSR in two selected periods, the conclusion is that the observed situation is specific and does not entirely fit into any existing theoretical explanation. The analyzed data supports the mentioned theories in certain segments, while the data on another type of exported cargo claim the opposite. In this direction, it is necessary to offer new perspectives that will replace existing weaknesses in explaining the Russian export of Arctic resources due to wartime circumstances. Accordingly, new explanations of the relationship between conflict and trade, in general, are needed, and further research on this topic is necessary.

6. Conclusion

The lack of more detailed data on the movements of Russian ships after May 2022 creates certain limits when concluding. However, the analysis of available data indicates interesting trends in Russian exports through the NSR after the start of the war in Ukraine in 2022. Key observations based on the data presented are related to a significant increase in LNG exports and an almost complete shift in Arctic crude oil exports to Asia.

Also, deliveries of other cargo continued in pre-war quantities. The result of the above is a total increase in Russian exports through the NSR after the invasion of Ukraine. The EU countries are in a very complex situation where certain measures towards Russia are carefully weighed in order to avoid negative effects for themselves. In this context, the data on the export of Russian LNG through the NSR are particularly interesting. Increased volumes of LNG exports from the Yamal Peninsula result from more deliveries to European terminals after February 2022. Clearly, European countries are replacing important deliveries of Russian energy products that arrived via pipelines before the war. The fact that the EU has not decided to ban the import of Russian LNG also enables the continuation of exports to Russia.

An equally important observation is related to the movement of Arctic crude oil. In the period after the war, tankers continued to go to Asia instead of European ports in unchanged quantities. The increased import of crude oil by China and India is of great importance to Russia. In this way, the possibility of effectively replacing the European market opens up for Russia.

In the context of international trade, the war in Ukraine gave additional significance to the NSR as an important export route for Russia. The increased export activities shown by the

analyzed data suggest the continuation of Russian Arctic projects despite economic pressures. Available markets in Asia make it easier for Russia to replace existing European customers. However, the data presented, except for crude oil exports, do not indicate the termination of deliveries to European ports in the coming period. Accordingly, despite sanctions and wartime circumstances, there is no sign of a decrease in export activities through the NSR.

Ultimately, the analyzed data, to a certain extent, supported the arguments that guide this thesis. On the other hand, the research led to specific observations that could not have been predicted before the analysis, concerning increased imports from EU countries. Certain specificities that can be observed by monitoring Russian exports through the NSR would not be possible to detect in a broader analysis of the relationship between the war in Ukraine and Russian exports globally. In this respect, this research can serve in future analyses of warring parties' exports to third countries and the relationship between conflict and trade in general.

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