



Sanctions and the Russian Federation's Economy: A Systematic Literature Review and Analysis of Global Energy Sector

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ABSTRACT

The current paper examines how sanctions implemented by a number of countries, particularly the United States (US), the European Union (EU), and the United Kingdom (UK), have affected the Russian Federation's economic and global energy sectors. The Russian Federation's special military operation against Ukraine has been effective in sharply raising the price of food, natural gas, and oil as well as continuously raising inflation rates throughout the world. The study was inspired by this circumstance. Political risks are anticipated to lead to increased global economic instability, unpredictable stock price increases, supply chain disruptions, high costs, and a decline in investment. The current effects on the global economy would unavoidably worsen if the Russian Federation responds by prohibiting the export of vital global commodities such as oil, natural gas, wheat, and minerals (including neon, titanium, palladium, and ammonium nitrate). In this context, the study will attempt to highlight the importance of oil, natural gas, and other significant minerals for both Russian Federation and the global economy, as well as the effects of sanctions within the global energy sector. To this aim, the paper, a comprehensive literature review was applied using the available economic and energy data. The findings reveal how the sanctions have affected the Russian Federation economy and the global energy sector.

Keywords: Sanctions, Economic Impact, Global Energy Sector, Oil, Natural Gas.

JEL Classification Codes: O13, P28, F51

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INTRODUCTION

In the past, military conflicts have had a considerable negative influence on the regional and global economies, causing everything from financial ruin to the loss of resources, livelihoods, and economic, commercial, and labor capability (Khudaykulova et al. 2022). Additionally, the effects of military operations are felt by all parties involved, as well as by the countries with which they trade and the nations that are neighboring (Plakandaras et al. 2019). Numerous authors have investigated how military actions affect commodity pricing and long-term performance, and they have highlighted how crucial they are to the creation of financial and macroeconomic fluctuations. Numerous authors have explored how military operations affect commodity pricing and long-term performance, emphasizing how important they are in creating financial and macroeconomic cycles (Yui, 2023; Orhan 2022; Khudaykulova et al. 2022; Ozili 2022; Mbah and Wasum, 2022). Most recently, these economic

effects were seen after Russia's military operation against Ukraine in February 2022. The USA, Europe and many other countries have gradually started to impose economic sanctions on the Russian Federation.

Fundamentally, the beginning of the Russian Federation's a special military operation on Ukraine is a blow not just to the European economy, but also to the global economy (Trofimovich, 2022). The conflict between the Russian Federation and Ukraine, which continue to be the major producers of agricultural raw materials, was quickly mirrored by price patterns on the global market (cereals, oilseeds, and other agricultural products). Furthermore, sanctions imposed on Russian Federation by a number of countries, comprising the US, the EU, and the UK, have had a considerable influence on the Russian Federation economy and global energy sector (Shapran and Britchenko, 2022).

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The importance of oil and gas resources in Russian Federation's energy policy is based on various factors. Most notably, the Russian Federation's oil and natural gas resources link the country to the worldwide community, as well as the regional (EU) and global markets (Ishakova et al. 2016). During the sanctions regime, Russian Federation's international energy connectivity has grown increasingly essential, demonstrating that sanctions not only harm key sectors in the country, but also influence the country's worldwide status (Sassi, 2022). As key valuable raw commodities, oil and gas are not only the foundation of Russian Federation's economy, but also strategic and political tools that interact with the country's domestic and foreign policies (Rezaeinejad, 2022).

In addition, the Russian Federation's special military operation against Ukraine, which took place in the heart of Europe, had a huge impact on the economy and the environment, particularly at a time when numerous countries' economic, social, political, and environmental issues were the subject of more in-depth discussion (Isik et al. 2022). Due to the importance of energy resource distribution for both economic and environmental sustainability, issues including global warming, climate change, and environmental pollution have gained attention since the Paris Agreement was signed in 2018 (Isik et al. 2021). It appears inevitable that this military operation will interfere with the sustainability objectives (such as the carbon emission target) of many nations, including the Russian Federation. Additionally, one of the main goals of the sanctions put on the Russian Federation is to weaken its financial and economic system (Yui, 2023). Thus, it is anticipated that the sanctions will have an impact on the country's environmental and energy targets.

Apart from correctly analyzing how the sanctions affect Russian Federation's energy industry, economic-environment interpretation and analysis of the sanctions' economic repercussions for Russian Federation are crucial. Because Russian Federation is the EU's top energy importer, and energy export profits make up a significant amount of the Russian Federation's revenue. The fact that Russian Federation's economic situation, which has become the world's most sanctioned country as a result of sanctions imposed when the Ukrainian- Russian Federation conflict late in February 2022, and its effects on the energy industry have yet to be investigated, necessitates this paper. In other words, the military operation Russia has taken against Ukraine has had an impact on the energy market, which has damaged both the Russian and global energy markets. This study's

uniqueness lies in the way it reviews these impacts collectively.

The contribution of the paper to previous literature is as following. Firstly, to the best of our knowledge, this is the first attempt to examine the oil and gas sector in the aftermath of Russian Federation sanctions imposed in response to the crisis between Ukraine and Russia. Second, the current study examines the Russian Federation's sanctions-related position in the global energy sector, using more recent and up-to-date data than earlier studies in the literature. Finally, it is expected that the findings of the study will be useful to policymakers around the world, demonstrating the effects of Russian Federation sanctions.

This paper is organized as follows. Following the background section, some information on the economic position and energy resources is presented. The sanctions are then summarized, along with the reactions that occur as a result of the implementations. The current study finishes with a description of the situation of Russian Federation's energy industry following the sanctions, findings concentrating on policy aspects countering the sanctions, and lessons learned.

BACKGROUND-LITERATURE REVIEW

While countries throughout the world strive to recover from the economic repercussions of the COVID-19 epidemic, Russian Federation's special military operation in Ukraine has exacerbated the problem, as global energy prices have risen, and supply chain congestion, particularly in agriculture, has worsened the economic situation due to both Russian Federation and Ukraine are the world's largest wheat suppliers (Mbah and Wasum, 2022).

Looking at the literature, some studies focus on the sanctions imposed on Russian Federation (Belomoin, 2022; Zenchenko et al. 2022; Miah and Sheppard, 2022; Deuber, 2022), while others focus on the global implications of the Russian Federation-Ukrainian conflict (Ozili, 2022; Grzegorzczuk et al. 2022; Huang and Lu, 2022). For instance, Oxenstierna and Olsson (2015) qualitatively evaluate the effects of the economic sanctions imposed on the Russian Federation by the EU and the USA in 2014 and other activities in eastern Ukraine. Shapran and Britchenko (2022) examine the Russian Federation's Central Bank's strategy in reaction to sanctions imposed by the US, the EU, the UK, Switzerland, Japan, South Korea, and a number of other nations.



Figure 1: Russian Federation GDP Annual Growth Rate (%)

Source: Trading Economics, (2022)

In many of the studies on the sanctions imposed on Russian Federation by many countries, Berner et al. (2022), Huang and Lu (2022), and Deng et al. (2022), the effects of sanctions on world financial markets are examined. Ferrara et al. (2022) use a high-frequency technique to link the financial stress index of sanctions to euro area macroeconomic concerns. Brunnermeier et al. (2022) explore the impact of sanctions on Russian Federation's Central Bank on the international monetary system's design. According to Spencer (2023), the EU's severe sanctions towards the Russian Federation are molded by ongoing political processes. The political response to the Russian military operations, the legal restrictions on the application of sanctions, the conflicting interests of the member states, and a recent desire to curtail EU Restraint Norms all play a role in these processes. Recently, Maltsev (2023) examines the first significant consequences of the Western sanctions for the global and Russian economy. The study indicates that the West's sanctions strategy has had a considerable, varied, and frequently detrimental impact on the global economic system. According to the argument, the Russian Federation's internal economy and the protection and reproduction of its human capital will now be responsible for long-term economic growth under the current conditions of relative external isolation.

The background information about the Russian Federation's economic state and its energy resources is provided in this study's study after it discloses what the literature says about the sanctions imposed on it. To our knowledge, no review research has been done on the consequences of the economic and energy impacts on the Russian Federation while economic and energy studies have been done separately on the worldwide effects of the Russian-Ukrainian military action.

Economic Situation of the Russian Federation – Oil and Natural Gas Data

The biggest impact of the economic sanctions on Russian Federation is related to its international trade because more than 80% of Russian Federation's daily foreign exchange transactions and half of its trade are in US dollars (Liadze et al. 2022). The US, the EU, the UK, Australia, Canada and Japan have targeted banks and wealthy individuals (Ozili, 2022), while Germany has put an end to a major Russian Federation gas pipeline project (Kirkham, 2022). Furthermore, the Russian Federation central bank's foreign reserves have been blocked, and its banks' access to the international payment system SWIFT has been restricted; only energy transactions and gas bill payments are still permitted (Astrov et al. 2022). The EU also restricts access to European capital markets, preventing funds held by EU banks from being accessed (Komarnicka and Komarnicki, 2022).

Russian Federation will not be able to benefit from the growth benefits in foreign commerce caused by the substantial depreciation of the ruble in the near future due to its economic isolation (J curve effect¹) (Keerati, (2022). Russian Federation, on the other hand, does not face a GDP collapse because it possesses energy resources, consolidated economic institutions that have long been oriented toward self-sufficiency in some areas, and a functioning economic and financial bureaucracy. Furthermore, certain export activities, particularly by land and water, persist. However, although the Russian Federation economy's potential growth was projected at 1.5% before the Ukraine special military operation,

¹ The J-curve effect is frequently used to explain why a country's trade balance initially deteriorates after currency depreciation, then swiftly rebounds and eventually surpasses its former performance.

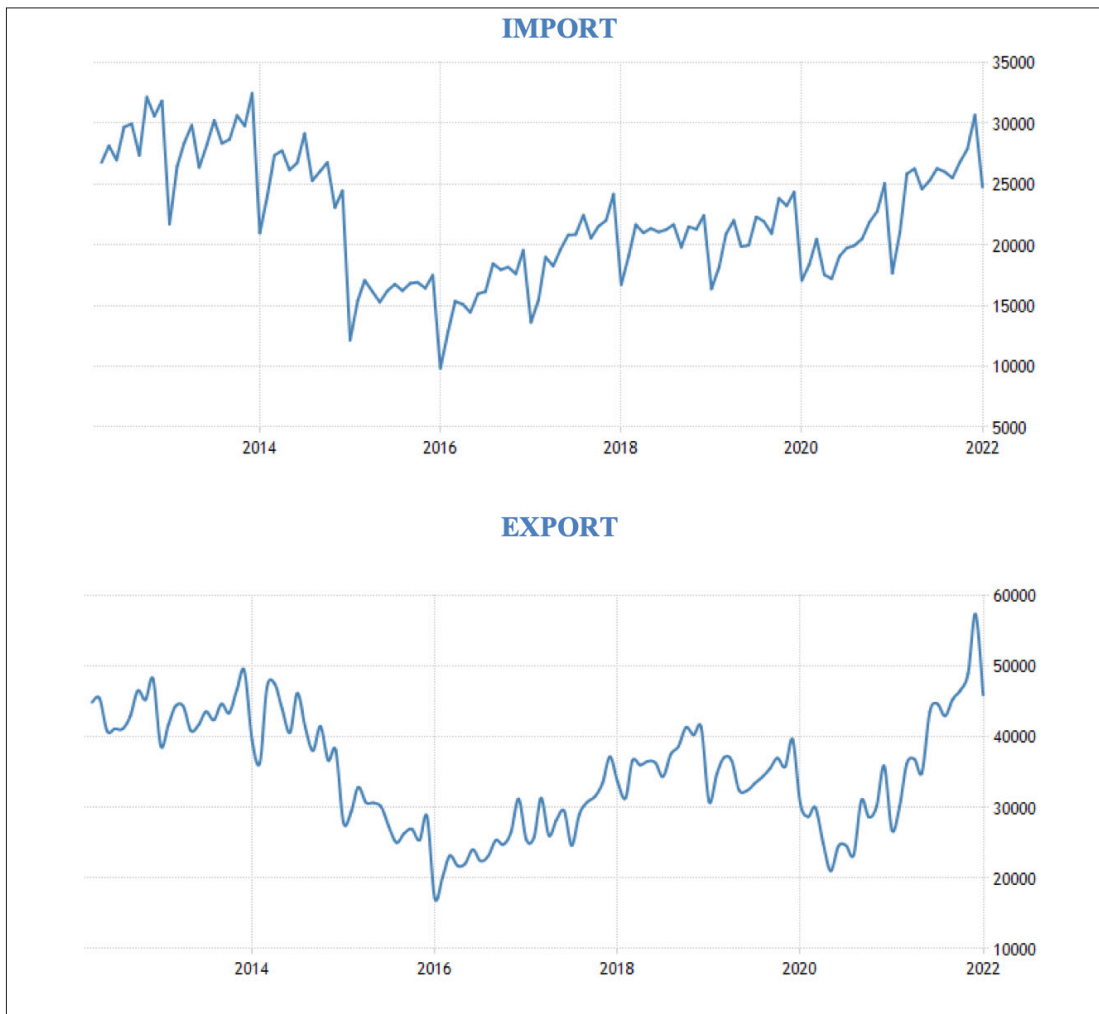


Figure 2: Russian Federation’s Import and Export (%)
Source: Central Bank of Russian Federation, (2022).

it is now expected to dip below 1% (Deuber, 2022). Furthermore, in the Russian Federation economy based on raw materials, fossil fuels and raw material production account for 28-30% of GDP, two-thirds of industrial production, up to 40% of the federal budget, 25% of the consolidated budget, and 75% of export revenues. If the “traditional” pattern of economic growth persists, Russian Federation’s ability to supply fuel and basic materials to its trading partners and the home market in the next decades will be critical (Bashmakov, 2022). Thus, Russian Federation’s economic development is depicted in Figure 1 below.

As seen in Figure 1, the serious decline in GDP in 2020 increased in 2021. The Russian Federation’s GDP accounts for 1.31% of the global economy, according to World Bank. The Russian Federation’s GDP is anticipated to rise by 4.7% in 2021, after declining by 2.7% in 2020. It is extremely difficult to forecast how the Russian Federation economy would fare following the conflict with Ukraine. The sanctions imposed on Russian Federation, on the

other hand, will plunge the Russian Federation economy into a devastating recession. The Russian Federation’s GDP is expected to plummet 9.6% in 2022, according to Bloomberg, with the greatest quarterly GDP decline hitting –15.7% of annual growth rate. The Russian Federation’s government bodies, on the other hand, predict a 6-8% fall (Pestova et al. 2022).

Furthermore, after the sanctions it is not possible to clearly assess how severely Russian Federation imports will collapse in the coming months or how long and how long exports may continue, making it difficult to explain how high the positive external contribution to Russian Federation’s growth is. In 2022, imports are likely to fall by 40-50% and exports by at least 10-15% (Deuber, 2022). The import and export of Russian Federation is as in Figure 2 below.

As seen in Figure 2, Imports fell in the first quarter of 2022. Prior to the Ukraine operation and Western sanctions, Russian Federation’s imports increased by 40.1% in January 2022, reaching USD 24.75 billion, the

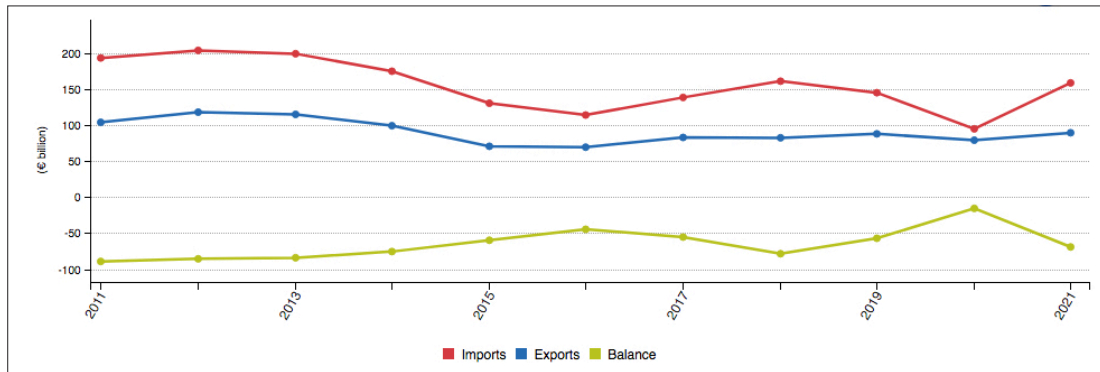


Figure 3: The Import and Export between the EU and Russian Federation (2011-2021)

Source: Eurostat, (2022)

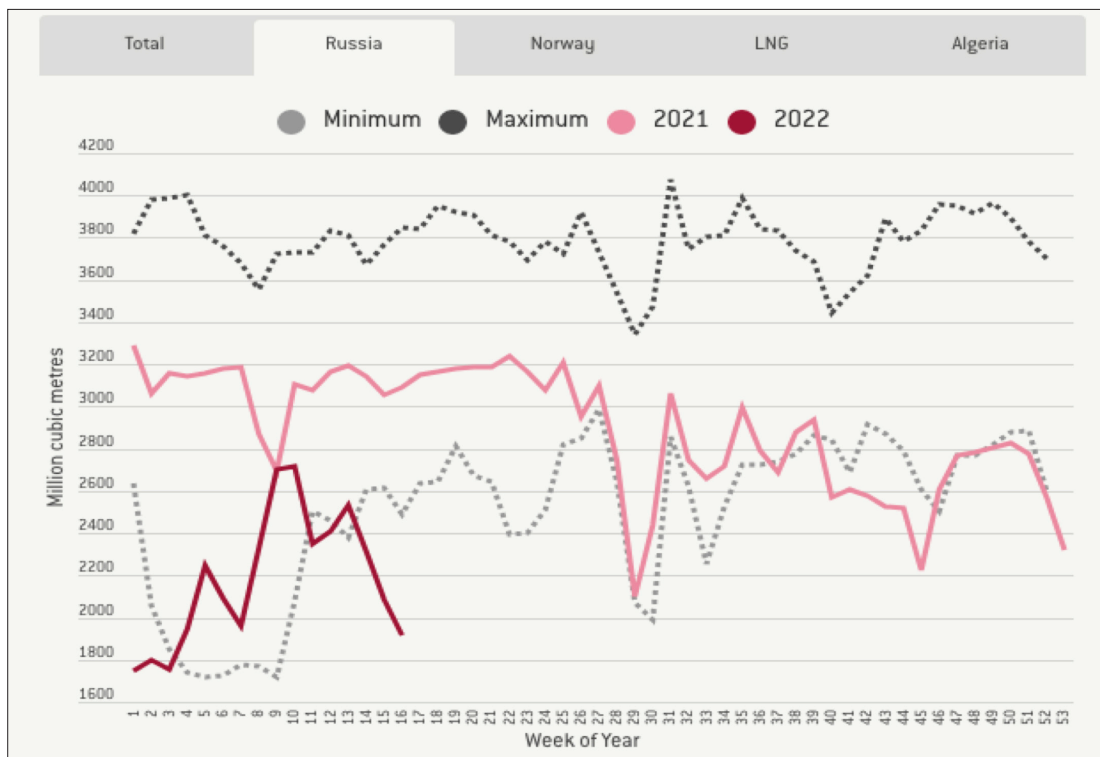


Figure 4: EU Natural Gas Imports

Source: Bruegel, (2022)

lowest figure in six months. Many worldwide brands and significant companies, from technology to automotive and energy, have halted operations in Russian Federation as a result of the special military operation carried out on February 24. Some businesses have ceased operations and deliveries, while others have cancelled their investments in Russian Federation or pulled out of joint ventures. Similarly, before the Ukraine operation and Western sanctions, Russian Federation's exports surged by 72% year over year, reaching 45.93 billion dollars in January 2022. However, Russian Federation put an export restriction on more than 200 products, including telecommunications, medical, automobile, agricultural, and electrical equipment, in response to Western sanctions in March (Central Bank of Russia, 2022). The

import and export figures between the EU and Russian Federation are presented in Figure 3 below.

As seen in Figure 3, Russian Federation's exports with the EU remained stable, while imports increased after 2020. The expectation of a 40% decrease in Russian Federation's exports after the Russian Federation special military operation to Ukraine will also affect its imports. In fact, Russian Federation was the fifth largest exporter of products to the EU (4.1%) and the third largest importer of goods to the EU in 2021. (7.5%). Germany was the EU's leading importer of products from Russian Federation and exporter of goods to Russian Federation in 2021 (Eurostat, 2022). According to the latest data, EU's gas exports from Russia are given in Figure 4 below.

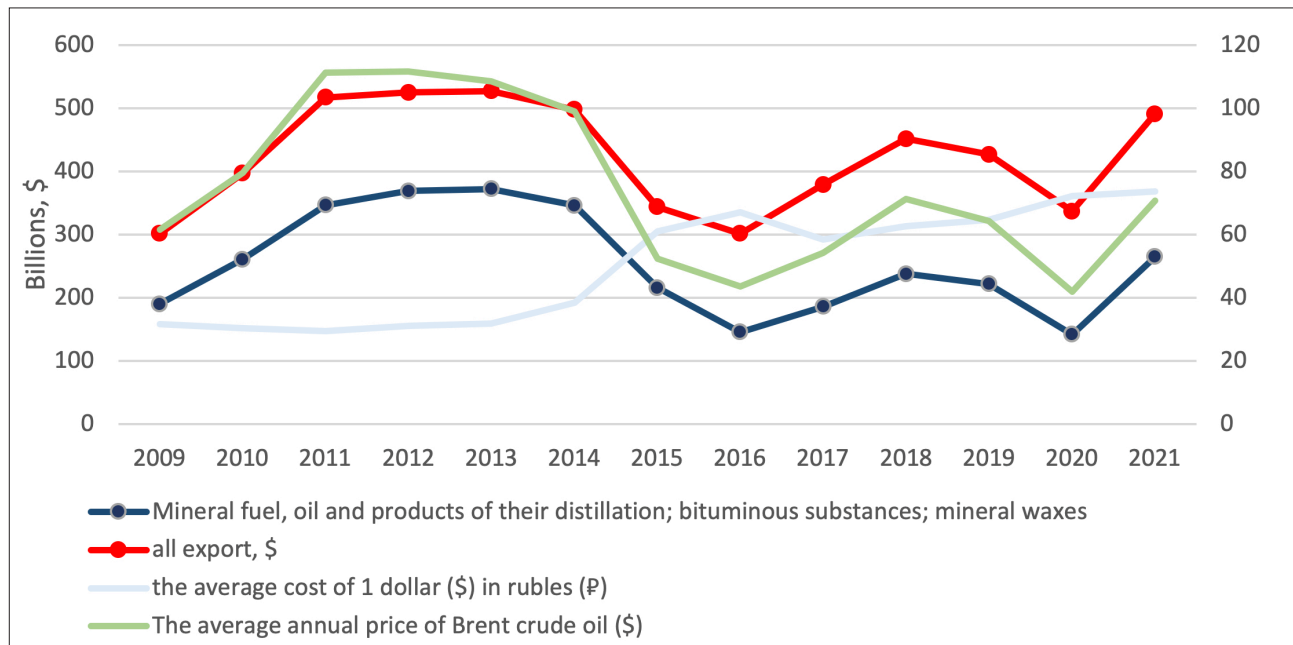


Figure 5: Correlations of Changes in All Exports and its Separate Category of “Mineral Products” in Conjunction with Changes in the Ruble Exchange Rate and Cost of Brent’s Barrel (2009-2021)

Source: Federal Customs Service of the Russian Federation, Statista, Central bank of the Russian Federation (2022)

Figure 4 compares weekly extra-EU natural gas imports in 2021 to weekly minimum and maximum import levels from 2015 to 2020. There is a serious decrease in the EU’s gas purchases from the Russian Federation as of March 2022. Many EU member countries have stated that they will gradually reduce their gas and oil purchases from Russia. In fact, some countries have even stated that they will reduce their contributions. These statements, we believe, are far from accurate. It is conceivable to progressively reduce EU oil and gas use, but it is not possible to do so abruptly.

Energy Resources – Data

The cause-and-effect link between energy and income has been extensively researched in the literature on energy economics. In pioneering studies, Granger (1969) and Kraft and Kraft, (1978) found unidirectional causality running from GDP to energy consumption. It has also been confirmed in later studies that there is a causal relationship between energy and economy (Isik et al. 2021; AlKhars et al. 2020; Tang et al. 2016; Isik, 2010). Therefore, the energy data for Russia is assessed in this part from an economic perspective.

The Russian Federation’s economy is heavily reliant on the sale of its mineral resources, such as oil and gas. However, because of the existing circumstances, it may be an issue for future development as the primary consumers may refuse or cut their demand and switch to another supplier according to the theory of strategic

management (Porter, 2008). In Figure 5 below, exports in the field of energy are shown by category.

As seen in Figure 5, the all exports are more dependent on changes in energy prices and the volume of their sales, which is confirmed by the high correlation of graphs. The inverse proportion is observed between the oil price and the ruble exchange rate, which was described in a study by Movchan&Kiryu (2017) on what makes up the value of the ruble exchange rate. For example, before the start of the military special operation, the retention of the ruble exchange rate with high volatility of oil prices was carried out through the sale of gold and foreign exchange reserves of the Central Bank of Russia, however, after their freezing, this instrument ceased to be relevant and possible to use, which was reflected in the short term on the ruble exchange rate and its nominal growth to 120 rubles per 1 dollar (Banki.ru, 2022). The Central Bank of Russia has made attempts to curb the nominal growth of the ruble exchange rate against the dollar and euro: introduced a rule for the sale of 80% of foreign exchange earnings by exporting companies within 3 days after the payment was made by importers, limited the export of foreign currency (dollar and euro) to 10 thousand, and other tools were used to stabilize the situation on the foreign exchange market (CBR, 2022). While it is difficult to assess the effectiveness of these solutions, however, the current value of the dollar and the euro ranges from 70-80 rubles. Despite this, the White House calls the ruble exchange rate “artificial” (Bedingfield, 2022), due to the

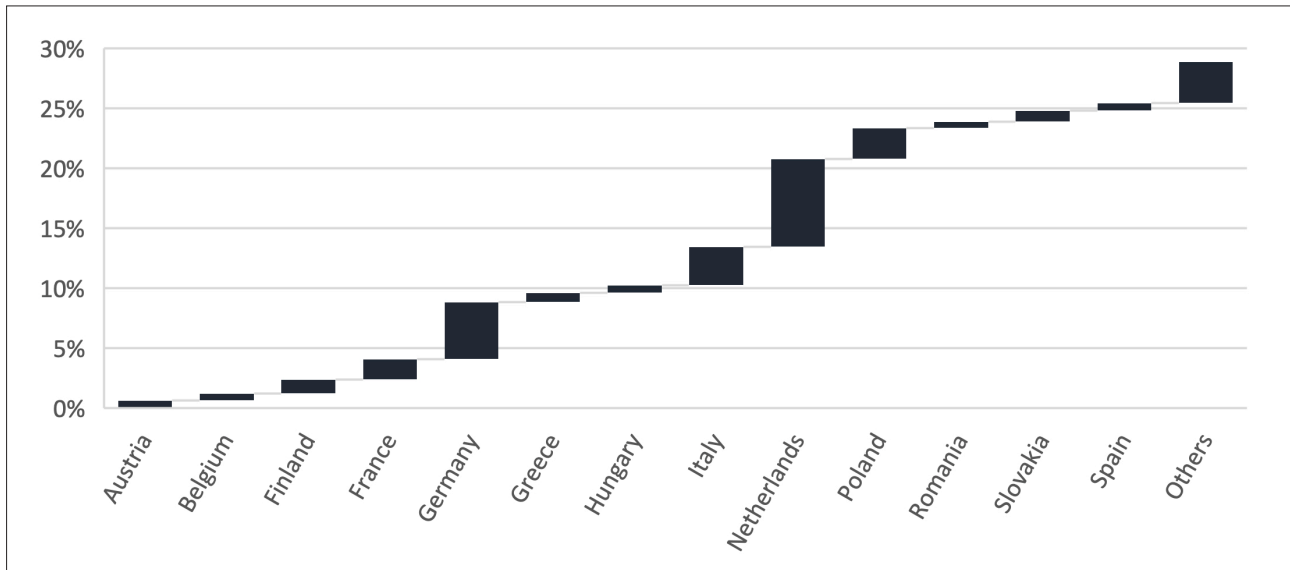


Figure 6: The Shares of Imported Oil and Gas from Russian Federation Accounted for by the Countries of the EU (2021)

Source: Federal Customs Service of the Russian Federation, (2022)

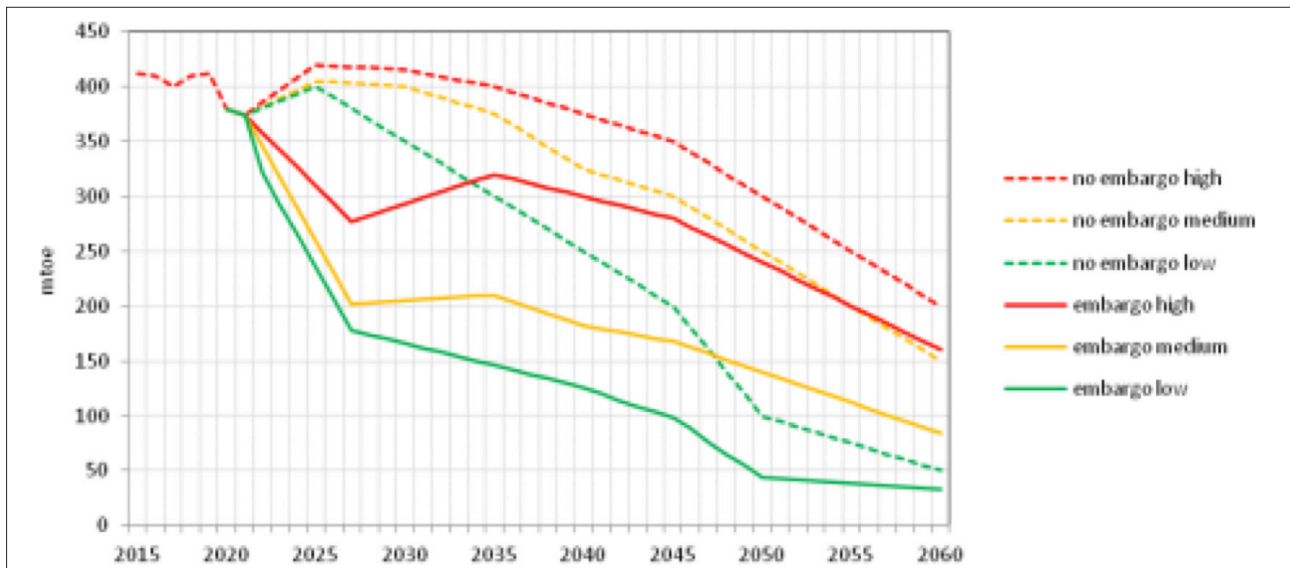


Figure 7: Exports of Russian Federation Oil and Petroleum Products Adjusted for the Impacts of the Embargo

Source: CENEF-XXI, (2022).

unavailability of foreign exchange transactions on the exchange by foreigners, the suspension and termination of contracts with many foreign companies that made payments in foreign currency.

Despite a long list of sanctions, the category of energy exports was the least affected. European policymakers are still debating the possibility of a short-term restriction on oil and gas supplies. This could cause serious economic consequences for both parties. For instance, "The German economy will collapse if we entirely stop oil and gas imports from Russian Federation," claimed analyst Dr. Stelter (Stelter, 2022). The EU is one of Russian Federation's most important customers. In 2021, mineral resources such as oil and gas will make for 56% of Russian

Federation's overall exports, but just 29% of that 56% will be to Europe (Federal Customs Service of the Russian Federation, 2022). Figure 6 illustrates Russian Federation's gas and oil exports to European countries.

As seen in Figure 6, Germany, Italy, the Netherlands, and Poland are the biggest users of oil and gas. Despite the fact that the Polish authorities talked about a sharp decline in oil and gas imports from Russia (Scislowska and Jordans, 2022), they have become leaders in the purchase of energy resources (Interfax, 2022). For years, economists have cautioned both Western countries and Russian Federation about their high reliance and the need to diversify supplies to mitigate the risks of EU sanctions and Russian Federation oil and gas supply

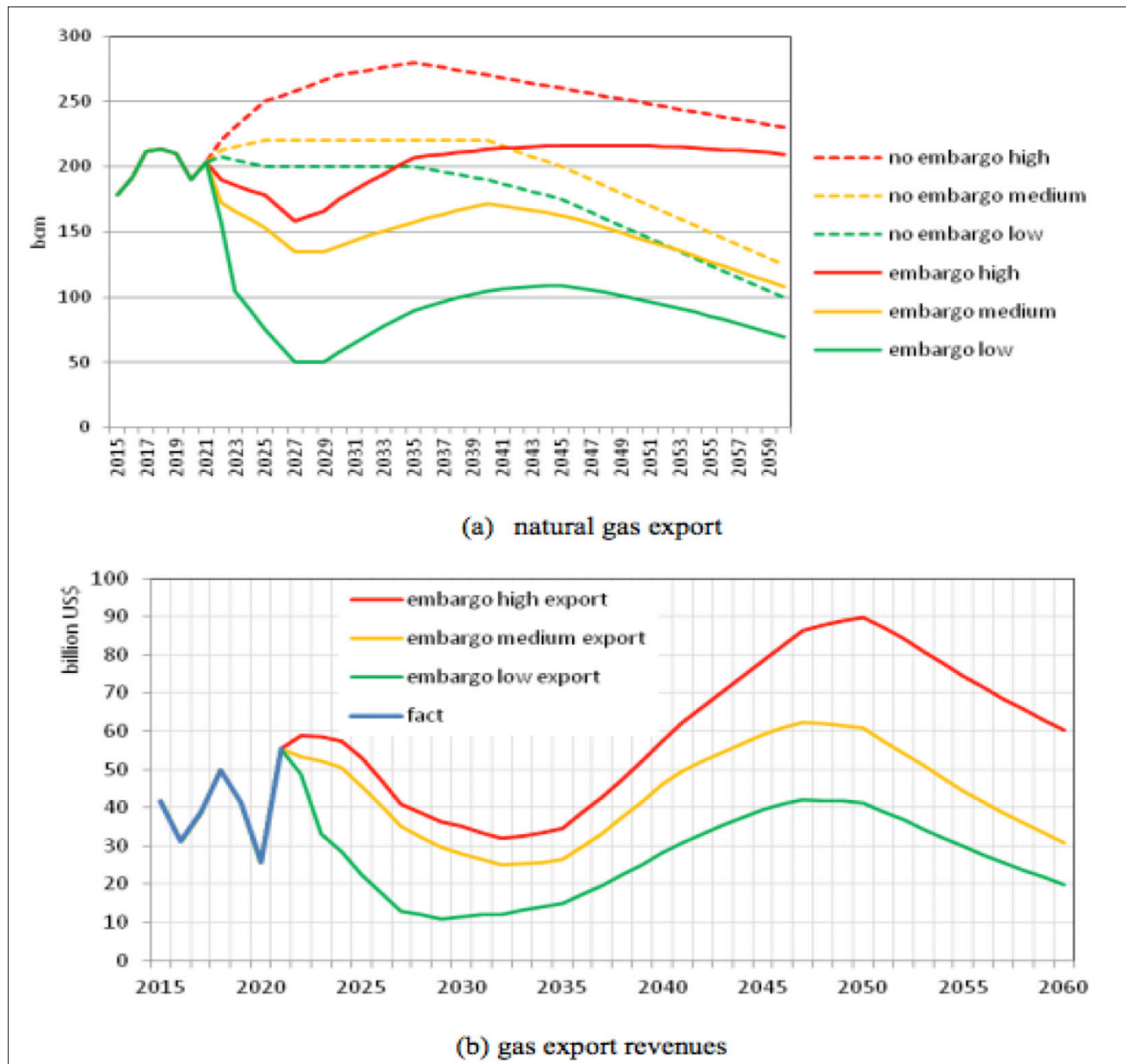


Figure 8: Export Revenues and Russian Federation Pipeline Gas Exports with Embargo Impacts
Source: CENEF-XXI, (2022).

manipulation. Other large clients, however, may be able to raise their oil and gas purchases. However, because of the potential of sanctions, many governments strive to avoid cooperating (Interfax, 2022).

If the sanctions are imposed, the entire market loss of Russian Federation oil is expected to be 200-230 mtoe by 2027, or 52-60 percent of 2021 exports (383 mtoe), or 38-44 percent of Russian Federation’s total production (524 mtoe). However, in the rising phase of the cyclical energy price evolution, if around 1 mbd in 2022 and 4-5 mbd by 2027 are removed from the global market (which is around 100 mbd), oil prices could reach US\$100/b. or higher, but the average annual price could increase 50-80% from \$67/barrel in 2021 to \$100-120/etc in 2022. In this instance, despite the embargo in 2022 and the

following years, Russian Federation’s oil income may raise over 2021 levels. The embargo’s impacts may only become painful for Russian Federation if oil prices fall dramatically and supply declines near 2027 (Bashmakov, 2022). Considering Russian Federation’s oil and petroleum products exports, export prices and embargo effects, export revenues are expected to be as in Figure 7 below.

As seen in Figure 7, Russian Federation oil exports may recover considerably in the medium term following the considerable fall in 2022-2027, but in the longer run, they will “probably” decline faster than projected before February 24.

As for natural gas, the EU has announced the REPowerEU strategy, which aims to achieve energy independence from

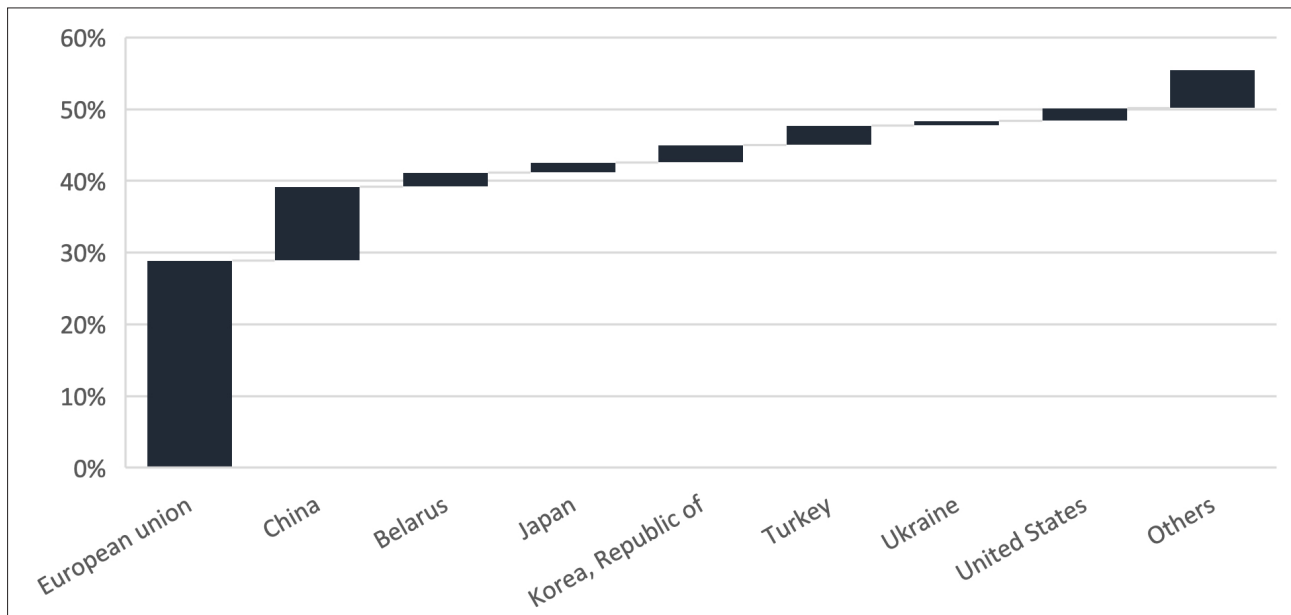


Figure 9: The Shares of Imported Oil and Gas from Russian Federation Accounted for by the All Countries (2021)

Source: Federal Customs Service of the Russian Federation, (2022)

Russian Federation, notably gas. It seeks to cut Russian Federation gas demand by two-thirds by the end of the year and completely restructure the energy system by 2030 (Kotian et al. 2022). At the beginning of March 2022, the IEA published a “10-Point Plan to Reduce the European Union’s Dependence on Russian Federation Natural Gas”, and the declines in natural gas demand from Russian Federation were evaluated in 10 plans. These plans include not attempting to enter into a new gas supply agreement with the Russian Federation, using gas from alternative sources, reducing Russia’s gas storage responsibilities, maximizing production with low-emission resources by speeding up renewable energy projects, and improving energy efficiency in buildings and industry (IEA, 2022). This plan aims to reduce gas imports from the Russian Federation by 40 billion cubic meters by 2030, and this plan could potentially bring 30 billion cubic meters of gas from sources outside the Russian Federation. It is also aimed to reduce Russian gas use by 6 billion cubic meters with the use of renewable energy. Furthermore, the EU would need 13 billion cubic meters less gas for electrical generation if it used nuclear and biofuels instead of Russian gas. In addition, 2 billion cubic meters can decrease gas consumption in a single year by assuring energy efficiency in houses and industry (IEA, 2022).

Overall, these items might lower EU demand by 3-40 billion cubic meters in the immediate term, and by 60-75 billion cubic meters by 2030. It will be difficult to totally eliminate the EU’s reliance on Russian Federation gas imports by 2027. Figure 8 depicts possible embargo implications on Russian Federation’s gas shipments.

According to Figure 8, if the EU manages to cut Russian Federation gas imports by 100 billion cubic meters in 2022 and 150 billion cubic meters in 2027, Russian Federation’s total pipeline gas exports might decline to 50 billion cubic meters by 2027. The Russian Federation, on the other hand, may take up on this as it expands into new markets free of sanctions. In addition, market pressure will develop to maintain gas prices high as demand for alternative supplies (to replace Russian Federation gas) grows. Despite a steep drop in export volumes, Russian Federation’s gas export revenues in 2022 could exceed those in 2021. By 2025-2035, Russian Federation is predicted to have income from gas exports that are nominally comparable to or below those of 2020, but that are substantially lower when import price growth is included in. As a result, measures to lessen Russian Federation’s reliance on gas will only have a visible impact on Russian Federation’s export revenue after 2025. Finally, Figure 9 depicts the distribution of countries that buy Russian Federation oil and gas.

China is one of the top consumers of Russian Federation oil and gas, as seen in Figure 9, and continues to boost mineral product imports despite sanctions. Furthermore, the subject of lowering CO₂ emissions into the atmosphere is still on the table. There was no mention of any plans to push back the timeframes for reaching carbon neutrality. Plans may, however, change, and deadlines will almost certainly be extended. All of these could impact the decision to speed up the search and switch to different suppliers, or to look for other options (Interfax, 2022).

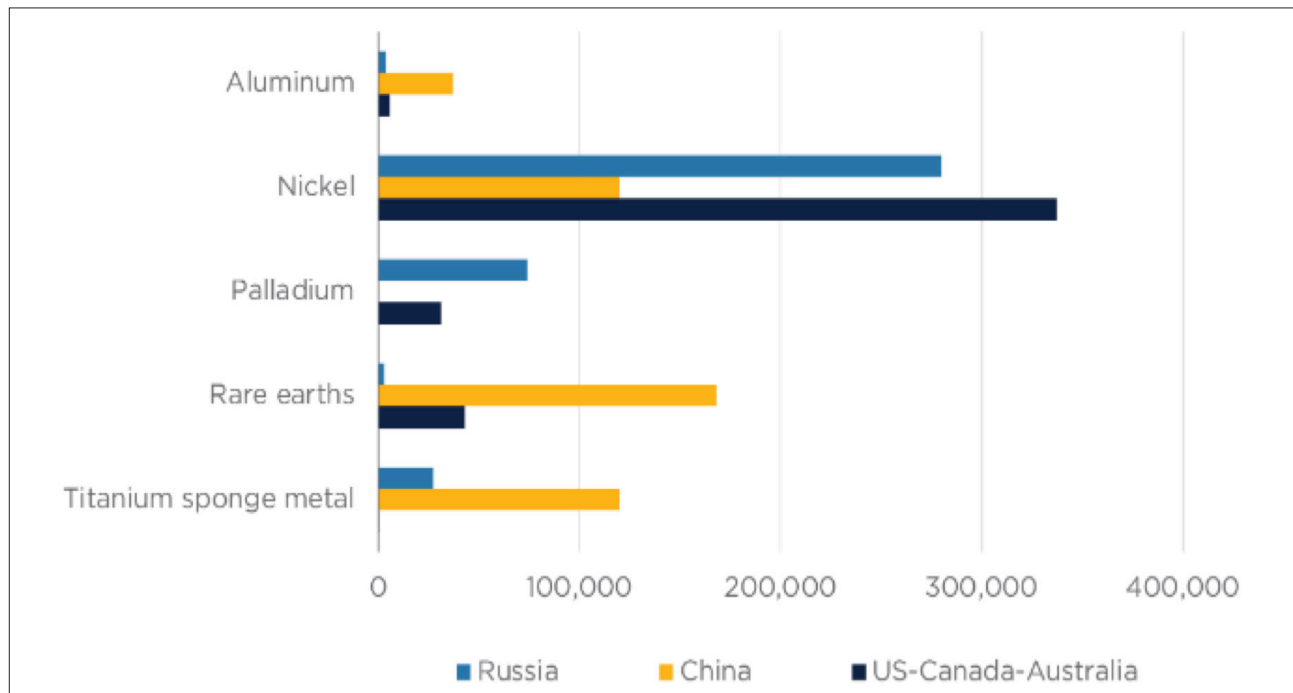


Figure 10: The Annual Output of Essential Minerals in 2021 (1,000 Tons)

Source: Natural Resources Canada and US Geological Survey

In addition, following Russian Federation’s special military operation in Ukraine, the US and EU governments are focusing sanctions on critical minerals such as aluminum, nickel, palladium, scandium, and titanium rather than Russian Federation’s main oil, gas, and coal energy resources (Johnston, 2022). However, bottlenecks and risks in the supply chain of crucial minerals, which are a raw material for a variety of major industries ranging from renewable energy to batteries, all of which play a role in the clean energy transition, come to the fore. Minerals are not only important, but they are also predicted to have rapid demand increase, thanks to their involvement in the energy revolution. For instance, according to the IEA’s Sustainable Development scenario, nickel demand for use in batteries for electric vehicles and backup energy storage for variable renewable electricity will rise from 196,000 tons in 2020 to 3,804,000 tons in 2040. Russian Federation will be the world’s third-largest nickel producer in 2021, accounting for 10% of global supply (IEA World Energy Outlook Special Report, 2022). The annual output of essential minerals in 2021 is depicted in Figure 10.

As seen in Figure 10, Russian Federation also plays a significant role in key minerals. The EU is Russian Federation’s biggest market, and with these sanctions, the EU may pick China or the US-Canada-Australia for mineral imports as an alternative to Russian Federation. While Russian Federation is expected to find new markets in the net-zero carbon energy transition, the EU will be in a difficult position.

SANCTIONS IMPLEMENTATION AND REACTIONS – CASE OF OIL AND NATURAL GAS SECTOR

Sanctions against Russian Federation’s oil and gas exports will be imposed if the West continues to implement sanctions. Energy costs will raise much further as a result of the sanctions imposed on Russian Federation oil and natural gas. Following Russian Federation special military operation to Ukraine, Brent oil prices rose beyond \$100 per barrel, reaching their highest level since 2014 (Liadze et al. 2022). By the end of 2022, some countries (the US, the UK, and Australia) have indicated that they will restrict Russian Federation oil, liquefied natural gas, and coal imports. The EU has urged that by 2027, Russian Federation’s reliance on fossil fuels be phased out. According to the US Department of Energy, Russian Federation was responsible for 26% of OECD oil and oil imports in November 2021: 17% for OECD-America, 34% for OECD-Europe, 3% for Japan, and 9% for South Korea. Russian Federation oil has a foreign market share of more than 55%, which might be damaged by sanctions (Bashmakov, 2022). In other words, Russian Federation will lose 188-217 mtoe of the EU petroleum market by 2027 if the EU embargo timeline is adopted and fully enforced. The EU is responsible for the majority of this drop. The EU oil demand decrease is limited to 95 mtoe in the IEA’s published promises scenario. As a result, even if the EU as a whole is politically committed to implementing the entire demand reduction potential, and the predicted consumption fall is completely due to Russian Federation

oil supply restrictions, an additional amount (60-100 mtoe) will be necessary (Eurostat, 2022).

Essentially, the current sanctions being applied to the Russian Federation economy by other countries demonstrate its inefficiency, as the Russian Federation economy was able to survive the first round of sanctions (Bloomberg, 2022). As a result, the majority of countries are advocating for a Russian Federation oil and gas boycott as one of the most effective and quickest ways to “destroy” the Russian Federation economy (European Parliament, 2022). However, the majority of people are unaware of the terrible implications that would befall their country's economy.

As previously said, the EU, China, and other countries are the most reliant on oil and gas, with differing views on how consumption should alter. Regardless of their differing approaches to strengthening sanctions against Russian Federation, none of them will be able to give up gas and oil in the near future. Even in the EU, many MPs are opposed to imposing sanctions, which include a fast-track plan to phase out oil and gas production (ZEIT ONLINE, 2022). However, countries such as Canada and the US are adamantly opposed to oil and gas. They only accounted for a small portion of the Russian Federation's total exports. As a result, both for them and for Russian Federation, these were minor setbacks. The price of oil, on the other hand, has risen sharply and is likely to rise more as the search for a replacement supplier is likely to take a long period. For example, despite competitor “Shell” announcing an early exit from the Russian Federation market and abandoning their oil and gas reserves, the large corporation “BR” has decided to phase out mineral products from the country (RBK, 2022; Oil Needle, 2022).

Furthermore, Russian Federation's economy is already undergoing structural changes as a result of sanctions, as the governor of the central bank recently stated (Vedomosti, 2022). Because changing traditional sales markets and reorienting to trade with Asian countries is impossible in the short term, the European Union's imposition of a “embargo” on Russian Federation's economy might be disastrous. The European Union, on the other hand, faces the same challenge, as the quest for alternate energy sources has failed. Such a decision could result in mutual destruction, with the outcome depending on who is first to make concessions or whose economy would live longer (Stelter, 2022).

Many economists in Russian Federation and Europe believe that a comprehensive embargo on Russian Federation oil and gas for 1-2 years is unrealistic (Krutihin,

2022). However, everyone agrees that Europe will progressively lessen its reliance on Russian Federation gas and oil supplies. Despite the fact that Austria has already refused to purchase Russian Federation energy carriers, those who are most reliant on them remain opposed to such restrictions being implemented (RBK, 2022). Similarly, some studies in the literature look at the influence of sanctions on Russian Federation oil and gas production. According to Bachmann et al. (2022), a comprehensive embargo on Russian Federation oil and gas imports would cause the German economy to lose only 3% of its GDP. On the other hand, Chepeliev et al. (2022) suggest that prohibiting Russian Federation's fossil fuel exports would have disastrous consequences for the Russian Federation economy. Unlike these, Guriev and Itskhoki (2022) argue that, due to the record high prices of exported raw materials and capital controls in place, such an embargo cannot destabilize Russian Federation's balance of payments.

In other words, gas and oil sanctions are more likely to affect the EU rather than Russian Federation. Because, with record-high exports, Russian Federation achieved a current account surplus of 490 billion dollars in 2021, accounting for half of all oil and gas products. A probable EU and US oil embargo (50% of Russian Federation oil exports) combined with a two-thirds drop in EU natural gas imports (70% of Russian Federation exports) in 2022 would only reduce shipments by a fifth (European Commission, 2022).

HOW LONG WILL RUSSIAN FEDERATION WITHSTAND THESE SANCTIONS?

The West is attempting to hit Russian Federation's economy with extensive sanctions. The Russian Federation, taking lessons from the sanctions imposed after the 2014 Crimean crisis, limited its dependence on foreign countries. Thus, Russian Federation is more resistive to the sanctions imposed in 2022 and is challenging the West (van Bergeijk, 2022). However, it is very difficult to predict how long Russian Federation can withstand the Western sanctions.

In the study, Russian Federation's resilience against sanctions has been evaluated from two aspects. Despite the Russian Federation economy's struggle to reach dollars and euros, its ability to generate local income and whether the reserves stocked by the Russian Federation central bank and state wealth fund will be sufficient to finance these expenditures. First, sanctions on many Russian Federation commercial banks, investments, and exports mean that Russia must become a barter economy to generate income in stable currencies (Astrov et al. 2022). In most cases, the country can earn dollars and euros by investing abroad or

exporting goods and services. Russian Federation's ability to produce export revenue has been severely hampered by the export restriction. In fact, Russian Federation's only means to get dollars or euros is to export oil and gas and pay through Gazprombank, one of the few significant Russian Federation financial institutions that hasn't been kicked out of the SWIFT system yet (Klement, 2022). If Russian Federation cannot earn dollars and euros to get payments in rubles for oil and gas exports, how will it pay for imported food, medicine, and other civilian goods in dollars and euros?

Second, Russian Federation's trade deficit is growing, and aside from paying for essential goods, it should theoretically be able to pay off its foreign debt and fund the special military operation. Russian Federation will have to dip into its central bank reserves and the National Welfare Fund, its sovereign wealth fund, to fulfill these costs (Klement, 2022). According to Bloomberg, Russian Federation's Central Bank had \$630 billion in international reserves by the end of 2021, with \$468 billion in foreign currency and \$132 billion in gold. The G7 central banks, the IMF, and the Bank for International Settlements own 61.3% of the foreign currency (BIS) (O'Brien, 2022). All 61.3% of the central bank's reserves were frozen as a result of the sanctions. The Central Bank's gold reserves are stored locally. The Central Bank of Russian Federation still has access to \$132 billion in foreign exchange reserves and the remaining \$181 billion in gold reserves because gold reserves are maintained domestically. The Russian Federation government has \$488 billion in usable stable currency reserves, with another \$174 billion in reserves held by the National Welfare Fund (Klement, 2022). However, Russian Federation has enough resources for the sustainability of its economy. Without funding of special operation, cause it's very important to hedge (smooth out) such formulations.

CONCLUSIONS AND LESSONS LEARNED

Western leaders and policy analysts have referred to the economic sanctions imposed on Russian Federation in 2022 as "unprecedented." Furthermore, Iran has surpassed Russian Federation as the country subjected to the most sanctions with the imposition of sanctions on Russia in 2022. Economic sanctions against Russian Federation have a long-term impact, and the EU's application of sanctions in the global energy sector is expected to have a faster impact on Russian Federation.

Special military operations and sanctions, even in the absence of a possible oil and gas embargo, are expected to pull the Russian Federation into an economic catastrophe in the long run. It will survive on the present export

model, which is the Russian Federation economy's major pillar and keeps it afloat. However, the Russian Federation people will once again face severe hardship and rising food price inflation (Mamonov et al., 2021). This will have a big negative impact (spillover effect) not just on the Russian Federation people, but also on the people of numerous developing countries throughout the world, and global food prices will rise (Artuc et al. 2022). Furthermore, Kalish (2022) mention that the sanctions implemented by several Western countries as a result of the conflict between Russian Federation and Ukraine raised the possibility of commodity trade disruption, particularly in the sale of oil and gas products to Europe. This risk manifests itself in a sharp increase in commodity prices, which might lead to even higher global inflation and lower global GDP. Furthermore, the sanctions have caused several businesses to avoid doing business with Russian Federation, potentially disrupting vital supply chain. The size of the economic damage will be determined by how the special military operation unfolds and how it impacts global commodity commerce.

Increasing uncertainty is one of the prominent phenomena of today's modern economic systems (Isik et al. 2020). This uncertainty not only affects macroeconomic parameters, but also affects changes in energy use. Therefore, these sanctions may require EU countries to move towards more clean energy, while also requiring the Russian Federation to find new destinations for gas exports. It is proposed that the Russian Federation and Ukraine establish a center ground and that this military operation be completed in order to end the economic sanctions, both for the domestic energy-economic market in the Russian Federation and the global energy-economic market.

Briefly, the sanctions placed on Russian Federation by a number of nations are anticipated to have a long-term impact on the Russian Federation economy, but they will also raise food and energy costs globally. As a result, these special military operation and sanctions will have an "inflationary" effect on both the Russian Federation economy and the economies of many emerging countries. Therefore, Russian Federation's willingness to end its operation against Ukraine diplomatically is critical for the country's future.

The main limitation of this study is to reveal the effect of the sanctions applied after the conflict between Ukraine and the Russian Federation, empirically. Therefore, future studies will focus on the question of "What impact will economic variables have on the global energy sector as a result of the Russian Federation's sanctions in 2022?" When data from 2022 is available, the answer to this issue will be determined empirically.

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