

Economic Impacts of the Sanctions on the Russian Economy and Stabilization Measures for Economic Cooperation between Korea and Russia

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I. Introduction

There are concerns that the economic sanctions imposed by the West on Russia will continue even after the end of the Russia-Ukraine war, which began in 2022 and has since prolonged. This is because the nature of the war encompasses a multifaceted structure that cannot be easily explained by the mere clash of interests between Russia and Ukraine, the primary parties involved.¹ Therefore, it may be overly optimistic to expect that the Western sanctions against Russia will be fully lifted following the conclusion of the war.

If there is a high likelihood that the Western economic sanctions against Russia will be prolonged, it is necessary to systematically analyze the long-term impact of these sanctions

on the Russian economy. Even though Russia's economic growth rates in 2022 and 2023 were more favorable than anticipated by the West, it cannot be definitively stated that the long-term effects of the sanctions will be negligible. This is because the intrinsic nature of the sanctions against Russia is to "impose economic isolation," suggesting that the prolonged duration of these sanctions is likely to have structurally adverse long-term effects on the Russian economy.

Meanwhile, the Government of the Russian Federation is devising and establishing various domestic and international strategies in order to minimize the structural adverse impacts on the economy. By thoroughly reviewing

¹ Many international political experts point out that the long-standing ideological and political conflict between the West and Russia has manifested in the form of the

Russia-Ukraine war. Based on this observation, some interpret the Russia-Ukraine war as the advent of a so-called new Cold War.

these domestic and international strategies, it is essential to systematically understand the direction of development within the Russian economy and the demand for international economic cooperation. This understanding will allow for the rapid restoration of economic cooperation between Korea and Russia, and the enhancement of cooperative synergy amid prolonged sanctions.

Given this backdrop, this manuscript aims to summarize three key conclusions from the work of Jeong et al. (2023). First, we provide a theoretical and empirical analysis of the long-term impact of Western sanctions on the Russian economy. Second, we review the foreign and domestic policies of the Russian Federation in response to the prolonged sanctions following the war. Third, based on the findings of the first and second analyses, we explore measures to stabilize economic cooperation between Korea and Russia under the anticipated prolonged sanctions.

II. Economic Impacts of the Sanctions

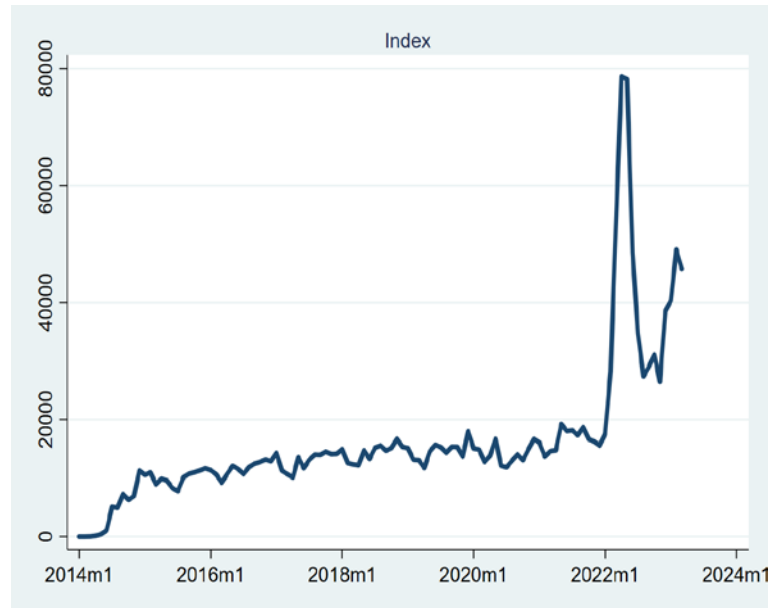
1. Empirical analysis

In order to conduct a rigorous empirical analysis of the impact of Western sanctions on the Russian economy following the 2014 Crimean Peninsula crisis, we employed a Vector Autoregression (VAR) model. For the VAR model analysis, we constructed an index of the sanctions by categorizing each of the sanctions imposed by the West (the United States, the EU,

and the UK) from January 2014 to March 2023 based on its characteristics. While the construction of the sanctions index fundamentally referenced related prior studies (Dreger et al. 2016, Bali and Rapelanoro 2021), the index we constructed allows for changes in the actual sanctions' effects over time by utilizing the trade shares between Russia and the sanction-imposing countries at various points in time.

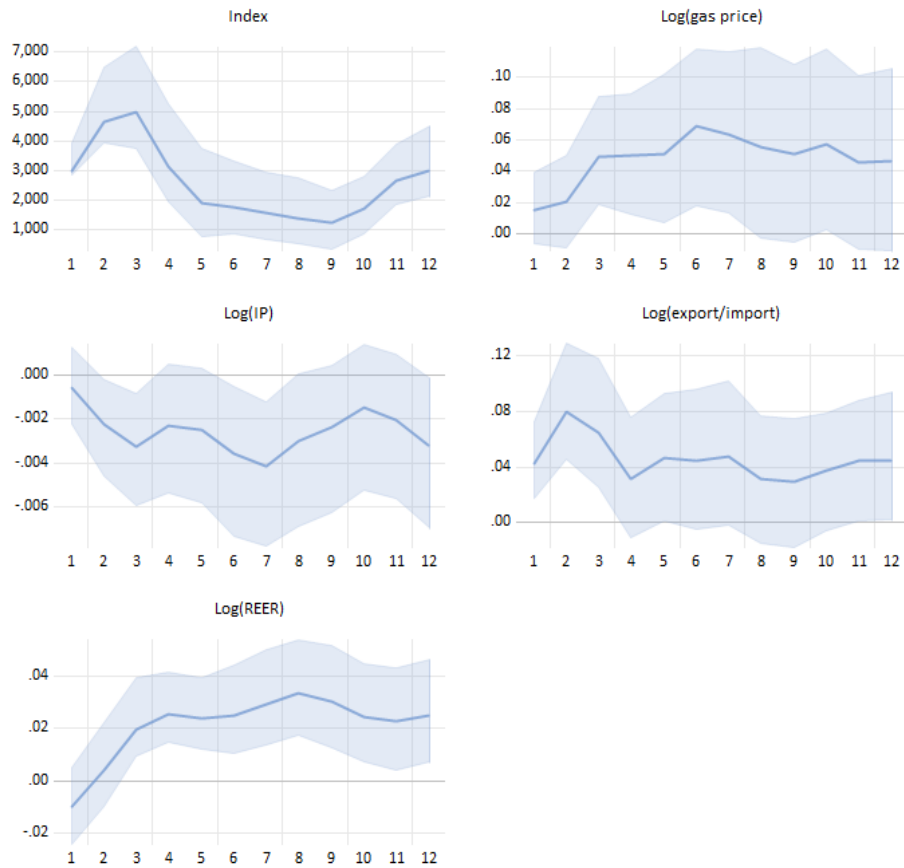
Referring to the previous literature that studied sanctions against Russia, the VAR model we considered composes of the following five variables: sanctions index ('index'), natural gas price ('gas price'), industrial production ('IP'), export/import ratio ('export/import'), and real effective exchange rate ('reer'). From the analysis, we found that an increase in sanctions (increase in the sanctions index) led to a rise in natural gas prices and a decrease in industrial production. Specifically, natural gas prices increased by up to approximately 6% six months after the imposition of new sanctions compared to a scenario without the sanctions. Industrial production decreased by about 0.4% seven months after the sanction shock. Notably, the impact of the sanction shock on Russian industrial production was observed to last for more than a year, suggesting that sanctions against Russia act as a long-term shock to the Russian economy. We also found that the rise in the sanctions index improved the trade balance, so that the trade balance must have somewhat mitigated the negative economic impacts of the sanctions, functioning as an automatic stabilizer.

Figure 1. Time Trend of the Sanction Index



Source: Jeong et al. (2023)

Figure 2. Impulse Responses from a Unit Increase of the Sanction Index



Source: Jeong et al. (2023)

2. Theoretical analysis

Based on the main results of the empirical analysis above, one can confirm that the sanctions have a long-term (over one year) negative impact on the Russian economy, at least in terms of industrial production. Therefore, we conducted a theoretical analysis of the long-term impact of sanctions on the Russian economy from the perspective of structural transformation. Since the 2007 financial crisis, the improvement of total factor productivity (TFP) of the Russian economy has been delayed, which has made it difficult for the Russian economy to achieve qualitative growth. The main idea of the theoretical analysis is that prolonged Western sanctions may hinder the structural transformation of the Russian economy towards high value-added sectors. This is because the core of Western economic sanctions against Russia can be summarized as financial sanctions, restrictions on the export of intermediate goods necessary for the production of high-tech industries, and restrictions on technology cooperation in high-tech industries. Therefore, prolonged sanctions could delay the reallocation of capital and labor to high value-added industries, which can be considered as high-tech industries.

To theoretically validate this intuition, we analyzed a multi-sector growth model that includes Kiyotaki and Moore type financial friction and sector-specific productivity improvements. From the supply side, there exist two distinct production sectors: a low-value-added sector and a high-value-added sector. Each

sector comprises final-good producers and intermediate-good producers, respectively. By assuming that the intermediate-good producers have different time discount factors, it is posited that the intermediate-good producers with a higher time discount factor become borrowers, obtaining capital from those with a lower time discount factor. The key assumption is that the high-value-added sector faces stronger financial constraints than the low-value-added sector, reflecting the fact that relatively more (both knowledge and physical) capital is required in the high-value-added sector.

The main theoretical findings indicate that the sanctions against Russia have the potential to hinder the long-term growth of the Russian economy by delaying its structural transformation toward high-value-added sectors. This is because, with the intensification of financial frictions due to the sanctions, the productivity of high-value-added sectors declines relatively more. Similarly, the improvement in productivity in high-value-added sectors could be further delayed if it becomes difficult to import intermediate goods for the production of final goods in the sector, and/or if technological cooperation in the sector is hindered. If the elasticity of substitution for the intermediate goods is greater than 1, the phenomenon of delayed structural transformation occurs as the productivity enhancement in the high-value-added sector slows due to the sanctions, leading to an increase in the relative price, and consequently, the production in the sector contracts due to the substitution effect. Indeed,

when estimating the elasticity of substitution in the model using Russia's macroeconomic data, this value was found to be 1.6693, which is greater than 1 and thereby confirming the possibility of the negative structural long-term economic impacts of the sanctions.

III. New Foreign and Domestic Policies of Russia after the War

1. Foreign policies

Russia is showing a consistent movement to establish a new direction for external cooperation in response to the sanctions, which in effect enforce the economic and technological isolation of Russia from the West. In its newly revealed concept of foreign policies, first disclosed in 2022 in response to the sanctions, Russia has called for strengthening cooperation with countries facing similar external pressure, presumably indicating China. As to the Eurasian continent, Russia has considered India as another core cooperation partner. It has expressed its intent to expand trade, investment, and technological cooperation between Russia and India while further enhancing a comprehensive partnership and strategic interaction with China. Additionally, in the Asia-Pacific region, Russia has alluded the need to increase cooperation with the Association of Southeast Asian Nations (ASEAN) countries in economics, security, and other areas.

Russia emphasizes its commitment to utilizing new opportunities for economic independence and technological autonomy despite the difficulties it has endured during the sanction period, as highlighted in major international meetings. President Putin stated during the 7th Eastern Economic Forum (EEF) in September 2022 that experts from Russia and participating countries must achieve victory in technological development within the post-war structure of international relations. Therefore, it is expected that Russia will accelerate its efforts to secure technologies not provided by sanctioning countries.

2. Domestic industrial policies

After the war, the primary goal of Russia's domestic industrial policy has been to succeed in import substitution in various high-tech industries. This is aimed at resolving the shortage issue in supplies, as Russia has been excluded from the international supply chain due to the Western sanctions. Russia's import substitution policy has been underway since the start of Western economic sanctions in 2014, and in March 2022, it expanded the provision of state subsidies for import substitution. The primary objective of the new import substitution policy is to enhance domestic manufacturing capabilities in the face of restricted access to technology and intermediate goods due to the dollar sanctions, by substituting imported parts with domestic products and expanding investment in production and technology. That is, the Russian government is revising its development strategies for key industries post-war in

2022, with a focus on high value-added manufacturing necessary for structural transformation.

Meanwhile, accelerating the restructuring of the financial sector to effectively allocate financial resources is aimed at enhancing the allocative efficiency of the overall economy. In light of difficulties in external fundraising due to the financial sanctions, there are concerns about domestic investment contraction, making the expansion and efficient allocation of domestic investment funds a key challenge for financial sector development. To this end, in addition to the restructuring of incapable financial institutions, the goals include enhancing transparency, commitment, and accessibility through the introduction of digital technology, simplifying and streamlining financial institutions to attract foreign direct investment, activating public offering systems to expand long-term fund procurement, expanding market participation by institutional investors, and enhancing risk management systems.

IV. Policy Implications

1. Stabilization measures in the short-run

In a situation where independent lifting of sanctions by the West is impossible (short-term), it is necessary to maintain at least minimal government dialogue channels for bilateral economic cooperation between Korea and Russia, while aiming to maintain economic cooperation in non-sanctioned sectors or

where sanction evasion is relatively easy, and to establish government governance for easing information costs and financial transaction costs.

Under the pretext of easing military tensions in Northeast Asia and protecting the interests of Korean companies, it is necessary to operate at least minimal government dialogue channels, establish minimum security measures for maintaining bilateral cooperation, and make efforts to maintain or expand cooperation in the consumer goods and services sectors not subject to US sanctions. At the same time, in order to eliminate uncertainties arising from Korean companies' entry into Russia, it is necessary for our government to provide accurate information directly. Finally, through the establishment of governance that can systematically eliminate uncertainties in the overall financial transactions due to financial sanctions, it is necessary to diversify risks associated with financial transactions not only in terms of potential exchange rate gains, inability to remit, and restrictions on financial transactions that may occur post facto, but also in terms of risks associated with financial transactions at the pre-facto level.

2. Stabilization measures in the long-run

In a situation where independent lifting of sanctions against Russia is possible (long-run), it is necessary to secure a cooperative foundation in advanced industries and the financial sector that is in line with solving the challenges to growth of the Russian economy, in

order to establish Korea as a strategic partner of Russia in the post-war era. As the sanctions make it more difficult for Russia to cooperate with the West as a leading technological country, there is a high possibility that Russia will look to the Far East to find substitute partners for cooperation, so it can be said that Korea's strategic value in the eyes of Russia has been further enhanced. Therefore, Korea must actively utilize the opportunity factors it possesses as a strategic cooperation partner, and in particular, it is necessary to secure in advance the cooperative foundation in the field of advanced industries where cooperation potential and effectiveness are expected to be high when the cooperation environment normalizes in the future.

In particular, the Russian government recognizes the absence of competitiveness in the production of key automotive components as the most important problem facing the Russian automotive industry, so we can expect for Korean companies with competitiveness in the production of automotive parts and complete vehicles to actively enter the commercial electric vehicle sector. Similarly, the development of the semiconductor industry has emerged as an urgent task due to Western sanctions against Russia, while the stable supply of semiconductors is recognized as an important issue, these being essential for the development of advanced industries. Thus, more cooperation in the semiconductor sector can be expected. To effectively utilize the opportunities for cooperation in these advanced industrial sectors – the automotive and semiconductor

industries – it is necessary to accumulate sufficient information through continuous monitoring of Russia's strategies and policies in these industries, as well as the current industrial situation in Russia. Additionally, proactive consideration should be given to Korean companies' entry into the Russian financial sector, which possesses a rich level of technology and development expertise in digital finance. **KIEP**