

Theory of Sanctions and Experience of Overcoming the Sanctions Regime as Exemplified by North Korea

Teoria das Sanções e Experiência de Superação do Regime de Sanções como Exemplo da Coreia do Norte

Teoría de las Sanciones y Experiencia de Superación del Régimen de Sanciones Ejemplificado por Corea del Norte

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ABSTRACT

The article considers aspects of economic sanctions, including their content, goals, and reasons for use despite relatively low effectiveness. As exemplified by North Korea, the article shows how sanctions are implemented to halt the national nuclear program. It analyzes the negative impact of UN and US sanctions on North Korea's economic indicators, which failed to affect the pace and scale of the nuclear and missile weapons development program. The article evaluates the impact of sanctions on global trade, highlighting the externalities that become internalized through shadow institutions serving countries under sanction pressure. This contributes to the erosion of international economic cooperation and hurts global public welfare.

Keywords: Sanctions, Target country, North Korea, UN, Externalities, Global trade

RESUMO

O artigo considera aspectos das sanções econômicas, incluindo seu conteúdo, objetivos e razões para uso, apesar da eficácia relativamente baixa. Como exemplificado pela Coreia do Norte, o artigo mostra como as sanções são implementadas para interromper o programa nuclear nacional. Ele analisa o impacto negativo das sanções da ONU e dos EUA nos indicadores econômicos da Coreia do Norte, que não afetaram o ritmo e a escala do programa de desenvolvimento de armas nucleares e de mísseis. O artigo avalia o impacto das sanções no comércio global, destacando as externalidades que se tornam internalizadas por meio de instituições ocultas que atendem países sob pressão de sanções. Isso contribui para a erosão da cooperação econômica internacional e prejudica o bem-estar público global.

Palavras-chave: Sanções, País-alvo, Coreia do Norte, ONU, Externalidades, Comércio global

RESUMEN

El artículo analiza aspectos de las sanciones económicas, incluidos su contenido, objetivos y razones para su uso a pesar de su eficacia relativamente baja. Como se ejemplifica en el caso de Corea del Norte, el artículo muestra cómo se aplican las sanciones para detener el programa nuclear nacional. Analiza el impacto negativo de las sanciones de la ONU y de los EE. UU. en los indicadores económicos de Corea del Norte, que no lograron afectar el ritmo y la escala del programa de desarrollo de armas nucleares y de misiles. El artículo evalúa el impacto de las sanciones en el comercio global, destacando las externalidades que se internalizan a través de instituciones paralelas que sirven a los países sometidos a la presión de las sanciones. Esto

contribuye a la erosión de la cooperación económica internacional y perjudica el bienestar público global.

Palabras clave: Sanciones, País objetivo, Corea del Norte, ONU, Externalidades, Comercio global

1. INTRODUCTION

Sanctions are one of the tools, along with diplomacy, military force, and economic mechanisms (loans, investments, food supplies, etc.), that a country or group of countries can use to compel another country (the target country) to take actions they desire (for example, stopping civil conflict, ending aggression, holding democratic elections, etc.) (Alekseev et al., 2022; Safiullin et al., 2023; Liu et al., 2023).

It may seem paradoxical that several pieces of evidence point to the low effectiveness of the sanction mechanism (Hufbauer et al., 2007; Pape, 1997, 1998). However, this does not diminish the enthusiasm for some states (primarily the US) and international organizations to adopt sanctions (Table 1).

Table 1.
The effectiveness of sanctions for political purposes

Political purpose	Successful cases	Unsuccessful cases	Total	Share of success, %
Moderate political changes	22	21	43	51
Change of political regime, democratization	25	55	80	31
End of military conflict	4	15	19	21
Damage to the military potential	10	23	33	30
Total	70	134	204	34

Source: Hufbauer et al. (2007)

There are numerous definitions of sanctions (Baldwin, 2020; Pape, 1998; Hufbauer & Jung, 2020). According to (Timofeev et al., 2020, p. 33-34), “sanctions are understood as

deliberate actions by a state ('initiating country'), a coalition of such states, or international organizations to reduce, limit, or withdraw from customs, trade, or financial relations with the 'target country' or 'recipient country'. These actions pursue the following political goals: changing the political regime, the foundations or individual components of domestic and foreign policy, or fulfilling or rejecting political commitments.

The logic of sanction pressure on the target country implies altering the general or targeted level of well-being to compel the masses or opposition elite groups to act against the current regime, either to overthrow it through revolution or coup or to force it to change its policies (Mulder, 2022).

The experience of sanctions against South Africa, Myanmar (Hufbauer & Jung, 2020; Jones, 2015) Iran (Mamedova, 2021; Sitkevich & Starodubrovskaya, 2022; Timofeev et al., 2022), and North Korea (Bulychev & Korgun, 2019; Vaks, 2018; Demina, 2022; Zakharova, 2019; Korgun & Toloraya, 2022; Lobov, 2020; Toloraya et al., 2020; Drezner, 1999) shows that in most cases the economic, political, and military goals set by the sanctioning countries and organizations were not achieved. This is even more demonstrated by the failure of the sanctions imposed by the US and its allies against Russia (Timofeev, 2021, 2022; Connolly, 2018).

In recent decades, the widespread introduction of sanctions on countries that actively participated in global trade and the international division of labor has undermined normal economic relations, creating extensive gray economic zones (Ketova & Ovchinnikov, 2024). Sanctions have significant negative externalities that are not considered in their design and implementation against target countries.

2. METHODS

This article extensively reviews studies on sanction policies using materials from Web of Science and Scopus. The studies cover issues related to sanctions, their externalities, and economic pressure.

At the initial stage of the research, we selected publications using the keywords “sanctions”, “externalities”, and “economic pressure”. These keywords helped narrow the search field and focus on the most relevant publications concerning economic sanctions and their consequences.

Studies not relevant to the topic were excluded from the resulting database based on the analysis of their abstracts. This stage involved careful reading of the abstracts to determine the relevance of the content to the topic of sanction policies and their impact on economic systems. Special attention was given to studies analyzing the long-term economic consequences of sanctions and their effectiveness in achieving political goals.

We also considered real cases from global history, emphasizing events from the late 20th to early 21st centuries.

3. RESULTS

3.1 North Korea’s nuclear program and the imposition of sanctions

The best example is the sanctions against North Korea and their consequences in North Korea and the global politico-economic space. It can be asserted with a high degree of confidence that North Korea’s decision to develop its nuclear weapons was a forced measure caused by the collapse of the socialist system and the dissolution of the USSR. This immediately affected North Korea’s economic performance dynamics.

Table 2 presents North Korea’s macroeconomic dynamics during this challenging period (Drezner, 1999, p. 277). North Korea hardly publishes official statistical data, so the provided figures are estimations.

Table 2.

Economic indicators of North Korea (1990-1994)

Years	Real GDP growth	Rice production (thousand tons)	External debt (USD billion)	Export (USD million)	Import (USD million)
1990	-3.7	5,900	No data	1,960	2,760
1991	-5.2	5,300	4.7	1,010	1,710
1992	-5.0	No data	No data	1,020	1,640



1993	-3.5	1,330	No data	1,020	1,620
1994	-3.0	No data	9.8	840	1,270

Source: Economist Intelligence Unit (1995), P. 33.

The example of East Germany being absorbed by West Germany with the approval of the USSR, made the North Korean leadership beware of a similar scenario. This prompted the initiation of North Korea’s nuclear program.

In 2006, the reason for the sanctions imposed by the UN Security Council (UNSC) against North Korea was the testing of a nuclear device. Thus, the sanctions aimed to compel Pyongyang to abandon the development of its weapons of mass destruction and their delivery systems, including missiles of various ranges.

Between 2006 and 2017, the UNSC adopted eight resolutions that tightened the restrictions on North Korea’s trade operations (Toloraya et al., 2020, p. 8-9) (Table 3).

The sanctions mechanism included a wide range of measures: a ban on exporting military equipment and luxury goods to North Korea, inspection of ships heading to North Korea with permission to destroy any cargo related to the nuclear program, a ban on financial transfers through international channels, a ban on exporting raw materials from North Korea, including rare and rare-earth metals and coal, a ban on exporting North Korean labor, a reduction in oil and petroleum product supplies to North Korea, and a ban on exporting transportation means, including ships, to North Korea.

To oversee the sanctions regime, the UNSC established the Committee on Sanctions against North Korea. This committee monitors compliance with the sanctions, identifies cases and methods of violations, and provides recommendations to prevent North Korea from circumventing the sanctions.

An analysis of the GDP structure since the imposition of sanctions against North Korea shows that the share of agriculture decreased from 23.3 to 20.8% in 2010 (Figure 1). By 2017, it had reached 22.8%. There was a significant increase in the industry share: from 29.6% in 2006 to 36.3% in 2010, followed by a decrease to 31.6% in 2017. The share of electricity, gas, and water distribution in the GDP structure grew from 4.5% in 2006 to 5% in 2017. The share

of construction fluctuated between 8-9%, decreasing from 9 to 8.6% in 2017 (Toloraya et al., 2020, p. 15).

The dynamics of North Korea's exports and imports indicate an increase in trade turnover despite the imposed sanctions from 2009 to 2014. Only after 2014, a significant decline in export and import volumes occurred. From 2009 to 2018, there was a negative balance in exports and imports (Toloraya et al., 2020, p. 18).

In 2017, North Korea's foreign trade turnover amounted to 5.6 billion USD, including 1.8 billion USD in exports and 3.8 billion USD in imports. The main export items were textiles (28%), mineral fuels and ores (34%), and seafood (10%). North Korea imported fuel (10.9%), raw materials (16%), and electrical machinery and equipment (16.2%).

These figures do not account for foreign trade operations conducted by North Korea in the gray zone.

Over the long period of sanctions, North Korea has not only failed to reduce its missile and nuclear potential but has also increased it. According to a report by the UN Panel of Experts on North Korea, the country launched at least 73 ballistic missiles and missiles combining ballistic and guided technologies in 2022. There were eight launches of intercontinental ballistic missiles (ICBMs), and a new solid-fuel ICBM engine was tested.

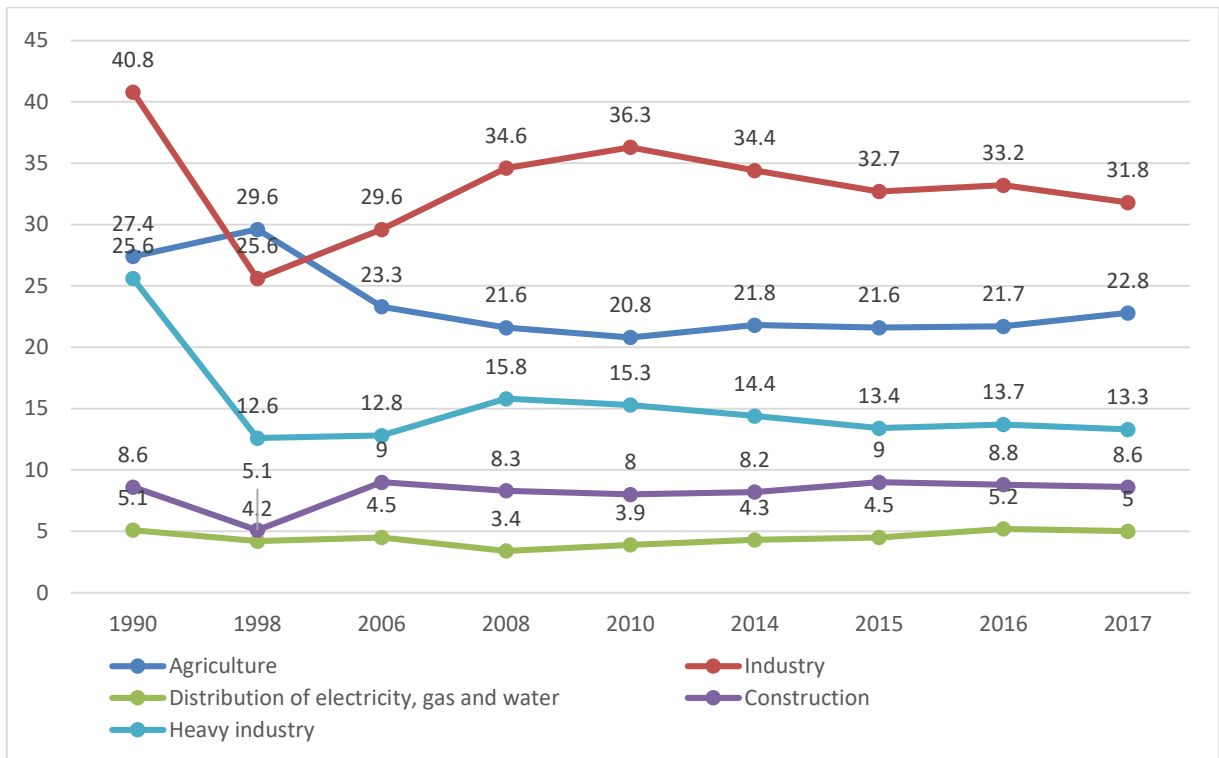


Figure 1. Dynamics of the industrial structure of North Korea between 1990 and 2017
Source: compiled by the authors based on data from Toloraya et al., 2020, p. 12).

3.2 North Korea: countering UNSC and US sanctions

As of 2022, despite increased sanctions by the UNSC and the US against North Korea, the production of fissile materials at the Yongbyon Nuclear Research Center continued (Letter of March 3, 2023 from the Panel of Experts established pursuant to resolution 1874 (2009) addressed to the President of the UNSC).

The UNSC points to a sharp acceleration of the North Korean ballistic missile program, including an increase in testing of a wide range of missiles, new engines, and the improvement of the infrastructure necessary to implement the program on the creation of nuclear missile weapons.

From September 2022 to January 2023, North Korea carried out at least 24 launch tests of ballistic missiles. Figure 2 shows data on the number of launches since 2018.

To overcome the embargo on the supply of refined petroleum products to North Korea, cargo ships were re-equipped to transport oil products to the country. Activity was recorded in the exclusive economic zone of North Korea, indicating illegal transshipment of refined petroleum products from foreign ships to North Korean vessels. To prevent such practices, the UNSC banned the acquisition of sea vessels by North Korea. To overcome this ban, North Korea has used a range of measures (Table 3).

According to data from the UNSC, North Korea acquired 23 vessels, including five tankers between 2020 and 2022, which are involved in the supply of banned petroleum products to the country (Letter of March 3, 2023 from the Panel of Experts established pursuant to resolution 1874 (2009) addressed to the President of the UNSC).

Another channel for overcoming the embargo is the import of goods through transshipment. The transshipment site is Chodo Island, and the process involves floating cranes, whose delivery to North Korea is also prohibited by sanctions. North Korea not only acquires such floating cranes by purchasing transport ships and tankers but also leases them from Chinese owners. A significant part of the goods supplied to North Korea by this method are vehicles, mainly trucks.

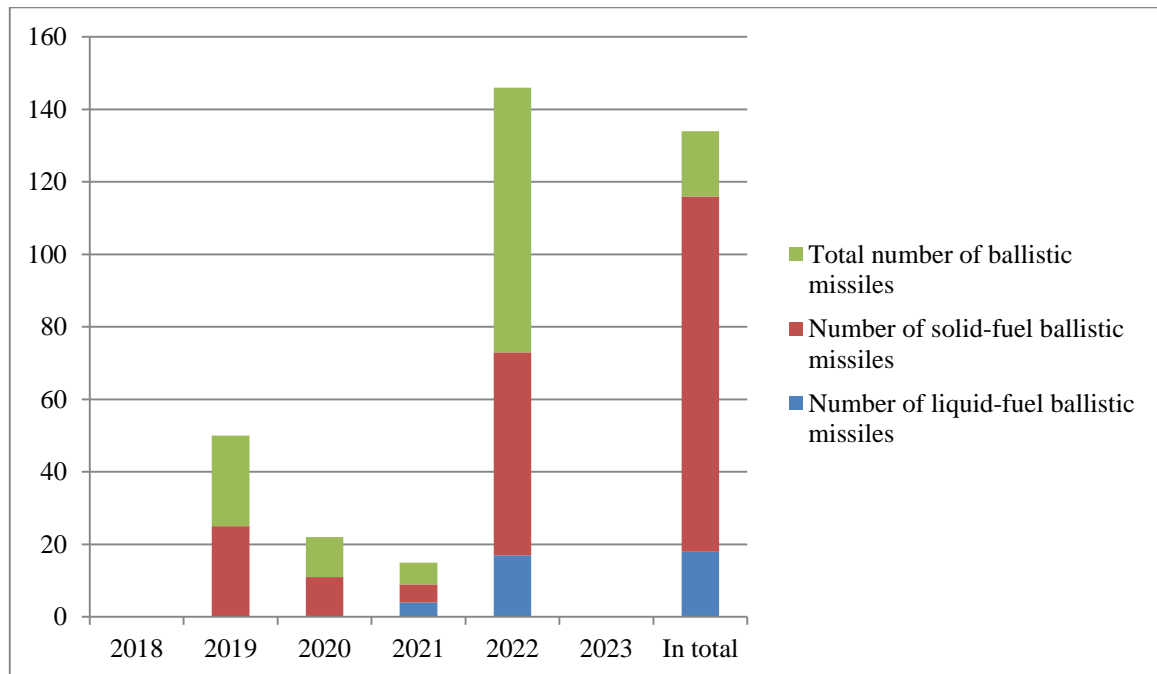


Figure 2. Launches of ballistic missiles or missiles that combine ballistic technology with guided missile technology from May 5, 2019 to January 1, 2023

Source: Letter of March 3, 2023 from the Panel of Experts established pursuant to resolution 1874 (2009) addressed to the President of the UNSC, P. 12.

According to expert estimates, the total volume of North Korean exports amounted to 311.5 million USD in 2022 and exceeded the level of 2021. The volume of North Korean imports amounted to 911 million USD, which also exceeds the figures for the previous two years (Figure 3). Since 96% of North Korean foreign trade is with China, the growth in foreign trade turnover occurred mainly due to the expansion of trade with China. At this time, rail traffic between the two countries resumed. In addition to China, North Korea's major trading partners include Senegal, Aruba, Nigeria, Poland, Seychelles, and Luxembourg.

Online trade serves as a channel for the export of North Korean weapons, including radio communication equipment, field radar systems, and software control systems distributed by Glocom.

According to the public authorities of the Republic of Korea, North Korean hackers have appropriated virtual assets worth about \$1.2 billion since 2017, including \$630 million in 2022.

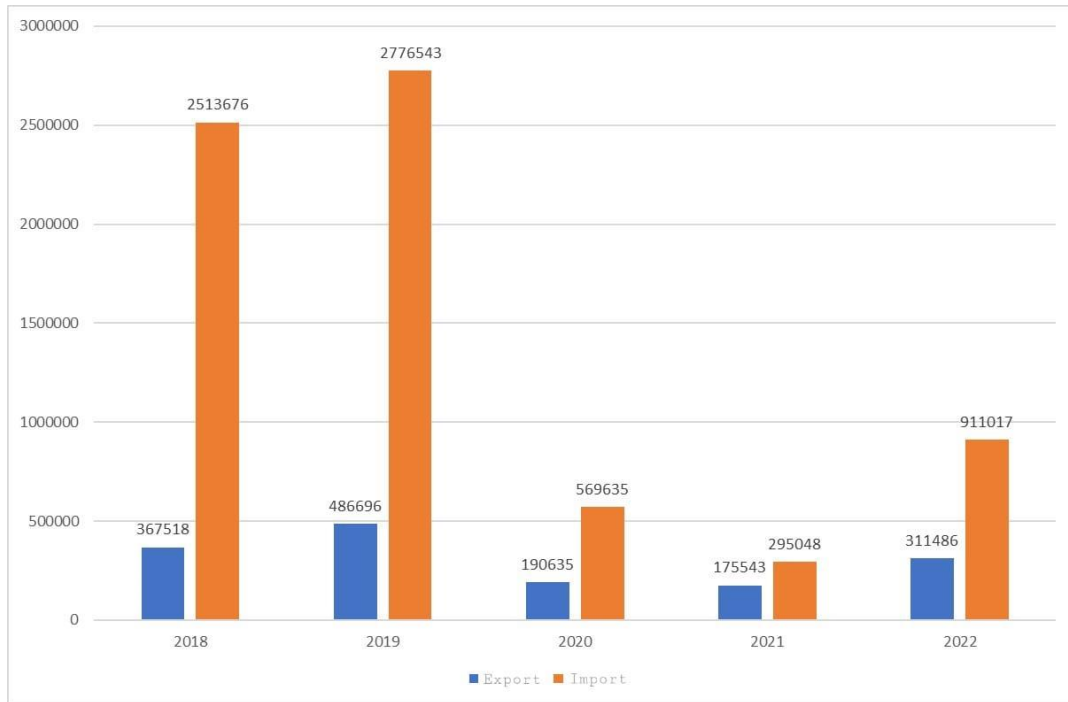


Figure 3. Recorded trade volume of North Korea, 2018-2022

Source: Trade map

The following strategies used by North Korea to overcome sanctions can be identified (Table 3).

Table 3.

Strategies used by North Korea to overcome sanctions

Purpose of sanctions	Strategy	Recommendations of the UNSC Committee on improving the sanctions mechanism
Ending nuclear testing and the ballistic missile program	Adoption of the Law on nuclear forces policy by North Korea Production of fissile materials Increase in ballistic missile launches Invisible transfer of technology through connections between North Korean	Keep the sanctions regime, tighten the regime, and counteract to its violations

	scientists and universities and research centers in European countries	
Ban on the supply of oil products to North Korea	Re-equipment of North Korean cargo ships to transport oil products Transshipment of oil products from direct delivery tankers to North Korean tankers in its exclusive economic zone Falsification of identifiers by direct delivery vessels	Id.
Ban on the sale and transfer of vessels to North Korea	Purchase of vessels through intermediaries Placement of the final link of intermediaries in a third country Use of shell companies Concealment of information about the final beneficiary of the purchased vessel Vessels make domestic voyages to North Korea without IMO numbers and without transmitting AIS signals	Strengthen control over companies at the stage of preparing a contract, signing a contract, and the subsequent use of the sold vessel Add all vessels illegally acquired by North Korea to the sanctions list
Ban on export of vehicles to North Korea	Use of shell companies for business transactions to purchase sanctioned goods Disguising ships carrying vehicles under other names	Strengthening control over foreign trade operations, especially in terms of goods purchased by North Korea
Ban on seafood exports from North Korea	Transfer of fishing rights to other companies Export of seafood to countries willing to purchase sanctioned goods at a discount	Customs services of UN member countries to monitor the correct country code entered in customs declarations (KR – the Republic of Korea, KP – the Democratic People’s Republic of Korea)
Ban on the export of military products and weapons	Establishment of a company selling military products of North Korea via the Internet Supply of weapons to countries ready to purchase sanctioned goods	Block websites that sell military equipment online
Import of luxury goods prohibited from delivery to North Korea	Use of firms established by North Koreans to purchase sanctioned products from Japan and China	Update export control lists to reflect items prohibited from being shipped to North Korea Encourage businesses to include clauses in contracts prohibiting the shipment of luxury goods to North Korea
Ban on financial transactions	Using cryptocurrency and crypto exchanges for settlements	Add persons involved in such operations to the sanctions list Strengthen cyber hygiene Implementation of the FATF Cryptocurrency Guidelines to

		prevent the financing of illegal operations Establish and enforce know your customer regulations
Freezing or seizing assets belonging to North Korea	Trading of works by the Mansudae Art Studio on online platforms selling paintings Export of works to exhibitions in other countries and their subsequent sale	Stop the work of such exhibitions
Banning North Koreans from working abroad	Organization of jobs in Southeast Asia (Laos, Cambodia, Vietnam), including commercial enterprises	Close agencies found to be recruiting North Korean personnel

Source: compiled by the authors based on Letter of March 3, 2023 from the Panel of Experts established pursuant to resolution 1874 (2009) addressed to the President of the UNSC.

3. 3 Sanctions as a source of externalities for the global economy

The sanction mechanism applied against the so-called rogue states creates a system of externalities that, through their internalization, become integrated into the global economic system.

As a result, a global gray market emerges for trading goods and services that meet the needs of sanctioned countries. Through unintended actions, institutions are formed (rules, relationships, and business connections) that also integrate into the global trading system, essentially creating a parallel network of trade relations.

This process exacerbates the erosion of theoretical and ideological concepts of liberalism, leading to the breakdown of institutions established based on these concepts.

In the *theory of unintentional actions* (Aydinonat, 2008), it is assumed that certain institutions or social structures (money, languages, traffic rules, urban segregations, etc.) arose as a side effect and received institutional consolidation as a result of a special mechanism.

One of the first to study this phenomenon was the sociologist Robert K. Merton (Aydinonat, 2008, p. 30). Merton emphasized that the result of any social actions is not limited to those for which these actions were taken, but also has other consequences that would not have arisen if these social actions had not been taken. In essence, this refers to externalities.

Economic sanctions against a single country lead to the formation of institutions that facilitate the implementation of anti-sanction strategies at the global level. The number of actors acting under these institutions only increases during the prolongation, expansion, and tightening of sanctions.

In our work, we considered the transformation of externalities as unintentional social actions into a public good (Aydinonat, 2008; Safiullin et al., 2022; Elshin et al., 2021).

Despite the legal ambiguity of the mechanisms for overcoming sanctions, the sanctions themselves, having a negative externality, reduce the total global public good since they destroy the established foreign trade regimes, regardless of the considerations that guided the countries that initiated these sanctions.

4. CONCLUSIONS

Thus, the following conclusions can be drawn:

1. In most cases, the sanctions regime does not have the expected impact on the target country. North Korea continued its missile and nuclear projects and even managed to increase the intensity of ICBM tests under the UN and US sanctions.

2. The sanctions regime negatively affects international trade, hindering the mutually beneficial flow of goods, resources, and technologies. This stimulates the formation of shadow institutions, which allows overcoming the effect of sanctions.

3. The internalization of the externalities of sanctions allows for partial compensation for the reduction in public welfare. However, this process generates secondary externalities which, due to their criminal nature, result in a net deduction from global public welfare.

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