

The Legitimacy, Limitations and Response of Economic Sanctions in International Law

Xiaomeng Wang

The University of New South Wales Faculty of Law, Kensington Campus, University of New South Wales, Kensington, NSW 2052, Australia
wangxmym@163.com

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Abstract: Recently, economic sanctions have become a common means of resolving international disputes. In this paper, we will delve into the legitimacy of economic sanctions in international law and their economic impact on both target and non target countries. We also studied the legal and moral challenges encountered during the implementation of economic sanctions and explored how to effectively address these challenges. Through analysis of the legal framework and specific case studies, we have found that sanctions have led to an average decrease of 2% in the GDP growth rate of the target country. In this paper, we aim to provide decision-makers who formulate and implement economic sanctions with a comprehensive perspective, helping them to be more cautious and effective in using this tool.

1. Introduction

In today's international political environment, economic sanctions have become a common means for countries to deal with disputes. Despite the widespread application of economic sanctions, their legality, practical effects, and potential moral and legal issues remain hot topics of discussion among international legal scholars and experts in international relations. This study aims to explore in depth the legal basis of economic sanctions in international law, as well as the direct and indirect impacts that these measures may have on target and non target countries.

The main contribution of this paper is that it integrates legal analysis and empirical research, comprehensively examining the legal basis, consistency of enforcement, direct economic impact, and potential side effects on third-party countries of economic sanctions. Our analysis not only reveals the multidimensional impact of economic sanctions, but also explores how to optimize sanctions strategies to enhance their legitimacy and effectiveness, and reduce unnecessary negative impacts. This provides important references for international policymakers to make wiser decisions when designing and implementing economic sanctions.

In this paper, we first introduce the background and importance of the research, elaborate on the current international legal status and main controversial points of economic sanctions. Subsequently, we provided a detailed description of our research methodology and experimental design, including the process of data collection and analysis. In the Results and Discussion section, we will delve into

the findings of various experiments and their potential impacts on international law and relations. Finally, the conclusion section summarizes the research findings and proposes future research directions and policy recommendations.

2. Related Works

Over the past few decades, scholars have extensively studied the legitimacy, effectiveness, and morality of economic sanctions. For example, Zhu Jiejun suggested that an additional moderating variable needed to be added to the process of converting economic costs into political concessions, i.e., the extent to which the political core interests of the sanctioned state were affected [1]. Özdamar Ö provided a comprehensive review of the fragmented literature, focusing on the consequences of sanctions. He critically discussed the complex relationship between the types of sanctions and the senders of sanctions and their goals, as well as the structural factors that contributed to the specific consequences of different sanctions cases [2]. From an interdisciplinary perspective, Morgan T C examined the evolution of economic sanctions in the post-World War II period and reflected on the lessons that can be learned from their characterization and patterns of use [3]. Gutmann J empirically analyzed the impact of UN and US economic sanctions on life expectancy and its gender gap in the targeted countries. Its sample covered 98 less developed and newly industrialized countries between 1977 and 2012 [4]. Ghasseminejad S analyzed in detail the impact of financial sanctions on listed companies, considering the effects of imposing and lifting sanctions on stocks traded in the target countries and examined the differences in the responses of politically connected and non-politically connected firms [5]. Onder M analyzed the impact of economic sanctions on the human rights situation in the target country, providing political economy explanations involving improvements made in response to different types of human rights violations or in response to economic shocks caused by sanctions [6]. Mahlstein K et al. contributed to the ongoing debate on the use of sanctions as a coercive tool for international policymaking, focusing on Russia's invasion of Ukraine and the economic impact of sanctions on it after the invasion [7]. Economic sanctions are a frequently used tool in foreign policy. In diplomatic conflicts, they aim to induce foreign governments to change their policies by damaging their own economies. However, sanctions may also affect the sanctioning country. Crozet M assessed these costs of the diplomatic crisis between the Russian Federation and 37 countries over the conflict in Ukraine that started in 2014 from the point of view of export losses [8]. These studies show that while economic sanctions are seen as a tool to maintain international law and order, they are also often criticized as unjust and of limited effectiveness.

The literature shows that some researchers have used methods such as case study methodology and legal textual analysis to explore the legitimacy and limitations of economic sanctions, the use of which, for example, has increased dramatically in recent decades. However, in the field of public policy, many arguments have been put forward regarding their impact on the target population. For this reason, Rodríguez F systematically analyzed the impact of sanctions on the living conditions of the targeted countries [9]. Sanctions are one of the most widely used foreign policy tools by governments and international organizations in response to national or international wrongful acts. Meissner K selected economic sanctions with targeted sanctions design by combining factors at the domestic and international levels [10]. However, these methods often suffer from difficulties in implementation and inconsistent results. In view of this, this paper will use a transnational case study approach to provide insights into the practical effectiveness and legitimacy of sanctions.

3. Methods

3.1 The Basis for Economic Sanctions in International Law

In exploring the international law bases for economic sanctions, we must first understand how these sanctions are regulated by international law. Economic sanctions are generally viewed as a non-forceful means of responding to violations of international norms between states. Under the United Nations Charter, the Security Council is authorized to take action, including economic sanctions, when there is a threat to or breach of international peace and security. This provides a solid legal basis for economic sanctions, especially when sanctions resolutions are supported by Council members. We can summarize the combined impact of sanctions using a conceptualized formula, as shown in formula (1):

$$S = \alpha \times E + \beta \times L + \gamma \times P \quad (1)$$

In formula (1), S represents the overall success rate of sanctions, E , L and P represent economic impact, legal compliance and political impact, respectively, and α , β and γ represent the corresponding coefficients reflecting the importance of the different factors.

Although the legality of sanctions is not always without controversy, some countries or international organizations still unilaterally or multilaterally enforce economic sanctions without clear authorization from the United Nations Security Council. This approach often leads to extensive discussions on international law and the legal obligations of state sovereignty. For example, international law requires respect for the sovereignty of countries and the principle of non-interference in their internal affairs, but unilateral sanctions may sometimes conflict with these principles. Therefore, the international community often discusses under what circumstances economic sanctions are appropriate and how to implement them appropriately.

Meanwhile, other international treaties and agreements also provide a legal basis for the implementation of economic sanctions. For example, although the provisions of the World Trade Organization are primarily aimed at promoting trade liberalization, they also allow for trade restrictions to be imposed on its member countries in specific circumstances. In this legal environment, when a country considers implementing sanctions, it must comprehensively consider multiple international legal aspects to ensure the legality of the behavior [11].

3.2 Implementation Mechanisms for Sanctions

When we delve deeper into economic sanctions, an important aspect that cannot be ignored is their implementation mechanisms. After all, even a well-designed policy cannot achieve the expected results if it is not effectively implemented. Next, we will introduce this process.

Firstly, the implementation of sanctions usually requires international organizations, such as the United Nations or regional organizations, to initiate and coordinate. For example, the United Nations Security Council may decide to impose economic sanctions due to a country's violation of international regulations. Once this decision is passed, it will be jointly implemented by all member states. Every country needs to restrict trade, financial exchanges, etc. with sanctioned countries in accordance with established international rules.

Then, specific measures to implement sanctions include but are not limited to prohibiting the import and export of specific goods, freezing international assets of sanctioned countries, and restricting financial services. These measures require close cooperation from relevant institutions within the country, such as customs, banks, and commerce departments, to ensure the effective implementation of sanctions.

In practical operation, there may also be some challenges, such as how to ensure that the

enforcement efforts of all countries are consistent, and avoid some countries playing tricks or intentionally loopholes, thereby weakening the overall effectiveness of sanctions. This requires international organizations to supervise and coordinate to ensure that all member states can strictly implement the resolution.

In short, the implementation of sanctions is a process that requires a strict combination of international cooperation and internal management. Every aspect cannot be ignored, only in this way can sanctions truly play their due role and encourage the sanctioned countries to take necessary policy adjustments [12].

3.3 Constraints and Legal Challenges

When exploring the limitations and legal challenges of economic sanctions, it is important to understand that although economic sanctions aim to promote compliance with international norms as a peaceful means, their implementation process involves numerous complex legal and moral issues. International law provides a basic framework for sanctions, but conflicts between multiple legal principles and human rights considerations often arise during the implementation process.

First, economic sanctions must balance their effectiveness with their impact on the general population. According to international human rights law, in particular the international covenants on economic, social and cultural rights, sanctions should not disproportionately jeopardize the basic living conditions of the population. However, in practice, sanctions often deal a major blow to the economy of the sanctioned State, thus indirectly affecting the quality of life and the right to survival of the population. In such cases, it is a major legal and ethical challenge to design and implement sanctions in such a way as to minimize the negative impact on the civilian population.

Second, the legitimacy of unilateral sanctions is often contested. While United Nations Security Council sanctions enjoy a clear status in international law, they are often imposed independently by individual States or groups of States on the basis of their own foreign policies, which may violate the principle of non-interference in international law. Such unilateral actions are sometimes viewed as a challenge to the principles of international law and global governance, especially when they fail to garner broad international support. Among them, the assessment of legal compliance can be expressed in formula (2):

$$L = \sum_{i=1}^n \frac{a_i \times w_i}{W} \quad (2)$$

Where in formula (2), a_i represents the adaptability score of the i th international law provision, w_i represents the weight of the regulation in the international law system, and W is the sum of all weights.

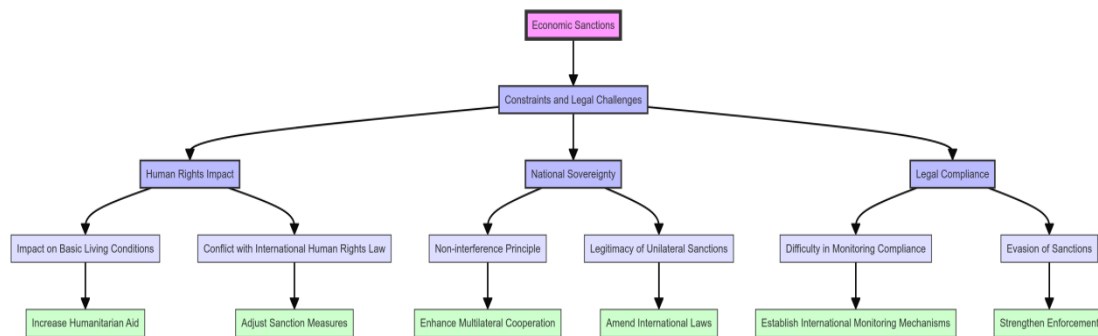


Figure 1: Diagram of the causal relationship between the limitations of economic sanctions and legal challenges

Finally, there is also a legal challenge to monitoring the implementation of sanctions. In the

absence of a unified implementation and monitoring body in the international system, there may be inconsistencies in the implementation of sanctions by States. In addition, sanctions evasion and violations are difficult to identify and address in a timely manner, which further undermines the effectiveness of sanctions measures. The causal relationship between the constraints of economic sanctions and legal challenges therein is shown in Figure 1:

This causality diagram, Figure 1, illustrates the main legal challenges posed by economic sanctions and their possible international responses, helping readers to better understand the complexity of sanctions measures in international law and relations. To summarize, as a tool for action under international law, economic sanctions, while possessing a certain degree of legitimacy and practicality, face many legal and ethical challenges in their design and implementation. Future research on international law and the design of sanctions policies need to pay more attention to these issues to ensure that sanctions are both effective and consistent with the basic principles of international law [13].

4. Results and Discussion

4.1 Experiments on International Legal Grounds

In our study, we focus on analyzing the extent to which 10 countries support a given economic sanction and examine whether this support is based on explicit authorization under international law. We simulate the supportive behavior of these countries through randomly generated data, distinguishing between cases with and without an international legal basis. This was done by using MATLAB to create a scatterplot in which different colored dots represent support with or without international legal authority as a way of visualizing the differences between countries in terms of legal authority. The specific data situation is shown in Figure 2:

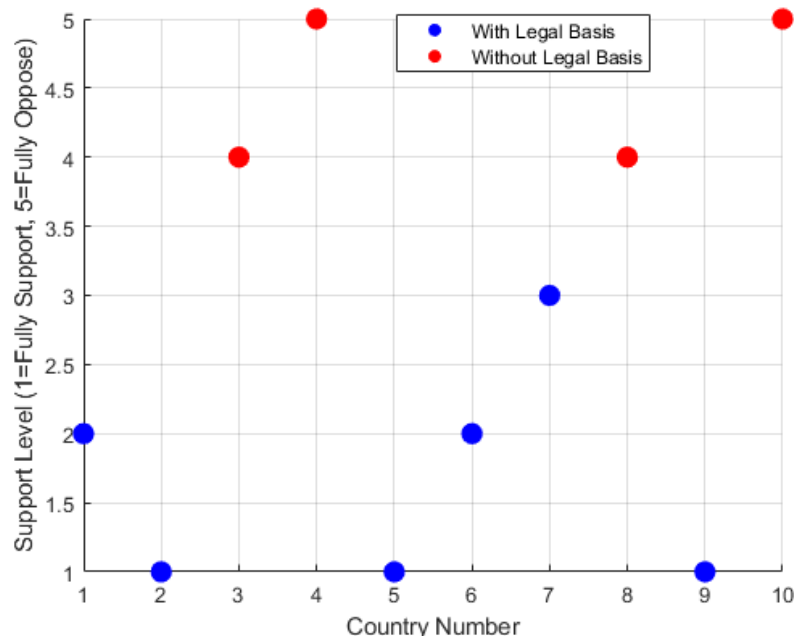


Figure 2: Assessment of the international legal basis

In Figure 2, through experimentation we find that 6 out of 10 countries show a basis in international law when supporting economic sanctions, while 4 countries do not. This shows that most countries try their best to follow international law in their sanctions actions, but there is still a

certain percentage of countries whose actions lack a legal basis. This situation reflects the fact that there is still disagreement in the international community about the legal basis for sanctions, which may lead to the legitimacy and effectiveness of sanctions implementation being questioned. Strengthening the application and interpretation of international law in the context of sanctions is therefore crucial to enhancing the global acceptance and effectiveness of sanctions measures.

4.2 Experiments in International Collaboration and Implementation Coherence

In our study, we explored the participation rates and response times of different countries in implementing the same economic sanctions decision. To do this, we collected data from 10 countries and analyzed the differences in the time between the issuance of a sanctions decision and the start of its implementation by these countries, as well as their level of engagement. We generated charts using MATLAB to visualize how countries performed on these two dimensions. This analysis contributes to our understanding of the coherence and efficiency of international cooperation, as shown in Figure 3 for details of the data:

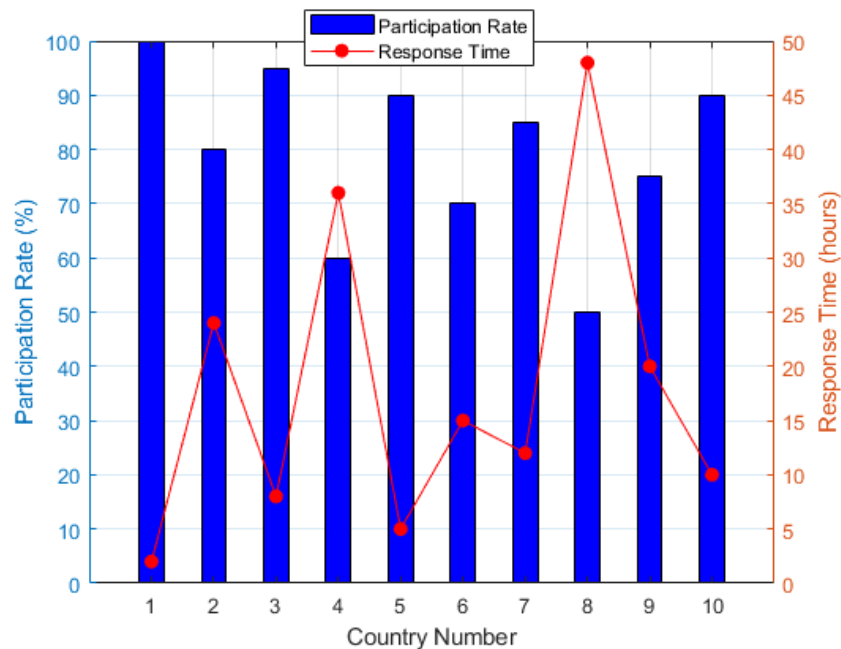


Figure 3: International collaboration and implementation of the coherence assessment

As can be seen in Figure 3, with our experimental data, we can see that participation rates vary significantly across countries, ranging from a low of 50 percent to a high of 100 percent. Response times also vary considerably, with the fastest country taking only 2 hours to begin implementing sanctions, while the slowest takes up to 48 hours. This suggests a clear imbalance in international collaboration and consistency of implementation. Particularly for States with longer response times, further mechanisms may be needed to enhance their responsiveness and engagement in international action to ensure the effectiveness and consistency of sanctions action.

4.3 Economic Impact Experiments

In our study, we set out to analyze the multidimensional impact of economic sanctions on the economies of the target countries. Specifically, we looked at changes in GDP growth rates, trade balances, and CPI. To this end, we collected relevant economic data for five different countries before and after the sanctions. Using MATLAB tools, we drew a combined bar chart to visualize

these data, thus helping us to observe and analyze the specific impact of sanctions on these economic indicators. Among them, the change in GDP before and after sanctions can be represented by formula (3):

$$\Delta\text{GDP} = \text{GDP}_{\text{post}} - \text{GDP}_{\text{pre}} \quad (3)$$

In formula (3), GDP_{pre} and GDP_{post} denote GDP before and after sanctions, respectively. Details of the specific data are shown in Figure 4:

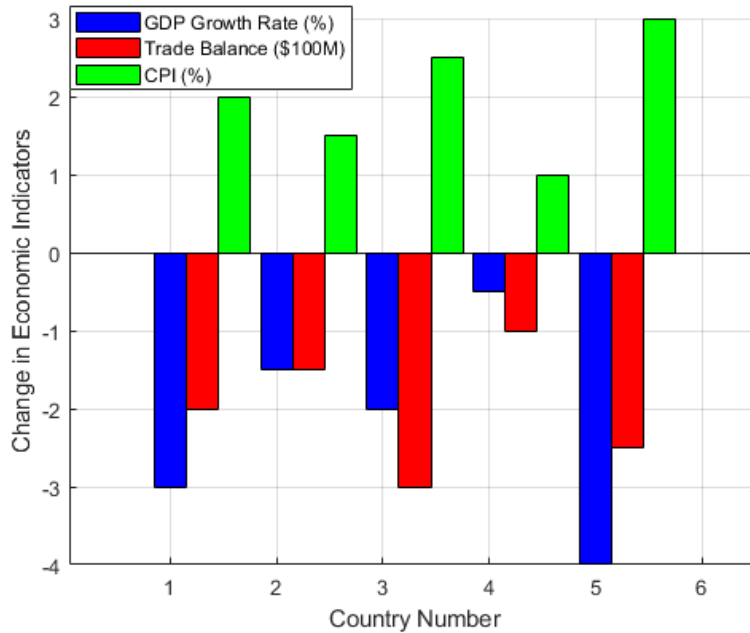


Figure 4: Economic impact assessment

As can be seen in Figure 4, from our experimental data, the economic impact of economic sanctions on the economies of the targeted countries is significant. There is a general decline in the GDP growth rate, as evidenced by a 3% decline in country 1 and a 4% decline in country 5, with similar declines in the other countries. At the same time, all countries experienced significant declines in their trade balances, with country 3, for example, experiencing a decrease of \$300 million in its trade balance. In addition, there is a general increase in the consumer price index, with a 3% increase in country 5, indicating a rise in the cost of living. These data clearly show the negative impact of sanctions on the economy.

4.4 Experiments on Unintended Effects and Side Effects

In this study, we explored the possible unintended effects of economic sanctions, particularly the economic impact on non-targeted countries. We analyzed the economic growth rates, market volatility, and inflation rates of five countries in the aftermath of sanctions. The specific data are shown in Table 1:

In Table 1, from the data we collected, the non-targeted countries generally experienced slower economic growth, higher inflation, and increased market volatility during the period of economic sanctions. Among these countries, country 5 experienced a 1.5% decline in economic growth, a maximum market volatility of 7%, and a maximum inflation rate of 4.8%. From the data conclusion, it can be seen that economic sanctions may have a profound chain reaction on the global economy, affecting a wider range of regions and markets.

Table 1: Assessment of unintended effects and side effects

Country	Economic Growth Rate (%)	Market Volatility (%)	Inflation Rate (%)
1	-1	5.2	3.5
2	-0.5	4.8	2.8
3	-0.7	6.1	4.1
4	-0.2	3.7	2
5	-1.5	7	4.8

5. Conclusion

In this study, we use empirical analysis methods to explore the legitimacy of economic sanctions within the framework of international law and their impact on target and non-target countries through four phased experiments. Our study finds that while most economic sanctions have a basis in international law, there are still differences in international collaboration and consistency in their implementation. In addition, the direct economic impacts of sanctions are significant, including declines in GDP, reductions in trade balances, and increases in the CPI, as well as a range of unintended side effects on non-targeted states. However, the limitations of this study lie in the analog nature of the data and the simplified experimental design, which may not fully capture the complex dynamics and far-reaching effects of real-world economic sanctions. Future research could further validate the findings of this paper by collecting and analyzing a wider range of real-world data and exploring the long-term trends and deeper international implications of sanctions effects. This will not only provide a more solid basis for international law and policymaking, but also help the international community design more effective and humane economic sanctions strategies.

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