

THREE ESSAYS ON ECONOMIC SANCTIONS

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## **Abstract**

Economic sanctions are a prevalent tool in international relations, employed by states to exert influence and achieve foreign policy goals. However, the sanctioning state and its target are not the only key actors in the dynamic. My dissertation consists of three essays on economic sanctions, focusing on the roles of third-party actors.

The first essay argues that third-party states competing in export markets with the target state opportunistically join sanctions to disrupt the target's trade and gain a competitive advantage. Using a novel dataset on sanctioning coalitions from 1945 to 2015, I demonstrate that countries with similar export portfolios to the target are more likely to join sanctioning coalitions, especially those aimed at restricting the target's exports.

In the second essay, I explore the effect of the global trade network on the likelihood and success of sanctions. I argue that shared trade partners between the sender and the target play a critical role in the sender's economic leverage over the target. Using a network approach, I demonstrate that states are more likely to issue sanction threats and impose sanctions when they have greater leverage over the target through shared trade partners. Additionally, while indirect leverage is positively correlated with the target's compliance with sanction impositions, it does not significantly affect the target's response to sanction threats.

The third essay shifts focus to the firm-level responses to sanctions. In this essay, I analyze under which conditions firms are more likely to exit the target state. Specifically, I examine how the political preferences of and exposure to different stakeholders influence whether firms operating in the target state decide to exit or remain. I find that firms from sanctioning states are more likely to exit than those from non-sanctioning states due to increased political risks. Furthermore, firms with political connections and those exposed to consumer pressure are more likely to exit.

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## Introduction

Understanding the dynamics of economic sanctions is crucial in the current global political economy, where sanctions are a common tool for states to exert influence and achieve foreign policy objectives. Despite skepticism about their effectiveness, sanctions have become a prevalent tool for addressing foreign policy challenges such as conflict, nuclear proliferation, terrorism, and human rights abuses.<sup>1</sup> Since the end of the Cold War, the frequency of sanctions has more than doubled and remains high even after peaking in the 1990s (Morgan et al. 2014). According to the U.S. Department of Treasury, the United States, as the most frequent primary sender of sanctions (accounting for over 48% of the cases), currently maintains 33 active sanctions programs with more than 8,000 sanctions in place (US Department of the Treasury 2020). This trend contrasts sharply with the significant decline of interstate war during the postwar period. Economic sanctions can have profound impacts on international trade, economic stability, and geopolitical relationships. This dissertation addresses important gaps in the literature by examining the factors that influence the participation of third-party states in sanctioning coalitions, the role of global trade networks in the imposition of sanctions, and firm-level responses to sanctions under high political risk.

In Chapter 1, "Who Gets on Board? The Role of Trade Export Similarity in Determining Participation in Economic Sanctions," I investigate the conditions under which third-party states join economic sanctioning coalitions. While existing literature has primarily focused on economic incentives for evading sanctions, this study highlights the potential for third-party states to engage in sanctions for economic gains. I argue that third-party states engaged in export competition with the target state may strategically join sanctioning efforts aimed at disrupting the target's trade, thereby gaining a competitive edge in foreign markets. To test this argument, I compiled an original dataset on sanctioning coalitions spanning from 1945 to 2015. By analyzing commodity-level trade data, I find that states sharing similar export portfolios with the target state are more likely to join sanctioning coalitions. Additionally, I find that the target's export competitors are more likely to participate in sanctions that restrict exports from the target state.

In Chapter 2, "Shared Trade Partners and the Imposition of Economic Sanctions," I examine how the global trade network affects the initiation of sanctions threats and their success. I argue that shared trade partners between the potential sender and the target play a crucial role in shaping the sender's ability to exercise power over the target. The sender's capacity to inflict economic pain on the target is not solely derived from the sender's trade value to the target but also from the sender's economic leverage over the shared trade partners, who can influence the outcome of sanctions by joining sanctioning coalitions. Utilizing the Threat and Imposition of Sanctions (TIES) dataset, I demonstrate that states are more likely to issue sanctions

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<sup>1</sup>The success rate of sanctions varies between 27.2% to 56.3% depending on the criteria used to define successful cases (Morgan et al. 2014).

threats and impose sanctions when the sender state has greater indirect leverage over the target through shared trade partners. Furthermore, I find that while the sender's indirect leverage is positively correlated with the target's acquiescence to sanction impositions, there is no statistically significant relationship between the sender's indirect leverage and the target's acquiescence to sanction threats. These findings contribute to the debates on trade and conflict, suggesting that trade is a significant source of power in international relations.

Chapter 3, "Political Risks, Stakeholder Pressure, and Firm Exits: Evidence from the Russian Invasion of Ukraine," shifts focus to firm-level responses to economic sanctions. Departing from state-level analysis, this chapter examines the incentives multinational corporations (MNCs) have to exit targeted markets. Specifically, it explores the role of stakeholder pressure on companies to leave Russia in response to the war in Ukraine.

Why do some multinational corporations comply with economic sanctions while others continue conducting business with the target states? I argue that the imposition of economic sanctions broadly elevates political risks for MNCs operating in Russia, increasing the likelihood of firm exits from sanctioning states. However, firms' political connections and exposure to consumer pressure are crucial factors in understanding their decisions to cease operations in sanctioned states. My theory posits that politically connected firms—such as state-owned enterprises (SOEs) and firms benefiting from public procurement contracts—are more likely to align their business strategies with their home government's foreign policy objectives than non-connected firms, which include private enterprises and firms without public procurement contracts. Furthermore, firms with greater exposure to consumer backlash are more likely to exit Russia. Leveraging a dataset from the Yale School of Management that tracks the level of MNC withdrawals from Russia, I estimate how a firm's political connections and exposure to consumer backlash moderate the effect of sanction imposition on firm exits from Russia. This study provides insights into how businesses navigate heightened uncertainty amid international conflicts.

The findings of this dissertation have several significant implications. First, understanding the strategic motivations behind third-party states' participation in sanctions can inform policymakers about potential coalition dynamics and enhance the effectiveness of sanctions. Second, recognizing the role of shared trade partners in shaping the success of sanctions highlights the importance of global trade networks and indirect economic leverage in international relations. Finally, insights into firm-level responses to sanctions, particularly the influence of political connections and consumer pressure, can guide multinational corporations in managing political risks and making strategic decisions in conflict-affected regions.

By addressing these questions, this dissertation contributes to a more nuanced understanding of economic sanctions, offering both theoretical advancements and practical insights for policymakers and businesses navigating the complex landscape of international trade and economic coercion.

## CHAPTER 1

### **Who Gets on Board?: The Role of Trade Export Similarity in Determining Participation in Economic Sanctions**

Conventional wisdom suggests that multilateral sanctions offer a range of benefits that unilateral sanctions cannot provide, such as increased coercive power and legitimacy (e.g., Bapat and Morgan 2009). When sanctions are in place, targeted states often attempt to minimize their costs to avoid acquiescence by diversifying their trade with third-party states (Early and Spice 2015; Kavaklı et al. 2020). Multilateral sanctions can enhance the effectiveness of sanctions by making it more challenging for the target to find alternative trade partners. Empirical evidence indicates that multilateral sanctions are more likely to induce the target's policy concession, especially with institutional support (Martin 1992a; Martin 1994). This suggests that the effectiveness of sanctions depends largely on the ability of sanctioning countries to impose costs on the target state by disrupting its trade or other economic activities (e.g., Bapat and Morgan 2009), which highlights the importance of third parties in determining the success of sanctions in achieving intended goals (e.g. Peksen and Peterson 2016a). While much of the seminal studies have centered on the conditions that facilitate the effectiveness of multilateral sanctions, it is also important to understand what motivates countries to join sanctions coalitions.

Existing studies on economic sanctions have recently begun to investigate the motivations behind primary states forming multilateral sanctions or third-party states' violations of existing sanctions. When primary states lack unilateral power over the target, they often choose multilateral sanctions over unilateral sanctions, weighing the cost of building and maintaining sanctioning coalitions against the benefits of increased coerciveness in their sanctioning policies (Kavaklı and Chatagnier 2022; Wei 2021). This tendency is even more pronounced when a primary state has a high stake in the contested issue (Kavaklı and Chatagnier 2022). Similarly, third-party states join a sanctions coalition if the expected benefits outweigh the costs. Some third-party states participate in sanctions coalitions due to their strong concern for the issue at hand, while others do so to avoid reputational costs. Additionally, some join sanctions due to the economic and diplomatic rewards and penalties offered by primary states to induce participation. Yet, third-party states may engage in sanctions busting for strategic or economic purposes (Early 2009, Early 2012). Nevertheless, these motives may not fully account for why countries decide to join a sanctions coalition, particularly when the issue does not directly affect them.

I argue that trade competition can play a critical role in third-party states' decision to join a sanctions coalition. In situations where the target country is a major exporter in a specific industry, other exporting

states may face fierce competition and a decline in their market share. To alleviate this pressure and potentially enhance their own exports, these countries may opt to join a sanctions coalition aimed at curtailing the target country's export capabilities. Sanctions can significantly impede a target country's ability to export goods by limiting access to critical inputs or reducing demand from international buyers. For countries with export-oriented economies, these economic incentives may be particularly pronounced, and the benefits of joining a sanctions coalition to address trade competition may outweigh the associated costs. Therefore, I argue that countries competing for similar exports with the target country are more likely to join a sanctions coalition. To test this argument, I collect an original dataset on sanctioning coalitions spanning from 1945 to 2015. The results generally support the claim that countries that produce and export similar goods to the target are significantly more likely to join economic sanctions, even taking into account their bilateral trade. These findings are robust to several checks on model specification.

The primary theoretical contribution of this argument is that it provides a new explanation for why states may choose to join a sanctions coalition, beyond the traditional motivations of strategic, ideological, or reputational concerns. By highlighting the potential role of trade competition in driving state behavior, this argument expands our understanding of the complex factors that shape international relations and foreign policy decision-making. Finally, this paper contributes to the literature by collecting a comprehensive dataset on economic sanctions. While this paper focuses on the relationship between export competition and economic sanctions, it has broader theoretical implications for studies on how states cooperate particularly in times of crisis such as military coalitions.

### **1.1 Existing Theories of Motivations for Joining Sanctions**

Despite pessimistic views on their effectiveness, sanctions have become popular tools to respond to foreign policy challenges such as conflict, nuclear proliferation, terrorism, and human rights abuse.<sup>1</sup> Since the end of the Cold War, the use of sanctions has more than doubled and continues to remain high even after having reached their peak level in the 1990s (Morgan et al. 2014). According to the U.S. Department of Treasury, the United States, which is the most frequent primary sender of sanctions taking up more than 48% of the cases, currently has 33 active sanctions programs and more than 8,000 sanctions in place (US Department of the Treasury 2020). This pattern is a sharp contrast to a significant decline of interstate war in the postwar period.

A large body of literature has debated the effectiveness and evolution of government sanctions (e.g. Hufbauer et al. 2009; McLean and Whang 2010; Drezner 2022). While they are generally believed to be more effective than unilateral sanctions, multilateralism is considered a necessary, but not sufficient condition for

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<sup>1</sup>The success rate of sanctions is between 27.2% to 56.3% depending on the definition of successful cases (Morgan et al. 2014).

success (Kaempfer and Lowenberg 1999; Mastanduno 2020; Martin 1992b). The proponents of multilateralism argue that multilateral sanctions can increase the chances of the success of the policy by imposing greater costs on the target, making it harder for them to find alternative trade partners (Bapat et al. 2013).

Others argue that multilateral sanctions are more effective than unilateral sanctions when they are enforced by an international institution (Martin 1992b; Drury 1998; Drezner 2000a; Bapat and Morgan 2009). Given the costliness of imposing economic sanctions, states face a collective action problem when deciding on cooperation regarding economic sanctions (Martin 1994). Especially when the primary sender and potential coalition partner states have divergent alignment of interests, it is more challenging for primary senders to form multilateral sanctioning coalition.<sup>2</sup> Some states are reluctant to participate in sanctions as there are economic incentives to free ride on the sanction regime and benefit both from trade with the target state and the additional security resulting from sanctions imposed by other senders. Enforcement and bargaining problems as well as concern for free-riding can hinder the effectiveness of multilateral sanctions, as they can also arise in other types of international coalitions (Drezner 2000b; ?; Miers and Morgan 2002). International institutions can provide oversight mechanisms that facilitate coordination and monitoring among member states to prevent non-compliance with the coordinated sanction (Martin 1992b; Drury 1998; Drezner 2000a; Hafner-Burton and Montgomery 2008; Early and Spice 2015).

Despite their potential benefits, multilateral sanctions are not always used in practice. Previous studies have focused on the role of the primary sender in making its initial decision between pursuing multilateral and unilateral sanctions. In her seminal book, Martin (1994) argues that the primary sender must possess the ability and willingness to establish a coalition. The primary sender's ability to persuade, or coerce, rests on two factors: sufficient resources to change other potential senders' incentives and willingness to use these resources. Building coalitions can be costly as it requires compensating potential partners with side payments and making policy concessions to change other potential senders' incentives and induce them to participate. The cost of coalition-building varies with the degree of interest alignment between the primary sender and potential coalition partners. As the potential partner's foreign policy preferences diverge from the primary sender's, the side payments required to secure cooperation increases, rendering coalition formation less likely between the primary sender and the potential partner. In other words, the primary sender must devote more resources to overcome these differences and convince potential partners to participate. Thus, the primary sender's ability to build a multilateral sanction depends on its resources to change the incentives of other potential partners (Martin 1992b; Jeong 2023). For instance, Jeong (2023) shows that states with substantial

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<sup>2</sup>Martin (1994) outlines three types of situations confronted by states seeking multilateral sanctions: coincidence, coercion, and co-adjustment, which depend on the degree of alignment of interests between the primary sender and potential coalition partner states. Martin also identifies the strategies that the primary sender has to employ to overcome these differences in preferences and to form multilateral sanctioning coalition, such as coercion or persuasion.

material power are more likely to obtain institutional support for sanctions.

However, even when the primary sender has the sufficient resources to build coalitions, it may engage in multilateral sanctions only if they are considered desirable. The willingness of the primary sender to persuade or coerce to form a sanctioning coalition is based on a cost-benefit analysis that weighs the costs of coalition building against the increased benefits of multilateralism. In other words, the primary sender must balance between the increased costs and the increased benefits of the multilateral sanction. The decision is influenced by factors such as increased effectiveness that the potential partners would bring, the salience of the issue at hand and the perceived effectiveness of unilateral action (Wei 2021). If unilateral action is deemed ineffective and the issue is significant enough to justify the costs of coalition-building, the primary sender is more likely to choose multilateralism (Kavaklı and Chatagnier 2022). Furthermore the presence of potential sanctions busters increases the primary sender's need for institutional approval (Chapman 2007, 2009; Drezner 2000a; Fang 2008; Hurd 2007 ; Martin 1992b; Thompson 2006; Voeten 2005; Jeong 2023). Despite the theoretical significance of these findings, they do not account for the agency of the third-party states in their decision-making process regarding joining sanctions.

When and why do some states choose to engage in multilateral economic sanctions despite the frequent failure to achieve their intended policy objectives, and the fact that coordinated efforts do not guarantee success? An early generation of work on sanctions has focused on state-level determinants of international cooperation such as economic health and political stability of target countries, cost to the major sanctioner, and the third party's GDP and trade openness (Martin 1992a; Early 2009). For instance, using quantitative analysis of ninety-nine cases of sanctions, Martin (1992a) finds that high costs for the major sanctioner is positively correlated with the level of cooperation.

Based on the cost-benefit analysis, third-party states decide to join sanctioning coalitions if the benefits of doing so outweigh the costs. These motivations often revolve around political and strategic considerations, including a desire to extend support to allies, promoting the cause of human rights or democracy, or addressing security threats. Countries may join a sanctions coalition as a form of signaling or reputation management (Walentek 2022). By supporting sanctions, a country may be able to signal its commitment to international norms or demonstrate its willingness to cooperate with other states. This can enhance the country's reputation and improve its standing in the international community. Moreover, Kavaklı and Chatagnier (2022) underscores the benefits derived by the partners of the United States in sanction efforts, revealing that those who engage in sanctioning coalitions tend to receive more economic and diplomatic benefits from the United States when compared to non-participating countries.

Relatedly, scholars have identified the conditions under which third parties engage in sanctions-busting behavior. Most explanations emphasize third-party states' economic and political relations with the sender

and the target state. Driven by political motivations, "black-knights" help the target counter the negative economic impact from economic sanctions by increasing their trade with the target or providing economic or military aid to the target (Drury 1998; Hufbauer et al. 2009). Previous studies suggest that target's allies or sender's rivals are more likely to engage in sanctions-busting (Early 2009; Early 2012; Early 2015; Peksen and Peterson 2016a).

Third-party states often engage in sanctions-busting to reap economic benefits, seizing lucrative opportunities created by sanctions. For example, third-party states with existing ties to the target and a history of sanctions evasion are more likely to attract foreign direct investment from companies based in the sanctioning state (Barry and Kleinberg 2015). Previous studies have shown that the third-party states' likelihood of sanctions-busting is positively associated with their size of economy, trade openness, and trade dependence on the target state (Martin 1992b; Early 2009). Furthermore, in the context of U.S.-led sanctions episodes, Early (2012) finds that the effects of defense pact alliances between sender and third-party states are conditional on the extent of third parties' trade dependence on the target. Sender allies strategically exploit their alliance relationships to evade sanctions when they maintain strong commercial ties to the target. This demonstrates that the dynamics of cooperation between sender allies in sanctions are more nuanced than previously thought.

However, existing literature has overlooked the role of trade competition in driving third-party states' decision to join sanctions. In this paper, I examine how third-party states may participate in sanctions for economic gain, specifically by disrupting the target state's international trade to gain a competitive advantage in global markets. I argue that export-driven competition can serve as a significant economic incentive for third-party states to participate in economic sanctions. States facing export competition may opt to join a sanctioning coalition targeting a state that exports similar goods to similar markets. When two states compete in the same export markets and one faces sanctions, the other can benefit from reduced competition for resources and an expanded market share. This strategy can protect their export-oriented producers from foreign competitors. By aligning with sanctioning coalitions, the third-party state can limit the access of export-oriented firms in the target state to foreign markets, generating profits for itself. Thus, states facing export competition from the target state are more likely to become participants in sanctioning coalitions.

## **1.2 Export Competition and the Incentive to Join a Sanctions Coalition**

In this section, I theorize how export competition provides incentives for third-party states to join economic sanctions targeting their export rivals. Export competitors have strong motives to outperform their rivals in order to secure or maintain access to the same overseas market. This is because, from the buyer's perspective, products from different countries are seen as substitutable. Previous studies have acknowledged that



competition for the same trade and “hence the same pool of economic rents” may result in reduced gains from international trade, leading to a crisis (Polachek 2010, 5). Regardless of the effectiveness of sanctions in achieving policy concessions, they can impede to some extent the target state’s ability to engage in international trade and financial transactions. Consequently, sanctions can create lucrative opportunities for certain third-party states, particularly those exporting similar products.

I propose three mechanisms by which export competition can shape the decision to engage in sanctions participation. The first mechanism, the foreign access constraint, involves sanctions limiting the ability of export-oriented producers to trade products by hindering their access to foreign inputs and markets. The second mechanism is trade diversion, resulting from sanctions that lead to shifts in trade patterns and supply chains away from the target state. Firms previously importing goods and services from the target state may redirect their trade due to the increased risk and uncertainty associated with continuing business with target state firms. This presents an opportunity for the target’s export competitors to establish themselves as alternative sources for the affected products and services, thereby increasing their exports to firms that have shifted their trade away from the target. The third mechanism, market capture, involves the target’s export competitors taking advantage of the market opportunities created by the imposition of sanctions on the target state, thereby expanding their market share in the target’s former markets. When sanctions are imposed on the target, the senders seek alternative sources to satisfy their import demand for those goods. The target’s export competitors take advantage of the reduced competition from the target by supplying goods and services that the target state can no longer export, effectively capturing the market share previously held by the target. These three mechanisms help us to understand how export competition influences sanctions participation.

First, countries that export similar goods are likely to need the same inputs, which can lead to competition over access to these inputs, as is the case with rare earth minerals and high-tech goods. In the realm of international trade, competition for input resources plays a pivotal role in determining a country’s export competitiveness. Thus, they may attempt to secure the source of these inputs for their own industries and deny them to their foreign competitors. In addition to clashing over commodities and raw materials themselves, states may compete over access to these inputs.

When a supplier of critical input resources ceases exporting these resources to the target country, it can lead to a decline in the target country’s export competitiveness. Export-oriented producers are often large and productive firms that have a comparative advantage in their production, enabling them to sell their products in domestic and foreign markets (Melitz 2003). However, sanctions can curtail their ability to export goods and services by hindering their access to foreign markets. When sanctions are in place, the target country is suddenly faced with the challenge of finding alternative sources or substitutes for the previously imported inputs. In addition, the prices of goods and services from the new sources might exceed those of the previous

ones. Hence, this diversion of efforts and resources may lead to increased production costs and hamper productivity, resulting in decreased export volumes and market share.

The target state may need to invest in domestic production capabilities when they are denied access to foreign resources. Export-oriented producers who previously relied on intermediaries in foreign markets must use domestic goods and services to produce goods, leading to a decline in competitiveness and productivity. Relying on domestic products can promote domestic industries, but it may pose challenges in terms of quality, cost-efficiency, and meeting international standards, resulting in decreased export volumes and market share. This may force export-oriented producers to either close their businesses or switch to producing high-priced, protected goods where the country lacks a comparative advantage due to limited access to inputs. This market distortion created by sanctions can cause competitive exporters to lose their edge. For instance, since the imposition of sanctions, exports of Iranian firms have declined by 50%, imports have decreased by 30%, and firm-level productivity has declined (Ebadi and Toffano 2022). Therefore, economic sanctions can have a significant negative impact on the ability of exporting-oriented producers to compete in global markets.

Economic sanctions can also indirectly impede the target state's ability to trade by adversely affecting currency exchange rates. Previous research has shown that economic sanctions are likely to trigger a depreciation of the currency, undermining the financial stability of sanctioned countries (Peksen and Son 2015).<sup>3</sup> When the target country's currency depreciates, the cost of importing goods from foreign markets rises. As the currency weakens, a larger amount of domestic currency is required to purchase the same quantity of foreign goods, resulting in increased import expenses. This escalation in import costs can have significant repercussions on the target country's economy, including inflationary pressures, reduced purchasing power, and diminished export competitiveness in the global market (Coville 2019). A concrete example of this is the trade-financing measures that caused the Iranian currency to experience a near 70% depreciation in value from 2017 to 2019. This depreciation severely affected Iran's ability to afford imported goods from around the world, consequently undermining the general welfare of the Iranian people.

Furthermore, sanctions can lead to increased market protection in the target country over the long term (Pond 2017). By restricting trade flows, sanctions create distributional effects similar to tariffs. Import-competing firms that no longer compete with foreign firms benefit from rents generated by increased domestic prices, while export-oriented firms and consumers are harmed by increased prices due to reduced access to global markets. This can lead to the emergence of powerful domestic interest groups seeking market protection at the expense of exporters and consumers in the target country. Protected producers then may leverage their increased profits to pressure the government into adopting protectionist policies that secure

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<sup>3</sup>The authors' findings indicate that the three major types of sanctions - financial, export, and import sanctions - have a statistically significant effect on predicting the occurrence of a new currency crisis in sanctioned countries. The findings also suggest that economic sanctions are likely to instigate currency collapses regardless of the severity and the type of sanctioning countries.

their market rents in the future. This perpetuates a cycle of protectionism that can continue to undermine trade and financial flows even after sanctions are lifted.

With countries no longer exporting inputs to the target country, export competitors can reap benefits from reduced competition for these scarce resources. Increased access to these inputs allows them to allocate a larger portion of the resources to their own export-oriented industries, improving their production capabilities and enhancing their competitiveness in international markets. With a more abundant supply of critical resources, they can meet higher demand, fulfill international contracts more effectively, and potentially explore new market opportunities. This expansion contributes to their overall growth and dominance in international trade.

The second mechanism, trade diversion, is linked to increased uncertainty and risks in the target's market. Economic sanctions can discourage third-party states from trading with the target states by creating significant risks involved in conducting business in such states. By introducing political and legal uncertainty, economic sanctions heighten the exposure to risk for firms operating within the targeted market. Previous research indicates that economic sanctions create short-run risks for operating in the sanctioned market (Biglaiser and Lektzian 2011). The adverse effects of economic sanctions can be significant, including a decline in the gross national product (GNP), hyperinflation (Hufbauer et al. 2009), the emergence of black markets (Galtung 1967; Weiss 1997; Early and Peksen 2019; Andreas 2005; ?), and currency collapse (Peksen and Son 2015), all leading to economic instability in the target state. For instance, Crozet et al. (2021) find that the imposition of new sanctions on Iran and Russia significantly lowered the likelihood of firms engaging in business with these sanctioned markets.<sup>4</sup>

Additionally, economic sanctions can disrupt the supply of trade finance instruments and weaken the target state's financial system, thereby reducing the ability to secure international payments and adding legal instability. In particular, financial sanctions have the potential to exacerbate these adverse effects by imposing restrictions or severing financial transactions with the target state through its financial system. Although financial sanctions are not explicitly intended to impede trade flows, firms seeking to trade with sanctioned markets may encounter difficulties in securing shipments and payments. Such challenges arise as banks in sanctioning countries may choose to restrain interactions with counterparts targeted by sanctions and exhibit reluctance to insure international transactions within an economically and legally unstable environment. Prior research provides evidence that firms relying more heavily on trade finance instruments are less likely to export to sanctioned markets where significant financial sanctions are imposed compared to their counterparts who rely less on such instruments (Crozet and Hinz 2021; Crozet et al. 2021).

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<sup>4</sup>The impact of sanctions on firm's export behavior varied depending on the characteristics of firms such as the extent to which firms relied on trade finance instruments, their prior experience in the sanctioned country, and their specialization in serving crisis countries.

Target states often retaliate against the sender in a reciprocal manner, imposing trade restrictions (Dorff and Minhas 2017). For example, when the United States and the European Union announced a range of economic penalties to punish Russian intervention in Ukraine in 2014, Russia retaliated with its own boycotts of agricultural products from Europe (Crozet et al. 2016). In some cases, this retaliation extends to the sender states' allies as well (Lee et al. 2023). For instance, the former president Chávez of Venezuela nationalized assets not only from U.S. firms but also assets of U.S. allies such as Canada, Colombia, France, Germany, Mexico, and the U.K., to name a few (Hajzler and Rosborough 2016). Likewise, Indonesia nationalized foreign assets of U.S. multinational corporations, as well as those of U.S. ally firms such as the U.K. and Japan, in response to U.S. sanctions (Hajzler and Rosborough 2016). The negative externalities of economic sanctions also extend to firms operating in global markets. Even if firms are not directly targeted by sanctions, they may face negative externalities that prompt partner firms or those in related industries to adopt de-risking behaviors such as delisting from stock markets (Ahn and Ludema 2020).<sup>5</sup>

Furthermore, sender governments, in their determination to enforce imposed sanctions, may exert pressure on third parties to cease their commercial activities with the target country by imposing secondary sanctions. These secondary sanctions involve sender governments threatening third parties with termination of their access to the sender country. Sender governments can seek enforcement of their sanctions laws against foreign firms in third-party states that are unaffiliated with the sender state, threatening violators with legal sanctions and blacklisting them from government contracts. For instance, after the United States strengthened sanctions on Venezuela, Hyundai Construction, a South Korean firm, withdrew from Venezuela even though Hyundai Construction won a large-scale oil refinery plant construction project in Venezuela (Kim 2023). Similarly, Chinese tech companies quietly retreated from Russia due to rising concerns about access to semiconductors. Likewise, China used import curbs to punish Lithuania for allowing Taiwan to open a representative office in Vilnius. Then, it reportedly weaponized access to the Chinese market for European countries, threatening that they would lose access to the market if they continued trading with Lithuanian firms (Hackenbroich 2022; O'Donnell and Sytas 2021). Such pressure from the sanctioning country further increases uncertainty and risk when engaging with firms in the target country.

The risk exposure of a firm plays a crucial role in determining its response to political disputes. Firms that normally maximize profits by efficiently choosing sourcing and marketing are thrown into a position to assess the appropriateness of dealing with businesses located in a state that violates international norms. Their decision to continue business located in such a state is influenced by factors such as risk, political relations, and non-commercial incentives, such as reputation concerns (Fisman et al., 2014; Pandya and Venkatesan

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<sup>5</sup>The de-risking strategies employed by firms depend on their home governments' geopolitical resources as well as firms' political connections with the government (Jang and Zhang *working paper*).

2016), peer pressure, and competition (Pollins 1989b; Fabbe et al. 2019; Pelozo and Shang 2011; Davis et al., working paper). Previous studies also indicate that firms consider rulers' credibility and historical reputation to minimize uncertainty regarding the host government's commitment to maintaining favorable policies over the long term (Malhotra et al. 2019). Extensive research on foreign direct investment highlights how political risk influences investment decisions, as firms assess the likelihood of expropriation or local conflict negatively impacting their business (Jensen 2008a; Pandya and Leblang 2017). In the case of withdrawal, firms must assess the potential harm to their business resulting from continued operation in a riskier environment due to sanctions. If the cost outweighs the benefits, firms may shift their trade away from the target country to manage risk and minimize potential economic disruption. The target's export competitor can seize this opportunity to establish itself as an alternative source for the affected products and services.

Finally, the market capture mechanism is a strategic approach used by export competitors to leverage economic sanctions imposed on a target state and increase their market share in the international market. Economic sanctions typically include elements that restrict the import of certain goods or services from the targeted country (Caruso 2003), creating a void in the market. Exploiting this opportunity, export competitors aim to fill the gap left by the sanctioned country's absence, providing similar goods or services to meet the demand of affected markets. Through this mechanism, the export competitor can gain a competitive advantage, leading to a larger market share.

As economic sanctions take effect, the target state experiences limitations on its exports, prompting importers in other countries to seek alternative sources to satisfy their demand for restricted goods or services. The export competitor identifies this shift in market dynamics and strategically positions itself to capitalize on the newfound opportunities. By ramping up exports to the markets that previously relied on the sanctioned country's goods or services, the export competitor effectively captures a larger share of those markets. This increased market share not only enhances the export competitor's revenues but also weakens the target state's position in the global market.

Furthermore, countries abstaining from sanctions may seek alternative trade partners among the export competitors of the target state when their own trade options are restricted. A notable example of this occurred in the wake of sanctions imposed on Russia in response to its invasion of Ukraine. Canada, known for exporting similar agricultural commodities as Russia, experienced a substantial surge in global demand for its products. Recognizing the disruption in Russian wheat production, Brazil's Minister of Agriculture initiated discussions with Canada to explore the possibility of substituting agricultural products from Russia (McNish and Monga 2022). This case illustrates that how sanctions can heighten demand for similar products from the export competitors of the target state.

In sum, restrictions imposed on trade with a target economy can generate significant rents for firms

that compete with the target-state firms for similar goods in the face of sanctions by filling the void left by the sender's firms. This can create opportunities for third-party states to fill the market gap by exporting similar goods and services to the targeted country's trade partners. Consequently, third-party states that share high export similarity with the targeted country may find it advantageous to join a sanctions coalition as it presents economic incentives by offering opportunities to capture a larger market share. I thus put forward the following hypothesis:

**Hypothesis 1:** The greater the export similarities between a third-party state and the target state, the more likely the third-party state is to join economic sanctions against the target state.

Despite potential benefits, sanctions are costly for the sanctioning countries, particularly for businesses that operate in the target country. Sender firms may suffer additional costs if they develop a reputation for being untrustworthy business partners, which could hinder their ability to maintain existing business relationships or establish new ones after sanctions are lifted. Furthermore, if third-party states participate in imposing sanctions, they might face backlash from the target state, leading to substantial costs for third-party states. The targeted country may retaliate against the coalition members. This retaliation could take the form of trade restrictions, diplomatic tensions, or even military action. For example, when the United States imposed sanctions on Russia in 2014, Russia responded by imposing a ban on some imports from the United States and other Western countries, resulting in decreased trade and increased tensions between Russia and the West. Firms from non-sanctioning states may also take advantage of the absence of businesses from the sender country, which can lead to a reduction in the competitive advantage of the sender firms in the target market (Lektzian and Biglaiser 2013). Thus, states that compete with the target for similar exports may prefer the target to be sanctioned but do not want to bear the costs. This leads to the following hypothesis:

**Hypothesis 2:** Target's export competitors are more likely to join economic sanctions during the threat stage than the imposition stage.

### 1.3 Data & Methods

I introduce an original dataset on sanctioning coalitions to construct a comprehensive list of participating countries in each sanctions episode. This dataset has the sanction episode as a unit of analysis, covering more than 1,650 sanctions episode threats and impositions between 1945 to 2015. Among these, there are more than 380 instances of multilateral sanctions.

It is worth noting that existing datasets on sanctions exhibit several limitations, particularly in terms of capturing the number of states involved in each sanction episode. For instance, the Threat and Imposition of Economic Sanctions (TIES) Dataset provides information on states that either initiate threats or impose sanctions against a target state, but it is limited to a maximum of five states (Morgan et al. 2014). In cases where

sanctions are initiated through an international institution, senders are coded as missing unless the European Economic Community (EEC) or its successor, European Union (EU), imposes sanctions. Furthermore, the EUSANCT Dataset lacks information regarding the state primarily responsible for initiating the threats or the imposition of sanctions against the target, often referred to as the “primary sender” (Weber and Schneider 2022).<sup>6</sup> To overcome these shortcomings, I conducted a rigorous process of cross-referencing these datasets, supplemented by qualitative evidence, to enhance the information regarding participating states and primary senders within each sanctions episode.

The unit of analysis is a directed-dyad multilateral sanctions episode (realized sanctioning coalition). As this research examines the effect of third-party states’ economic motivation on the likelihood that a third-party state would join the sanctions coalition, the episodes where the primary sender is unidentified are excluded from the analysis.<sup>7</sup> I tested the hypothesis on three different samples. First, I test the hypothesis using all sanctions episodes regardless of the types of sanctions. Second, I limited the sample to trade sanctions as I expect that the incentives of the third-party states with similar export portfolios with the target states vary depending on sanctions types. Finally, I divided the trade sanctions into threatened and imposed sanctions because, at the threat stage, the primary sender must already consider coercive power because sanctions tend to be especially effective in the threat stage or during the first years of implementation (Drezner 2003; Lacy and Niou 2004; Nooruddin 2002; Morgan et al. 2009). The primary sender has an incentive to have the sanction succeed at the threat stage, and having the sanctioning coalition formed at the beginning of the sanctioning episode allows the primary sender to make use of the coercive power and credibility of multilateral sanctions as part of a threat. In addition, third-party states that compete with the target for similar exports may prefer the target to be sanctioned but do not want to bear the costs.

Should a potential partner join a sanctioning coalition with the primary sender (and end up becoming a sender), the outcome variable, *Join*, is coded one, and zero otherwise. Both the TIES and EUSANCT datasets contain information regarding the primary sender as well as up to five additional senders. While cross-referencing these datasets, I discovered instances where certain sanction episodes involved more than five senders. In response, I introduced supplementary sender variables to create a more comprehensive dataset. If the third-party state is one of senders in an episode, the join variable is coded as one, otherwise, it is coded as zero.

### *Independent Variable*

The primary explanatory variable is *export similarity between the third-party state and the target*, created

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<sup>6</sup>The EUSANCT Dataset covers sanctions threats and imposed sanctions by the European Union, the United States and the United Nations from 1989 to 2015.

<sup>7</sup>As a robustness test, I include sanctions episodes where the primary sender is unidentified.

by Chatagnier and Kavaklı (2017) who compute this value using data on commodity trade from the United Nations' (UN) Standard International Trade Classification (SITC) Revision 4 at the four-digit level (Feenstra et al. 2005). For each country-year, Chatagnier and Kavaklı (2017) first calculate the proportion of total commodity exports accounted for by each of  $k$  different commodities. This approach is useful as it helps to capture the relative industry salience to leaders: an industry that accounts for a relatively large proportion of a state's economy is likely to be especially important to a leader, regardless of total economy size. Then, for every pair of states  $a$  and  $b$  in a given year, Chatagnier and Kavaklı (2017) calculate the correlation between the two vectors using Pearson's  $r$ . For a given year, the similarity score equals one for any pair of states with an exactly identical export portfolio; it equals negative one for a pair of states that collectively exports all  $k$  goods, with no overlap across categories. Because states often export only a relatively small subset of the  $k$  goods, large negative scores do not occur in the data. Empirically, the measure varies from a minimum of approximately -0.05 to a maximum of 1. I lag the variable of interest to minimize potential problems from endogeneity and reverse causality. Due to limitations on data availability regarding commodity trade data, the time period is restricted to 1962 to 2005.

### *Control Variables*

I control for several factors that are plausibly associated with the third-party states' decision to join sanctioning coalitions and the export similarity between the sender and the target. To control for the openness of third-party and target states' economies to international trade, variables are included for the total proportion of each state's GDP that international trade constitutes. A variable for the total amount of trade conducted by the target  $\text{LAG}(\text{TOTAL TRADE}_T)$  is included to control for the potential magnitude of the disruptions caused by the sanctions. I extract trade data from the Correlates of War (2008) Trade Data version 4.0 and GDPPC from Gleditsch (2002), and both are lagged one year to ensure exogeneity.<sup>8</sup>

The more dependent the third-party state is on trade with targeted states, the more costly it would be for the third-party state to participate in sanctions efforts. The more valuable this bilateral trade, the more likely the income derived from trade with the target is to outweigh any benefits of joining the sanctions regime. To capture the degree of the third party's trade dependence on the target, I employ the trade share variable  $\text{LAG}(\text{TRADESHARE}_{3T})$ . It measures the portion that a third party's bilateral trade with a target state constitutes of the total trade that it conducts in a year. I code this variable using trade data from Correlates of War (2008) and lag it one year to ensure its exogeneity in the *trade differential* model. In isolation, this

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<sup>8</sup>Gleditsch (2002) "Expanded Trade and GDP Data." *Journal of Conflict Resolution* 46 (5): 712–24; Barbieri, Katherine and Omar M. G. Omar Keshk. 2016. *Correlates of War Project Trade Data Set Codebook, Version 4.0*. Online: <http://correlatesofwar.org>; Barbieri, Katherine, Omar M. G. Keshk, and Brian Pollins. 2009. "TRADING DATA: Evaluating our Assumptions and Coding Rules." *Conflict Management and Peace Science*. 26(5): 471-491.



variable should have a negative effect on the likelihood of joining.

To account for other potentially salient political variables, the presence of defense pacts, rivalries, and the distribution of power are included. Studies show that states with friendly relations and mutual alliance commitments are less likely use sanctions against one another (Drezner et al. 1999; Drury 2001). Defense pacts are drawn from the Alliance Treaty Obligations and Provision (ATOP) dataset (Leeds et al. 2002). ATOP defines an alliance as a formal pact among independent states to cooperate militarily when confronted with potential or realized military conflict (Leeds and Mattes 2007). Specifically, a defense pact entails a commitment to provide active military assistance if one or more members are attacked. Defense Pact<sub>SP</sub> is coded 1 if there exists a defense pact between the primary sender and the third party state. Similarly, Defense Pact<sub>PT</sub> is coded 1 if there exists a defense pact between the target state and the third party state. I expect that Defense Pact<sub>SP</sub> is positively correlated with the likelihood of joining while Defense Pact<sub>PT</sub> is negatively correlated with the likelihood of joining.

Using data from Klein et al. (2006), dummy variables are coded for whether the third-party states had enduring rivalries in year  $t$  with either the target (RIVALRY<sub>pt</sub>) or primary sender (RIVALRY<sub>sp</sub>). The presence of a rivalry between a target and a third party could lead the third party to be more supportive of the sender's sanctions, whereas a rivalry between the sender and the third party could make the third party more likely to bust sanctions. In addition, empirical evidence indicates senders with substantial material power are more likely to acquire international institutions' support (Jeong 2023). This is because the greater the relative strength of the primary sender compared to a third party, the more capable it is of compelling the third party's cooperation. The extent of the relative power of the primary sender vis-a'-vis third-party states varies across cases. Singer et al. (1972)'s Composite Index of National Capability (CINC) scores provide a widely accepted measure of national power that incorporates both elements of military and economic strength. POWER RATIO<sub>sp</sub> is coded as the logged ratio of the CINC score of the primary sender compared to the CINC scores of individual third parties.

To measure the similarity in foreign policy preference between the primary sender and the potential partner, I use estimated ideal points in the United Nations General Assembly (Bailey et al. 2017). I operationalize the divergence in foreign policy preferences by calculating the absolute difference between the ideal points of the primary sender and the potential partner. I expect that as this divergence increases, the likelihood of the potential partner joining the coalition decreases.

Based on findings that sanctions busting is more likely when both the third party and target are democracies (Early 2009), I include a variable to account for the effects of joint democratic governance. Using Marshall and Jagers's (2004) 10-point democracy index, Joint Democracy<sub>PT</sub> is coded as 1 if both the third party and the target have index scores of 6 or above, and 0 otherwise. This variable is expected to negatively

affect the likelihood of joining the coalition. Additionally, I lag the variables of interest in each model to minimize potential issues with endogeneity and reverse causality. Table 1 in Appendix presents the summary statistics for each of these variables as observed in the estimation sample.

## 1.4 Model and Results

Table 1.1: Export Similarity and Joining Sanctioning Coalition (1962-2015)

	Dependent Variable: Join			
	All	Trade Sanctions	Import Restriction	Export Restriction
Export Similarity	1.51*** (0.34)	1.89*** (0.40)	1.10* (0.87)	-1.95 (2.19)
Trade Share <sub>3T</sub>	-2.42 (1.48)	-3.00* (1.68)	-5.96*** (3.22)	6.52*** (6.22)
Ideological Distance	-1.05*** (0.11)	-0.95*** (0.13)	-2.07*** (0.30)	-1.39*** (0.30)
Joint Democracy <sub>3T</sub>	-0.67*** (0.22)	-0.78*** (0.28)	-0.38 (0.82)	0.90 (0.95)
Defense Pact <sub>3S</sub>	2.12*** (0.68)	2.68*** (0.53)	1.40 (0.60)	2.65 (1.41)
Defense Pact <sub>3T</sub>	0.86*** (0.26)	1.15*** (0.34)	1.16* (0.75)	6.23 (1.28)
Rivalry <sub>3S</sub>	2.40*** (0.39)	2.61*** (0.47)	-15.42*** (0.97)	-21.50 (1.59)
Rivalry <sub>3T</sub>	0.52 (0.63)	0.10 (0.78)	1.89*** (0.89)	-0.14*** (1.77)
(log) Power Ratio <sub>3S</sub>	-0.58*** (0.05)	-0.64*** (0.06)	-0.97*** (0.20)	-1.61** (0.26)
United States	1.58*** (0.29)	1.42*** (0.36)	2.79*** (1.13)	-14.99 (1.31)
Constant	-4.81*** (1.07)	-5.14*** (1.09)	-1.17 (0.78)	-2.91 (2.14)
Year FE	YES	YES	YES	YES
Target FE	YES	YES	YES	YES
N	16477	10276	2486	1599
Log Likelihood	-857.40	-576.16	-97.44	-59.38
AIC	1820.79	1240.32	242.89	158.76

Note: Robust standard errors are shown in parentheses. \*\*\*p < .01; \*\*p < .05; \*p < .1

Given the binary nature of the dependent variables, I use a logistic regression model to examine whether export similarity between the target and the third-party states influences the likelihood of the third-party states joining a sanctioning coalition. To account for the possibility of aggregate temporal trends, I incorporate year and target state-specific fixed effects.<sup>9</sup>

Table 1.1 reports the findings. Model 1 evaluates the theoretical argument using a sample of all types of sanctions between 1962 and 2015.<sup>10</sup> Model 2 limits the sample to trade sanctions, which includes total economic embargo, partial economic embargo, import restrictions, export restrictions, and blockade. Model 3 and 4 further limit the sample, focusing on the imposition of import restrictions and export restrictions, respectively.<sup>11</sup> All models were estimated using logistic regression with year fixed effect and robust standard

<sup>9</sup>The findings are consistent with alternative specifications that include sanction episodes fixed effects rather than target state fixed effects. The results appear in the appendix.

<sup>10</sup>The following is a list of sanction types identified by scholars: total economic embargo, partial economic embargo, import restrictions, export restrictions, blockade, financial sanctions (or asset freeze), termination of foreign aid, travel ban, suspension of economic agreement, diplomatic sanction, and arms embargo.

<sup>11</sup>Import restriction is a type of sanction where the sender refuses to allow or places a restriction on a certain good or set of goods to be imported from the target state. Export restriction is a type of sanction where the sender refuses to allow certain goods or services to be exported to the target states.

errors.

Model 1 shows that export similarity has a significant positive relationship with the likelihood of joining coalitions, suggesting that third-party states with higher export similarity to the target states are more likely to join sanctioning coalitions. This result is robust when the sample is restricted to trade sanctions. The findings indicate that export similarity has a significant positive relationship with the likelihood of joining coalitions when the sample is limited to trade sanctions.

The theoretical expectation posits that a third-party state has an economic incentive to restrict the target state's trade, especially concerning the target's exports in competing markets. To test this, I conducted a statistical analysis focusing on import restrictions and export restrictions as separate categories. In Model 3, the results show a strong positive correlation between export similarity and a third-party state's likelihood of joining import restrictions. This implies that higher export similarity between the target state and the third party increases the likelihood of the third party joining import restrictions. In contrast, Model 4 demonstrates a negative correlation between export similarity and a third-party state's likelihood of joining in export restrictions; however, this effect is not statistically significant. In summary, the findings suggest that export similarity influences a third-party state's decision to join import restrictions differently than export restrictions. The economic incentives driving a third-party state's participation in sanctions are primarily related to restricting the target state's exports.

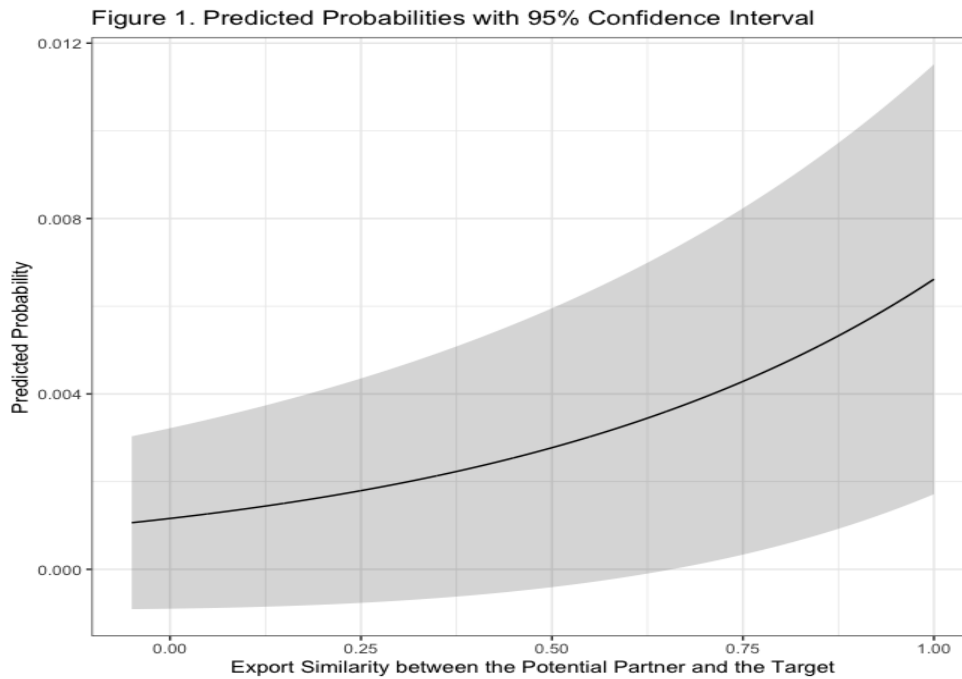


Figure 1.1: Fitted Values of the Probability of Joining by Export Similarity between the Target and the Third-Party State with 95% Confidence Interval, Holding all Other Independent Variables at Their Mean Values. As Export Similarity between the Target and the Third-Party State Increases, the Probability of Joining Increases.

Expanding on the substantive meaning of this relationship, Figure 1.1 illustrates the predicted effects of export similarity on the probability of joining a sanctioning coalition that either threatened or imposed trade sanctions (Model 2). Consistent with Hypothesis 1, the plot shows that the probability of joining sanctions increases with greater similarity in export portfolios between the target and the third-party state.

Next, I conducted an additional analysis using the average marginal conditional effects (AMCE) to test whether the target's export competitors are more likely to join economic sanctions during the threat stage than the imposition stage (Hanmer and Ozan Kalkan 2013). Given the nonlinearity of the models, the effect size of a change in the independent variable of interest depends on the values of other independent variables, making it challenging to interpret coefficients in the model straightforwardly. Estimating marginal effects allows for a better understanding of the substantive implications in nonlinear models.

The results are reported in Table 1.2. The models in Table 1.2 report the marginal effects for different subsets of sanction types. The size of the effects in the Trade Threat models (Model 3 and Model 5) exceeds the size of the effects in the Trade Imposition models (Model 4 and Model 6), supporting Hypothesis 1b. The effect size is the largest when the trade sanctions are both threatened and then imposed (model 7). A close look at the types of trade sanctions indicates that export similarity is positively associated with the likelihood of third-party state joining import restrictions, although it is not statistically significant.

Table 1.2: Regression Results with Marginal Effects

	(1) All	(2) Trade	(3) Trade Thrt	(4) Trade Imp	(5) Trade Threat Only	(6) Trade Imp Only	(7) Trade Threat&Imp	(8) Import Restriction	(9) Threat: Import Restriction	(10) Export Restriction
Export Similarity	1.634*** (0.390)	2.037*** (0.426)	2.769*** (0.581)	1.768*** (0.508)	2.470*** (0.891)	1.189* (0.693)	2.960*** (0.833)	1.084 (1.151)	-1.162 (1.436)	-4.932 (3.106)
Trade Share <sub>3T</sub>	-1.563*** (1.421)	-2.199 (1.602)	-3.459* (1.948)	-2.510 (2.379)	-0.112 (2.093)	1.687 (3.514)	-8.967* (4.697)	-5.954 (4.909)	-13.843* (8.327)	4.807 (19.863)
Ideal Point Distance <sub>3S</sub>	-0.955*** (0.125)	-0.985*** (0.145)	-1.451*** (0.211)	-0.727*** (0.166)	-1.220*** (0.304)	-0.415** (0.204)	-1.731*** (0.314)	-2.055*** (0.460)	-2.582*** (0.641)	-1.585*** (0.496)
Joint Democracy <sub>3T</sub>	-0.631 (0.243)	-0.615** (0.304)	-0.781 (0.479)	-0.435 (0.374)	0.410 (0.974)	-0.025 (0.563)	-1.452* (0.798)	-0.386 (0.864)	0.409 (0.995)	15.761 (2,288.706)
Defense Pact <sub>3S</sub>	2.388*** (0.225)	2.614*** (0.259)	2.601*** (0.373)	2.866*** (0.317)	2.055*** (0.499)	2.886*** (0.415)	3.125*** (0.641)	1.371** (0.595)	0.679 (0.807)	1.483 (1.140)
Defense Pact <sub>3T</sub>	0.444 (0.294)	0.672* (0.367)	1.346*** (0.473)	0.547 (0.445)	0.141 (0.799)	-1.014 (0.830)	2.204*** (0.701)	1.175 (0.790)	1.585 (0.983)	1.414 (1.792)
Rivalry <sub>3S</sub>	2.337*** (0.417)	2.700*** (0.476)	3.204*** (0.643)	2.264*** (0.606)	3.463*** (0.770)	2.131*** (0.799)	3.038*** (1.085)	-15.457 (4,045.352)	-14.632 (5,375.963)	-19.756 (10,950.530)
Rivalry <sub>3T</sub>	0.192 (0.765)	0.220 (0.788)	-13.824 (678.530)	0.158 (0.811)	-11.543 (715.858)	1.029 (0.916)	-15.358 (1,390.721)	1.896* (1.022)	-13.235 (3,104.059)	2.020 (1.472)
(log) Power Ratio <sub>3S</sub>	-0.641** (0.057)	-0.651*** (0.066)	-0.633*** (0.092)	-0.698*** (0.079)	-0.520*** (0.134)	-0.712*** (0.102)	-0.801*** (0.139)	-0.977*** (0.182)	-1.261*** (0.260)	-1.800*** (0.362)
United States	1.596 (0.326)	1.414*** (0.390)	1.810*** (0.600)	1.390*** (0.496)	1.350* (0.769)	-0.183 (0.737)	2.816* (1.453)	2.749** (1.125)	4.638*** (1.380)	2.605 (2.140)
Observations	11,710	8,929	5,720	5,987	2,942	3,209	2,778	2,483	1,878	1,228
Log Likelihood	-657.954	-509.365	-282.517	-367.490	-133.243	-209.991	-139.912	-97.389	-62.367	-45.733
Akaike Inf. Crit.	1,401.909	1,100.731	633.033	808.980	316.487	471.982	335.825	242.778	164.734	127.466

Note: Robust standard errors are shown in parentheses. \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

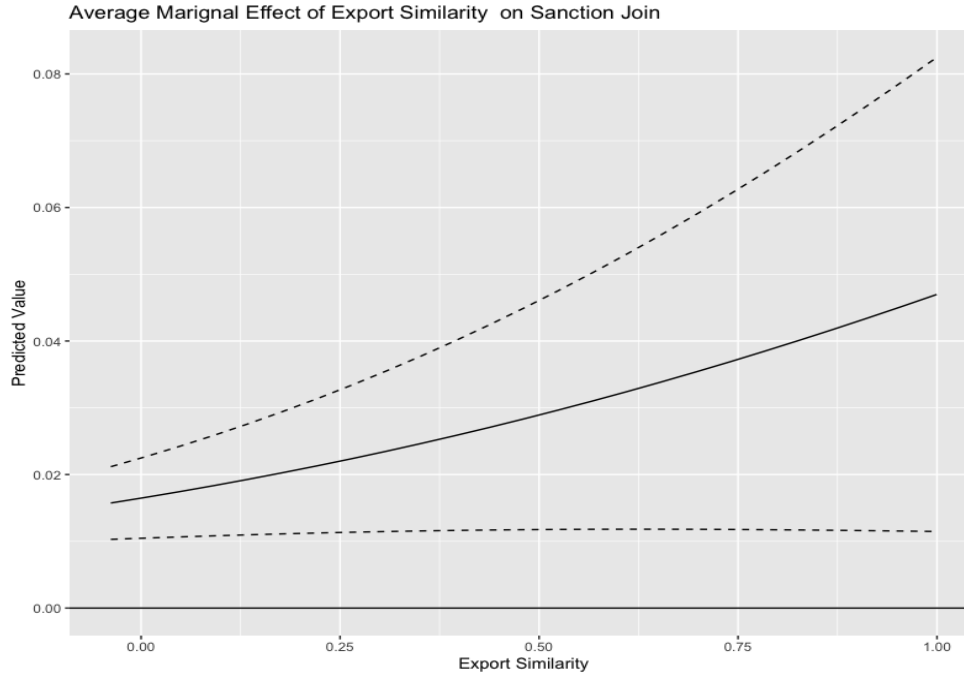


Figure 1.2: Marginal Effect of Export Similarity on Sanction Join

Figure 1.2 graphically illustrates the marginal effects of export similarity on the likelihood of a third party state’s joining sanctions. An increase in export similarity between the target state and the third party state increases the likelihood of the third-party state joining sanctions. Thus, Hypothesis 1a is supported by the empirical analysis.

Looking at the control variables, both *Ideal Point Distance* and *Defense Pact<sub>3S</sub>* exhibit statistically significant coefficients that align with my expectations. Some indicators, however, yielded unexpected results. For example, the *Power Ratio* between the primary sender and the third party is negatively associated with the third party state’s likelihood of joining sanctions, while *Rival<sub>3S</sub>* is positively associated with the third party state’s likelihood of joining sanctions.

Moreover, *Defense Pact<sub>3T</sub>*, *Rival<sub>3S</sub>* and *Joint Democracy* do not show consistent results across the models. This inconsistency may be driven by the importance of the triadic relationship rather than the dyadic relationship (Jeong 2023). Finally, the United States as a sender also exhibit inconsistent results, but this result could be attributed to United States selectively building international coalitions when its unilateral power is low and the value of success is high (Kavaklı and Chatagnier 2022).

## 1.5 Conclusion

This research explores the question of what factors drive third-party states' decisions to join sanctions coalitions beyond traditional strategic, ideological, or reputational concerns. I argue that economic incentives related to trade competition can significantly shape states' choices to participate in sanctions efforts, particularly when the target state's exports directly compete with those of the third-party states. The findings show that higher export similarity between a third-party state and the target increases the likelihood of that third-party state joining a sanctions coalition. This relationship is robust across various models and holds true for different types of sanctions, particularly trade sanctions and import restrictions. This study also examines nuanced factors within the trade similarity relationship, such as raw goods versus manufactured goods, oil versus non-oil goods, and strategic versus nonstrategic goods, highlighting the specific contexts where export similarity is most influential.

The results of this research carry two important implications for the study of economic sanctions and their effectiveness. First, the findings challenge conventional notions about the motivations behind states' decisions to join sanctions coalitions, underscoring the importance of considering economic competition as a crucial factor. This research contributes to the broader understanding of how states cooperate and interact during times of crisis, extending beyond economic sanctions to military coalitions and other cooperative efforts. Second, the insights from this study could be of significant value to policymakers seeking to build effective sanctions coalitions. By identifying trade competition as a motivating factor, this research provides a new lens through which international actors can assess potential coalition partners and design strategies that align with their economic interests. The results suggest that policymakers can anticipate which states are more likely to join sanctions efforts based on their export portfolios and economic priorities.

Future research should address the dynamics within these coalitions, examining how varying motivations of coalition members might affect the cohesion and effectiveness of the sanctions regime. While the current study primarily focuses on the economic incentives of third-party states to join sanctions coalitions, understanding how different motivations align or diverge within a coalition could shed light on the challenges and opportunities associated with multilateral sanctions efforts.

## CHAPTER 2

### Shared Trade Partners and Imposition of Economic Sanctions

Does trade affect states' ability to exercise power over other states? As an alternative to the use of force, sanctions have become popular to advance foreign policy objectives, despite skepticism about their effectiveness in inducing policy change. In the 1990s and 2000s, sanctions doubled from 1950 to 1985, and they doubled again in the 2010s. As of September 2022, the Office of Foreign Assets Control (OFAC) maintains 39 active sanctions programs against 30 countries. For instance, the United States and its NATO allies imposed sweeping sanctions in response to Russia's invasion of Ukraine in 2022. Recently, China has used trade sanctions to penalize countries that criticize its government or engage in territorial disputes. Given the global popularity of economic sanctions, it is crucial to understand how international trade translates into coercive power and to examine the conditions under which economic sanctions succeed.

The theoretical framework on economic coercion posits that states can compel other states to change their behavior by inflicting economic pain on them. A substantial body of research has investigated the relationship between economic interdependence and both the use and the outcome of economic sanctions. Empirical studies find that costs imposed on target states are positively associated with the effectiveness of economic sanctions (Morgan and Bapat 2013). Previous studies on sanctions generally focus on dyadic trade relations or the role of the third-party states.<sup>1</sup> However, dyadic trade typically represents a small fraction of countries' total trade and can be often easily replaced by alternative trading partners. In the era of globalization, as states are increasingly integrated into the global economy, dyadic trade is of relatively low importance and highly substitutable.<sup>2</sup> Thus, dyadic or triadic trade should be only a weak predictor of economic leverage. Furthermore, recent studies emphasizing multilateral trade tend to assume that every third party would suspend trade if sanctions were imposed (e.g., Hafner-Burton and Montgomery 2008, Cranmer et al. 2014, Joshi and Mahmud 2020, and Peterson 2020). However, third-party states often continue or even increase their trade with targets. In this regard, scholars should focus on who is central to creating the economic opportunity costs that reduce conflict.

In this paper, I develop a framework explaining how the potential costs of sanctions coalitions affect the onset and the outcomes of economic sanctions. I argue that a shared trade partner between the potential sender and the target plays an important role in shaping the sender's ability to exercise power over the target. Shared

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<sup>1</sup>On the one hand, a third-party state can undermine sanctions by increasing its market share in the target state (e.g., Early 2009; McLean and Whang 2010), thereby weakening the effect of sanctions. On the other hand, the uncertainty and vulnerability of the target's market may lead to a reduction in the bilateral trade between the target and non-participants (citation).

<sup>2</sup>The rise of multinational production, intra-firm trade, and extensive global value chains (Brooks 2005; Garrett 2000; Gartzke 2007) has accelerated the integration of the global economy.

trade powers are critical to creating economic opportunity costs because they may (1) punish the target by imposing economic sanctions, implementing unfavorable trade policies or reduce trade with the target, or (2) undermine the sender's ability to hurt the target by increasing its trade with the target and providing access to alternative markets for the target's lost trade. Consequently, the shared trade partner, concerned with both national security and economic incentives, decides whether to join the sanctions coalition or remain outside it. Its decision can affect the sender's ability to exert influence over the target by increasing or decreasing the value of trade loss in the event of sanctions. Although the sender's trade value to a potential target is a critical source of the sender's economic leverage, the sender's economic leverage over the shared trade partners with the target also determines the sender's ability to inflict pain on the target. This is because the sender can impose greater costs on the target when shared trade partners join the sanction coalitions. In other words, states can use their economic leverage to ensure coalition support, and one major source of such power is the trade network.

To test this argument, I compile trade data from Gleditsch (2002), *Correlates of War (COW) Trade 4.0*, and sanctions data from TIES and EUSANCT. A state's indirect leverage is measured by (1) a (potential) sender state's trade value to the shared trade partners with a (potential) target (2) the shared trade partners' trade value to a (potential) target. Controlling for other important factors, I find that an increase in the sender's indirect leverage over the target through the shared trade partners increases the probability of sanction threats and impositions. Additionally, I find that the sender's indirect leverage through the shared trade partners is positively correlated with the target's acquiescence to sanction impositions. However, contrary to my expectations, there is no statistically significant relationship between the sender's indirect leverage and target's acquiescence to sanction threats.

This study makes several contributions to international relations research. First, it offers a novel channel for states to exert economic leverage. While previous studies have illuminated the relationship between economic interdependence and economic sanctions, they have painted an incomplete picture of the anticipated economic cost of the coercion via third parties. I suggest that shared trade partners between a potential sender and a target are critical players who can impose economic costs on a potential target. By incorporating the concept of networks, we gain a better understanding of the complex interdependencies that influence cooperative and conflictual interactions among states, including sanctions, alliances (Kinne 2018) and arms transfers (Thurner et al. 2019). Second, this research contributes to game-theoretic work emphasizing the role of uncertainty as a cause of economic sanctions (Eaton and Engers 1999; Eaton and Engers 1999; Langlois and Langlois 2010; Spaniel and Smith 2015). "These studies demonstrate how, in the presence of uncertainty, sanctions can arise from rational gambles in which the sanctioning state imposes costly sanctions in the hope that the target is a weak type that will fold quickly. However, scholars have overlooked how this uncertainty



might arise in practice. Consequently, the role of uncertainty in the context of economic sanctions lacks statistical assessment. By modeling uncertainty both theoretically and empirically, we bring clarity to the literature on economic sanctions.” Finally, understanding how states form coalitions is important, especially given that there is a steady increase in the use of multilateral sanctions since the end of the Cold War. In recent years, the United States has increasingly imposed secondary or extraterritorial sanctions on non-US firms, forcing them to comply with US sanctions or face restricted access to the US market. While this paper focuses the relationship between international trade network and economic sanctions, it has broader theoretical implications for studies on how states cooperate in times of crisis.

## **2.1 Literature Review on Trade and Economic Sanctions**

Why do the states impose economic sanctions? Rationalist explanations suggest that sanctions result from asymmetric information (Eaton and Engers 1999; Spaniel and Smith 2015) or aim to constrain the military power of the target state (McCormack and Pascoe 2017). For instance, Spaniel and Smith (2015) highlight the tenure of leaders introduces uncertainty regarding their resolve, finding that sanctions are less likely to be imposed as leader tenure increases. McCormack and Pascoe (2017) argue that state leaders use sanctions as tools of military containment, preventing adverse shifts in the distribution of power that could lead to armed conflict. In this view, sanctions may appear to be ineffective but serve to lock in the status quo to the benefit of the sender states.

Domestic incentives explanations contend that state leaders are incentivized to implement sanctions when they can perceive political benefits (Smith 1996). Leaders aiming to stay in office align government policy with domestic actors’ preferences, and foreign policy is not immune to domestic political concerns (McGillivray and Stam 2004). Compared to trade and immigration policies, U.S. presidents have more discretion in sanctions policy, which has relatively narrow and limited distributional consequences and few ideological divisions (Milner and Tingley 2015). Empirical evidence shows that policymakers design sanctions to satisfy competing preferences of voters and special interest groups (Kaempfer and Lowenberg 1992; McLean and Whang 2014), leading to imposition of ineffective sanctions. Furthermore, presidents are more likely to impose economic sanctions with goals of regime change to appeal to influential diasporas in swing states (Kustra 2020). Unsuccessful sanctions are often implemented for symbolic reasons (Lindsay 1986), particularly when media coverage of human rights abuses prompts public demand for action without the willingness to bear the costs of military intervention (Peksen et al. 2014). These findings suggest that national leaders may impose sanctions to appeal to domestic constituents rather than to serve national interests.

The theoretical framework on economic coercion posits that states can compel other states to alter their behavior by imposing economic pain. Economic interdependence inhibits the use of force by increasing

opportunity costs of trade disruption or providing states a means of demonstrating costly signaling without resorting to military violence (Gartzke and Li 2003; Morrow 1999). In this context, a government may only need to threaten to cut off trade to signal its resolve. This signal of resolve should encourage states to back down during a crisis, thereby reducing the onset of high-level conflict and increasing overall cooperation (Dafoe and Kelsey 2014; Gartzke et al. 2001). This argument, essentially claiming that economic coercion can substitute for military coercion, has been extended to other costly behaviors such as economic sanctions (Drezner 2011).

Scholars have extensively explored how bilateral trade relationships between the sender and the target influence the likelihood of sanction imposition and success through the costs of trade disruption. The primary mechanism is that trade relationship determines the sender's capacity to inflict harm and the target's vulnerability to economic coercion. Sanctions imposition and success are linked to the sender's market share in the target (Bapat and Kwon 2015), total exports from the sender to the target (McLean and Whang 2014), the composition of sender-target trade (Akoto et al. 2019), and market power of each side (Kavaklı et al. 2020). For instance, Kavaklı et al. (2020) argue that comparative advantage in exports and domestic production capabilities of each side determine the sender's ability to minimize costs of trade disruption while maximizing its power to hurt the adversary. Their findings indicate that sanctions are more likely to succeed when the sanctioning state holds a comparative advantage in goods exported to the target. Conversely, sanctions are more likely to fail if the target has a diverse export portfolio or a comparative advantage in exports. This pattern is particularly evident in the case of imposed sanctions.<sup>3</sup>

However, empirical evidence show mixed results about the relationship between bilateral trade and the effectiveness of sanctions produces mixed results (Lektzian and Souva 2007; Morgan and Bapat 2013; Cranmer et al. 2014). One key issue is the strategic dilemma faced by sanctioning states. These states often have disincentives to enforce sanctions policies that impose substantial costs on the target, as restricting economic transactions with targeted states can harm the economic interests of export-oriented firms and undermine their competitiveness in the target's market. For instance, McLean and Whang (2014) find that as the sender's exports to the target increase, senders are more likely to impose targeted sanctions while reducing their reliance on export and aid sanctions, thereby protecting the economic interests of domestic groups. Similarly, Bapat and Kwon (2015) demonstrate that the sender refrains from enforcing the sanctions when they have a moderate share of the target's market relative to its foreign competitors, due to the risk of losing market share to foreign competitors. This helps explain why sanctions often appear ineffective; they are typically imposed only when the conditions do not favor their success.

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<sup>3</sup>In Bapat and Kwon (2015), the sender's market share in the target is measured in terms of the proportion of the target's economic exchanges with the sender's firms over the target's total amount of foreign economic exchanges.

A strand of the sanctions literature has explored the role of third-party states in undermining the effectiveness of sanctions success via “sanctions busting” (e.g., Early 2009; McLean and Whang 2010). Trade integration provides a state with greater political autonomy by decreasing its reliance on a single trade partner and increasing opportunities for trade diversion and substitution to alternative import and export markets (Barbieri 1996). Increased trade integration allows targets to find alternative markets following the imposition of sanctions, mitigating the economic costs. These studies primarily focus on the impact of the target’s third-party ties after, rather than before, the imposition of sanctions. Hence, little is known about whether the target’s economic ties with third-party states affect the strategic interaction preceding sanctions.

A growing number of studies incorporate network attributes into the study of conflicts among states. The assumption is that a state’s structural position in international trade network (Peterson 2020 ) and the preferential trade agreement network ( Hafner-Burton and Montgomery 2008 ) determine its economic leverage over other states. Thus, a state with high centrality in such network are more likely to use sanctions. For instance, Peterson 2020 demonstrates that states are more likely to threaten sanctions when their trade is highly valuable to trade partners weakly integrated into the global trade network.<sup>4</sup> Conversely, when states become more vulnerable and prone to yielding when their trade value to well-connected partners is low, as these partners can easily redirect their trade to other established markets at minimal cost, unlike weakly connected partners who face higher costs due to fewer alternative markets. Relatedly, scholars focusing on the structure of interdependencies find that reciprocity—in particular sanction reciprocity and compliance reciprocity—plays a substantial role in the initiation and continuation of sanctions (Cranmer et al. 2014) as well as their duration (Dorff and Minhas 2017). These studies demonstrate a growing recognition that network analysis can capture important channels of influence that dyadic analysis fails to capture.

While previous studies using network approach highlight the importance of network centrality and structural positions, they treat assume third-party states within a network homogenously and that third-party states within a network react uniformly to the primary sender’s use of economic sanctions. However, I focus on trade relationships among the sender, the target, and potential coalition partners and recognize the importance of shared trade ties between the sender and the target. Consider a case in which the sender has high trade value to its trade partners that are weakly connected to the global trade network but are not directly connected to the target. In this case, the sender has the leverage to influence its trade partners to join the sanction coalition because the trade partners with weak tie to global trade network would face greater cost in the event of trade interruption due to a limited choice of alternative markets. Their participation, however, would have little effect on the target if their trade tie with the target is weak. Thus, the sender’s trade value to its trade

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<sup>4</sup>Peterson defines a state’s value to trade partners based on the number of trade partners and the strength of its trade ties in terms of the income of its trade partners; the connectedness of a state’s trader partners to the global trade network represents the degree to which these partners are embedded in a global trade network.

partners and the connectivity of its trade partners to the global trade network are insufficient to capture the sender's capacity to inflict pain on the target.

## **2.2 Leverage Indirect Trade Channels: Global Trade Network and Sanctioning Behavior**

In this paper, I propose that a state's likelihood to impose sanctions, as well as its propensity to comply when threatened or subjected to sanctions, depends on the costs it and its trade partners would incur, if trade were interrupted. I argue that a state's position in the global trade network provides information on these costs. As Farrell and Newman (2019) articulated, asymmetric network structures enable "weaponized interdependence," where some states exploit interdependent relations to coerce others. In this context, I contend that the trade value of potential sanctions coalitions is critical source of the sender's ability to exercise power over the target.

Specifically, I define *the trade value of potential sanctions coalitions* in terms of two components of trade: (1) the sender's trade value to shared trade partners with the target, and (2) the shared trade partners' trade value to the target. I focus on the shared trade partners between a sender and a target because the number of shared ties between the sender and the target provides information about the potential size of sanction coalitions that the sender can mobilize. A sender with numerous shared trade partners can impose substantial costs on a target by persuading these partners to join a sanction coalition, effectively severing their trade ties with the target. The more shared trade partners there are, the higher the potential cost to the target if those partners participate in sanctions. In other words, the sender can have more resources to draw upon through their network connections. Consequently, the sender can leverage its network connections to enhance its coercive power. The target faces greater costs and thus is more vulnerable because its trade partners can potentially cut off existing trade relations. Conversely, if the sender state has few shared trade partners with the target, it has a smaller support base for sanctions, and the target is less vulnerable. The number of shared trade partners, however, may not be crucial if their trade value is negligible to the target. Greater trade flows increase economic vulnerability, enabling major trading partners to play a pivotal role during sanctions. Therefore, considering the trade value of shared trade partners is crucial to understanding their potential leverage over the target.

Sanctions coalitions are not limited to shared trade partners between the sender and the target; countries only connected to the sender or the target may also join. Without preexisting trade relationships, however, these states have limited ability to impose significant costs on the target. In addition, a sender without a direct trade tie to third-party states that trade with the target has little leverage. For example, during the Cold War, the United States lacked economic leverage over the Soviet Union due to the absence of a direct trade relation, preventing it from curtailing the Soviet Union's economic and military aid to Cuba. Thus, I focus

on the shared trade partners between the sender and the target to capture the sender's indirect leverage over the target.

Existing literature on sanctions recognize that third-party states can significantly influence both the onset of sanctions (Crescenzi 2003; Peksen and Peterson 2016b) and the sanction outcome (Crescenzi 2003; Early 2009; Early and Spice 2015; McLean and Whang 2010; Peksen and Peterson 2016b) by either cooperating with the sender or engaging in "sanctions busting," which involves increasing trade with the target state. For instance, McLean and Whang (2010) find that the target is more likely to acquiesce to the sender's demand if the sender has the support of the target's major trading partners. Similarly, Peksen and Peterson (2016b) show that sanctions are more likely to be threatened or imposed a potential target with higher trade dependence on the sender, but only if the target has a low ability to redirect lost trade to third parties. Furthermore, multi-lateral sanctions tend to be more successful than unilateral sanctions, particularly when conducted through international institutions, which reduce transaction costs of cooperation and provide incentives to commit (Drezner 2000b; Bapat and Morgan 2009; Morgan et al. 2014).

Once the sender initiates sanctions, third-party states face competing incentives that shape their decision to support the sender or side with the target. The decision to sever trade ties with the target may stem from the similarity in policy preferences or alliance with the sender state. In such cases, closely aligned states may participate in sanctions without coercion from the sender. For instance, in response to Russia's invasion of Ukraine, the United States and its allies swiftly imposed extensive economic sanctions on Russia to counter its aggression, which threatens international security and stability. Conversely, China, whose trade made up about 45% of Russia's economy in 2020, opposed the sanctions and continued trading with Russia. China's stance was unsurprising given the divergence in foreign policy preferences between China and the United States.

However, the sender might need to coerce closely aligned states to join the sanctions coalition if they wish to free-ride or if their level of sanctions does not meet the sender's expectations. While both the United States and European Union states aimed to counter Russia's aggression in Ukraine, the European Union states initially resisted calls to impose an embargo on energy imports from Russia due to its heavy dependence on Russian energy. In such cases, the United States may need to pressure its European allies to adopt tougher sanctions against Russia.

Moreover, the sender state sometimes impose secondary sanctions on entities doing business with the target. The United States significantly increased the enforcement of secondary sanctions following the its 2018 withdrawal from the Joint Comprehensive Plan of Action and the subsequent expansion of secondary sanctions on Iran. For instance, in 2020, the U.S. Treasury applied secondary sanctions on Turkey's Defense

Industry Directorate and its chief over Ankara's purchase of Russian S-400 missiles.<sup>5</sup>

On the other hand, third-party states may decide to bust sanctions due to political concerns. A notable example is the "black knight effect," where third parties aim to counteract the negative economic impact of sanctions on the target (Drury 1998; Hufbauer et al. 2009). These third-party states are politically motivated to thwart the sanction by opening their markets for the target's loss of trade and providing economic aid. Previous research also finds that sanctions-busting behaviors are often motivated by economic incentives rather than security considerations (Early 2009). Economic sanctions present opportunities for third-party states to gain economically by increasing trade with the target while sanctions participants restrict their trade exchanges with the target. Regardless of whether third parties are motivated by the black-knight effect or opportunistic rent-seeking, the expected result of their sanction-busting behavior is an increase in trade and other economic ties between these states and the target. Consequently, sanctions busters can reduce the intended cost of the coercion, potentially thwarting the sender's attempt to coerce policy change (Early 2009; McLean and Whang 2010).

Given the presence of potential sanction busters, the sender must consider the extent to which it can garner third party support when deciding whether to use sanctions. Acting strategically, the sender is less likely use sanctions if it anticipates limited support from other states and the target's ability to easily redirect lost commerce.

I argue that the sender's ability to exercise leverage on the target comes from the trade value of potential sanction coalition. Specifically, I define the trade value of potential sanction coalition in terms of two components of trade as an important source of the sender's leverage that could affect target's vulnerability to economic sanctions: (1) the sender's trade value to the shared trade partners with the target (2) the shared trade partners' trade value to the target.

Whether shared trade partners join the sanctions coalitions depends on the sender's relative influence on these partners compared to the target's influence. The sender's relative value to shared trade partners is proportional to its trade value to these partners and is inversely proportional to the total trade value of the sender and the target with these partners. A state whose trade constitutes a larger proportion of its trader partners' income is more valuable to those partners. Coercion hinges on the ability to impose costs on the opponent in case of resistance. Higher trade value implies greater leverage to coerce trade partners because these trade partners would face significant costs if trade were interrupted.

For example, if State A (sender) and State B (target) have a shared trade partner, State C, State C is likely to comply with State A's request to cut off trade with State B if State A's trade value is greater than that of State

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<sup>5</sup>Reuters. March 10, 2022. Available at <https://www.reuters.com/world/middle-east/time-lift-unjust-sanctions-turkeys-defence-industry-erdogan-tells-biden-2022-03-10/> Accessed 1 May 2022

B. In other words, the costs of halting trade with State B should be smaller than costs of potential punishment by State A. If State C values State A and State B equally, it may hesitate to participate in sanctions. All else equal, the sender will have greater leverage on shared trade partners when its trade value is higher than that of the target, making shared partners more likely to join sanctions. As the sender's economic leverage over shared trade partners increases, the target anticipates higher costs from economic sanctions and finds it difficult to redirect lost trade due to greater sanctions coalition. This, in turn, provides the sender with greater leverage and makes the target more vulnerable to sanctions, as the sender can inflict sufficiently large costs on the target. Since the expected costs of sanctions on the target are significant, we can expect that the targets are more likely to comply to sanctions threats. In sum, the success of sanctions is determined by the target state's dependence on the (potential) sanction coalition and the sender's ability to exploit this dependence. This discussion leads to the following hypotheses:

**Hypothesis 1:** A state is more likely to initiate sanction threats as a state's economic leverage over the target increases.

**Hypothesis 2:** The target state is more likely to acquiesce to sanction threats as the sender's economic leverage over the target increases.

The existing literature suggests that sanctions appear ineffective because the targets can make a concessions before sanctions are imposed to avoid the potential costs (Smith 1996; Drezner 2003 ). Empirical evidence supports that sanctions are more effective at the threat stage than at the imposition stage (Morgan and Miers 1999). In line of this reasoning, I expect that an increase in the sender's leverage over the target will lead to a decrease in sanctions imposition because the target is more likely to acquiesce at the threat stage. As the sender is more likely to succeed in altering the target's policy, the sender, in turn, is less likely to impose sanctions. However, once the sanctions are imposed, the target is more likely to acquiesce to sanction impositions as the sender's economic leverage over the target increases. I thus put forward the following hypotheses:

**Hypothesis 3:** A state is less likely to impose sanctions as a state's economic leverage over another state increases.

**Hypothesis 4:** The target is more likely to acquiesce to sanction impositions as the sender's economic leverage over the target increases.

### 2.3 Data & Methods

I draw data primarily from four sources. I identify sanction episodes using the Threat and Imposition of Economic Sanctions (TIES) dataset, version 4.0 (Morgan et al. (2014)) and the EUSANCT dataset (Weber and Schneider 2022). This data set includes over 1,400 sanction episode threats and impositions from 1945

to 2013. I examine sanction threats and imposition separately because research suggests that successful coercion is more likely to occur during the threat stage (Drezner 2003; Lacy and Niou 2004; Nooruddin 2002). Additionally, I draw trade information from three data sources. Trade data spanning 1948-2000 come from the expanded GDP and Trade Data version 4.1 (Gleditsch 2002) and trade data spanning 1945-1947 and 2001-2013 come from the Correlates of War (COW) Trade data set version 4.0. Finally, I draw on a set of control variables from the COW project.

Given that hypothesis 1 and 3 analyze when states issue sanction threats or imposes sanctions and that this decision is partly dependent on the relationship between the states, the unit of analysis for hypothesis 1 and 3 is the directed-dyad year. The unit of analysis for hypothesis 2 and 4 is sanction episodes from 1945 to 2005.<sup>6</sup> This period is delimited by the availability of sanctions data, which is unavailable for the period before 1945 and after 2005; sufficient coverage of cross-national GDP data used to calculate leverage and vulnerability is unavailable prior to 1950, while sanction threat initiation data is unavailable for the period after 2005.

Given my theoretical expectations, I have four primary variables of interests. The variables *threat initiation* and *sanction imposition* indicate whether a country A issues sanction threats or impose sanctions on country B. *Threat Acquiescence* equals 1 if TIES records the outcome of the sanction threat when the target acquiesces completely or partially to the sender's demand or negotiates a settlement (that is, where the final outcome variable is equal to 1, 2, 6, or 7). *Imposition Acquiescence* equals 1 if TIES records the outcome of the sanction imposition when the target acquiesces fully or partially to the sender's demand (that is, where the final outcome variable is equal to 1, 2, 6, or 7).<sup>7</sup> Given the construction of these binary dependent variables, I use logit models to assess support for the hypotheses.

The primary explanatory variable is *the sender's indirect economic leverage over the target*. This variable is generated using Expanded Trade and GDP data collected by Gleditsch (2002) and World Bank and COW Trade data version 4.0<sup>8</sup> This variable measures a state's indirect economic leverage over another state as a combination of (1) a (potential) sender state's economic leverage on the shared trade partners between a sender and a target (2) the (potential) shared trade partners' economic leverage on a (potential) target. I define the shared trade partner as third parties  $k$  who trade with both actors  $i$  and  $j$ . The sender's economic leverage over the target is defined as the ratio of the sender's economic leverage on a target's trade partners to the target's trade partners' economic leverage on the target. That is,

<sup>6</sup>There is only one sanction episode in 1945; the United States threatens and imposed sanction against China.

<sup>7</sup>As a robust check, I run additional models which examine complete acquiescence as the dependent variable.

<sup>8</sup>Gleditsch (2002) "Expanded Trade and GDP Data." *Journal of Conflict Resolution* 46 (5): 712-24; Barbieri, Katherine and Omar M. G. Omar Keshk. 2016. *Correlates of War Project Trade Data Set Codebook, Version 4.0*. Online: <http://correlatesofwar.org>; Barbieri, Katherine, Omar M. G. Keshk, and Brian Pollins. 2009. "TRADING DATA: Evaluating our Assumptions and Coding Rules." *Conflict Management and Peace Science*. 26(5): 471-491.



$$\begin{aligned} \text{Leverage}_{ij} &= \frac{\text{The sender's economic leverage on the shared trade partners with the target}}{\text{The shared trade partners' economic leverage on the target}} \\ &= \frac{\frac{\text{Trade volume between S and } P_1}{\text{Total trade volume of } P_1} + \dots + \frac{\text{Trade volume between S and } P_n}{\text{Total trade volume of } P_n}}{\frac{\text{Trade volume between T and } P_1}{\text{T's total trade volume}} + \dots + \frac{\text{Trade volume between T and } P_n}{\text{T's total trade volume}}} \end{aligned}$$

Formally, this is equivalent to:

$$\frac{\sum_{k=1}^n \alpha_{ijk_i} \left( \frac{\text{Imports}_{ik_i} + \text{Exports}_{ik_i}}{\text{Imports}_{k_i} + \text{Exports}_{k_i}} \right)}{\sum_{k=1}^n \alpha_{ijk_i} \left( \frac{\text{Imports}_{jk_i} + \text{Exports}_{jk_i}}{\text{Imports}_j + \text{Exports}_j} \right)} \quad (i \neq j \neq k).$$

The numerator is the sender's economic leverage on a target's trade partners. To calculate the sender's economic leverage on a target's trade partners, first I identify a list of shared trade partners between a pair of countries for every year. A (potential) sender is denoted by  $i$ ; a (potential) target is denoted by  $j$ ; and  $i$ 's trade partners are denoted by  $k_i$ . If  $k_i$  trades with both  $i$  and  $j$ ,  $k_i$  is considered as a shared trade partner between  $i$  and  $j$ . Let  $\alpha_{ijk_i} = 1$  if  $k$  is the shared trade partner of  $i$  and  $j$  and  $\alpha_{ijk_i} = 0$  otherwise. Trade value of sender  $i$  to the trade partner  $k_i$  is defined as the ratio of  $i$ 's total value of trade to  $k_i$ 's total trade value  $\left( \frac{\text{Imports}_{ik_i} + \text{Exports}_{ik_i}}{\text{Imports}_{k_i} + \text{Exports}_{k_i}} \right)$ . Then, I sum up trade value of sender  $i$  to shared trade partners  $k$ . Next, the denominator indicates the shared trade partners' economic leverage on the target. This value is measured by summation of the ratio of mutual trade partner  $i$ 's value of trade to a target  $j$ 's total trade value. As written above, if the target's trade partner  $k_i$  trades both the sender  $i$  and the target  $j$ ,  $\alpha_{ijk_i} = 1$  and  $\alpha_{ijk_i} = 0$  otherwise. Finally, I sum up trade value of shared trade partners  $k$  to the target  $j$ . This measure takes into account not only the breadth but also depth of that state's shared trade ties, thus capturing the sender's potential leverage on the target through indirect ties, particularly shared trade ties.

Table 2.1: Summary Statistics

Variable	Directed Dyads ( $N = 630,687$ )				Sanction Episodes ( $N = 1,020$ )			
	Mean	St. Dev.	Min	Max	Mean	St. Dev.	Min	Max
Sender's economic leverage over shared trade partners	0.709	2.031	0.000	49.281	12.072	10.973	0.003	49.281
Shared trade partners' economic leverage over a potential target	0.927	0.171	0.000	1.997	0.857	0.287	0.012	1.942
Economic Leverage <sub>ij</sub> primary sender	1.111	79.625	0.000	39,540.01	17.277	18.981	0.004	116.329
Economic Leverage <sub>ij</sub> all senders	0.031	1.082	0	116				
Sanction Threat	0.001	0.037	0	1	0.701	0.458	0	1
Sanction Imposition	0.001	0.034	0	1	0.705	0.456	0	1
Acquiescence to Sanction Threat	0.0003	0.017	0	1	0.119	0.324	0	1
Acquiescence to Sanction Imposition	0.0004	0.020	0	1	0.246	0.431	0	1

Note:

Figure 2.1 illustrates a subgraph of Russia's trade network in 2005. Nodes represent states and line width indicates the strength of trade ties measured by bilateral trade volume. Node color indicates whether

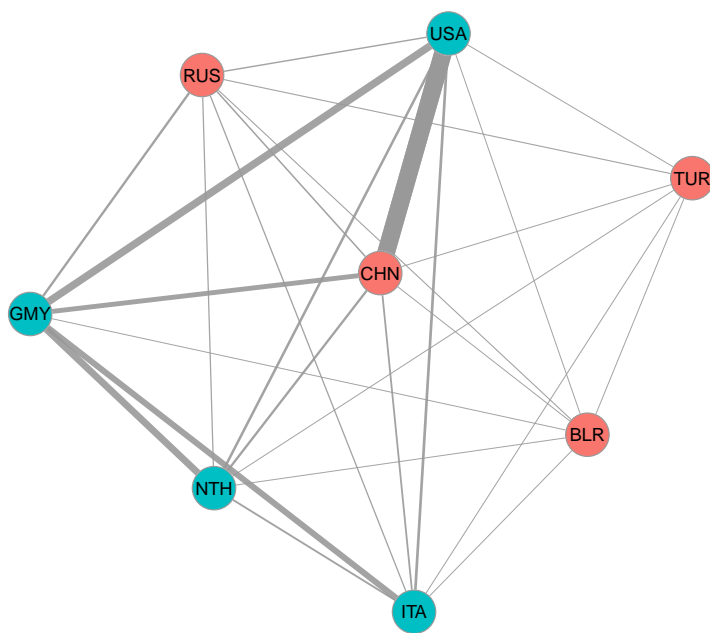


Figure 2.1: Subgraph of Russia's Trade Network (2005)

a state participated in sanctions: Blue color represents supporters of sanctions against Russia and Red color represents opponents of sanctions against Russia. Except for the United States, the rest of the nodes are top six trade partners of Russia. The economic leverage of the United States over Russia (RUS) and China (CHN) in 2005 is 24.34 and 30.18, respectively. This demonstrates that although the United States is a central actor in the global trade network, its economic leverage can vary according to the trade volume of shared trade ties with the target. It is important to note that if the shared trade partners do not participate in sanctions, the sender's economic leverage decreases. Thus, we can think of the value as the maximum economic leverage that the sender can have over the target.

One important empirical concern in the design is the homophilous nature of trade. That is, countries with similar backgrounds tend to flock together in the global trade network and trade heavily with each other.<sup>9</sup> other factors could influence states' decision to comply with a sanction. To address this issue, I include additional variables in each model to reduce the potential for spurious correlation to bias the results. I include bilateral trade volume between a pair of countries. I include logged sender's GDP per capita to capture the sender's economic strength. we code a variable equal to the log of the target's GDP, using data from Gleditsch (2002) . All else equal, wealthier countries are more likely to actively participate in global trade network and wield greater economic might over other countries. In addition, I also include the sender polity, alliance and the target and target democracy. Previous research has shown that sanctions will be more effective when the target's domestic institutions are more democratic (Allen 2005). To control for this variable, I include a measure of the target states' domestic institutions from the Polity IV data. Studies show that states with friendly relations and mutual alliance commitments are less likely use sanctions against one another (Drezner et al. 1999; Drury 2001).

## 2.4 Results

The results provide broad support for my main expectation that greater a higher proportion of mutual trade partners between the sender and the target is associated with a higher probability of sanction threat initiation. Table 2.2 shows the marginal effects from a logistic regression of the main explanatory variables of interest, the sender's economic leverage over the target, on sanctions threat. The *sender's influence over the target's trade partner* is positively correlated with sanctions threat and statistically significant at the 0.01 level both in terms of primary sender and all senders.<sup>10</sup>

However, as coefficients in non-linear models are limited in explanatory power, I generate the predicted

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<sup>9</sup>In network analysis, scholars have examined how structural equivalence between to actors, which is the extent to which two actors are equivalent (or similar) to each other in terms of their relations with all other actors in the network helps predict similarities in their preferences, attitudes, and behaviors. In international relations literature, Maoz et al. (2006) empirically shows that structural equivalence leads to convergence of foreign policy preferences and consequently reduces the propensity to conflict with each other. Kinne and Bunte (2020) also find that governments with similar borrowing portfolios are more likely to sign defense co-operation agreements.

<sup>10</sup>The result is consistent when relative capacity ratio and contiguity between two states are included in the models.

Table 2.2: Threat Initiation

	<i>Dependent variable:</i>			
	Threat Initiation			
	(1)	(2)	(3)	(4)
Economic Leverage (primary sender)	0.0001*** (0.00005)	0.066*** (0.003)		
Economic Leverage (all sender)			0.366*** (0.007)	0.288*** (0.007)
Bilateral Trade Volume(log)		0.538*** (0.021)		0.464*** (0.025)
Sender GDPPC(log)		0.105** (0.052)		-0.137** (0.059)
Sender Polity		0.067*** (0.010)		0.059*** (0.011)
Alliance		0.655*** (0.101)		0.561*** (0.134)
Target Democracy		-0.693*** (0.100)		-0.717*** (0.141)
Constant	-6.738*** (0.037)	-10.717*** (0.416)	-7.341*** (0.049)	-8.356*** (0.452)
Lagged Year	<i>YES</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
Observations	630,536	572,799	630,687	572,799
Log Likelihood	-5,778.508	-3,423.425	-3,589.403	-2,243.351
Akaike Inf. Crit.	11,561.020	6,860.850	7,182.807	4,500.701

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

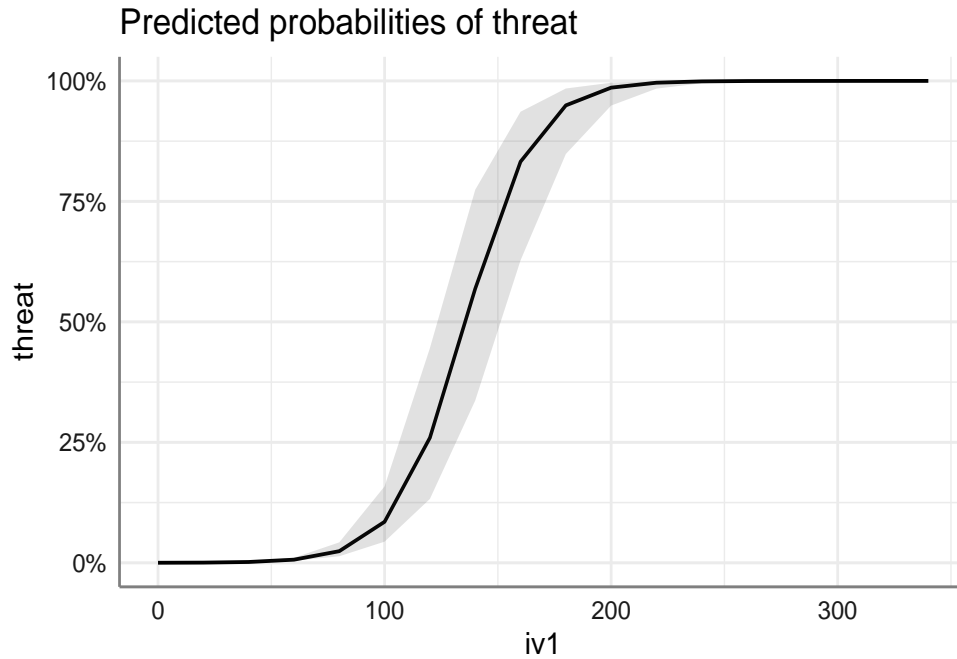


Figure 2.2: Fitted Values of the Probability of Initiation of Sanction Threat by a Sender’s Economic Leverage over a Target, Holding all Other Independent Variables at Their Medians. As a Country’s Economic Leverage Increases, the Probability of Threats Initiation Increases.

probabilities generated from the full model (Model 2) to demonstrate the effect of these variables on the probability of the initiation of sanction threats. I use the results from Model 2 to generate the predicted probability of sanction threats, holding all other variables at their median. The probabilities and their confidence intervals are shown in Figure 3.2. The plot illustrates that the probability of threat initiation is higher, the greater economic leverage the sender have over the target. The results are consistent with Hypothesis 1.

Table 2.3: Outcome of Sanction Threat

	<i>Dependent variable:</i>			
	Threat Success			
	(1)	(2)	(3)	(4)
Economic Leverage (primary sender)	0.008*	-0.002		
	(0.005)	(0.006)		
Economic Leverage (all senders)			0.008*	-0.001
			(0.004)	(0.006)
Bilateral Trade Volume (log)		0.266***		0.264***
		(0.066)		(0.065)
Sender GDPPC(log)		0.111		0.108
		(0.171)		(0.171)
Sender Polity		-0.010		-0.010
		(0.030)		(0.030)
Alliance		-0.675**		-0.679**
		(0.274)		(0.274)
Target Democracy		-0.365		-0.364
		(0.274)		(0.274)
Constant	-1.452***	-4.046***	-1.503***	-4.011***
	(0.150)	(1.414)	(0.134)	(1.403)
Lagged Year	YES	YES	YES	YES
Observations	491	469	589	469
Log Likelihood	-254.782	-226.301	-297.499	-226.319
Akaike Inf. Crit.	513.564	466.602	598.999	466.639

Note: Trade sanctions only

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 2.3 presents the coefficients and statistical significance for the relationship between the sender's economic leverage over the target and the success of sanction threats. The result does not support Hypothesis 2. The coefficient for the main variable is negative in the full model but it is not statistically significant.<sup>11</sup> One potential explanation is that, at the threat stage, there is uncertainty about who will join the sanctions coalitions. The sender and the target may have different expectations regarding the coalition's formation. For instance, the target might anticipate that the coalitions will fall apart if the sanction threats fail, leading the target to view the threat as not credible. This uncertainty makes targets unlikely to comply with the sender's demands at the threat stage.

Turning to tests of Hypothesis 3, Table 2.4 presents the marginal effects from a logistic regression of the sender's economic leverage over the target, on sanctions imposition. The *sender's economic leverage over the target* is positively correlated with sanctions imposition and statistically significant at the 0.01 level both in terms of primary sender and all senders.<sup>12</sup> This result is the opposite to my expectations. Figure 2.3 illustrates the predicted probabilities of sanction impositions as estimated in Model 2 in Table 2.4, holding

<sup>11</sup>When the dependent variable is coded 1 for complete acquiescence or partial acquiescence, the coefficient of the main variable is positive but it is still not statistically significant. The result does not change when the model excludes sanctions aiming at regime change.

<sup>12</sup>The result is consistent when relative capacity ratio and contiguity between two states are included in the models.

Table 2.4: Sanction Imposition

	<i>Dependent variable:</i>			
	Sanction Imposition			
	(1)	(2)	(3)	(4)
Economic Leverage (primary sender)	0.0001** (0.0001)	0.043*** (0.003)		
Economic Leverage (all senders)			0.259*** (0.004)	0.173*** (0.005)
Bilateral Trade Volume		0.528*** (0.021)		0.431*** (0.023)
Sender GDPPC(log)		-0.079 (0.051)		-0.255*** (0.053)
Sender Polity		0.077*** (0.010)		0.080*** (0.010)
Alliance		0.854*** (0.103)		0.704*** (0.114)
Target Democracy		-0.697*** (0.106)		-0.594*** (0.121)
Constant	-6.891*** (0.040)	-9.041*** (0.394)	-7.243*** (0.047)	-7.144*** (0.394)
Observations	630,536	572,799	630,687	572,799
Log Likelihood	-5,057.018	-3,361.986	-3,977.160	-2,794.721
Akaike Inf. Crit.	10,118.040	6,737.972	7,958.320	5,603.442

Note: The episodes only includes the case of sanction impositions

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

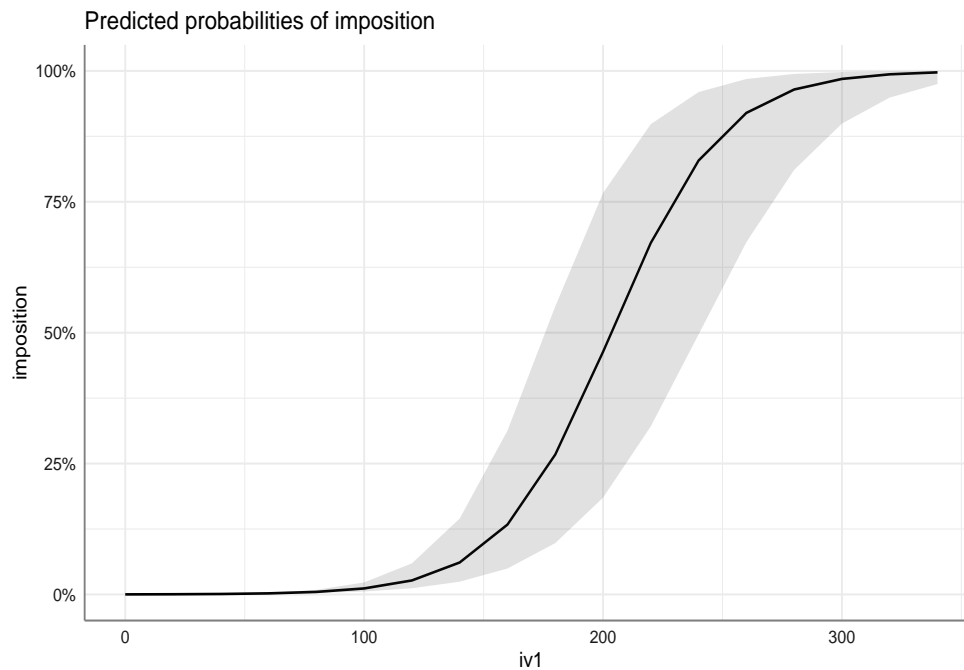


Figure 2.3: Fitted Values of the Probability of Sanction Imposition by a Sender's Economic Leverage over a Target, Holding all Other Independent Variables at Their Medians.

all other variables at their median. The plot illustrates that the probability of sanction impositions is higher the greater economic leverage the sender have over the target. The results are consistent with Hypothesis 3.

Table 2.5: Outcome of Sanction Imposition

	<i>Dependent variable:</i>			
	Success of Sanction Imposition			
	(1)	(2)	(3)	(4)
Economic Leverage (primary sender)	-0.003 (0.005)	0.013** (0.006)		
Economic Leverage (all senders)			0.001 (0.004)	0.018*** (0.006)
Bilateral Trade Volume		-0.076* (0.042)		-0.085** (0.043)
Sender GDPPC(log)		-0.286*** (0.098)		-0.297*** (0.098)
Sender Polity		0.021 (0.022)		0.016 (0.022)
Alliance		0.437** (0.213)		0.415* (0.213)
Target Democracy		-0.884*** (0.216)		-0.871*** (0.218)
Constant	-0.659*** (0.111)	2.156*** (0.720)	-0.686*** (0.101)	2.264*** (0.721)
Observations	641	598	733	598
Log Likelihood	-405.866	-346.877	-469.679	-344.462
Akaike Inf. Crit.	815.733	707.754	943.358	702.925

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Turning to tests of Hypothesis 4, Table 2.5 presents the marginal effects from a logistic regression of the sender's economic leverage over the target, on sanctions imposition. The *sender's economic leverage over the target* is positively correlated with success of sanction imposition and statistically significant at the 0.05 level both in terms of primary sender and all senders.<sup>13</sup> Figure 2.4 illustrates the predicted probabilities of the success of sanction impositions as estimated in Model 2 in Table 2.5, holding all other variables at their median. Consistent with the Hypothesis 4, the plot shows that the probability of the success of sanction impositions is higher the greater economic leverage the sender have over the target.

<sup>13</sup>The result is consistent when relative capacity ratio and contiguity between two states are included in the models.

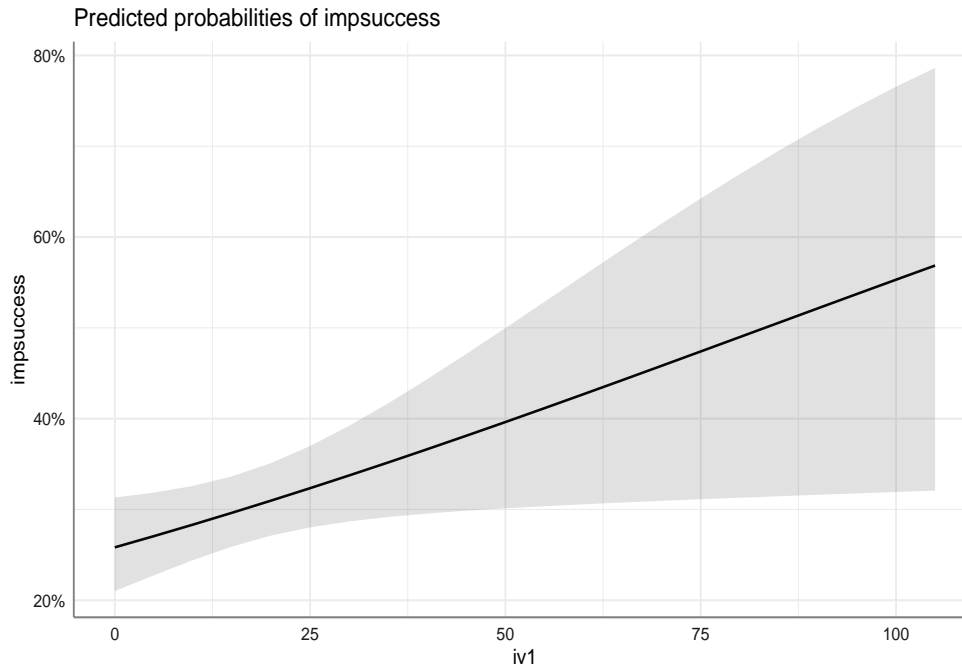


Figure 2.4: Fitted Values of the Probability of Success of Sanction Imposition by a Sender’s Economic Leverage over the Target, Holding all Other Independent Variables at Their Medians..

## 2.5 Conclusion

This essay presents a theoretical framework for understanding a state’s choice to comply with sanctions in the context of international trade network. The theory enhances our understanding of when and how the sender states are more likely to wield leverage and when the target states are more vulnerable and thus more likely to make concessions. Although the results do not support the hypothesis that a target is more likely to acquiesce to a sender with greater economic leverage, this might suggest that targets sometimes perceive senders as “paper tigers”—actors who threaten but do not follow through if challenged (Eaton and Engers 1999). This raises the question of when a target believes it is confronting a “pit bull” type versus a “paper tiger” type.

In future research, examining whether a state’s position in the global trade network makes sanctions more attractive as a means of coercion over other foreign policy tools may contribute to our understanding of international relations. While states have various foreign policy options when dealing with adversaries, existing literature in international conflict often isolates one response from others. For instance, a state could employ diplomacy, build up its military, impose sanctions, support the adversary’s domestic opposition, or attack. If alternative policies available to decision-makers are excluded from theoretical or empirical analysis, the research captures only a partial picture of reality. Recent studies indicate that states may prefer a particular foreign policy tool depending on their capacity ratio against an adversary (Coe 2018). Investigating how a state’s structural position in the trade network affects its foreign policy choice will provide insights,



contributing to the emerging body of work that analyzes different policy tools together. Finally, this study may contribute to the multilateral coalitions, extending beyond sanctions to include military coalition.

## CHAPTER 3

### **Political Risks, Stakeholder Pressure, and Firm Exits: Evidence from the Russian Invasion of Ukraine**

Russia's invasion of Ukraine in February 2022 led many countries, notably the United States and its allies, to impose a broad array of economic sanctions against Russia, including trade embargoes and financial restrictions. In response, multinational corporations (MNCs) operating in Russia displayed diverse reactions. While most private entities, except those engaged in activities directly affected by sanctions, such as military production, remained free to conduct business, some MNCs swiftly ceased operations and exited the Russian market. Others, however, chose to continue their business activities in Russia despite facing substantial criticism for their decision to maintain a presence. This variation raises critical questions about the factors that shape MNCs' responses to sanctions and the mechanisms governments use to ensure firm compliance with sanctions.

The questions of whether and when “trade follows the flag” have intrigued political scientists for many decades (Pollins 1989a; Pollins 1989b; Baldwin 1988; Davis and Meunier 2011). While it is acknowledged that firms have agency to adjust their business strategies in response to economic sanctions, most empirical analyses have focused on the interstate level (Lektzian and Biglaiser 2013; Barry and Kleinberg 2015).<sup>1</sup> This has led a significant gap in understanding of the factors that influence MNCs' decisions to sever business ties with sanctioned states.<sup>2</sup> A growing body of research investigates why firms show heterogeneous responses to economic sanctions and which characteristics make some firms more resilient to political disputes (Balyuk and Fedyk 2023; Pajuste and Toniolo 2022; Choy et al. 2023). These studies suggest that firm responses to sanction are dependent on firm level factors—notably, the extent of a firm' exposure to the sanctioned market (Balyuk and Fedyk 2023) and pressure exerted by stakeholders (Pajuste and Toniolo 2022; Choy et al. 2023).

Building on recent work on the state-business and stakeholder governance literature, I theorize that firms' decisions to cease operations in the sanctioned state are a function of the firms' exposure to different types of stakeholder pressure. First, I argue that politically connected firms are more likely to align their business strategies with their home government's foreign policy objectives than non-connected firms. Specifically, state ownership of firms and government procurement contracts are key means for the government to induce firms' compliance with its preferred policy regarding sanctions. A firm's dependence on its home government at the level of personnel and finances makes it more compliant with the government's preferred position on

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<sup>1</sup>For instance, Barry and Kleinberg (2015) find that investors take into account of the host state's relationships with third-party states, and as a result, those states that are perceived as potential sanctions-busters—either major trading partners of the target state or states with a history of sanctions-busting behavior—tend to attract increased foreign direct investment (FDI) inflows from sender firms.

<sup>2</sup>For recent developments in the scholarship on economic sanctions, see Early and Cilizoglu 2020 and Morgan et al. 2023 for a comprehensive review.

sanctions. Second, I argue that MNCs with greater exposure to consumer backlash are more likely to exit from Russia. My theory highlights that stakeholder pressure moderate firms' willingness to adjust their business according to their home government's preference as well as consumers.

Using a dataset from Yale School of Management that monitors about 1,300 foreign firms' withdrawal decisions in Russia in post-2022 Ukrainian War, this study employs a logistic regression model to estimate the effect of MNCs' exposure to different types of stakeholder pressure on firm exits. I proxy the political connections through state firm ownership and government contracts. Furthermore, I test how the exposure to consumer backlash influence firm exits. I use I use firm-level data from the Orbis, Refinitive, and Federal Procurement Data System, among other sources, this study aims to provide a nuanced analysis of the sanctions' impact on firm exit decisions.

This paper extends beyond the immediate effects of the 2022 sanctions, offering insights into the broader implications of state-business relations in a globalized economy. As governments increasingly resort to economic sanctions as a means of achieving foreign policy objectives, understanding the determinants of firm exit from sanctioned countries becomes imperative. This article contributes to this understanding by examining the intricate ways in which stakeholders-business relationships shape corporate strategies in the face of geopolitical conflicts. This challenges the view that market expectations and business lobbying alone shape commercial relations.

### **3.1 The Russian Invasion of Ukraine 2022**

In February 2022, Russia launched a full-scale attack on Ukraine to seize territory and topple the Ukrainian government, resulting in sweeping international sanctions. However, government responses to these sanctions were quite divergent. While the governments of the Group of Seven (G7) nations united to condemn the Russian invasion and call for sanctions, many other governments remained silent or even expressed support for Russia, including China. These divisions prevented the UN-authorized sanctions against Russia, which holds a veto power in the Security Council. Even government sanctions imposed by G7 countries revealed some gaps due to the ongoing energy trade with Russia. This context presents an important opportunity to examine how business responds to international conflict and how governments secure compliance from private sector actors with their foreign policy.

In fact, in March 2022, there was a vocal campaign urging companies to retreat from Russia, with Ukrainian President Volodymyr Zelensky calling on foreign businesses to leave the country in his speech to the U.S. Congress. This message has found support from others, including former U.S. Ambassador to Russia, Michael McFaul. However, not everyone supported the expansion of economic sanctions against Russia. Hua Chuying, a spokeswoman for China's foreign ministry, criticized that sanctions were unlikely to

resolve the Ukraine crisis and had the potential to harm ordinary people as well as Beijing’s interests.<sup>3</sup> Moreover, the Chinese government protested against US sanctions on Chinese firms over their alleged attempts to evade U.S. export controls on Russia.<sup>4</sup>

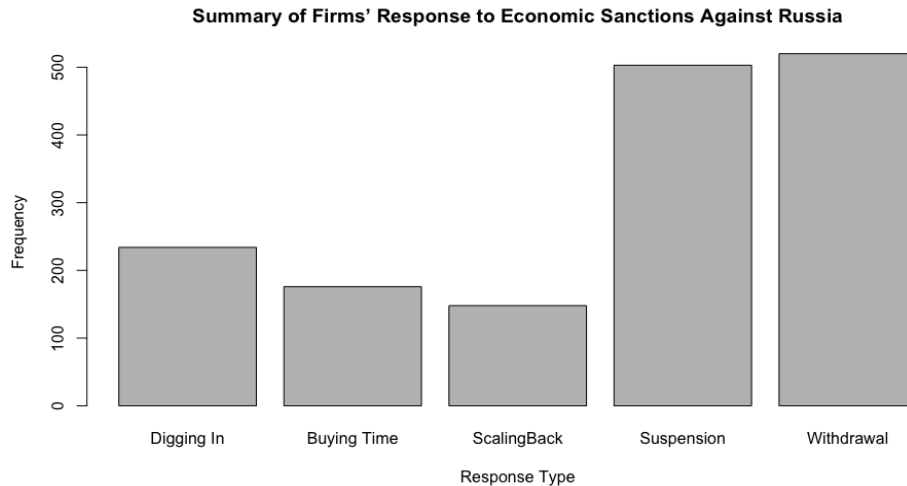


Figure 3.1: Summary of Firms’ Responses to Economic Sanctions Against Russia

Figure 4.1 illustrates a notable variation in decisions made by MNCs regarding their business operations in Russia, as reported by the Yale School of Management, which lists over 1300 companies that withdrew.<sup>6</sup> These responses are categorized into five actions: Digging In, Buying Time, Scaling Back, Suspension, and Withdrawal.<sup>7</sup> A significant number of multinational firms indeed chose to withdraw from conducting business in Russia and terminated contracts with Russian firms. By the end of 2023, approximately 520 firms had fully withdrawn from the Russian market, while another 503 firms had suspended their operations. Prominent examples include Oracle Corp, a business software giant, which suspended all operations on March 2, 2022,<sup>8</sup> and IT consulting firm Accenture Plc, which announced its discontinuation of business in Russia the following day.<sup>9</sup> Despite such significant number of exits, many companies demonstrated reluctance to

<sup>3</sup>Ramzy, Austin. 2022. “China criticizes sanctions against Russia as ineffective and warns of wider damage.” *New York Times*. Feb 23. <https://www.nytimes.com/2022/02/23/world/europe/china-russia-ukraine-sanctions.html>

<sup>4</sup>China’s Commerce Ministry released a statement calling for the U.S. to “immediately correct its wrongdoing and stop its unreasonable suppression of Chinese companies. China will resolutely safeguard the legitimate rights and interests of Chinese companies.”<sup>5</sup>

<sup>6</sup>See list from project website available at <https://som.yale.edu/story/2022/over-1000-companies-have-curtailed-operations-russia-some-remain>.

<sup>7</sup>*Digging In* refers to firms that are continuing their operations in Russia as usual. *Buying Time* describes companies that are postponing future planned investments, developments, or marketing efforts, yet still conducting substantial business activities. *Scaling Back* applies to firms that are reducing a significant portion of their business operations but are maintaining some level of activity in Russia. *Suspension* characterize firms that are temporarily halting most or nearly all operations, with the possibility of resuming activities in the future. Finally, *Withdrawal* denotes firms that have completely stopped all business activities in Russia or have completely exited the market.

<sup>8</sup>Dave, Paresh and Sheila Dang. 2022. “Oracle suspends operations in Russia, SAP pauses sales.” March 2. <https://www.reuters.com/business/oracle-says-it-has-suspended-all-operations-russia-2022-03-02/>

<sup>9</sup>Accenture. 2022. “Accenture to Discontinue Business in Russia.” March 3. <https://newsroom.accenture.com/news/2022/accenture-to-discontinue-business-in-russia>

leave, with 234 firms continuing their operations, and 148 firms reducing their business scale. Others remain indecisive, waiting for further developments before finalizing their decision.

### **3.2 Literature Review: Following the Flag or Business as Usual?**

The effect of changing interstate relations on economic exchange has long received enduring attention from international relations scholars. The “Trade follows the flag” perspective argues that political dynamics between states can significantly affect on their trade and economic exchanges. Focusing on private actors, Pollins (1989b) highlights that importers carefully monitor the diplomatic relations between their home and exporting countries to mitigate risks of supply chain disruptions and to avoid inadvertently supporting adversaries or jeopardizing allies. Similarly, consumers often demonstrate their support by choosing to buy goods from states they perceive as friendly and boycotting those seen as hostile (Pollins 1989a). These dynamics suggest that shifts in political relations are likely to be mirrored in the levels of bilateral trade, even absent direct governmental sanctions against a state.

From a state-centric perspective, Gowa and Mansfield theorize how strategic interests and concerns for relative gains shape state trade policy and influence the patterns of trade flow. According to their model, alliances promote states to trade more with allies than adversaries due to concerns about relative security externalities arising from trade. Empirical studies supports this point of view, showing that states with alliances (Gowa and Mansfield 1993; Gowa and Mansfield 2004), similar policy positions on most of global issues (Dixon and Moon 1993), sharing democratic institutions (Bliss and Russett 1998; Morrow et al. 1998, and higher trust (Guiso et al. 2009) are more like to have higher levels of trade, portfolio investments, and direct investment, even though both domestic and international institutions limit the extent to which leaders can to manipulate trade policies, despite their incentives to align trade with their foreign policies (Chen and Zhou 2021).

Another line of research challenges the notion that businesses adjust their trade and investment strategies in response to changes in diplomatic relations. Entering a new market requires the expenditure of fixed costs, which are often irreversible or sunk—expenses that cannot be recuperated once incurred. Sunk costs in existing trade and investment relations, along with menu costs associated with changing economic ties, deter governments, firms, and consumers from switching their trade partners (Davis and Meunier 2011). Relationship-specific sunk costs further limit a firm’s ability to quickly redirect their export, investment, or manufacturing productions to another location (Baldwin 1988; Dixit 1989; Helpman et al. 2004; Liu et al. 2022; Zeng et al. 2023). Particularly, the degree of a firm’s local integration in a host country—in terms of the age and size of subsidiaries, joint venture status with local enterprises (Liu et al. 2022) and dependence of local sourcing (Zeng et al. 2023)—increase the size of the sunk costs and hence the costs of exits.

More recently, scholars have demonstrated that political disruptions in the market lead to heterogeneous responses among firms concerning their trade activities for different reasons. The political loyalty mechanism suggests that state-owned enterprises are more likely to shift their trade and investment in response to a political shock to home-host states than private enterprises (Davis et al. 2019; Du et al. 2017; Lin et al. 2019; Stone et al. 2021). For instance, Davis et al. (2019) find that state-owned enterprises are more responsive to fluctuations in international relations than private firms, especially in countries like India and China where governments have more influence over business decisions. Another explanation for firms' responses lies in their access to political resources that can mitigate the political risks. For example, Liu et al. (2022) demonstrate that political resources at both firm and institutional levels help firms to maintain trade and investment in China amidst the US-China trade war. Finally, the social capital explanations suggest that a firm's social networks, such as cultural linkages, shared ethnicity, or mutual trust, can help maintain stability in their trade. For example, Korovkin and Makarin (2023) show that following the 2014 Russia-Ukraine conflict, Ukrainian firms located in higher ethnically Russian districts experienced relatively less decline in bilateral trade, due to weaker consumer reaction and less reputational pressure in those regions. Such observations suggest that business decisions about foreign investment are not predominantly driven by a "follow the flag" logic, further strengthening the view that political tensions are largely independent of economic relations.

### **3.3 Theorizing Firm Exit**

In this section, I explore three pathways that could potentially shape an MNC's decision to exit a market following a political shock. First, building on the previous literature on the relationship between political shocks to home-host relations and MNC entry, I examine whether shocks to home-host relations can influence MNC exit. Particularly, the imposition of sanctions by an MNC's home country increases the likelihood of its exit, as companies must navigate the potential repercussions, such as penalties and operational disruptions they may face. Second, I consider whether the nature of a firm's relationship with the government has moderate effects on how firms perceive and respond to risk, with a particular focus on firm ownership and government procurement contracts. Politically connected firms, such as SOEs and private firms with government contracts tend to have stronger ties and a greater dependency on the government compared to private firms without such contracts. Business ties to the home government accounts for the variations in the patterns of exit among MNCs, even those originating from the same country. Finally, pressure from consumers.

First, I assume that firms are rational actors who aim to maximize profits and make strategic decisions based on cost-benefit analysis. Second, sanctioning governments want to make sanctions effective and have firms cease their business with the sanctioned target whereas non-sanctioning states want their firms to stay in the sanctioned market. Third, governments have coercive power and means to force firms to comply with

the sanction policy but firms have the agency to align business decisions with the government or not.

### **3.3.1 Political Risks: Origin of Nations and Home Country's involvement of sanctions**

Political risk is a crucial factor influencing firms' decisions regarding location, investment and operations (Pandya 2016). Political risk are defined as "the potential for expropriation or resource extraction from the MNC (Vortherms and Zhang 2024)." High political risks deter firms from entering markets, because such risks affect not only the profitability but also their overall viability of business operations (Clougherty and Zhang 2021; García-Canal and Guillén 2008).

The literature examining the effect of political risks on MNCs' entry and exit often emphasizes the role of domestic political intuitions and stability in the host country. Previous studies show that MNCs prefer democracies where contract enforcement is reliable (Jensen 2008a) and tend to avoid conflict-prone states (Jensen 2008b; Barry 2018).

Economic sanctions exacerbate political risks and increase operational costs by restricting or prohibiting profitable transactions, leading higher trade expenses and more complicated processes for MNCs in targeted sectors. MNCs and their global supply chains rely on the trade of intermediate goods and final products, which become more challenging to produce as trade barrier rise.

Sanctioning governments aim to make sanctions effective with little economic burdens on their own businesses, while firms strive to maintain their profitability in the sanctioned market (Bapat and Kwon 2015). Sender governments can exert pressure on MNCs to leave a sanctioned state through enforcement. A recent study finds that OFAC's sanctions enforcement actions decreased U.S. trade with sanctioned states due to the risk of penalties and the disruptions that penalties create and the frequency and severity of these penalties further magnify the negative effects. (Early and Peterson 2022)

Furthermore, economic sanctions introduce indirect costs by increasing country risk in the host country. Beyond restricting specific transactions, economic sanctions create uncertainty in commercial relationships and increase transaction costs of doing business. This uncertainty makes negotiations more complex, access to financing more arduous, and political risk insurance costlier. The likelihood of state intervention in markets also escalates, further eroding the business environment. The destabilization of political ties between the host and sanctioning countries not only affects MNCs operating in directly targeted sectors but also all firms integrated into global value chains.

The potential for retaliation from the target state against MNCs from the sanctioning country adds another layer of risk. Target states often impose capitol controls, restrictions on access to domestic financial services, taxes on brownfield asset sales, or even nationalize assets from MNCs of sanctioning states and their allies (Lee et al. 2023). This creates an incentive for MNCs from sanctioning states to disengage economically and

exit the market.

In contrast, some countries prefer their firms to stay in the sanctioned market to gain political and economic benefits (Drury 1998; Hufbauer 2009; Early 2009; Early 2012; Early and Spice 2015; ?). For example, Hua Chuying, a spokeswoman for China's foreign ministry, criticized that sanctions were unlikely to resolve the Ukraine crisis and had the potential to harm ordinary people as well as Beijing's interests.<sup>10</sup> Moreover, the Chinese government protested against US sanctions on Chinese firms over their alleged attempts to evade U.S. export controls on Russia. China's Commerce Ministry released a statement calling for the U.S. to "immediately correct its wrongdoing and stop its unreasonable suppression of Chinese companies. China will resolutely safeguard the legitimate rights and interests of Chinese companies."<sup>11</sup>

Third-party states often engage in sanctions-busting to seize economic benefits created by sanctions (Barry and Kleinberg 2015; Lektzian and Biglaiser 2013). In some unsanctioned sectors of the Russian market, Chinese brands are leveraging reduced competition. Unlike companies from the West, Chinese businesses do not encounter significant reputational pressure to withdraw. In fact, two Chinese tech giants like Lenovo and DiDi faced a domestic backlash on Chinese social media after reports emerged that they planned to leave Russia in 2022.<sup>12</sup> Consequently, certain segments of the Russian consumer market saw a distinct increase in the proportion of Chinese goods in 2022.<sup>13</sup> This underscores that firms from non-sanctioning states not only face lower political risks from sanctions but also benefit from new economic opportunities, contrasting with the experiences of MNCs from sanctioning states.

In sum, the variation in political risks is shaped by home-host country relations. As shocks to home-host relations can influence MNCs and operations, the impact such shocks could have on exit. This leads to the first hypothesis:

H1: MNCs whose home states are imposing sanctions on Russia are more likely to exit Russia, compared to MNCs from nonsanctioning states.

### **3.3.2 Firm-level Heterogeneity: State-business relationship between MNCs and Home Government**

When considering the effects of home countries' sanctions on MNCs, it is critical to recognize the moderating role of the state-business relationship. Specifically, during heightened political tensions, home governments can leverage their influence over firms as an instrument of economic statecraft. MNCs often find themselves at a crossroads, deciding whether to "follow the flag" and exit the sanctioned market or to continue operations

<sup>10</sup>Ramzy, Austin. 2022. "China criticizes sanctions against Russia as ineffective and warns of wider damage." *New York Times*. Feb 23. <https://www.nytimes.com/2022/02/23/world/europe/china-russia-ukraine-sanctions.html>

<sup>11</sup>2023. "China protests US sanctioning of firms dealing with Russia." *AP news*. April 15. <https://apnews.com/article/china-russia-us-ukraine-sanctions-59fa76b79b69b7489039b4d0ee5dd14b>

<sup>12</sup><https://qz.com/2136255/chinas-tech-giants-face-a-domestic-backlash-for-exiting-russia>

<sup>13</sup><https://carnegieendowment.org/russia-eurasia/politika/2023/06/how-sanctions-have-changed-the-face-of-chinese-companies-in-russia?lang=en>



as usual. Increased political risk elevates the likelihood of exit; however, firms do not experience uniform exit pressure, as government pressure over firms varies depending on their relationship. I argue that state ownership of firms and government procurement should make firms align their exit decisions with their government's preferred policy.

There is a growing body of research on the ways in which states influence domestic businesses to achieve political and economic objectives amid periods of political strife. Previous studies have shown that firms with higher political connections are more likely to align trade and investment activities with foreign policy interests than less-connected firms (Davis et al. 2019; Du et al. 2017; Lin et al. 2019; Stone et al. 2021).<sup>14</sup> State ownership, in particular, has been identified as a key mechanism through which governments exert influence on firms' trade and investment activities. Empirical evidence supports that imports and foreign direct investment controlled by state-owned enterprises are more responsive to deteriorated political relations than those controlled by private enterprises (Davis et al. 2019; Stone et al. 2021). For instance, Using six country-level measures of affinity for China, Stone et al. 2021 find that state-owned and globally diversified firms most likely to align with official guidelines.

Ownership structure significantly determines a firm's dependence on and responsiveness to government directives. Davis et al. (2019) identify three pathways through which SOEs are more likely to politicize trading and investment decisions than private enterprises. First, SOEs are distinct from private firms in that they serve both commercial and state interests, such as economic growth, sociopolitical stability, and international policy aims. This dual focus makes their operations fundamentally different from those of purely business-oriented POEs. Second, the government exert control over SOEs through the management of personnel. SOE board members and top managers are often appointed and monitored by the state, blending firm-government interests through leadership ties (Vagliasindi 2008).<sup>15</sup> Third, the financial dependence of SOEs on government support increases their compliance with political demands. SOEs receive various forms of governmental supports, including tax benefits, subsidies, regulatory privilege, preferential access to capital, and even bailouts, even in cases of underperformance (Dewenter and Malatesta 2001; Capobianco and Christiansen 2011; Brandt & Li, 2003; Jarreau & Poncet, 2014; Lu, Zhu, & Zhang, 2012; Wei & Wang, 1997)<sup>16</sup>. Such financial support from the state is strategically dispensed as political elites rely on SOEs to

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<sup>14</sup>Other scholars argue that politically stronger entities like state- and foreign-owned firms can secure policy concessions and are relatively shielded from punishment, making them less inclined to adjust their positions to conform to the government's position, whereas entities more vulnerable to political pressure, such as POEs or recipients of government contracts, tend to adhere more closely with the government's directives to secure side payments and avoid penalties (Naoui et al. 2022). However, the survey by Naoui et al. (2022) examines firms' attitudes towards the government's commitment to liberalizing inward foreign direct investment, a context that lacks political tension.

<sup>15</sup>Vagliasindi, Maria. 2008. "The Effectiveness of Board of Directors of State Owned Enterprises in Developing Countries." Policy Research Working Paper 4579. Washington, DC: The World Bank.

<sup>16</sup>Capobianco, Antonio, and Hans Christiansen. 2011. "Competitive Neutrality and State-owned Enterprises: Challenges and Policy Options." OECD Corporate Governance Working Paper

fulfill specific state objectives, thereby devising preferential policies that facilitate firms to achieve these objectives (Shi 2015). Despite the diversity in their governance styles, the degree of state ownership, and the industry sectors, ranging from strategic to non-strategic sectors, SOEs are fundamentally designed to fulfill political mandates and operate under a certain level of state influence, positioning them in closer alignment with governmental directives than private enterprises.

Given these dependencies, firm responses to home country sanctions policies should vary by ownership. State-owned firms align their behavior with states' interest because of dependence at the level of personnel and finances. Where private firms operate business on the basis of business interests, state-owned firms also pursue government interests. State-owned enterprises, more reliant on government, are expected to conform more closely to home country foreign policy interests than private firms. Conversely, private firms' weaker political ties and lesser state dependence should make them less likely comply with state interests during political disputes. Therefore, I posit that the political shock to the home-host country on firm exit to be a function of state control.

This leads to the following hypotheses:

*H2a*: state-owned enterprises originating from sanctioning states are more likely to withdraw their operations from Russia than private firms from the same sanctioning states, whereas state-owned enterprises originating from non-sanctioning states are less likely to withdraw than private enterprises from the same non-sanctioning states.

Next, I examine how public procurement, a specific type of government-business ties, incentivizes US firms to exit following sanctions imposition. While previous studies on state-to-business relations shed light on the dynamics of government influence on firms amid political tension, most empirical evidence focus on authoritarian regimes where states exerts significant control over the economy. In many cases of economic sanctions, often imposed by democratic states, formal ownership of state-owned enterprises is notably scarce. Yet, the level of independence of major firms and industries from their home governments varies greatly even among Western capitalist economies. As a result, it is important to take account of factors accounting for firms' response to political tensions might be constrained within the authoritarian regimes, potentially limiting their applicability to democratic context.

The United States, as the most prolific sender of economic sanctions globally—primarily through the Office of Foreign Assets Control (OFAC)—serves as an ideal backdrop for this study. This distinctive position of the United States in the international arena, as both a leading sender and rigorous enforcer of economic sanctions, help us better understand how sender state firms navigate the complexities introduced by economic sanctions. By focusing on this case, the study aims to uncover the nuanced strategies these firms employ in navigating

the complexities of economic sanctions, offering insights into the interplay between business decisions and geopolitical strategies.

Governments across the globe, from both developed and emerging economies, allocate billions of dollars annually to purchase goods and services from external vendors through a process known as public procurement. It typically entails formal agreements between governmental entities and private sector firms. Significantly, public procurement represents a substantial portion of the world economy, accounting for 15 to 30 percent of global gross domestic product (GDP) on average (World Bank 2021). In the United States, federal government spending on procurement activities spans a diverse array of sectors, including but not limited to, military hardware and information technology services, with annual expenditures reaching approximately \$694 billion in Fiscal Year 2022.<sup>17</sup> This figure surpasses half of the nation's total annual discretionary budget, highlighting the substantial financial stakes associated with public procurement practices.

Institutional theory suggests that organizational practices and policies of firms are shaped by social and institutional pressures from central stakeholder groups<sup>18</sup> in order to conform to societal norms to gain, maintain or restore legitimacy.<sup>19</sup> In the same vein, resource dependence framework (Pfeffer and Salancik 2003)<sup>20</sup> and business strategy literature (Baron 2000<sup>21</sup>; Mitchell et al. 1997) advises firms to identify powerful stakeholders and address their concerns through political or non-market strategies.

When firms begin contracting with the government, the government emerges as a key stakeholder with considerable influence over the firm, both as a regulator and a customer. The U.S. government, as both a regulator and a major purchaser, plays an increasingly important role in shaping firms' business practices directly through contractual obligations, but also indirectly by setting firms' strategic priorities and compliance culture.<sup>22</sup> Empirical research shows that firms engaged with government contracts tend to adopt governance structures that reflect government priorities, including adherence to public policy and regulations. For instance, Samuels (2021) finds that firms enhance the quality of their external reporting quality upon initiating contracts with the government, as a response to the requirement imposed by the governmental regulations.

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<sup>17</sup>In Fiscal Year 2022, the Department of Defense committed about \$414.5 billion on contracts and civilian federal agencies such as the Department of Veterans Affairs and Department of Energy, spent \$279.7 billion (U.S. Government Accountability Office).

<sup>18</sup>See DiMaggio and Powell (1991): DiMaggio, Paul J., and Walter W. Powell. 1991. *The New Institutionalism in Organizational Analysis*. Chicago: University of Chicago.

<sup>19</sup>These central stakeholders are defined as those "without whose participation the corporation cannot survive and typically include shareholders and investors, employees, customers, and suppliers, and the public stakeholder group such the government and communities that provide infrastructures and markets, whose law and regulations must be obeyed, and to whom taxes and other obligations may be due" (Clarkson 1995: 106)

<sup>20</sup>Pfeffer, Jeffrey, and Gerald R. Salancik. 2003. *The External Control of Organizations: A Resource Dependence Perspective*. Palo Alto, CA: Stanford University Press.

<sup>21</sup>Baron, David P. 2000. *Business and Public Policy*, 3rd edition. Upper Saddle River, NJ: Prentice Hall.

<sup>22</sup>In the United States, federal government spending on procurement activities spans a diverse array of sectors, including but not limited to, military hardware and information technology services, with annual expenditures reaching approximately \$694 billion in Fiscal Year 2022. In Fiscal Year 2022, the Department of Defense committed about \$414.5 billion on contracts and civilian federal agencies such as the Department of Veterans Affairs and Department of Energy, spent \$279.7 billion (U.S. Government Accountability Office). This figure surpasses half of the nation's total annual discretionary budget, highlighting the substantial financial stakes associated with public procurement practices.

Building on this foundation, I theorize that US firms' compliance with economic sanctions is closely tied to their reliance on public procurement. Public procurement serves as a critical channel to induce firms' alignment with its sanctions policy, leveraging the risk of losing these contracts as a significant incentive for compliance. The prospect of forfeiture encourages a risk-averse management approach focused on adherence to regulatory expectations. Therefore, firms deeply dependent on public procurement are incentivized to adjust their business strategies to support the government's preferred stance on sanction due to direct financial incentives, long-term relationship building, and the anticipation of regulatory oversight. This leads to a following hypothesis:

H2b: US firms with public procurement are more likely to exit Russia than those not involved in public procurement.

### 3.3.3 Consumer Backlash

Finally, I examine the non-state backlash faced by MNCs operating in Russia following the invasion. According to literature on corporate social responsibility (CSR), firms are expected to adhere to social and ethical standards to meet stakeholder's expectations regarding their societal roles (Aguinis and Glavas, 2012; Brown and Dacin, 1997). When a firm's behaviors conflict with the interests of stakeholders, the resulting backlash can be significant enough to drive changes in corporate behavior.

Immediately after the invasion, there was a debate over whether exiting Russia aligned with CSR priorities. Some MNCs halted production but continued paying their Russian employees out of ethical concerns. Meanwhile, pharmaceutical and consumer goods MNCs argued for the importance of continuing the production of essential medicines and goods in Russia.

Western companies that continued to operate in Russia faced strong criticism from consumers and their own employees. In support of Ukraine, there were boycotts against firms that had not left Russia or taken a strong enough stance against the invasion. Social media became a popular platform for campaigns to pressure companies to sever ties with Russia. These boycott campaigns appeared effective, as some of the largest brands—such as Coca-Cola, PepsiCo, and McDonald's—initially remained in Russia but eventually exited after being targeted by consumer boycotts.<sup>23</sup> For instance, Nestlé SA initially vowed to stay but reversed its decision following a pressuring social media campaign urging people to boycott its products.<sup>24</sup> Similarly, Uniqlo, a Japanese fashion company owned by Fast Retailing, initially decided to keep its 50 retail stores in Russia open, justifying this decision by stating that clothing is a necessity of life. However, the public backlash to that statement, which garnered international attention, led Uniqlo to announce it would exit the

<sup>23</sup>Andrew Hill, Companies' flight from Moscow sets some hard precedents, FINANCIAL TIMES (March 14, 2022), <https://www.ft.com/content/8d946204-6c74-4bfb-a649-c0335557b4ed>.

<sup>24</sup>See the company's tweet on March 2, 2022, where the CEO stated that: "At Nestlé, we are prioritizing safety and support for our employees in the region", <https://twitter.com/Nestle/status/1498976828530253829>.

Russian market. This case solidified the view among key audiences that there was little-to-no room for a CSR-based argument to stay.<sup>25</sup> The consumer backlash route might be particularly significant in shaping MNC actions due to the direct link between public opinion and the potential material costs to firms acting against it (Pandya and Venkatesan, 2016; Vekasi, 2019; Vekasi and Nam, 2019). Therefore, I hypothesize that MNCs in consumer-facing industries are more likely to leave Russia.

Furthermore, larger firms may suffer greater reputational damage from continuing operations in Russia, particularly if their presence in the country is minimal. These firms have more reputational capital to protect and are more visible, making them more susceptible to public scrutiny. Consequently, I expect that large firms in consumer-oriented industries are more likely to exit Russia compared to their smaller counterparts.

H3a. MNCs operating in consumer-facing industries are more likely to exit Russia, compared to MNCs in other industries.

H3b. Large-sized MNCs operating in consumer-facing industries are more likely to exit Russia, compared to small-sized MNCs in consumer-facing industries.

### **3.4 Data & Methods**

#### **3.4.1 Data**

I leverage the case of economic sanctions against Russia in response to the war in Ukraine to investigate how the ownership structure of firms and foreign policy similarity between their home country and the target country interact in shaping firms' response to economic sanctions.

I draw data from multiple sources. My primary data source is the List of Companies Leaving and Staying in Russia, collected by Yale Chief Executive Leadership Institute (Sonnenfeld & Yale Research Team, 2022). This dataset documents the business status of over 1,500 firms operating in Russia at the outbreak of the Ukrainian war, including their countries of origin, industry sectors, and their level of withdrawal from Russia following the 2022 Russian invasion of Ukraine. The companies' responses to economic sanctions are categorized into five categories: Withdrawal, Suspension, Scaling Back, Buying Time, and Digging In. While this dataset does not contain all firms doing business in Russia, the number of observations and sectors are representative, as they are mostly major firms so the external validity of my study is plausible.

To collect additional firm-level data, I utilize Orbis and Refinitiv, two of the most comprehensive firm-level databases available. Orbis is a widely used database for constructing firm-level datasets, providing administrative data for over 130 million entities worldwide and covering all sectors of the economy (Kalemli-Ozcan, Sorensen, Villegas-Sanchez, Volosovych, & Yesiltas, 2015). From Orbis, I gather information on firm

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<sup>25</sup>38Megan Cerullo. "Uniqlo Bows to Public Pressure to Close Stores in Russia." CBS News. March 10, 2022. <https://www.cbsnews.com/news/russia-ukraine-uniqlo-closes-stores/>.

ownership, total revenue, number of employees, and industry classification. I also use Refinitiv to collect further firm-level data such as ESG score.

For government procurement contracts, I utilize the Federal Procurement Data System-Next Generation database (FPDS-NG) (available at [usaspending.gov](https://usaspending.gov)).<sup>26</sup> The federal contracting database includes information on all U.S. government-awarded contracts that exceed an individual transaction value of \$3,000. Many firms have multiple contracts over several years. Consistent with prior studies using these data (e.g., Mills, Nutter, and Schwab, 2013; Goldman, Rocholl, and So, 2013), I use a firm's aggregate contract award amount for each fiscal year. I merge federal contract data from FPDS-NG with the CRSP/Compustat population by the name of the vendor's parent company, using a fuzzy matching algorithm. I then manually inspect each match and delete any inaccurate matches.

I source the list of in-force bilateral investment treaty (BIT) in Russia from the International Investment Agreements Navigator, United Nations Conference on Trade and Development (UNCTAD), which tracks the total number of BITs in a given country and their current status. Additionally, I use a list of EU tax havens to get the information on states that are known as tax havens.

### **3.4.2 Dependent Variable**

My dependent variable is a dichotomous outcome entitled *Exit* that takes a value of 1 if firms either withdrew or suspended their business operations in Russia following the Ukrainian invasion in February 2022, and a value of 0 if they did not. This variable is derived from an ordinal scale in the original dataset that classifies companies' engagement levels in Russia into five categories: *Digging In* refers to firms that are continuing their operations in Russia as usual. *Buying Time* describes companies that are postponing future planned investments, developments, or marketing efforts, yet still conducting substantial business activities. *Scaling Back* applies to firms that are reducing a significant portion of their business operations but are maintaining some level of activity in Russia. *Suspension* characterize firms that are temporarily halting most or nearly all operations, with the possibility of resuming activities in the future. Finally, *Withdrawal* denotes firms that have completely stopped all business activities in Russia or have completely exited the market. Based on this categorization, firms classified as either "Suspension" and "Withdrawal" are coded as 1 indicating a cessation of operations, and all other categories are coded as 0, which represents that firms continue to operate in Russia to varying degrees.

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<sup>26</sup>This dataset covers government fiscal years from 2000 to 2023.

### 3.4.3 Independent Variable

I proxy home-host country shock through home countries' imposition of sanctions against Russia. *Sanction* is coded 1 if MNCs' home countries imposed sanctions on Russia, and 0 if they did not. As an alternative measurement for the coalition of sanctioning states, I use the "Unfriendly Countries" List maintained by the Russian government. Russia began publishing this list on 5 March 2022, days after the invasion and the initial wave of sanctions and condemnation.<sup>27</sup>

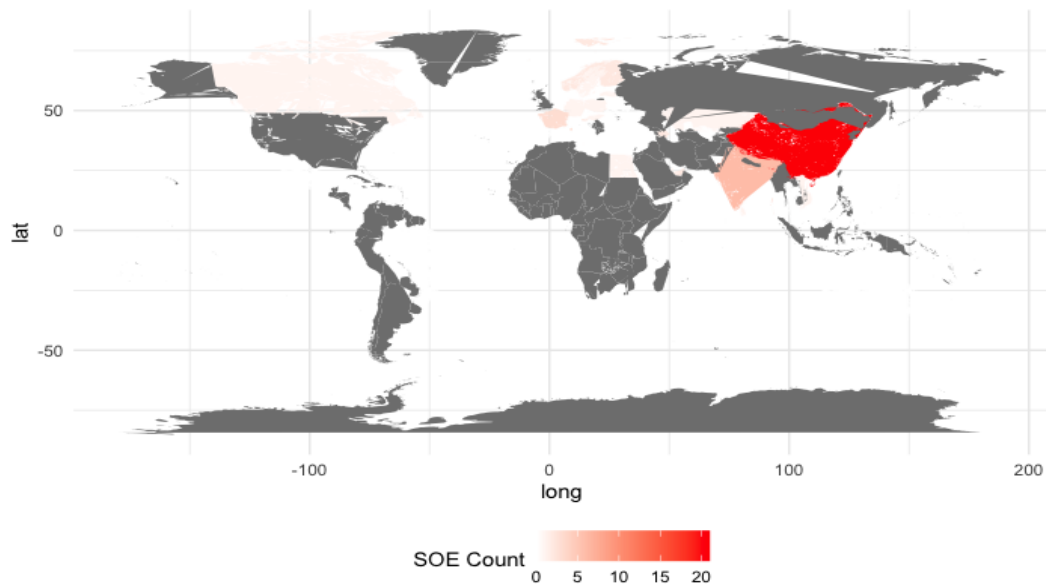


Figure 3.2: SOEs

My second main variable of interest is SOEs, a binary variable which is 1 if their ultimate global owner is their home government, otherwise 0. SOEs are defined as enterprises that are under the control of the state, either through the state being the ultimate beneficiary owner of the majority of voting shares or by exercising an equivalent degree of control (OECD 2022). Following previous literature, I define firms as SOEs or private based on their legal registration status or their shares of state or private exceeding 50 percent of their total capital, respectively (Naoi et al. 2022). One of the main obstacles of identifying SOEs in ORBIS is the absence of a specific variable for this identification. The closest proxy variable provided by ORBIS is denoted as the Global Ultimate Owner (GUO), defined as the individual or entity at the top of the corporate ownership structure (majority owner). In theory, one could obtain a list of SOEs by selecting firms whose GUOs are government public authorities. However, the information provided by the GUO is limited to entities of which the state or public authority owns 25% or more (GUO25), or 50% or more (GUO50), and state ownership in SOEs could be lower and still provide the ability of the governments to influence over firms (e.g., golden

<sup>27</sup>A list of unfriendly countries can be found in the Appendix.

shares). Moreover, the GUO variable does not include every shareholder at 25% or 50% or more level of ownership; it includes only the largest shareholder at the 25% or 50% threshold level, which may not be a state or a government. As a result, utilizing the GUO variable will yield an incomplete list of SOEs and firms with state participation – and therefore underestimate the businesses of the state. Thus, I crosscheck percentage of each shareholders to account for the possibility of the state public authority holding less than 25% or 50% threshold level. As an alternative measure, I create variables measuring whether the government has at least 10, 20, 30, 40, or 50 percent of shares of the firms.

My primary measure of government procurement, *PercGovtProcurement*, capture the percent of total annual sales derived from government contracts.

The fourth variable is *Consumer*, coded as 1 if the company is in consumer-oriented sectors and 0 otherwise. I code them based on the GSIC. Accordingly, firms in consumer discretionary and consume staples are considered as operating in consumer-oriented sectors. I use the natural logarithm of total employees as a proxy for the firm size.

### 3.4.4 Control Variables

I include several control variables that might influence a multinational corporation's (MNC) decision to withdraw from a targeted country. First, I account for whether an MNC's home country had bilateral investment treaties (BITs) with Russia at the time of the invasion. This controls for the possibility that economic treaties mitigate political risks. Vortherms and Zhang (2024) argues that access to international resources can reduce political risks at the country level, thereby decreasing the likelihood of firm exit from a profitable market during international conflict. Their findings indicate that bilateral investment treaties between two countries lower the probability of foreign-invested firms withdrawing from China during the 2014-2019 US-China trade war.<sup>28</sup>

Second, I control for tax haven status. In defining tax havens, I follow best practices by using the European Union's official list of non-cooperative tax jurisdictions, the most explicit such list available. The EU's list was initially adopted in 2017 and has been revised biannually since 2020. My primary coding indicates whether a state has ever been on the EU list from its inception to the end of this study period (August 2023).

Third, firm size may influence a company's decision to withdraw from a targeted market and its dependency on that market. Smaller or medium-sized firms investing in a specific market are more likely to rely heavily on that market due to their limited scale, which can affect their propensity to exit following economic sanctions. Therefore, I include the natural logarithm of total employees as a control variable for firm size.

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<sup>28</sup>As an alternative proxy, I use preferential trade agreements (PTAs) for robustness checks.



### 3.5 Results

For the main model specifications, I fit a logistic regression with 2-digit industry fixed effects (FEs) given the binary nature of the dependent variable. I also cluster standard errors at the 2-digit industry level to adjust for heteroskedasticity and within-group dependence.

The model estimation results are presented in Table 4.1. Across all three models, the coefficient for sanctions is positive and statistically significant, indicating that sanctions are associated with an increased likelihood of firm exit. Government ownership (GUO GOV) consistently shows a negative and highly significant effect on firm exit, suggesting that government-owned firms are less likely to exit compared to their non-government-owned counterparts. This result may be driven by two factors: SOEs tend to be concentrated in authoritarian states and, these industries are often more critical to state development.

My key variable of interest, the interaction term between sanctions and government ownership (Sanction x GUO GOV), is positive and significant across all models, indicating that the effect of sanctions on firm exit is more pronounced for government-owned firms. The results support hypotheses H1 and H2. As a robustness check, I use the 'unfriendly' states as an alternative measurement for sanctioning coalition members and the percent of government share of firm as an alternative measurement for government influence over firm, , and all are robust compared to my baseline model (see Appendix D).

In Model 2, I examine the role of social pressure on MNC's decision to exit. I use the number of employees as a proxy for firm size (LnEmployee), and include a dummy variable, Consumer, indicating whether the MNCs operate in a consumer-oriented industry. The results supports H2. The interaction term between LnEmployee and Consumer is positive and significant in Model 2 and Model 3. While LnEmployee is positively associated with firm exit, it is not statistically significant. This suggests that while larger companies face stronger pressure to withdraw from Russia, there are some heterogeneity within the large-sized firms – not all firms face the same level of pressure from consumers. I also find a negative and significant association between MNCs operating in a consumer-oriented industry and firm exit. This indicates that MNCs consumer-oriented industry tend to resist consumer backlash in general and it is consistent with their rationale to continue their business in order to provide essential items for the people of Russia. In sum, the results suggest that larger firms in consumer-oriented industries may face compounded pressures, supporting H2.

The findings on other covariates in Table 4.1 are generally consistent with expectations. Firms from home states that have a BIT in force with Russia show a negative correlation with firm exit, although the coefficients are close to zero and statistically insignificant across all models. It is notable that MNCs whose home is Cyprus are significantly more likely to leave while the coefficient on MNCs with a tax haven home is statistically inconsistent across models and insignificant. This variability suggests that being headquartered

	Model 1	Model 2	Model 3
Sanction	1.53*** (0.23)		0.52** (0.23)
GUO GOV	-1.37** (0.66)		-15.76*** (0.23)
Sanction x GUO GOV	1.52 (1.43)		16.07*** (0.57)
LnEmployee	0.01 (0.02)	0.01 (0.04)	0.03 (0.03)
Consumer		-0.96*** (0.37)	-0.86** (0.38)
LnEmployee x Consumer		0.09** (0.04)	0.08* (0.04)
BIT in Force	-0.20 (0.13)	-0.07 (0.17)	-0.04 (0.17)
Tax Havens	0.04 (0.29)	-0.16 (0.29)	0.02 (0.21)
Cyprus	-14.47*** (0.08)	-13.02*** (0.11)	-16.06*** (0.10)
Observations	1251	1251	1251
Pseudo R <sup>2</sup>	0.01	0.00	0.01
2-Digit Industry FEs	✓	✓	✓
Number of 2-Digit Industries	21	21	21

Robust standard errors in parentheses; clustered at the 2-digit NAICS level; \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table 3.1: Home, Host, and Non-state Pressures and Firm Exit

in a tax haven does not have a clear or consistent effect on firm exit decisions under sanctions.

Next, Table 4.2 reports the model estimation results . The results support evidence that the percentage of government procurement as a share of sales is statistically related to the leaving Russian decision, after controlling for firm size and industry.

	Model 1
Perc Govt Procurement	0.43** (0.17)
Ln_Employee	0.06 (0.04)
Observations	410
Number of 2-Digit Industries	16
Pseudo R <sup>2</sup>	0.01

Robust standard errors in parentheses; clustered at the 2-digit NAICS level; \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table 3.2: Percent of Annual Sales from Government Contracts

### **3.6 Discussion and Conclusion**

tion of international political economy and international security. Understanding the behavior of multinational corporations is essential for explaining international politics, and this understanding enriches our comprehension of the dynamics of business politics on a global scale. Economic sanctions, used by major powers to achieve political objectives, disrupt the global economy and influence international relations. Understanding firms' responses to these sanctions is crucial for comprehending the evolution of international business politics.

Additionally, examining firms' reactions to economic sanctions enhances our understanding of how these entities influence the development of economic statecraft, a fundamental aspect of the political economy of security. While military capabilities and economic power form the macro-foundations of statecraft, the actions of firms and other economic actors constitute its micro-foundation. Existing literature shows that firms significantly shape economic policies, including trade and investment, all of which are vital to the success of economic statecraft. By exploring firm behavior under economic sanctions, this study lays the groundwork for future research on how firms actively participate in shaping economic statecraft. The findings also highlight the need for further investigation into firms' behavior under economic sanctions and economic statecraft more broadly, offering new avenues for research in this critical area of international political economy.

One potential limitation of this study is that firms may exit targeted states and re-route their trade through third-party countries. Research indicates that firms with higher exit costs are less likely to leave the host market amidst political disputes. However, firms often adopt de-risking and evasion strategies to mitigate potential losses. After exiting a targeted market, firms may shift investments to countries that can provide indirect access to the sanctioned economy. Thus, future research should examine whether firms with existing subsidiaries in Russia's neighboring countries or states with a history of sanctions-busting are more likely to leave Russia, as these firms face lower exit costs compared to those without such strategic positions, making relocation a more viable option.

## CHAPTER 4

### Appendix

#### 4.1 Appendix to Chapter 1

The appendix includes summary statistics, supplementary figures and tables, and a number of robustness checks not included in the main text.

##### 4.1.1 Summary Statistics for Chapter 1

Table A1 provides descriptive statistics for the dependent variables, the variable of interest, and control variables.

Table A1: Summary statistics, all sanction episodes (1962-2015)

Statistic	N	Mean	St. Dev.	Min	Max
Join	32816	0.02	0.14	0	1
Export Similarity <sub>3T</sub>	27480	0.10	0.19	-0.04	1.00
Trade Share <sub>3T</sub>	23967	0.02	0.17	0.00	17.50
Ideological Distance <sub>3T</sub>	26367	2.25	1.14	0.00	4.97
Joint Democracy <sub>3T</sub>	29828	0.12	0.32	0.00	1.00
Defense Pact <sub>3S</sub>	28707	0.22	0.42	0.00	1.00
Defense Pact <sub>3T</sub>	32816	0.07	0.25	0	1
Rivalry <sub>3S</sub>	28367	0.01	0.10	0.00	1.00
Rivalry <sub>3T</sub>	32625	0.01	0.09	0.00	1.00
Capability Ratio (logged) <sub>3S</sub>	28554	4.33	2.80	-5.82	13.29
United States	32816	0.51	0.50	0	1

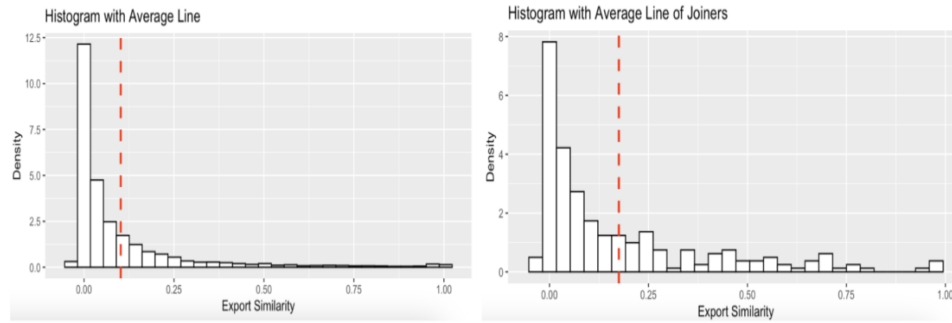


Figure 4.1: Histogram of Export Similarity.

Figure 2.1 presents the histogram of export similarity between states. The left represents the histogram of export similarity of all states (1962-2015). The right represents the histogram of export similarity between countries who joined the sanctions.

#### 4.1.2 Supplementary Tables and Figures

A number of minor alternatives to our primary model is presented in this section. Table A2 reports the findings for a sample including ECC/EU as a primary sender and Table A3 reports the findings for a sample excluding ECC/EU as a primary sender. The results are consistent regardless of specifications.

Table A2: Export Similarity and Joining Sanctioning Coalition (1962-2015)

	Dependent Variable: Join						
	Model 1 All	Model 2 Trade	Model 3 Trade Thrt	Model 4 Trade Imp	Model 5 Trade Threat Only	Model 6 Trade Imp Only	Model 7 Trade Threat&Imp
Export Similarity	1.51*** (0.34)	1.89*** (0.40)	2.70*** (0.56)	1.89*** (0.48)	2.19** (0.90)	1.15* (0.63)	3.16*** (0.79)
Trade Share <sub>3T</sub>	-2.42 (1.48)	-3.00* (1.68)	-4.07** (2.05)	-4.32 (2.64)	-0.06 (2.07)	-0.53 (3.48)	-11.31** (4.96)
Ideological Distance	-1.05*** (0.11)	-0.95*** (0.13)	-1.42*** (0.20)	-0.88*** (0.15)	-1.30*** (0.28)	-0.43** (0.19)	-1.68*** (0.29)
Joint Democracy <sub>3T</sub>	-0.67*** (0.22)	-0.78*** (0.28)	-1.01** (0.45)	-1.01*** (0.34)	-0.15 (0.77)	-0.29 (0.47)	-1.80** (0.78)
Defense Pact <sub>3S</sub>	2.12*** (0.20)	2.68*** (0.24)	2.62*** (0.34)	2.82*** (0.30)	2.05*** (0.48)	2.90*** (0.38)	3.03*** (0.58)
Defense Pact <sub>3T</sub>	0.86*** (0.26)	1.15*** (0.34)	1.46*** (0.48)	1.27*** (0.40)	0.34 (0.82)	0.73 (0.57)	2.29*** (0.69)
Rivalry <sub>3S</sub>	2.40*** (0.39)	2.61*** (0.47)	3.01*** (0.62)	2.30*** (0.59)	3.40*** (0.77)	2.12*** (0.77)	2.71*** (0.98)
Rivalry <sub>3T</sub>	0.52 (0.63)	0.10 (0.78)	-14.95 (1095.40)	0.12 (0.79)	-11.43 (715.99)	0.93 (0.86)	-16.66 (2213.60)
(log) Power Ratio <sub>3S</sub>	-0.58*** (0.05)	-0.64*** (0.06)	-0.67*** (0.09)	-0.68*** (0.07)	-0.58*** (0.13)	-0.63*** (0.09)	-0.85*** (0.14)
US	1.58*** (0.29)	1.42*** (0.36)	1.92*** (0.51)	1.08** (0.49)	1.47** (0.74)	-0.15 (0.70)	2.58* (1.42)
Constant	-4.81*** (1.07)	-5.14*** (1.09)	-3.44*** (0.48)	-4.84*** (1.15)	-3.60*** (0.77)	-3.99*** (1.23)	-3.07*** (0.74)
Year FE	YES	YES	YES	YES	Yes	Yes	Yes
N	16477	10276	6503	6978	3298	3773	3205
Log Likelihood	-857.40	-576.16	-308.07	-419.52	-148.65	-252.47	-150.32
AIC	1820.79	1240.32	688.15	921.04	349.30	560.94	362.65

Note: Robust standard errors are shown in parentheses. \*\*\*p < .01; \*\*p < .05; \*p < .1

Table A3: Export Similarity and Joining Sanctioning Coalition (1962-2005) excluding ECC/EU

	join					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	All	Trade	Trade Thrt	Trade Imp	Trade Thrt Only	Trade Imp Only
Export Similarity <sub>t-1</sub>	1.69*** (0.38)	2.08*** (0.41)	2.82*** (0.62)	1.91*** (0.49)	2.56*** (0.98)	1.24** (0.57)
Openness <sub>3</sub>	-0.001 (0.004)	0.002 (0.005)	0.001 (0.01)	0.004 (0.01)	-0.004 (0.005)	0.003 (0.01)
Openness <sub>T</sub>	0.0004 (0.01)	-0.002 (0.01)	-0.01 (0.01)	0.003 (0.01)	-0.03 (0.08)	-0.01 (0.02)
Trade Share <sub>PT</sub>	-1.21 (1.57)	-1.68 (1.90)	-2.65 (2.60)	-2.39 (1.50)	-0.04 (2.92)	1.68 (2.38)
Ideal Point Distance	-0.94*** (0.15)	-0.98*** (0.17)	-1.43*** (0.22)	-0.88*** (0.19)	-1.22*** (0.33)	-0.42* (0.24)
Joint Democracy <sub>PT</sub>	-0.80*** (0.26)	-0.78** (0.32)	-1.29*** (0.48)	-0.99*** (0.38)	0.49 (0.66)	0.01 (0.52)
Defense Pact <sub>SP</sub>	2.36*** (0.25)	2.56*** (0.30)	2.51*** (0.45)	2.77*** (0.39)	2.05*** (0.49)	2.80*** (0.52)
Defense Pact <sub>PT</sub>	0.30 (0.32)	0.48 (0.41)	1.11* (0.57)	0.42 (0.47)	0.16 (0.95)	-1.01 (0.82)
Rivalry <sub>SP</sub>	2.32*** (0.38)	2.61*** (0.43)	3.16*** (0.54)	2.14*** (0.54)	3.48*** (0.64)	1.97*** (0.64)
Rivalry <sub>PT</sub>	0.20 (0.75)	0.20 (0.68)	-13.84*** (0.52)	0.19 (0.68)	-14.51*** (1.03)	1.02 (0.70)
(log) Power Ratio <sub>SP</sub>	-0.65*** (0.07)	-0.63*** (0.07)	-0.63*** (0.09)	-0.69*** (0.09)	-0.56*** (0.14)	-0.68*** (0.12)
United States	1.54*** (0.39)	1.30*** (0.45)	1.62*** (0.63)	0.99* (0.57)	1.33 (0.89)	-0.27 (0.89)
Constant	-4.89*** (1.02)	-4.96*** (1.05)	-3.58*** (0.51)	-4.74*** (1.10)	-3.51*** (1.06)	-3.59*** (1.26)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	11407	8670	5581	5753	2917	3089
Log Likelihood	-627.21	-485.33	-267.88	-349.28	-124.69	-201.52
AIC	1344.43	1056.65	607.75	776.56	303.39	459.04

\*\*\*p < .01; \*\*p < .05; \*p < .1

Table A4: Export Similarity and Joining Sanctioning Coalition (1962-2015) including ECC/EU

	Dependent Variable: Join			
	Threat: Import Restriction	Threat: Export Restriction	Import Restriction	Export Restriction
Export Similarity	-1.50 (1.37)	0.38 (1.90)	1.10* (0.87)	-1.95 (2.19)
Trade Share <sub>3T</sub>	-12.04 (8.39)	-19.78 (16.81)	-5.96*** (3.22)	6.52*** (6.22)
Ideal Point Distance <sub>3S</sub>	-2.38*** (0.49)	-1.24*** (0.32)	-2.07*** (0.30)	-1.39*** (0.30)
Joint Democracy <sub>3T</sub>	0.55 (0.87)	-0.45 (0.64)	-0.38 (0.82)	0.90 (0.95)
Defense Pact <sub>3S</sub>	0.78** (0.68)	1.42*** (0.53)	1.40 (0.60)	2.65 (1.41)
Defense Pact <sub>3T</sub>	1.46 (0.94)	1.61*** (1.08)	1.16* (0.75)	6.23 (1.28)
Rivalry <sub>3S</sub>	-14.58*** (1.19)	2.60*** (0.75)	-15.42*** (0.97)	-21.50 (1.59)
Rivalry <sub>3T</sub>	-13.43* (1.11)	-14.60 (1.25)	1.89*** (0.89)	-0.14*** (1.77)
(log) Power Ratio <sub>3S</sub>	-1.19*** (0.26)	-0.59*** (0.12)	-0.97*** (0.20)	-1.61** (0.26)
United States	4.47** (1.22)	1.43*** (1.00)	2.79*** (1.13)	-14.99 (1.31)
Constant	-0.28 (0.86)	-1.62*** (0.80)	-1.17 (0.78)	-2.91 (2.14)
Year FE	YES	YES	YES	YES
N	2003	2364	2486	1599
Log Likelihood	-67.74	-111.55	-97.44	-59.38
AIC	175.48	265.11	242.89	158.76

\*\*\*p < .01; \*\*p < .05; \*p < .1

Table A5: Separating Goods by Type.

	Dependent Variable: Join					
	Trade Sanctions			Import Restrictions		
Raw Goods Export Similarity <sub><i>t-1</i></sub>	1.20*** (0.36)			0.16 (0.97)		
Manufactured Goods Export Similarity <sub><i>t-1</i></sub>	1.49*** (0.55)			2.34** (0.97)		
Oil Export Similarity <sub><i>t-1</i></sub>		-0.20 (0.23)			0.14 (0.47)	
Non-Oil Export Similarity <sub><i>t-1</i></sub>		1.13* (0.63)			2.64** (1.19)	
Strategic Export Similarity <sub><i>t-1</i></sub>			0.57* (0.31)			-0.08 (0.83)
Nonstrategic Export Similarity <sub><i>t-1</i></sub>			1.35** (0.62)			1.82* (1.03)
Trade Share <sub>3T</sub>	-2.93 (2.32)	-2.76 (2.19)	-2.91 (2.26)	-5.44* (3.03)	-5.76* (3.14)	-5.95* (3.29)
Ideological Distance	-0.95*** (0.14)	-0.90*** (0.15)	-0.94*** (0.15)	-2.11*** (0.32)	-2.01*** (0.31)	-2.08*** (0.32)
Joint Democracy <sub>3T</sub>	-0.87*** (0.31)	-0.64** (0.29)	-0.83*** (0.31)	-0.89 (0.84)	-0.79 (0.83)	-0.63 (0.85)
Defense Pact <sub>3S</sub>	2.64*** (0.29)	2.63*** (0.31)	2.64*** (0.29)	1.39** (0.60)	1.22** (0.59)	1.40** (0.58)
Defense Pact <sub>3T</sub>	1.09*** (0.38)	1.13*** (0.39)	1.15*** (0.38)	1.04 (0.70)	1.04 (0.74)	1.06 (0.77)
Rivalry <sub>3S</sub>	2.62*** (0.38)	2.66*** (0.37)	2.64*** (0.37)	-15.53*** (0.94)	-15.53*** (1.15)	-15.46*** (0.98)
Rivalry <sub>3T</sub>	0.12 (0.73)	0.32 (0.76)	0.21 (0.74)	1.65* (0.87)	1.74* (0.90)	1.92** (0.93)
(log) Power Ratio <sub>3S</sub>	-0.62*** (0.06)	-0.62*** (0.06)	-0.62*** (0.06)	-0.93*** (0.20)	-0.86*** (0.20)	-0.95*** (0.20)
United States	1.43*** (0.37)	1.34*** (0.39)	1.39*** (0.37)	2.57** (1.22)	2.86** (1.16)	2.91** (1.13)
Constant	-5.34*** (1.03)	-4.56*** (1.07)	-5.13*** (1.02)	-1.39* (0.83)	-17.06*** (1.56)	-1.26 (0.77)
Year FE	YES	YES	YES	YES	YES	YES
Target FE	YES	YES	YES	YES	YES	YES
N	10275	9065	10271	2486	2218	2485
Log Likelihood	-575.49	-541.95	-580.76	-95.63	-92.38	-96.81
AIC	1240.98	1173.91	1251.52	241.26	232.75	243.62

\*\*\*p < .01; \*\*p < .05; \*p < .1

The analysis above examines the similarity in exports by considering the total goods exchanged between each pair of states. However, it's crucial to recognize that the impact of export similarity on sanctions participation can vary based on the specific types of goods traded. Some products may have a more pronounced effect due to the costs of disrupted trade and the potential for diversion. To address this, I conduct an additional analysis using disaggregated export similarity based on different types of goods. The findings are detailed in Table 3, where I present the outcomes for trade sanctions (Columns 1-3) and import restrictions (Columns 4-6). Results for other types of economic sanctions are included in the Table A6, A7, and A8.

The analysis begins by separating raw goods and manufactured goods, with results shown in Columns 3 to 6 of Table 3. Third-party states with export similarities in manufactured goods with the target are more likely to participate in sanctions, possibly due to increased competition across various concerns, such as access to input goods like rare earth minerals. As illustrated in Column 1, both raw goods and manufactured goods increase the likelihood of participating in trade sanctions. However, when the sample is restricted to import restrictions, a statistically significant relationship is observed only for manufactured goods, as shown in Column 4. These findings suggest that manufactured goods might involve broader competition.

Next, I differentiate between oil, a specific natural resource, and other commodities. Countries with



abundant oil reserves, such as Iran, Venezuela, and Libya, are frequent targets of economic sanctions, raising questions about competition in the global oil market. The Organization of the Petroleum Exporting Countries (OPEC) includes countries with significant oil reserves that regulate production to stabilize prices and limit competition. Therefore, oil-exporting states may not have strong incentives to join economic sanctions for competitive advantages. I analyze the export similarity of oil-producing countries and their related commodities (SITC codes beginning with 33) separately from non-oil-related commodities, including both sets of variables in the models. The results in Column 2 indicate that while export similarities in non-oil commodities increase the likelihood of engaging in sanctions, export similarity in oil-related commodities does not significantly affect this likelihood. A closer examination of import restrictions shows statistical significance only for non-oil goods, although export similarity in both oil and non-oil goods is positively correlated with sanction participation. This finding suggests that the results are not primarily driven by competition among oil-exporting states.

Finally, I distinguish between strategic and nonstrategic goods, with strategic goods being crucial for economic and military security. Column 3 shows that export similarity in nonstrategic goods is positively associated with sanction participation and is statistically significant. However, when focusing on import restrictions, export similarity in strategic goods shows a negative correlation with sanction participation and loses statistical significance.

Table A6: Separating Goods by Type (All Sanction Types).

	<b>Model 1</b>	<b>join Model 2</b>	<b>Model 3</b>
Raw Goods Export Similarity <sub>t-1</sub>	0.83*** (0.31)		
Manufactured Goods Export Similarity <sub>t-1</sub>	1.15** (0.47)		
Oil Export Similarity <sub>t-1</sub>		-0.24 (0.18)	
Non-Oil Export Similarity <sub>t-1</sub>		0.99** (0.51)	
Strategic Export Similarity <sub>t-1</sub>			0.58 (0.25)
Nonstrategic Export Similarity <sub>t-1</sub>			1.03** (0.47)
Trade Share <sub>3T</sub>	-2.38 (1.85)	-2.32 (1.83)	-2.32 (1.82)
Ideological Distance	-1.04*** (0.12)	-1.05*** (0.13)	-1.03*** (0.12)
Joint Democracy <sub>3T</sub>	-0.68*** (0.22)	-0.60*** (0.22)	-0.69*** (0.21)
Defense Pact <sub>3T</sub>	2.09*** (0.22)	2.03*** (0.24)	2.10*** (0.22)
Rivalry <sub>3S</sub>	0.82*** (0.29)	0.82*** (0.30)	0.85*** (0.29)
Rivalry <sub>3T</sub>	2.42*** (0.32)	2.58*** (0.32)	2.41*** (0.32)
(log) Power Ratio <sub>3S</sub>	0.56 (0.66)	0.69 (0.70)	0.61 (0.66)
United States	-0.57*** (0.05)	-0.56*** (0.05)	-0.58*** (0.05)
US	1.58*** (0.31)	1.50*** (0.32)	1.57*** (0.31)
Constant	-4.91*** (1.00)	-4.19*** (1.03)	-4.89*** (1.00)
Year FE	YES	YES	YES
N	16476	14391	16471
Log Likelihood	-857.96	-789.61	-860.26
AIC	1823.92	1685.22	1828.51

\*\*\* p &lt; .01; \*\* p &lt; .05; \* p &lt; .1

Table A7: Separating Goods by Type (Trade Sanction - Threat Stage).

	<b>Model 1</b>	<b>join Model 2</b>	<b>Model 3</b>
Raw Goods Export Similarity <sub><i>t</i>-1</sub>	1.60*** (0.50)		
Manufactured Goods Export Similarity <sub><i>t</i>-1</sub>	2.30*** (0.65)		
Oil Export Similarity <sub><i>t</i>-1</sub>		-0.35 (0.28)	
Non-Oil Export Similarity <sub><i>t</i>-1</sub>		1.44* (0.77)	
Strategic Export Similarity <sub><i>t</i>-1</sub>			0.37 (0.42)
Nonstrategic Export Similarity <sub><i>t</i>-1</sub>			2.27*** (0.77)
Trade Share	-3.03 (2.80)	-2.75 (2.61)	-3.30 (2.82)
Joint Democracy	-1.25*** (0.21)	-1.31*** (0.24)	-1.23*** (0.21)
Defense Pact <sub>3S</sub>	-0.78** (0.35)	-0.43 (0.32)	-0.80** (0.34)
Defense Pact <sub>3T</sub>	2.45*** (0.36)	2.39*** (0.40)	2.48*** (0.36)
Rivalry <sub>3S</sub>	0.70* (0.42)	0.79* (0.41)	0.79* (0.43)
Rivalry <sub>3T</sub>	3.15*** (0.52)	3.27*** (0.50)	3.13*** (0.49)
Capability Ratio (logged)	-13.67*** (0.47)	-13.45*** (0.49)	-13.69*** (0.48)
United States	-0.56*** (0.07)	-0.58*** (0.08)	-0.57*** (0.07)
US	1.66*** (0.42)	1.80*** (0.47)	1.70*** (0.42)
Constant	-3.73*** (0.36)	-3.13*** (0.48)	-3.53*** (0.38)
N	5720	4920	5718
Log Likelihood	-295.67	-268.21	-303.38
AIC	615.34	560.41	630.77

\*\*\*p &lt; .01; \*\*p &lt; .05; \*p &lt; .1

Table A8: Separating Goods by Type (Trade Sanction - Imposition Stage).

	<b>join</b>		
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Raw Goods Export Similarity <sub>t-1</sub>	0.90** (0.40)		
Manufactured Goods Export Similarity <sub>t-1</sub>	1.83*** (0.60)		
Oil Export Similarity <sub>t-1</sub>		-0.12 (0.23)	
Non-Oil Export Similarity <sub>t-1</sub>		1.18 (0.72)	
Strategic Export Similarity <sub>t-1</sub>			0.40 (0.34)
Nonstrategic Export Similarity <sub>t-1</sub>			1.51** (0.72)
Trade Share	-2.54 (1.58)	-1.96 (1.44)	-2.43 (1.55)
Joint Democracy	-0.71*** (0.16)	-0.72*** (0.18)	-0.71*** (0.17)
Defense Pact <sub>3S</sub>	-0.61** (0.28)	-0.36 (0.26)	-0.53** (0.27)
Defense Pact <sub>3T</sub>	2.87*** (0.34)	2.84*** (0.36)	2.86*** (0.33)
Rivalry <sub>3S</sub>	0.42 (0.36)	0.38 (0.33)	0.48 (0.36)
Rivalry <sub>3T</sub>	2.25*** (0.44)	2.45*** (0.44)	2.27*** (0.43)
Capability Ratio (logged)	0.15 (0.78)	0.28 (0.89)	0.19 (0.83)
United States	-0.68*** (0.08)	-0.68*** (0.08)	-0.68*** (0.07)
US	1.31*** (0.37)	1.31*** (0.41)	1.36*** (0.37)
Constant	-3.83*** (0.28)	-3.52*** (0.35)	-3.74*** (0.29)
N	5987	5157	5985
Log Likelihood	-383.83	-345.18	-388.85
AIC	791.66	714.37	801.70

\*\*\*p < .01; \*\*p < .05; \*p < .1

## 4.2 Appendix to Chapter 2

### 4.2.1 Summary Statistics for Chapter 2

Table B1: Summary Statistics

Variables	N	Mean	St. Dev.	Min	Max
Sender's economic leverage over shared trade partners with a potential target directed dyad	630,537	0.709	2.031	0.000	49.281
Shared trade partners' economic leverage over a potential target directed dyad	630,537	0.927	0.171	0.000	1.997
Economic Leverage <sub>ij</sub> primary sender	630,536	1.111	79.625	0.000	39,540.01
Economic Leverage <sub>ij</sub> all senders	630,687	0.031	1.082	0	116
Sanction Threat	630,687	0.001	0.037	0	1
Sanction Imposition	630,687	0.001	0.034	0	1
Outcome of Sanction Threat	630,687	0.0003	0.017	0	1
Outcome of Sanction Imposition	630,687	0.0004	0.020	0	1
Sender's economic leverage over shared trade partners with a potential target sanction episode	889	12.072	10.973	0.003	49.281
Shared trade partners' economic leverage over a potential target sanction episode	889	0.857	0.287	0.012	1.942
Economic Leverage <sub>ij</sub> sanction episode	889	17.277	18.981	0.004	116.329
Sanction Threat	1,020	0.701	0.458	0	1
Sanction imposition	1,020	0.705	0.456	0	1
Outcome of Sanction Threat	1,020	0.119	0.324	0	1
Outcome of Sanction Imposition	1,020	0.246	0.431	0	1

Table B2: Threat Initiation

	<i>Dependent variable:</i>							
	threat initiation							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
trade_sm	0.278*** (0.004)	0.150*** (0.005)			0.432*** (0.013)	0.253*** (0.016)		
trade_tm			-3.344*** (0.143)	-1.771*** (0.208)	-0.487* (0.293)	0.148 (0.322)		
trade_sm*trade_tm					-0.175*** (0.013)	-0.097*** (0.015)		
trade_sm/trade_tm							0.0001*** (0.00004)	0.049*** (0.004)
ln_tvol		0.536*** (0.020)		0.663*** (0.019)		0.480*** (0.021)		0.696*** (0.023)
ln_gdp_pc		-0.175*** (0.051)		0.208*** (0.051)		-0.183*** (0.051)		-0.031 (0.053)
senderpolity2		0.068*** (0.010)		0.102*** (0.010)		0.060*** (0.010)		
alliance		0.766*** (0.092)		1.198*** (0.086)		0.567*** (0.095)		
target_democracy		-0.865*** (0.094)		-0.980*** (0.090)		-0.763*** (0.094)		
Constant	-7.622*** (0.052)	-8.519*** (0.396)	-3.634*** (0.120)	-10.656*** (0.453)	-7.323*** (0.274)	-8.302*** (0.458)		
Observations	651.273	572.392	651.273	572.392	651.273	572.392	651.272	533.590
Log Likelihood	-4,610.000	-3,568.863	-6,813.365	-4,019.353	-4,315.028	-3,513.538	-7,007.018	-3,550.197
Akaike Inf. Crit.	9,223.999	7,151.726	13,630.730	8,052.707	8,638.056	7,045.075	14,018.030	7,118.393

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table B3: Outcome of Sanction Threat

	Dependent variable:							
	threatsuccess							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
trade_sm	0.034*** (0.008)	0.017 (0.011)			0.093*** (0.031)	0.056 (0.038)		
trade_tm			-0.207 (0.372)	0.485 (0.384)	0.924 (0.722)	1.102 (0.782)		
trade_sm * trade_tm					-0.055** (0.028)	-0.036 (0.031)		
trade_sm / trade_tm							0.014*** (0.004)	-0.004 (0.006)
ln_tvol		0.342*** (0.063)		0.375*** (0.062)		0.343*** (0.066)		0.376*** (0.065)
ln_gdp_pc		0.118 (0.184)		0.215 (0.178)		0.104 (0.190)		0.233 (0.182)
senderpolity2		-0.020 (0.030)		-0.012 (0.030)		-0.019 (0.031)		-0.013 (0.030)
alliance		-0.869*** (0.250)		-0.810*** (0.249)		-0.844*** (0.251)		-0.805*** (0.251)
target_democracy		-0.356 (0.242)		-0.365 (0.243)		-0.368 (0.243)		-0.346 (0.241)
Constant	-1.639*** (0.156)	-4.859*** (1.519)	-0.936*** (0.315)	-6.313*** (1.539)	-2.622*** (0.705)	-5.797*** (1.712)	-1.415*** (0.137)	-6.019*** (1.535)
Observations	643	608	643	608	643	608	643	608
Log Likelihood	-350.230	-306.223	-360.599	-306.754	-347.835	-305.251	-355.689	-307.331
Akaike Inf. Crit.	704.459	626.446	725.198	627.509	703.670	628.501	715.378	628.663

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table B4: Sanction Imposition

	Dependent variable:							
	Sanction Imposition							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
trade_sm	0.238*** (0.004)	0.114*** (0.005)			0.448*** (0.013)	0.272*** (0.015)		
trade_tm			-2.467*** (0.182)	-0.501** (0.205)	1.003*** (0.239)	1.835*** (0.223)		
trade_sm * trade_tm					-0.220*** (0.012)	-0.148*** (0.013)		
trade_sm / trade_tm							0.0002*** (0.00004)	0.026*** (0.003)
ln_tvol		0.508*** (0.020)		0.630*** (0.019)		0.477*** (0.021)		0.653*** (0.023)
ln_gdp_pc		-0.278*** (0.049)		-0.060 (0.049)		-0.336*** (0.050)		0.068*** (0.050)
senderpolity2		0.072*** (0.010)		0.096*** (0.010)		0.068*** (0.010)		0.068*** (0.010)
alliance		0.976*** (0.094)		1.325*** (0.090)		0.852*** (0.097)		0.852*** (0.097)
target_democracy		-0.634*** (0.098)		-0.778*** (0.096)		-0.585*** (0.099)		-0.585*** (0.099)
Constant	-7.448*** (0.049)	-7.429*** (0.368)	-4.521*** (0.158)	-9.287*** (0.423)	-8.551*** (0.235)	-8.559*** (0.404)		
Observations	651.273	572.392	651.273	572.392	651.273	572.392		
Log Likelihood	-4,648.822	-3,631.129	-6,032.080	-3,888.331	-4,385.830	-3,568.323		
Akaike Inf. Crit.	9,301.643	7,276.258	12,068.160	7,790.661	8,779.660	7,154.647		

Note: Trade Sanctions only

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table B5: Sanction Imposition Success

	Dependent variable:							
	Acquiescence							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
trade_sm	-0.030*** (0.008)	0.004 (0.011)			-0.109*** (0.031)	-0.014 (0.040)		
trade_tm			-1.587*** (0.332)	-1.872*** (0.441)	-2.992*** (0.593)	-2.014*** (0.718)		
trade_sm * trade_tm					0.072** (0.034)	0.005 (0.042)		
trade_sm / trade_tm							0.0004 (0.0004)	0.011* (0.006)
ln_tvol		-0.022 (0.038)		-0.041 (0.039)		-0.040 (0.039)		-0.033 (0.039)
ln_gdp_pc		-0.271*** (0.102)		-0.234** (0.100)		-0.213** (0.104)		-0.289*** (0.101)
senderpolity2		0.029 (0.022)		0.016 (0.021)		0.020 (0.022)		0.023 (0.022)
alliance		0.394* (0.206)		0.231 (0.209)		0.254 (0.212)		0.327 (0.208)
target_democracy		-1.165*** (0.207)		-1.061*** (0.208)		-1.019*** (0.215)		-1.182*** (0.206)
Constant	-0.520*** (0.117)	1.735** (0.731)	0.444 (0.277)	3.281*** (0.824)	2.213*** (0.542)	3.259*** (0.917)	-0.877*** (0.080)	1.933*** (0.729)
Observations	771	719	771	719	771	771	771	719
Log Likelihood	-461.736	-394.270	-455.551	-383.082	-438.404	-382.776	-466.780	-392.559
Akaike Inf. Crit.	927.472	802.539	915.103	780.164	884.809	783.553	937.559	799.118

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 4.3 Appendix to Chapter 3

#### 4.3.1 Summary Statistics for Chapter 3

Table C6: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Max
Sanction	1,253	0.94	0.23	0	1
Unfriendly	1,253	0.95	0.21	0	1
GUO GOV	1,253	0.03	0.16	0	1
Gov Share	1,253	2.88	14.39	0.00	100.00
Gov10	1,253	0.05	0.22	0	1
Gov20	1,253	0.04	0.21	0	2
Gov25	1,253	0.03	0.16	0	1
Gov30	1,253	0.04	0.19	0	1
Gov40	1,253	0.03	0.17	0	1
Gov50	1,253	0.03	0.16	0	1
Ln_Employee	1,253	8.12	2.52	0.00	14.24
Consumer	1,253	0.32	0.47	0	1
Perc Govt Procurement	428	0.03	0.37	0.00	7.65
BIT in Force	1,253	0.58	0.49	0	1
Tax Havens	1,253	0.04	0.20	0	1
Cyprus	1,253	0.002	0.05	0	1

US Firm Exit Figure Here: By the end of 2023, approximately 520 US firms had fully withdrawn from the Russian market and 503 US firms suspended their operations. Additionally, 148 US firms scaled down their operations. In contrast, 234 US firms have chosen to continue operations, while 176 US firms are still waiting to make a decision, awaiting further developments before finalizing their stance.

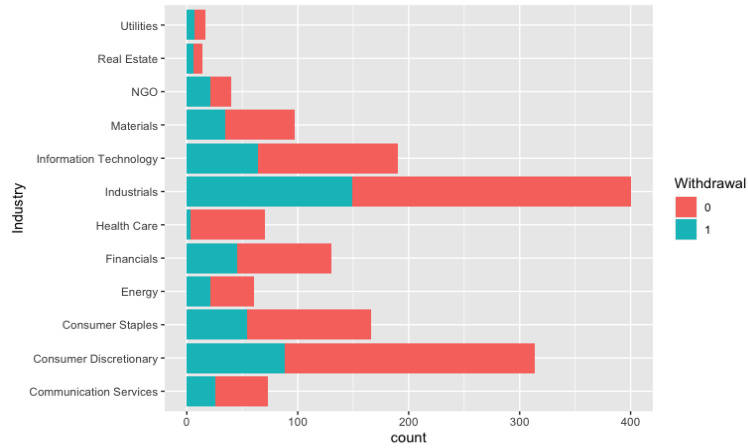


Figure 4.1: Firm Exit by Industry

#### 4.3.2 List of Countries Imposing Sanctions on Russia since 2022

- |                                    |                                    |
|------------------------------------|------------------------------------|
| United States (February 22, 2022)  | United Kingdom (February 22, 2022) |
| European Union (February 23, 2022) | Australia (February 23, 2022)      |
| Canada (February 24, 2022)         | Japan (February 24, 2022)          |
| South Korea (March 2, 2022)        | Taiwan (February 25, 2022)         |
| Singapore (March 5, 2022)          | New Zealand (February 24, 2022)    |
| Switzerland (March 1, 2022)        | Norway (March 1, 2022)             |
| Ukraine (January, 2023)            |                                    |



### 4.3.3 Russian “Unfriendly Countries” List

To define the coalition of sanctioning states, I use the “Unfriendly Countries” List maintained by the Russian state. Russia began publishing this list on 5 March 2022, days after the invasion and the initial wave of sanctions and condemnation.<sup>1</sup>

Andorra	Iceland	Portugal
Australia	Ireland	Romania
Austria	Italy	San Marino
Bahamas <sup>2</sup>	Japan	Singapore
Belgium	Latvia	Slovakia
Bulgaria	Liechtenstein	Slovenia
Canada	Lithuania	South Korea
Croatia	Luxembourg	Spain
Cyprus	Malta	Sweden
Czechia	Micronesia	Switzerland
Denmark	Monaco	Taiwan
Estonia	Montenegro	Ukraine
Finland	Netherlands <sup>3</sup>	United Kingdom <sup>4</sup>
France <sup>5</sup>	New Zealand	United States
Germany	North Macedonia	(European Union <sup>6</sup> )
Greece	Norway	
Hungary	Poland	

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<sup>1</sup>Sources: Various news outlets and government statements.

#### **4.3.4 List of MNCs whose Global Ultimate Owner is Government**

To define the SOEs, I use the global ultimate owner (GUO) as a proxy.

#### 4.3.5 Alternative IV Measures

Firm	Country	Industry	% of Govt Share
Azerbaijan Airlines	Azerbaijan	Industrials	100.00
Buta Airways	Azerbaijan	Industrials	100.00
CBC	Canada	Communication Services	100.00
China Mobile	China	Communication Services	100.00
China United Network Communications	China	Communication Services	10.21
Kweichow Moutai	China	Consumer Staples	60.82
PowerChina	China	Energy	100.00
Sinopec	China	Energy	68.77
China National Petroleum Corporation	China	Energy	100.00
China Life Insurance Company	China	Financials	68.37
Agricultural Bank of China	China	Financials	35.29
ICBC	China	Financials	100.00
Bank of China	China	Financials	64.00
Syngenta	China	Health Care	100.00
China Communications Construction Company	China	Industrials	63.80
China State Construction Engineering	China	Industrials	51.00
China State Railway Group Company	China	Industrials	100.00
SAIC Motor	China	Industrials	62.69
Air China	China	Industrials	53.46
FAW Group	China	Industrials	100.00
China Railway Engineering Corporation	China	Industrials	100.00
China Railway Construction Corporation	China	Industrials	100.00
China Minmetals	China	Materials	100.00
State Grid Corporation of China	China	Utilities	100.00
Egyptair	Egypt	Industrials	100.00
Gasum	Finland	Energy	100.00
Fortum	Finland	Utilities	50.76
Orano	France	Energy	45.20
Geodis	France	Industrials	100.00
EDF	France	Utilities	100.00
DPD	Germany	Industrials	34.00
Raba	Hungary	Industrials	74.00
Indian Oil Corporation	India	Energy	51.50
Bharat Petroleum (BPCL)	India	Energy	52.98
Coal India	India	Energy	66.10
ONGC	India	Energy	60.41
SBI	India	Financials	56.92
NTPC	India	Utilities	51.10
Air Astana	Kazakhstan	Industrials	51.00
AirBaltic	Latvia	Industrials	96.14
Air Malta	Malta	Industrials	99.96
Vinmonopolet	Norway	Consumer Staples	100.00
Equinor	Norway	Energy	67.00
Gaz-System	Poland	Utilities	100.00
Qatar Airways	Qatar	Industrials	100.00
NIS Serbia	Serbia	Energy	29.87
Air Serbia	Serbia	Industrials	83.57
Olam Group	Singapore	Consumer Staples	54.00
Triglav Group	Slovenia	Financials	62.56
Luka Koper	Slovenia	Industrials	51.00
SriLankan Airlines	Sri Lanka	Industrials	99.10
Vattenfall	Sweden	Utilities	100.00
Etihad Airways	United Arab Emirates	Industrials	100.00
Emirates Airlines	United Arab Emirates	Industrials	100.00
Vietnam Airlines	Vietnam	Industrials	55.20

	Model 1	Model 2	Model 3
Unfriendly	1.32*** (0.44)		1.31*** (0.45)
GUO GOV	-14.99*** (0.37)		-14.99*** (0.37)
BIT in Force	-0.03 (0.16)	-0.07 (0.17)	-0.02 (0.16)
Tax Havens	0.09 (0.26)	-0.16 (0.29)	0.08 (0.25)
Cyprus	-16.00*** (0.10)	-13.02*** (0.11)	-16.07*** (0.11)
LnEmployee	0.05** (0.03)	0.01 (0.04)	0.03 (0.03)
Unfriendly x GUO GOV	15.34*** (0.69)		15.29*** (0.70)
Consumer		-0.96*** (0.37)	-0.84** (0.39)
LnEmployee x Consumer		0.09** (0.04)	0.08* (0.04)
Observations	1251	1251	1251
2-Digit Industry FEs	✓	✓	✓
Number of 2-Digit Industries	21	21	21 Pseudo R <sup>2</sup>
0.02	0.00	0.02	

Robust standard errors in parentheses; clustered at the 2-digit NAICS level; \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table C7: Unfriendly States and Firm Exit

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Sanction	0.61** (0.25)	0.66** (0.27)	0.64** (0.26)	0.64** (0.26)	0.67** (0.27)	0.70** (0.28)
Perc Govt Share	-0.03** (0.01)					
Sanction x Perc Govt Share	0.03** (0.01)					
Govt Share 10%		-1.51** (0.69)				
Sanction x Govt Share 10%		1.50** (0.75)				
Govt Share 20%			-2.15* (1.19)			
Sanction x Govt Share 20%			2.14* (1.17)			
Govt Share 30%				-2.14* (1.19)		
Sanction x Govt Share 30%				2.25* (1.18)		
Govt Share 40%					-2.04 (1.27)	
Sanction x Govt Share 40%					2.64** (1.30)	
Govt Share 50%						-1.97 (1.26)
Sanction x Govt Share 50%						2.52* (1.34)
BIT in Force	-0.06 (0.16)	-0.05 (0.16)	-0.05 (0.17)	-0.05 (0.16)	-0.06 (0.16)	-0.06 (0.16)
Tax Havens	0.03 (0.22)	0.02 (0.22)	0.03 (0.22)	0.03 (0.22)	0.04 (0.22)	0.05 (0.21)
Cyprus	-13.01*** (0.09)	-13.02*** (0.10)	-13.02*** (0.09)	-13.02*** (0.09)	-13.01*** (0.09)	-13.01*** (0.09)
LnEmployee	0.05* (0.03)	0.05* (0.03)	0.05* (0.03)	0.05* (0.03)	0.05* (0.03)	0.05* (0.03)
Observations	1251	1251	1251	1251	1251	1251
2-Digit Industry FEs	✓	✓	✓	✓	✓	✓
Number of 2-Digit Industries	21	21	21	21	21	21
Pseudo R <sup>2</sup>	0.01	0.01	0.01	0.01	0.01	0.01

Robust standard errors in parentheses; clustered at the 2-digit NAICS level; \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table C8: Government Share as an Alternative Proxy

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Sanction	0.60** (0.29)	0.68** (0.31)	0.62** (0.29)	0.62** (0.29)	0.62** (0.29)	0.66** (0.30)
Perc Govt Share	-0.06*** (0.01)					
Sanction x Perc Govt Share	0.07*** (0.02)					
Govt Share 10%		-2.18** (0.88)				
Sanction x Govt Share 10%		2.15** (0.90)				
Govt Share 20%			-14.79*** (0.28)			
Sanction x Govt Share 20%			14.81*** (0.36)			
Govt Share 30%				-14.78*** (0.28)		
Sanction x Govt Share 30%				14.95*** (0.40)		
Govt Share 40%					-14.77*** (0.28)	
Sanction x Govt Share 40%					15.51*** (0.55)	
Govt Share 50%						-14.73*** (0.29)
Sanction x Govt Share 50%						15.46*** (0.63)
BIT in Force	-0.05 (0.18)	-0.04 (0.18)	-0.04 (0.18)	-0.05 (0.18)	-0.05 (0.18)	-0.05 (0.18)
Tax Havens	0.09 (0.20)	0.07 (0.20)	0.08 (0.19)	0.09 (0.19)	0.10 (0.19)	0.10 (0.19)
Cyprus	-11.88*** (0.12)	-11.89*** (0.12)	-14.89*** (0.12)	-14.88*** (0.12)	-14.87*** (0.12)	-14.87*** (0.12)
LnEmployee	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Observations	1171	1171	1171	1171	1171	1171
2-Digit Industry FEs	✓	✓	✓	✓	✓	✓
Number of 2-Digit Industries	21	21	21	21	21	21
Pseudo R <sup>2</sup>	0.01	0.01	0.01	0.01	0.02	0.01

Robust standard errors in parentheses; clustered at the 2-digit NAICS level; \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table C9: Government Share as an Alternative Proxy (Financial Sector Excluded)

	Model 1	Model 2	Model 3	Model 4	Model 5
Unfriendly	2.18*** (0.46)	2.20*** (0.45)	2.20*** (0.45)	2.20*** (0.45)	2.20*** (0.45)
Govt Share10%	-13.30*** (0.47)				
Unfriendly x Govt Share10%	13.53*** (0.60)				
Govt Share20%		-13.32*** (0.45)			
Unfriendly x Govt Share20%		13.69*** (0.60)			
Govt Share30%			-13.31*** (0.45)		
Unfriendly x Govt Share30%			13.83*** (0.59)		
Govt Share40%				-13.29*** (0.45)	
Unfriendly x Govt Share40%				14.84*** (0.80)	
Govt Share50%					-13.29*** (0.45)
Unfriendly x Govt Share50%					14.68*** (0.81)
BIT in Force	-0.03 (0.18)	-0.03 (0.18)	-0.03 (0.18)	-0.03 (0.18)	-0.03 (0.18)
Tax Havens	0.25 (0.20)	0.25 (0.20)	0.25 (0.20)	0.26 (0.20)	0.25 (0.20)
Cyprus	-14.87*** (0.12)	-14.87*** (0.12)	-14.86*** (0.12)	-14.84*** (0.12)	-14.85*** (0.12)
LnEmployee	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Observations	1171	1171	1171	1171	1171
2-Digit Industry FEs ✓	✓	✓	✓	✓	✓
Number of 2-Digit Industries	21	21	21	21	21
Pseudo R <sup>2</sup>	0.02	0.02	0.02	0.02	0.02

Robust standard errors in parentheses; clustered at the 2-digit NAICS level; \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table C10: Unfriendly Countries and Government Share as an Alternative Proxy (without Financial Industry)



	Model 1	Model 2	Model 3
Ln Employee	-0.04 (0.03)	-0.04 (0.03)	-0.01 (0.03)
Consumer	-0.55 (0.62)		
Consumer Discretionary		-0.92 (0.61)	
Consumer Staples			0.35 (1.10)
LnEmployee x Consumer	0.10 (0.08)		
LnEmployee x Consumer Discretionary		0.15** (0.07)	
LnEmployee x Consumer Staples			-0.04 (0.14)
BIT in Force	-0.27** (0.13)	-0.27** (0.13)	-0.25** (0.12)
Tax Havens	-0.29 (0.37)	-0.30 (0.37)	-0.33 (0.37)
Cyprus	-14.30*** (0.09)	-14.33*** (0.07)	-14.32*** (0.08)
Observations	1251	1251	1251
2-Digit Industry FEs	✓	✓	✓
Number of 2-Digit Industries	21	21	21
Pseudo R <sup>2</sup>	0.02	0.02	0.01

Robust standard errors in parentheses; clustered at the 2-digit NAICS level; \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table C11: Results of Fixed Effects Logistic Regression

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