

You're the One I Want: Substitutability, Coalition Costs, and Multilateral Sanction Coalitions

Pei-Yu Wei

Abstract

When do states choose multilateral sanctions over unilateral ones? Rather than examine downstream disadvantages of multilateral sanctions, such as bargaining and enforcement difficulties, this paper focuses on the tradeoffs inherent in the primary sender's initial decision. I argue via a formal model that they must balance the cost of establishing and maintaining sanctioning coalitions, which stems from the difference in foreign policy preferences between the primary sender and its potential partners, and the benefit of improved coerciveness of their sanctioning policies. Consequently, primary senders can and often do decide that multilateral sanctioning regimes are not worthwhile. An empirical analysis provides preliminary evidence that primary senders do account for both the cost of including an additional partner and the benefit that the potential partner brings when deciding between the use of multilateral or unilateral sanctions. A model extension shows that results continue to hold when primary senders can use secondary sanctions.

October 30, 2021

1 Introduction

How do states decide between implementing multilateral and unilateral sanctions? Conventional wisdom indicates that multilateral sanctions provide a host of benefits that unilateral sanctions do not, explaining why sanctioning states tend to go to great lengths to build a sanctioning coalition composed of several nations. The Reagan administration, for example, threatened even its NATO allies with a trade war if said allies did not agree to sanction the Soviet Union over its crackdown in Poland (DeSouza, 1984). The need for multilateral sanctions has been raised again and again by policy-makers as well. For example, in an interview on October 15, 2006, then-Secretary of State Condoleezza Rice commented on the new and unanimously-passed United Nations sanction on North Korea. Rice stated that the multilateral sanctions demonstrated “unity of purpose and unity of message to North Korea.” Those remarks highlight that for policy-makers, multilateral sanctions are superior to unilateral sanctions because of the credibility and legitimacy they carry.

Benefits commonly attributed to multilateral sanctions include increased legitimacy and coercive power. Despite their existence, these benefits are not enough to induce countries to always enact multilateral sanctions. Figure 1 shows that the level of multilateral sanctions has remained relatively steady throughout the latter half of the 20th and the early 21st centuries, only very occasionally surpassing 60% of all sanctions implemented in any given year. This indicates that there are factors that hold sender states back from constantly utilizing multilateral sanctions.

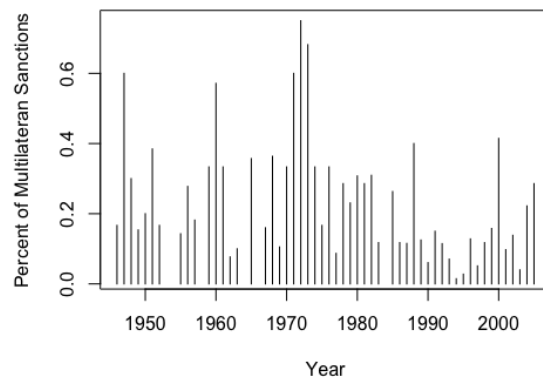


Figure 1: Multilateral sanctions as % of total sanctions

What then could go into sanction-initiating countries’ decisions? What may reduce the desirability of multilateral sanctions for sending states? Previous work on multilateral sanctions have shown that they are not silver bullets and do not guarantee success. In fact, due

to enforcement problems amongst members of the sanctioning coalition, multilateral sanctions may even be less efficient than unilateral sanctions (Kaempfer & Lowenberg, 1999). Similarly, bargaining issues tend to plague sanctions (Miers & Morgan, 2002), as they do any other type of international coalitions. However, I argue that these are “downstream” and relatively uncertain problems for the primary sender of the sanctions.¹ In order to capture a comprehensive picture of how the primary sender decide between multilateral and unilateral sanctions, it is just as important to examine the “upfront costs” of forming multilateral sanctions. I use the term “upfront costs” to refer to the costs that the primary sender has to bear to establish and maintain a sanctioning coalition. Free-riding, which has been highlighted as a reason why secondary senders may not wish to participate in multilateral sanctions (Mansfield, 1995), is one such “upfront cost” of multilateral sanctions. After all, sanctions almost always hurt the sending states. Not participating in the coalition would allow the other countries to reap the benefits of the primary sender’s sanction, if successful, without incurring any of the costs. Free-riding, however, attributes the inability of the primary sender to form a sanctioning coalition to the reluctance of the secondary sender to incur costs. In this paper, I aim to move the agency of choosing between unilateral and multilateral sanctions back to the primary sender, and show that even when potential secondary senders are willing to participate in multilateral sanctions, the primary sender may find the cost to forming and maintaining multilateral sanctions prohibitive compared to the gain it would receive.

I posit that to establish a sanctioning coalition, the primary sender must compensate or entice its partner with either concessions on the actual sanction policy or with economic or political exchanges. These costs borne by the primary sender are in addition to the self-inflicted economic pain that the sanction initiator must shoulder. Compared with the indirect and relatively long-term “costs” of ineffective multilateralism, these *upfront* costs of multilateral sanctions have not yet been examined as potential motivators for countries’ choices in implementing a multilateral or a unilateral sanction. Unlike free-riding, where the cost for the primary sender to coerce potential secondary senders to participate in the sanctioning coalition stems from the direct costs of sanctions that the secondary sender has to bear, I argue, and empirically demonstrate, that the “upfront costs” can partly be attributed to the divergent foreign policy preferences between the primary and secondary senders. To overcome the gap in foreign policy preferences, the primary sender has to “compensate” the potential secondary sender. Therefore, when deciding between unilateral and multilateral sanctions, the primary sender must balance such costs with the benefits it would gain. Benefits com-

¹In this paper, the definition of economic sanctions and primary sender follow that of Morgan et al.’s coding in the Threat and Imposition of Economic Sanctions dataset (TIES). An economic sanction episode is defined as, “Actions that one or more countries take to limit or end their economic relations with a target country in an effort to persuade [the target] to change one or more of its policies. (Morgan, Bapat, & Krustev, 2009)” The primary sender, in situations in which there is more than one sending state, is defined as “the country that proposes the sanctions, initiates the sanction threat, or is responsible for mobilizing other states to initiate sanction.”

monly attributed to multilateral sanctions include increased legitimacy and coercive power. This paper focuses on a particular aspect of increased coercive power in the game-theoretic model I present: reduced *substitutability*, where substitutability is defined as the ability of the target state to find substitutes for the products or services being sanctioned. Sanctions are only effective to the degree that they constrain the behavior of the target state, and such constraints are less restrictive when the target is free to substitute away from that which was sanctioned. Multilateral sanctions reduce the degree to which targets can engage in such substitution, since multilateral sanctions both increase the economic pain felt by target states with the severing of more economic relations, but also decreases the number of potential trade partners that targets could turn to thereby enhancing the coercive power of sanctions in a multilateral regime.

I use a formal model to test the intuition behind the primary sender's trade-offs between costs and benefits of multilateral sanctions. My model particularly focuses on the benefits of reduced substitutability and on the role that divergence in foreign policy preferences plays in creating costs for the the primary sender. After motivating, presenting, and analyzing my model, I empirically test its findings on the set of sanction episodes drawn from the Threat and Imposition of Economic Sanctions (TIES) database. The results show preliminary evidence that primary senders are indeed more likely to enact multilateral sanctions when there are potential partners who have sufficiently close policy preferences, or when there are potential partners that could maximize the coalition's coerciveness by reducing substitutability. I recognize that the model presented here may not be robust to recent advancements in sanctions technology, particularly the introduction of secondary sanctions. I show that secondary sanctions fit within the framework proposed by my theory, and I extend my model to demonstrate that the additional choice of such sanctions does not change the logic that primary senders operate under.

This paper thus contributes to our understanding of sanctions in two main ways. First, it introduces and provides evidence for substitutability and coalition formation costs as highly relevant for the decisions of primary senders to engage in multilateral sanctions. Second, it focuses on the initial selection of sanction type by sending states, an overlooked area. In doing so it steps away from discussions of the relative efficacy of multilateral versus unilateral sanctions, and instead examines the upstream choice that sending states face between multilateral and unilateral sanctions that could have downstream consequences on sanction success.

2 Theory

From current sanctions literature, it is possible to infer why primary senders may be hesitant about utilizing multilateral sanctions. The disadvantages of multilateral sanctions thus far examined by scholars mostly stem from the drawbacks of coalitions. Enforcement and

bargaining problems and concerns about free-riding are all issues endemic to any multilateral regime. Sanctioning coalitions, of course, are not exempt from such issues. As previous work on the subject has shown, bargaining and enforcement problems can have negative impacts on the success of multilateral sanctioning regimes (e.g. (Miers & Morgan, 2002; Drezner, 2000)). However, I argue that despite their detriments, bargaining and enforcement issues may not be the factors that the primary sender puts most emphasis on when making its initial choice between pursuing multilateral and unilateral sanctions. The reason is that these issues would only potentially come to the fore after the primary sender has decided to form a multilateral sanctioning regime. Instead, this paper posits that the costs the primary sender is concerned with are the costs of sanction coalition formation – the costs of bringing partners into the sanctioning regime. These costs stem from the differences between the primary sender and its potential partners over preferred foreign policies. I term these the “upfront costs” of multilateral sanctions.

I argue that the “upfront costs” that the primary sender has to bear stems from divergent foreign policy preferences. Countries often have distinct foreign policy preferences, and this difference in preference carries over to sanctions as well. For each potential sanction episode, different states may have varying preferences over any number of factors. For example, countries may disagree over whether the target state deserves punishment in the first place. Even if the target state engaged in behavior that deserves punishment, countries may believe in using non-economic sanction tools to resolve the issue. Governments have an arsenal of coercive foreign policy tools such as threat of military force. Economically, countries can also choose to use incentives such as foreign aid or the signing of bilateral trade agreements instead of using economic sanctions (“negative sanctions”) to achieve their goals. Each of these coercive foreign policy tools come with its own costs and benefits, and which one countries prefer also tends to depend on the extent to which each country believes that the actions of the target state need to be changed, as well as the sender states’ own views on coercive foreign policy. Therefore, the preferred content, e.g. the severity and scope, of the sanctions may also differ country to country. All of these mean that it is highly unlikely that the primary sender will be able to find partners that have the exact same preferences over the type of sanctions, the willingness to impose sanctions, and the extent of sanctions that should be imposed as it does. I argue that these disagreements over foreign policy between the primary sender and the potential partner lead to two types of coalition formation costs that the primary sender may have to bear. Those two costs are on top of “self-inflicted” costs from enacting sanctions, such as economic losses from cutting off trade or financial ties to the target state.

The first cost is that of the concessions needed to achieve the sanction itself. Due to the divergence of views between the primary sender and potential partners over whether and how sanctions should be implemented, the primary sender may have to make policy concessions in its negotiation to get potential partners to join in the coalition. Therefore, the outcome

sanction policy resulting from a bargain between the primary sender and potential partners would most likely not be the one that the primary sender would ideally prefer. Any difference from the primary sender's ideal sanction and the one stemming from the bargain between the primary sender and its coalition partner is implicitly a cost for the primary sender.

The other cost comes from a second way for the primary sender to get a potential partner to join the sanctioning coalition: the primary sender can offer non-sanction, policy-related incentives. These incentives could include foreign aid, debt forgiveness, and favorable trade agreements. These could make up the "shortfall" in sanction policy concessions if the primary sender does not want to stray too far from its original policy. Moreover, the incentives could also be offered as a form of compensation for the costs that the potential coalition partner would have to bear, whether economically or politically, at home.²

Primary senders tend to carry out these types of trades under the table. However, there are examples in which the "bribing" of secondary senders comes to the forefront. In the lead up to the vote of U.N. Security Council Resolution 678, which gave Iraq until 15 January, 1991 to withdraw from Kuwait and served as the legal justification for the Gulf War as well as reaffirming U.N. Security Council Resolution 661, which placed broad U.N. sanction on Iraq, the United States lobbied other members of the Security Council for support. The U.S. did this through offering economic incentives, such as debt forgiveness. The Bush administration even encouraged Saudi Arabia to give \$1 billion in aid to the Soviet Union in order to secure its vote (Friedman, 1990).

The primary sender must take these costs into account in its decision-making. At the same time, it also has to balance those downsides with an increased probability of sanction success, which is dependent on limiting the substitutability of the target state. The more that the primary sender's sanction could restrict the target's ability to substitute away from the sanction and find alternative markets, the more coercive power the sanction would have, and the higher the chance that it would succeed. Often, multilateral sanctions are viewed as more effective due to their greater economic coercive power. They inflict greater direct economic harm on the target state (Peksen, 2009). More importantly, multilateral sanctions also limit the target state's ability to find alternative trading partners. Target states may try to alleviate the pains of economic sanctions through seeking aid from third parties, usually another country that could serve as an alternative market or supplier of needed resources (Early, 2012). This is why previous research found that the ability to persuade major trading partners of the target state to join in the sanctioning coalition has an effect on both the initiation and the success of multilateral sanctions (Peksen & Peterson, 2016; McLean & Whang, 2010). The "substitutability" effect applies to financial sanctions as well (Lektzian &

²Reframing this argument in terms of negative inducements – punishments for failing to join the coalition – rather than positive incentives would change nothing in the conclusions drawn from my formal model. Thus my arguments apply equally well to cases in which the primary sender applies coercion to induce a state to join a coalition.

Biglaiser, 2014). Therefore, adding a secondary sender could substantively increase coercive power, which in some cases may offset the costs of coalition formation for the primary sender and make forming a sanctioning coalition more palatable to the primary sender.³

At this juncture, it is important to highlight the difference between the theory put forth in this paper and previous studies on the formation of multilateral sanctions, most notably Lisa Martin's seminal 1994 book on the subject. Martin outlines three types of multilateral sanction games: coincidence, coercion, and coadjustment (Martin, 1994). Each of the three types corresponds to a situation in which the willingness of the primary sender and potential coalition partner states to enact sanctions is aligned to a greater or lesser degree. To overcome these differences in preferences, Martin's work details the strategies that the primary sender has to employ to form a multilateral sanctioning coalition, such as coercion or persuasion. She also mentions obstacles that the primary sender may face when attempting to form a sanctioning coalition, particularly highlighting the lack of willingness to join the coalition on the part of the secondary senders. Yet, the ability of the primary sender to persuade does not shed light on the *willingness* of the primary sender to persuade or coerce to form a sanctioning coalition in the first place, which is what this project is focused on. The core problem for the primary sender is, therefore, how it balances between the increased costs and the increased benefits of the multilateral sanction. I recognize that there are costs to engaging in sanction coalition formation and that multilateral sanctions are not always attractive. Rather, the primary sender's decision to engage in multilateralism is based on nuanced calculations.

Do primary senders also consider other types of costs, such as the possible failure of the sanctioning coalition due to bargaining and enforcement problems, on which previous literature focused? I argue that while primary senders may take into account factors that have been associated with the inefficiency of sanctions, including ones that lead to the failure of multilateral sanctions, the importance of offering an effective threat means that the initial-stage cost and benefits of coalition formation are comparatively more important in the primary sender's decision process. Threats issued by multiple senders tend to be more credible, and have greater probability of success (Grauvogel, Licht, & von Soest, 2017). As it is less costly for the primary sender to have the sanction succeed at the threat stage, the primary sender would most likely prioritize considerations of increased coercive power and more immediate costs over the longer-term costs of sanction inefficiency and failure.

Furthermore, even when sanctions reach the imposition stage, sanction senders prefer for the sanctions to succeed as soon as possible. The longer the sanctions are imposed, the costlier they are to the primary senders (and other sending states). Moreover, sanctioning states are incentivized for the sanctions to succeed early on because sanctions tend to lose

³Another channel for the greater coercive power of multilateral sanctions is the increased legitimacy and credibility of the sanctions, as perceived by both the international community and the target state's public (Bapat & Morgan, 2009). However, gains in the legitimacy of multilateral sanctions falls outside of this research, and thus is not discussed extensively here.

efficacy over time as the target states adjust to the economic shock (Dashti-Gibson, Davis, & Radcliff, 1997; van Bergeijk, 1989). All of these indicate that for the primary sender, short-term considerations should override long-term concerns over the integrity and coherence of the coalition. Even if sender state were to consider the more downstream costs of coalitions, these would just be an additional cost for choosing multilateral sanctions. In the model laid out in the next section, this would make multilateral sanctions slightly less attractive, or else equal. However, it would not change the direction of the comparative statics.

Of course, the cost-benefit calculus for the primary sender is constrained by the actual resources that the country has (Martin, 1994). However, even if the primary sender had unlimited resources, it would still not commit everything to establishing a sanctioning coalition. This is because the goal for the primary sender is not to establish a multilateral sanctioning coalition, but rather to maximize its utility through maximizing its probability of success at the same time as minimizing its cost. Multilateral sanctions are just the means to the end for the primary sender. My theory also argues that other factors, such as the primary sender's baseline probability of success and the costs that it would have to bear domestically also determine the desire of primary senders to choose multilateral sanctions over unilateral ones.

There are a few scope conditions for my theory. First, it is not intended to and does not explicitly cover the role of international institutions in economic sanctions. International institutions can, and often do, contribute to both the establishment of multilateral sanctioning coalitions and their efficacy and success. However, even in instances where the sanction itself was enforced through international institutions, there would usually be a country that drives the process and essentially serves as the primary sender (Martin, 1994). These types of sanctions are encompassed by my theory. There are cases where there are no primary sender and the members of an international institution coalesce around a single issue; however, these are relatively uncommon, and in those instances, where preferences on the issue under consideration align almost perfectly for all members of the institutions, there is no need for one country to spearhead sanctions, and the institution itself provides cost-sharing mechanisms. In my empirical analysis in the later sections, I drop cases where no primary sender was identified in the TIES dataset.

Relatedly, the theory is not concerned with the actual success or failure of the sanctions. Instead, it focuses on how each of the sanction senders perceives its probability of success, which is based on each sender state's ability to restrict the target's substitutability. The theory itself, since it focuses on the front-end decisions of the sending states, and not on the downstream consequences, makes no claim whether multilateral sanctions are more likely to be successful than unilateral sanctions.

Lastly, my theory does not explicitly address the difference between traditional, trade-based sanctions and the newer sanctioning technologies of targeted sanctions. The coverage of the theory is broad. The dynamics between the primary sender and the potential partner

that I describe do not just apply to trade, but also other types of sanctions as well. After all, when countries consider leveraging financial sanctions, they are also weighing an increase in the probability of success with the costs they would have to pay in terms of foreign policy divergence and transfers. It may be possible that financial sanctions accord countries more leverage, decreasing the need for a sanctioning partner. That does not contradict the theory, as it only means that the primary sender starts with a higher baseline for the probability of success. With respect to secondary sanctions, I argue that they are alternative coalition formation mechanisms.

3 Formal Model

3.1 Introduction to the Model

In this section of the paper I aim to demonstrate through a two-player game how sender governments incorporate substitutability into their choice of utilizing unilateral or multilateral sanctions. In particular, the model focuses on the trade-off that explains how the primary sender balances between higher probabilities of sanctions' success (through inducing lower substitutability in the sanctioned states) and potentially higher realignment costs when considering whether or not to form a sanctioning regime.

The model is meant only to capture the cost-benefit calculus of the two sender states, and it does not overtly include or consider the response of the country targeted by the sanction. Thus, one assumption that the model makes is that the target would always attempt to alleviate the pressure it is facing from the sanctions and try to find substitutes to the products or services sanctioned. As such, the best way for the sender states to increase their probabilities of success is through reducing the ability of the target to substitute away from sanctions (i.e. the goal of the sender is to reduce the substitutability of the target).

A model is essential to answering the research question outlined in this paper. As mentioned in the previous section, most of the costs that the primary sender bears, be they concessions on the sanction policy itself or political or economic incentives given in exchange for the second state's cooperation, are often unobserved. This, a consequence of the nature of diplomatic bargaining, means that it is difficult to understand the role that divergent policy preferences play by just looking at the data. A game-theoretic model parses out the effects of divergent foreign policy preferences on the costs that the primary sender has to take into account, as well as the choices that it eventually makes.

3.2 Model Setup

In this game of complete information, there are two strategic actors: $N = \{F, S\}$. The actors are the first (or primary) sender and the second sender. F and S respectively have ideal

outcome sanctions t_F and t_S , both of which lie on a one-dimensional space $T \subset \mathbb{R}$.⁴ At the status quo, at the start of the game, the policy point is at q . I make no assumptions on the relative positions of t_F , t_S , and q in order to reflect the reality of the wide range of states' foreign policy interests. However, for the sake of clarity (since the paper is primarily concerned with the effect that policy distance would have on the players' decisions) and without loss of generalizability in the two player-case, I assume that t_F is to the right of t_S . Therefore, the distance between F 's and S 's ideal policy points, Δt , is $t_F - t_S$. Moreover, I also scale the ideal policy points so that t_F , t_S , and q are all between $[-1, 1]$.

The outcome sanction is denoted by $y_j \in T$ where $j \in \{u, m\}$. y_u and y_m respectively denote the outcome sanction for the unilateral case and the multilateral case. However, since F does not need to change or concede on its ideal policy in the unilateral case, it can choose its preferred sanction to implement. Thus, $y_u = t_F$.

The game starts with F deciding between not imposing sanctions (NS), pursuing unilateral sanctions (U), or forming a multilateral sanctioning coalition (M). Any sanction imposed has a probability p of success. This probability is a function of substitutability, s_k , where $k = \{u, m\}$, with u and m denoting the substitutability for unilateral and multilateral sanctions. Thus, $s_u \geq s_m$. Since p is inversely related to s_k , $p(s_m) \geq p(s_u)$. Therefore, the additional coercive power that S adds to the coalition, Δp , is defined as $p(s_m) - p(s_u)$.

The implementation of any sanction would impose costs on both the first and the second sender, with the cost denoted as c_i , where $i \in F, S$. The c_i term encompasses all domestic costs each player has to bear, be they economic, political, or social, that directly stem from engaging in economic sanctions.⁵ Examples of what might contribute to the c_i term include domestic opposition or lobbying against economic sanctions, unfavorable international opinion, as well as the normal economic considerations of trade or financial losses, all of which have been discussed by previous research (Allen, 2008; Morgan & Schwebach, 1995; Jeong & Peksen, 2019). F , should it choose to form a multilateral sanctioning coalition, would further incur a cost of r_F . This cost captures the incentives that F offers S to induce the latter to join the sanctioning coalition. r_F includes not just economic or financial incentives, but also political or diplomatic ones (such as military agreements, defense treaties, state visits, etc.). Both r_F and y_m are endogenously determined by the bargaining process.

If F decides to not implement any sanction against the target state, F and S receive their respective status quo payoffs of

$$-(q - t_F)^2$$

⁴Although there is no comparable cohesive left-right dimension in foreign policy as there is in domestic politics, one could imagine a hawkish-dovish dimension, or an isolationist-expansionist one, that is at the core of the sender states' sanctions-related foreign policy decisions.

⁵A concern that could be raised here is that the cost for F , c_F , does not vary no matter whether F is in a multilateral or a unilateral sanctions regime. Constraining c_F to be smaller in the case of multilateral sanctions than in unilateral sanctions would on the whole make multilateral sanctions more attractive. However, it would not change the results for the effects of the probability of success and of the ideal point distance.

and

$$-(q - t_S)^2.$$

If F chooses to impose a unilateral sanction, it receives a payoff of

$$-(q - t_F)^2(1 - p(s_u)) - c_F$$

and S receives a payoff of

$$-(t_F - t_S)^2 p(s_u) - (q - t_S)^2(1 - p(s_u)).$$

In the case that F decides to implement a multilateral sanction, it enters the bargaining stage with S , where S must decide if it joins the multilateral sanctions regime based on the offer by F . In the bargaining stage, ϵ is subtracted from all payoffs. The term ϵ denotes a small positive value, and is meant to capture the non-zero costs associated with bargaining. In this stage, F 's offer consists of two components. The first is the new multilateral policy point y_m , which may be a compromise position from F 's ideal point. The second is the economic or political exchange, r_F , that F offers S to compensate S for the cost it would incur for participating in the sanctions. S chooses whether to accept or reject the invitation to join in the sanctioning regime given the combination of r_F and y_m offered by F . If S accepts F 's offer, F and S receive payoffs of

$$-(y_m - t_F)^2 p(s_m) - (q - t_F)^2(1 - p(s_m)) - c_F - r_F - \epsilon$$

and

$$-(y_m - t_S)^2 p(s_m) - (q - t_S)^2(1 - p(s_m)) - c_S + r_F - \epsilon,$$

respectively. Conversely, if S rejects F 's offer, F and S each receive

$$-(q - t_F)^2(1 - p(s_u)) - c_F - \epsilon$$

and

$$-(t_F - t_S)^2 p(s_u) - (q - t_S)^2(1 - p(s_u)) - \epsilon.$$

These values are simply the payoffs that the players would have received had F enacted a unilateral sanction, minus the ϵ . I argue that reverting to a unilateral sanction is the reasonable course of action for the first sender to take, rather than choosing to implement no sanctions at all. This is because any sending state that is concerned enough about the issue at hand to willingly bear the costs of establishing a sanctioning coalition and not hoping to free ride off another country's efforts or simply do nothing would be unlikely to settle for the status quo it had already rejected. As former Under Secretary of State Stuart Eizenstat,

who served in the administration of Bill Clinton, noted, “If we are unsuccessful in building a multilateral regime, and important national interests or core values are at issue, we must be prepared to act unilaterally. We cannot permit other countries to veto our use of sanctions by their failure to act.” Figure 2 represents the extended game tree.

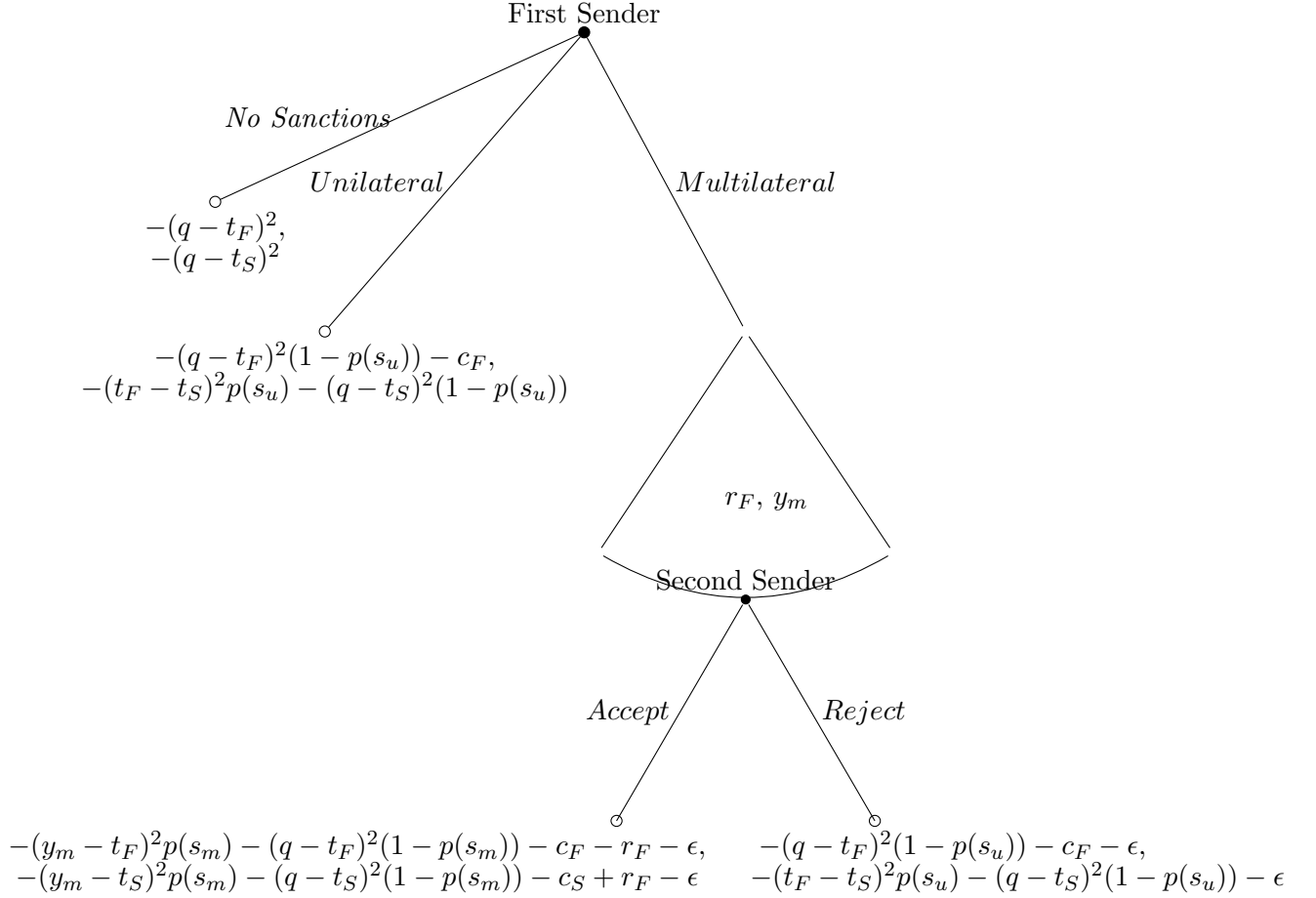


Figure 2: Game tree

This model is similar to a take-it-or-leave-it bargaining game with two players, though it could potentially be expanded to accommodate more coalition partners, as the first sender trades off between increasing chances of success and rising costs in terms of position misalignment and transfers given to the second senders.

3.3 Model Results and Interpretation

The solution concept for this model is subgame perfection. I solve the game using backward induction in the appendix. From the comparative statics I derive several propositions. Here, I highlight the subset that will be subjected to empirical scrutiny.

Proposition 1: *As Δp increases, the probability of seeing a multilateral sanction increases.*

The value that S brings to F (and its sanctioning coalition) is encapsulated by Δp . Therefore, the greater is Δp , the more willing F would be to bear the costs of forming a sanctioning coalition, since the benefit that S brings could offset the additional cost of multilateral sanctions for F .

Proposition 2: *As Δt increases, the probability of seeing a multilateral sanction decreases.*

The difference between F 's and S 's ideal policy points, Δt , indirectly affects the cost that F would have to bear in order to form a multilateral sanctioning coalition. An increase in Δt leads to an increase in the difference between y_m and t_F , or the policy concession that F has to make. If F does not want to concede too much on its sanctions policy, it would need to compensate S in a different manner – by raising r_F , the transfer it gives to S . Either of those choices means that choosing multilateral sanctions has become costlier for F , which, all else equal, would decrease F 's willingness to engage in multilateralism. It is worth noting that it is the relative positions of t_F and t_S that clearly affect the likelihood of F 's choice of unilateral, multilateral, or no sanctions; they do not have clear independent effects.

Proposition 3: *An increase in $p(s_u)$ decreases the likelihood of observing multilateral sanctions formed by F .*

When F has a high $p(s_u)$, all else equal, the additional benefits that S could bring are limited. If $p(s_u)$ is low, however, it is easier for S to add to F 's coercive power by joining in the coalition. In short, there may be a “ceiling” effect.

4 Empirical Assessment

4.1 Operationalization of Models and Hypotheses

This section empirically tests Propositions 1 and 2.⁶

I am only testing for the primary sender's choice between multilateral and unilateral sanctions, and not between sanctions and no sanctions, because my theory is aimed at exploring the primary sender's decision between multilateral and unilateral sanctions. Propositions 1 and 2 capture the core of the theory laid out in this paper: the effects that divergence in foreign policy preference and the probability of success (vis-a-vis substitutability) have on the primary sender's decision to engage in multilateral or unilateral sanctions. Furthermore, empirically testing the option not to engage in sanctions would have led to other difficulties

⁶I do not explicitly test Proposition 3, though I use the baseline probability of success of the primary sender as one of my controls.

as well. To perform such a test, instead of just extracting sanction episodes, I would have had to include all potential primary sender and potential target pairs for each year of analysis, on top of the observed sanction sender-target dyads. In such a dataset, the non-observance of sanctions from a given state in any year could potentially have been the result of the cost (c_F) or the “issue distance” ($|q - t_F|$), variables that are highlighted in the model. However, it could also have been due to other factors, in particular the lack of issues under dispute. It is highly unlikely that every year would produce international disputes that might necessitate the use of sanctions on the part of a primary sender. Without such a catalyst, states have no reason to even consider enacting sanctions against each other. Studies of militarized disputes have tried to solve an analogous problem through the idea of politically-relevant dyads, a population that theoretically has a reasonable probability of engaging in conflict (Quackenbush, 2006). Yet, there is no theoretical criteria to determine the conditions under which one state is likely to consider sanctions against a target state. This makes it difficult to parse out the role that c_F and $|t_F - q|$ play in F ’s choice between no sanctions and sanctions from observed data. Testing the propositions from the model on observed sanctions, both unilateral and multilateral, narrows the focus to instances when the primary sender a) had a dispute with the target, and b) had the intention to use economic sanctions.

In short, I choose to empirically test F ’s decisions conditional on F having already decided to use sanctions because it gives me access to observations where I know that F has the intention to sanction. More importantly, it is aligned with the most important part of my theory.

To test both propositions, I use the Threat and Imposition of Economic Sanctions (TIES) dataset to extract a complete list of sanctions episodes, ranging from 1946 to 2005 (Morgan, Bapat, & Kobayashi, 2014). I test the propositions on the full set of sanction episodes, both threatened, and threatened and implemented. This is because at the threat stage, the primary sender must already consider coercive power, not because the primary sender has to be ready to implement the sanctions, but because, as discussed in the theory section, sanctions tend to be especially effective in the threat stage or during the first years of implementation (Morgan et al., 2009). The primary sender has 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.⁷

I drop sanction episodes where no primary sender was identified. This is consistent with the scope condition discussed in the theory section of the paper. The only exception is that,

⁷There are instances where some sanction senders joined the coalition after the sanctions were already threatened and implemented. Yet, whether more partners would join the coalition in the future could not necessarily be foreseen by the primary sender. I argue that the cost-benefit calculus should be something that the primary sender considers at the outset when deciding whether to pursue multilateral or unilateral sanctions.

consistent with Morgan et al.'s coding of sanction cases, the European Union is considered as a unit, and could be both a target of sanctions or a receiver of sanctions.

The two independent variables of interest are the divergence in foreign policy preferences (Δt) and the added probability of success of the second sender (Δp). The first measure comes from Bailey et al.'s (2017) ideal point index, which is calculated using an item response theory approach that takes into account both nations' voting behavior in the United Nations General Assembly and the agendas that were voted upon (Bailey, Strezhnev, & Voeten, 2017). The latent preference that Bailey et al. calculated is each country's satisfaction with the U.S.-led liberal world order in any given year. The ideal point data is from 1946 - 2018, so it covers almost entirely the TIES dataset.⁸ To operationalize the divergence in foreign policy preference, I simply take the absolute value of the primary sender's ideal point minus the secondary sender's ideal point.

To operationalize probability of success stemming from substitutability, I use the Correlates of War Trade Data (Barbieri, Keshk, & Pollins, 2009) and calculate the ratio of sender imports from the target state over the target state's total exports in any given year. This method of operationalization is to reflect the fact that most sanctions tend to have some components that restrict target exports (Caruso, 2003). A larger ratio suggests that the target would have more difficulty finding alternative markets for its products, which would also indicate that the sanction sender has more coercive power over the target state. Having a second sender could increase this ratio, which in turn increases the economic pressure on the target and further restricts the target's alternatives.

Although this may not completely capture the decision calculus of countries that choose to utilize other types of sanctions, such as financial sanctions, trade is a reasonable first-cut examination of the role that restricting substitutability plays in increasing the sanction's probability of success.⁹ Therefore, it is a suitable proxy for the impact that the sender states' sanctions could have on the target state's economy.

Finding the right measures for the independent variables is only one part of operationalization. Another pressing concern is that the independent variables identified should be comparisons between the primary sender's characteristics and characteristics of a secondary sender. However, secondary senders only exist in cases of multilateral sanctions, not in unilateral ones. Thus, I cannot use secondary senders from realized multilateral sanctions to

⁸The only exception is for the year 1964, when the UNGA failed to vote on anything. The ideal point values for this year are calculated as the average between the ideal points for countries for the years 1963 and 1965. This is based on the assumption that there were no large external shocks that would have caused the ideal points of states to drastically change. Regardless, only one sanction episode was recorded for the year 1964.

⁹Using trade substitutability is also less of a concern because of the time period that the TIES dataset covers. Financial sanctions did not gain huge popularity until the 1990's and early 2000's. Further, the U.S. is one of the few countries during the time period that has the capability of wielding financial sanctions in a viable manner. Additional empirical tests in this section show that considerations for minimizing trade substitutability to maximize success remain the same across sanction cases where the U.S. was the primary sender and those where the U.S. was not.

construct a consistent counterfactual. Rather, I must fashion a counterfactual from comparisons to the secondary sender the primary sender *would* have chosen to include if it had opted for multilateral sanctions.

Unfortunately, there is no single way to know who would have been the partner that the senders of unilateral sanctions would have chosen had they instead chosen to pursue a sanctioning coalition. I select, according to my theoretical arguments, as the counterfactual second sender the most optimal partner for the primary sender across all sanction episodes for consistency. In other words, I assume that the primary sender opts for secondary senders with similar ideal points or who provide the most improvement in the probability of success. As it is not clear how the primary sender prioritizes minimizing ideal point distance and maximizing probability of success, I use two different selection criteria to capture the choices that primary senders may make. In the first case, the primary sender chooses the country that has the closest ideological distance to it. In the second, the primary sender chooses as its partner the country that would provide maximum additional probability of success.¹⁰

Of course, the realized second senders in multilateral sanction regimes may not be the “optimal” ones I chose. I explore the predictive power of my independent variables on the choice of sanctioning partner in the next section. However, my method of selecting a counterfactual should still work as needed even when the counterfactual second sender does not match the realized one. The reason is that the better the “optimal” partner is, the better may be the pool of possible second senders available to the primary sender. Thus, it is more likely that the primary sender would have chosen to establish a sanctioning coalition. One way to think about this is to use the concept of “threshold values” in formal models. The optimal partner has to fall within a certain ideal point distance threshold, or contribute enough in terms of coercive power, for the primary sender to consider a multilateral sanction. If even the optimal partner does not cross the threshold value, then it is relatively unlikely that the primary sender would have the motivation to form a sanctioning coalition. Conversely, if the optimal partner is far above the threshold, so might be many other states.

Due to the way I am operationalizing the independent variables and the counterfactual, the propositions could be rewritten as the following hypotheses. First, Proposition 1 demonstrates that as the divergence in foreign policy preferences between F and S grows, the probability that F will choose to pursue a multilateral sanctioning coalition decreases. Another implication is that when the distance between F 's ideal point and that of its “optimal” partner increases, the sanctioning environment becomes less favorable for the primary sender to establish multilateral sanctions (i.e., multilateral sanctions are costlier if the best choice is far from F on the policy line.)

¹⁰ In the appendix I also consider linear combinations of minimizing ideal point distance and maximizing added probability of success as an additional selection criteria.

Hypothesis 1 (H1): *As the distance between the ideal foreign policy points of the primary sender and its optimal partner increases, the likelihood of seeing multilateral sanctions decreases.*

Second, Proposition 2 states that when the benefit of adding a partner increases, the primary sender should also be more willing to establish a sanctioning coalition. Intuitively, if the probability of success increases by a large margin when an additional partner is added, then the primary sender should be more likely to establish a coalition in spite of the costs. This is because the benefits should offset the additional costs of setting up and maintaining a sanctioning coalition. The more the optimal ideal partner could add to the primary sender’s sanction’s coercive power, the more favorable the environment is for the formation of multilateral sanctions. This leads to the second hypothesis:

Hypothesis 2 (H2): *As the added coerciveness (decreased substitutability) of the primary sender’s optimal partner increases, the likelihood of seeing multilateral sanctions increases.*

I test both of these hypotheses using logistic regression models. All standard errors shown are clustered at the primary sender level. This is to reflect the fact that across observations, the same primary senders may be influenced by the same unobservables (such as the bureaucratic culture) that could affect their propensity to use multilateral over unilateral sanctions and vice versa. The dependent variable in these models is observed multilateral sanctions. This is a dichotomous variable, with cases of multilateral sanctions coded as 1, and unilateral sanctions coded as 0.

Since I am testing my theory on the hypothetical ideal partner, I am not controlling for any other sanction-specific variables. In fact, the unit of analysis for my data is now at the primary sender-target state-year level instead of the sanction episode-level. Thus, all my potential controls are at the country level.

There are three primary controls that I consider. First, I control for the primary sender’s baseline probability of success. This corresponds to Proposition 3 and the parameter $p(s_u)$ in the game. The baseline probability of success is operationalized as primary sender imports from target state over target state’s total exports in the year the sanction episode began. Previous studies have found that an increase in the sanctioner’s GDP is accompanied by a higher likelihood of sanctions being observed, since an increase in GDP gives the sanctioner a comparatively larger leverage over other states (Hafner-Burton & Montgomery, 2008). This is what I term the “relative wealth” mechanism – when the primary sender’s baseline probability of success increases because it is more important to the target state’s economy, its coercive power also increases. This could lead to a decrease in the probability of seeing a multilateral sanction because the primary sender, having more leverage power, may be more willing to enact an unilateral sanction rather than having to shoulder the cost of forming a coalition.

The operationalization of the sender’s baseline probability of success as a proportion of the target’s export to the primary sender over the target’s total exports is more theoretically aligned with the “relative wealth” mechanism as defined in my paper than just using the GDP change for the primary sender.

Additionally, I control for two non-economic variables. The first is whether the primary sender is a democracy. Previous studies on preferential trade agreements and trade have shown that as states become more democratic, they are more likely to conclude trade agreements. The voters’ ability to constrain leaders, as well as the leaders’ performance on economic policies being a huge factor of consideration during elections, result in a positive correlation between the level of democracy and countries’ willingness to cooperate on trade agreements (Mansfield, Milner, & Rosendorff, 2002). This tendency to cooperate may hold for other types of economic foreign policies, including sanctions. Moreover, the legitimacy provided by multilateralism may be more important in a democracy than in a non-democracy. I use the Polity IV score as measure of democracy.

The second variable I control for is the primary sender’s material capabilities. I use the Composite Indicator of National Capability (CINC) score to approximate the national capabilities of the primary sender. The logic is similar to that of relative wealth. Greater material capabilities on the part of the primary sender means that the sender has greater coercive power. In fact, the threat of sanctions may be effective because they are often accompanied by the implicit threat of potential military action. Therefore, it should be expected that, similar to F starting off with a high baseline $p(s_u)$, a higher CINC score would decrease a multilateral sanction’s attractiveness to the primary sender.

I use the same set of controls in all models. The only exception is that I only control for the primary sender’s level of democracy when testing whether the secondary sender’s added coercive value would have an effect on the probability of seeing multilateral sanctions. This is because the ideal point measure is very likely to be co-linear with the measure for democracy. Since the ideal point measure is the main independent variable of interest in the first set of models, I do not include democracy as a control in those cases.

4.2 Interpretation of Results

Table 1 shows the effects that ideal point distance has on the probability of seeing multilateral sanctions.¹¹ Ideal point distance is significant and negatively associated with the probability of seeing multilateral sanctions across most model specifications. This is consistent with the expectations from the formal model and from Hypothesis 1 that the farther away the optimal partner is from the primary sender on policy preferences, the less likely the primary sender

¹¹As logit models are used in this paper, all coefficients shown in the regression tables, unless otherwise stated, are log odds. However, the scale of the coefficient is not as important for this paper as is the direction, as that is what we are deriving with our comparative statics.

would chose to enact multilateral sanctions. The ideal point distance does lose its significance once both relative wealth and material capabilities are controlled for, although it is still in the expected direction. This may indicate that while ideal point distance is a significant negative predictor of the primary sender’s willingness to form multilateral sanctions in and of itself, once the primary sender takes into account its own economic and material capabilities, the costs due to divergence in foreign policy preferences are not as important.

Table 1: Ideal Point Difference Effects on Multilateral Sanctions

<i>Dependent variable:</i>				
Multilateral Sanctions				
	(1)	(2)	(3)	(4)
Ideal Point Diff.	-3.355** (1.623)	-2.503* (1.518)	-3.049*** (1.088)	-1.575 (1.090)
Relative Wealth		-0.353 (0.459)		-0.422 (0.312)
CINC			0.467 (2.448)	-1.161 (2.684)
Constant	-1.643*** (0.307)	-1.747*** (0.361)	-1.764*** (0.507)	-1.731*** (0.536)

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

Table 2 shows the effects that the coercive power has on the formation of multilateral sanctions. It is clear that, as the value that the optimal second sender could bring to the coalition increases, the primary sender is also more willing to establish a sanctioning coalition. This is in line with the expectations from the comparative statics and from Hypothesis 2. In fact, added coercive power of the second sender is a quite robust predictor of increased probability of observing multilateral sanctions, as the measure is significant and positive through most model configurations.

From Tables 1 and 2, there appears to be support for the two hypotheses. Ideal point distance and added coercive power both have influence on the likelihood of observing the primary sender’s engagement of multilateralism. In the Appendix, I also run the same models as linear probability models, and cluster the error terms by primary sender and by primary sender and year. The results remain fairly robust.

Table 2: Coercive Power Effects on Multilateral Sanctions

	<i>Dependent variable:</i>					
	Multilateral Sanctions					
	(1)	(2)	(3)	(4)	(5)	(6)
Added Coercive Power	0.572 (0.368)	0.677** (0.294)	0.676** (0.294)	0.630* (0.374)	0.672** (0.288)	0.670** (0.285)
Polity		-0.059 (0.0407)	-0.059 (0.0406)		-0.054 (0.055)	-0.054 (0.055)
Relative Wealth			0.048 (0.486)			0.113 (0.316)
CINC				-3.168 (3.509)	-0.859 (4.223)	-0.942 (4.167)
Constant	-2.119*** (0.339)	-1.833*** (0.379)	-1.837*** (0.387)	-1.905*** (0.608)	-1.784*** (0.481)	-1.787*** (0.485)

Note:

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

Table 3: Optimal Partner Chosen in Realized Multilateral Sanctions

	Ideal Point Dist.	Max. Coercive Power
Optimal Partner Selected	15	46
Percentage of “Accurate” Selection	6.4%	20%

4.2.1 Tests on Realized Sanctioning Coalition

The previous results demonstrate how ideal point distance and added coercive power could influence the primary sender’s willingness to engage in multilateral sanctions over implementing unilateral ones. How often, though, does the “optimal” partner make it into the sanctioning coalition in reality? Moreover, what role do the two variables of interest play in actual multilateral sanctions?

Table 3 compares the optimal partner chosen by the two types of selection criteria – minimizing ideal point distance, and maximizing coercive power – to realized multilateral sanctions in the TIES dataset. Clearly, maximizing coercive power seems to be the more important consideration for primary senders when choosing its sanctioning partners, as 20% of the optimal partners matched with the primary sender were selected into the eventual coalition. On the other hand, only 6.4% of the optimal partners made it into a sanctioning coalition when the optimal partner was selected according to minimizing ideal point distance.

Why is there such a large variation between the different selection criteria? One possible explanation is that primary senders may see ideal point distance as a threshold to cross. As

long as there are countries that are sufficiently close to the primary sender so as to be below the threshold, the primary sender would be willing to accept the cost to establish a sanctioning coalition. In those instances, the primary sender may choose to maximize the coalition's probability of success and prioritize increasing coercive power over further minimizing cost.

Although Table 3 demonstrates that primary senders do select on ideal point distance and added coercive power in some cases, it still does not show whether the two variables actually have an effect on whether the potential secondary senders are chosen as partners in realized sanction cases.

Table 4 shows the results of preliminary tests on realized economic sanctions. For the models in Table 5, I use logit regressions to test whether in the observed sanctioning coalitions, the ideal point difference between the primary sender and the added coercive value contributed by the second sender behave in the expected manner. I subsetted the data to just multilateral sanctions, and for each sanction episode, the primary sender could have chosen from the entire universe of countries as its coalition partner(s). I code the actual countries chosen in the eventual coalition as 1, and the ones that were not chosen as 0. From the results, the farther away a country is in terms of preferred foreign policy from the primary sender, the less likely it is to be chosen as a coalition member. On the other hand, the higher coercive value that a country brings to the table, the more likely it is to become a member of the sanctioning coalition. In models (2), (3), and (4), I control for the potential partner's CINC score and whether the potential partner and the primary sender are both democratic regimes.

There is a concern that since I use the entire universe of possible partners in these models that I have an overabundance of 0 in the data, which could affect the estimations. Therefore, I also adjust by running models (1)-(4) as rare event logits (King & Zeng, 2001). The results are presented in models (5)-(8), Table 4. The significance and direction of the effects of ideal point distance and added coercive power on multilateral sanctions do not change compared with the results of logit models.

Table 4: Realized Sanctioning Coalitions

	<i>Dependent variable:</i>							
	Chosen <i>logistic</i>				Chosen <i>rare events logistic</i>			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ideal Point Diff.	-3.000*** (0.190)	-3.365*** (0.206)	-3.210*** (0.194)	-3.504*** (0.211)				
Added Coercive Power	0.185*** (0.064)	0.179*** (0.060)	0.163*** (0.062)	0.156** (0.062)				
Shared Democ.		1.415*** (0.096)		1.357*** (0.098)				
CINC			16.316*** (1.046)	16.328*** (1.179)				
Ideal Point Diff.					-2.992*** (0.190)	-3.200*** (0.194)	-3.357*** (0.206)	-3.494*** (0.211)
Added Coercive Power					0.174*** (0.064)	0.165*** (0.062)	0.186*** (0.060)	0.173*** (0.062)
Shared Democ.							1.415*** (0.096)	1.356*** (0.098)
CINC						16.353*** (1.046)		16.358*** (1.179)
Constant	-3.779*** (0.065)	-4.151*** (0.078)	-3.914*** (0.067)	-4.276*** (0.081)	-3.778*** (0.065)	-3.914*** (0.067)	-4.149*** (0.078)	-4.274*** (0.081)

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

4.2.2 Complications of Heterogeneity

From the previous section, specifically the results of Table 1, it seems that ideal point distance between the primary sender and its optimal partner is not as robust a predictor of the former’s choice of multilateral sanctions as is coercive power. This is interesting, and merits further exploration.

An explanation for the ideal point distance’s relatively weaker results is that the measurements used in this paper may not be applicable to the same extent across the universe of sending states. In fact, my operationalization of foreign policy preferences may be better suited to predicting the actual positions of the U.S. and Western liberal democracies than autocracies. In an ideal world, the perfect measure for foreign policy preference for this paper would have been a mapping of each country’s preference onto each issue area that a specific sanction episode is related to. Sanctions often span a wide array of issue areas, from security to human rights. Democracies are potentially more likely to be aligned across these issue areas than are non-democracies, as the latter may vary more in terms of their preferences or interests across issues such as security or human rights. In other words, one dimension of foreign policy preference, “satisfaction with U.S.-led liberal world order” in this case, may have higher predictive power for the preferences of democratic states, even when the issue area in question is not the latent variable. However, this measure may be less able to capture the preferences of non-democratic states across different types of issue areas, particularly those that are less related to satisfaction with the liberal world order.

To see if this is true, I re-run all of the models in Table 1 on the subset of democratic states (states that have Polity scores higher than 5). Table 5 shows the results.

The results in Table 5 show that the ideal point distance is a strong predictor for the likelihood of a primary sender choosing to utilize multilateral sanctions. I provide a re-run of the models in Table 1 subset to non-democratic countries for comparison in the Appendix. These together support my suspicions that the ideal point distance measure utilized in this paper may be more applicable for democratic states than non-democratic ones.

5 Secondary Sanctions

The game earlier presented represents the trade-offs that a primary sanction sender would have to make when it only has traditional sanction tools at its disposal. However, the invention and the proliferating usage of secondary sanctions starting in the last decade of the 20th century expanded the choice set of policy tools for sanction senders. Secondary sanctions occur when the primary sender or the sanction sender(s) exert pressure on third parties, which can include countries not in the sanctioning coalition and their citizens and corporations, to make them cease their trades or transactions with the targeted state or individuals. The sender states do

Table 5: Democratic Countries' Ideal Point Distance

	<i>Dependent variable:</i>			
	multi			
	(1)	(2)	(3)	(4)
Ideal Point Diff.	-3.052*** (1.139)	-2.310* (1.234)	-2.569** (1.187)	-1.496 (1.305)
Relative Wealth		-0.234 (0.471)		-0.342 (0.508)
CINC			0.919 (1.208)	-0.378 (1.396)
Constant	-1.707*** (0.126)	-1.818*** (0.144)	-1.917*** (0.185)	-1.881*** (0.193)

Note:

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

so by threatening to cut off economic transactions with said entities if they fail to abide by the sanctions. In recent years, the United States especially has frequently wielded secondary sanctions, particularly with regards to Iran. Given that the U.S. is an significant sanction-sending state, it is important to understand whether the use of secondary sanctions has altered how sanctioners think about multilateral and unilateral sanctions. In this section, I extend the previous game to reflect the inclusion of secondary sanctions in the policy-makers' toolkit. In doing so, I show that, while the invention of secondary sanctions has provided another option for coalition formation to sender states, it has not altered the cost-benefit trade-offs inherent in divergent foreign policy preferences and increased coerciveness.¹²

To assess the impact that the availability of secondary sanctions has on the primary sender's decisions, I extend my original model to include secondary sanctions in the primary sender's economic statecraft toolkit. I argue that one way to view secondary sanctions is to think of them as an alternative mechanism to forming multilateral sanctioning coalitions. Instead of deciding between whether or not to include partners through policy concessions

¹²Extraterrestrial sanctions are sometimes conflated with secondary sanctions. However, they are different foreign policy tools. In the case of secondary sanctions, the sender restricts its own companies or individuals from engaging in economic relations with foreign companies or individuals who continue to trade with the target. However, a country utilizing extraterrestrial sanctions places the same sanctioning restrictions on foreign companies as it does on its own. Despite their differences, the extended model can capture both the logic of extraterrestrial and secondary sanctions. More specifically, the trade-off between increased coerciveness of the sanctions and the costs associated with threatening and enforcing extraterrestrial or secondary sanctions faced by the sender states is the same.

or compensation, as is the case with multilateral sanctions, once the primary sender enacts secondary sanctions all other actors are automatically included in the sanctioning regime and are equivalent to secondary senders in the original model. However, what determines the effective coalition in the case of secondary sanctions is the primary sender’s decision of whether or not to enforce secondary sanctions on the (potentially unwilling) partners who continue to carry out economic relations with the target. Again, in the case of secondary sanctions, the primary sender faces a trade-off. The primary sender benefits from the increased coerciveness of its sanctions when it chooses to go down the route of secondary sanctions. On the other hand, threatening and enacting secondary sanctions are not without costs. Enforcing secondary sanctions carries costs, and may sometimes be costly enough that the primary sender would not find it worth punishing errant partners. Non-punishment, though, also comes with reputational costs. Even when the “secondary senders” abide by the primary sender’s sanctions, the primary sender still pays a cost of threatening secondary sanctions.¹³

The extended model aims to capture the trade-offs faced by the primary sender to assess whether the introduction of secondary sanctions has impacted how primary senders weigh unilateral sanctions against multilateral ones. The extension introduces secondary sanctions as an option for the primary sender. In addition to implementing unilateral sanctions, the primary sender could also decide to threaten secondary sanctions. If the primary sender decides to pursue secondary sanctions, other states then have to choose whether to abide by the primary sender’s sanctions and also cease economic transactions with the target. On the other hand, the other states can also elect to not adhere to the primary sender’s sanctions and instead continue maintaining economic relations with the target, in which case the primary senders can decide whether to enforce secondary sanction threats. Similar to the case with multilateral sanctions, the primary sender also has to determine whether implementing secondary sanctions are worth the costs over unilateral sanctions without the option of secondary sanctions. In the case of the extended model, however, the primary sender also measure the benefits it would gain from secondary sanctions against multilateral sanctions.

The complete extended model, which can be found in the appendix, demonstrates that the additional choice of secondary sanctions decreases instances when the primary sender may choose to utilize multilateral sanctions. Specifically, as the distance in preferences between the primary sender and potential partner grows (δt increases), the primary sender is less likely to use multilateral sanctions due to an increase in cost. This is similar to the expectations from

¹³Secondary sanctions do not technically target specific states who are not parties to the sanctions themselves and are instead placed upon non-compliant corporations or individuals who continue to trade or engage in economic relations with the target states. However, governments in these countries can and often do find ways to circumvent or challenge secondary sanctions that may be placed on their citizens. In cases where said countries challenge or aid their companies and citizens in bypassing secondary sanctions, the government is the effective second actor. The compliance, or lack thereof, of the corporations and individuals is dependent on whether their governments find workarounds or protest secondary sanctions. This makes the non-primary sender states comparable to the secondary sender in the original game.

the original model. However, since the primary sender now has the option of using secondary sanctions to obtain the coerciveness it could achieve from multilateral sanctions, the primary sender has the incentive to utilize secondary sanctions when $p(s_m)$, the increase in the degree of coercive power that the secondary sender brings, is high enough to balance out the cost of threatening secondary sanctions.¹⁴

I do not empirically test the comparative statics from this model because of two reasons. First, TIES only covers sanction episodes up to 2005, and secondary sanctions did not become a prevalent tool of economic coercion until the last decade. It is thus difficult to assess quantitatively how the use of secondary sanctions has affected the empirical results drawn from my original model. More importantly, any secondary sanctions that I fail to take into account that exist in the database would only have made it more difficult to find significance from the original model than if I had taken them into account because secondary sanctions are coded as unilateral in the dataset.

6 Conclusion

I have shown through a formal model that the up-front costs of coalition formation, such as policy concession and the compensation the primary sender must pay to its partner, should play a role in primary senders' choices of whether to enact multilateral or unilateral sanctions. At the same time, these up-front costs must be considered in conjunction with the possible benefits in increased coerciveness that the primary sender could gain from establishing a sanctioning coalition. To test my theory, I operationalized up-front costs via differences in states' preferences in sanction policy and developed a measure of the coercive power of sanctions through providing a measure of substitutability. I found empirical support for the conclusions drawn from my theory: that the probability of the primary sender including a potential partner in the multilateral regime is a function of the extent to which the secondary sender reduces the substitutability of the target as well as the up-front costs of persuading the secondary sender to join the sanction. The results are robust to the extension of the model.

Through highlighting costs of coalition formation, it is my hope that future work will be undertaken to further study the costs and benefits calculus that goes into sanction senders' choices, not just of the scope of the sanction, but also the method of the sanction. Much of the current literature has focused on the efficacy of multilateral versus unilateral sanctions, yet by overlooking the upstream decision-making process, studies on the success or failure of sanctions may be ignoring some important questions that could have downstream consequences. For example, *do* countries consider possible bargaining or enforcement failures when trying to form sanctioning coalitions? If they do, how do they trade off between the potential short-term gain of increased coercive power in the threat stage over the long-term issues of

¹⁴This dynamic is demonstrated in the Appendix.

enforcement and bargaining that they may have to grapple with should the sanction ever go beyond the threat stage?

There are several additional future avenues of research that could be undertaken. One is to extend the model of coalition formation costs versus added coercive power to include multiple players. There has been no in-depth study thus far on the size of sanctioning coalitions, and understanding the cost-benefit trade-offs that the primary senders have to make could shed light on the puzzle of why there are large variations in the sizes of sanctioning coalitions.

This paper also points to another issue with the current sanctions literature: the importance of measurement, particularly with regards to coercive power. Coercive power is an extremely important variable for the study of sanctions onset, efficacy, duration, and termination. Yet, so far, there has been no study that explicitly quantifies the coercive power of sanctions. The current measures used are target costs or expected target costs. However, the former could only apply retrospectively, and is not detailed enough to capture variation in coerciveness through time, while the latter tends to be broad and not well-defined. Both are highly dependent on examining the narratives surrounding the sanctions. I have shown, however, that the measure of coercive power should be more closely linked with theory, particularly when examining how anticipated coerciveness behaves with regards to sanctions onset. This paper offers a preliminary quantification of coercive power, but it is by no means a perfect measure. A more nuanced measure of substitutability and coerciveness that covers not just trade, but also finance, foreign aid, and the substitutability between the different types of sanctions should be developed.

Relatedly, the measurement of foreign policy preference and its suitability as a proxy for the actual views of states with regards to sanctions should be further studied. As I have noted in the previous section, when it comes to sanctions, which are based around specific issues areas, the most appropriate foreign policy preference measure would be one based around each sanction opportunity. This highlights the need to consider the appropriateness of such foreign policy preference measures, which have been widely used in international relations, when applying them. This is particularly important for the future study of economic statecraft and economic power, which tend to be utilized by states across a greater and more diverse range of issue areas than is military power. Therefore, measures that more closely reflect each country's policy preferences on individual issues need to be developed.

Economic sanctions' popularity as a coercive foreign policy tool has only grown in recent years. While we know a lot already about when and under what conditions economic sanctions could be effective, there is less understanding as to how states choose between the different types of sanctions, and indeed, the different types of foreign policy tools in the first place. This paper aims to provide a first step in understanding the decisions that countries make.

References

- Allen, S. H. (2008). The domestic political costs of economic sanctions. *Journal of Conflict Resolution*, 52(6), 916–944.
- Bailey, M. A., Strezhnev, A., & Voeten, E. (2017). Estimating dynamic state preferences from united nations voting data. *Journal of Conflict Resolution*, 61(2), 430–456.
- Bapat, N. A., & Morgan, T. C. (2009). Multilateral Versus Unilateral Sanctions Reconsidered: A Test Using New Data. *International Studies Quarterly*, 53(4), 1075–1094. Retrieved from <https://doi.org/10.1111/j.1468-2478.2009.00569.x> doi: 10.1111/j.1468-2478.2009.00569.x
- Barbieri, K., Keshk, O. M., & Pollins, B. M. (2009). Trading data: Evaluating our assumptions and coding rules. *Conflict Management and Peace Science*, 26(5), 471–491.
- Caruso, R. (2003). The impact of international economic sanctions on trade: An empirical analysis. *Peace Economics, Peace Science and Public Policy*, 9(2).
- Dashti-Gibson, J., Davis, P., & Radcliff, B. (1997). On the determinants of the success of economic sanctions: An empirical analysis. *American Journal of Political Science*, 608–618.
- DeSouza, P. J. (1984). The soviet gas pipeline incident: Extension of collective security responsibilities to peacetime commercial trade special feature—the incident as a decisional unit in international law. *Yale Journal of International Law*, 92–117.
- Drezner, D. (2000). Bargaining, enforcement, and multilateral sanctions: When is cooperation counterproductive? *International Organization*, 54, 73–102.
- Early, B. R. (2012). Alliances and trade with sanctioned states: A study of us economic sanctions, 1950–2000. *Journal of Conflict Resolution*, 56(3), 547–572.
- Friedman, T. L. (1990, Dec 02). *Mideast tensions; how U.S. won support to use Mideast forces the Iraq Resolution: A U.S.-Soviet collaboration – a special report*.
- Grauvogel, J., Licht, A. A., & von Soest, C. (2017). Sanctions and signals: How international sanction threats trigger domestic protest in targeted regimes. *International Studies Quarterly*, 61(1), 86–97.
- Hafner-Burton, E. M., & Montgomery, A. H. (2008). Power or plenty: How do international trade institutions affect economic sanctions? *Journal of Conflict Resolution*, 52(2), 213–242. Retrieved from <https://doi.org/10.1177/0022002707313689> doi: 10.1177/0022002707313689
- Jeong, J. M., & Peksen, D. (2019). Domestic institutional constraints, veto players, and sanction effectiveness. *Journal of Conflict Resolution*, 63(1), 194–217.
- Kaempfer, W. H., & Lowenberg, A. D. (1999). Unilateral versus multilateral international sanctions: A public choice perspective. *International Studies Quarterly*, 43(1), 37–58.

- King, G., & Zeng, L. (2001). Logistic regression in rare events data. *Political analysis*, 9(2), 137–163.
- Lektzian, D., & Biglaiser, G. (2014). The effect of foreign direct investment on the use and success of us sanctions. *Conflict Management and Peace Science*, 31(1), 70–93.
- Mansfield, E. D. (1995). International institutions and economic sanctions. *World Politics*, 47(4), 575–605.
- Mansfield, E. D., Milner, H. V., & Rosendorff, B. P. (2002). Why democracies cooperate more: Electoral control and international trade agreements. *International Organization*, 56(3), 477–513.
- Martin, L. L. (1994). *Coercive cooperation: Explaining multilateral economic sanctions*. Princeton University Press.
- McLean, E. V., & Whang, T. (2010). Friends or foes? major trading partners and the success of economic sanctions. *International Studies Quarterly*, 54(2), 427–447.
- Miers, A., & Morgan, T. (2002). Multilateral sanctions and foreign policy success: Can too many cooks spoil the broth? *International Interactions*, 28(2), 117–136.
- Morgan, T. C., Bapat, N., & Kobayashi, Y. (2014). Threat and imposition of economic sanctions 1945–2005: Updating the TIES dataset. *Conflict Management and Peace Science*, 31(5), 541–558.
- Morgan, T. C., Bapat, N., & Krustev, V. (2009). The threat and imposition of economic sanctions, 1971–2000. *Conflict Management and Peace Science*, 26(1), 92–110.
- Morgan, T. C., & Schwebach, V. L. (1995). Economic sanctions as an instrument of foreign policy: The role of domestic politics. *International Interactions*, 21(3), 247–263.
- Peksen, D. (2009). Better or worse? the effect of economic sanctions on human rights. *Journal of Peace Research*, 46(1), 59–77.
- Peksen, D., & Peterson, T. M. (2016). Sanctions and alternate markets: How trade and alliances affect the onset of economic coercion. *Political Research Quarterly*, 69(1), 4–16.
- Quackenbush, S. L. (2006). Identifying opportunity for conflict: Politically active dyads. *Conflict Management and Peace Science*, 23(1), 37–51.
- van Bergeijk, P. A. (1989). Success and failure of economic sanctions. *Kyklos*, 42(3), 385–404.

A Proof

The game is solved using backward induction. S , who can choose to accept or reject the offer by F , has the last move. Therefore, F must solve for the maximization problem:

$$\max_{\{y_m, r_f\}} -(y_m - t_F)^2 p(s_m) - (q - t_F)^2 (1 - p(s_m)) - c_F - r_F - \epsilon \quad (1)$$

Equation (1) is subject to the constraint:

$$-(t_F - t_S)^2 p(s_u) + (y_m - t_S)^2 p(s_m) + (q - t_S)^2 (p(s_u) - p(s_m)) + c_S - r_F \leq 0 \quad (2)$$

Additionally, Equation (2) is also subject to the constraint:

$$r_F \geq 0 \quad (3)$$

Equation (1) has to be quasi-concave in r_F and in y_m for the maximum to exist. This is the case if the second order partial derivatives of Equation (1) with respect to r_F and y_m are less than or equal to 0, which they are:

$$\frac{\partial^2}{\partial y_m^2} = -2p(s_m) < 0,$$

$$\frac{\partial^2}{\partial r_F} = 0 \leq 0.$$

I use the Kuhn-Tucker conditions to solve the unconstrained maximization problem. Equations (2), (3), and (4) result in the following First Order Conditions (F.O.C):

$$\frac{\partial}{\partial y_m} = (-2y_m + 2t_F)p(s_m) + (-2\lambda_2 y_m + 2\lambda_2 t_S)p(s_m) = 0 \quad (4)$$

$$\frac{\partial}{\partial r_F} = -1 + \lambda_1 + \lambda_2 = 0 \quad (5)$$

From Equation (5), I can further derive:

$$y_m = \frac{t_F + \lambda_2 t_S}{1 + \lambda_2} \quad (6)$$

Four cases follow from the Complementary Slackness Conditions:

$$\begin{cases} r_F > 0 \ \& \ \lambda_1 = 0; r_F = 0 \ \& \ \lambda_1 > 0 \\ Equation(3) < 0 \ \& \ \lambda_2 = 0; \lambda_2 > 0 \ \& \ Equation(3) = 0 \end{cases}$$

From F.O.C., the cases of $r_F > 0 \ \& \ \lambda_1 = 0$ and $Equation(3) < 0 \ \& \ \lambda_2 = 0$ can immediately

be eliminated, since λ_1 and λ_2 have to fulfill $-1 + \lambda_1 + \lambda_2 = 0$. This leaves three cases to examine.

Case 1: $r_F > 0$, $\lambda_1 = 0$ and $\lambda_2 > 0$, Equation(3) = 0

From the complementary slackness conditions: $\lambda_2 = 1$, $y_m = \frac{t_F + t_S}{2}$ Plugging in y_m , it is possible to rewrite r_F as

$$r_F = -(t_F - t_S)^2 p(s_u) + \left(\frac{t_F - t_S}{2}\right)^2 p(s_m) + (q - t_S)^2 (p(s_u) - p(s_m)) + c_S > 0$$

Plugging in y_m and r_F allows comparison between U and M :

$$-(q - t_F)^2 (1 - p(s_u)) \leq -\left(\frac{t_F + t_S}{2} - t_F\right)^2 p(s_m) - (q - t_F)^2 (1 - p(s_m)) - (t_F - t_S)^2 \left(\frac{p(s_m)}{4} - p(s_u)\right) - (q - t_S)^2 (p(s_u) - p(s_m)) - c_S - \epsilon$$

After algebraic rearrangement:

$$\epsilon \leq (t_F - t_S)^2 p(s_u) - \frac{1}{2} (t_F - t_S)^2 p(s_m) + (q - t_F)^2 p(s_m) - (q - t_F)^2 p(s_u) - (q - t_S)^2 p(s_u) + (q - t_S)^2 p(s_m) - c_S$$

At this point, q can be fixed at 0 for further analysis, giving us the following inequality:

$$\epsilon \leq (t_F - t_S)^2 p(s_u) - \frac{1}{2} (t_F - t_S)^2 p(s_m) + (t_F^2 + t_S^2) p(s_m) - (t_F^2 + t_S^2) p(s_u) - c_S$$

From this, the following comparative statics can be derived:

$$\frac{\partial}{\partial p(s_m)} = \frac{1}{2} (t_F + t_S)^2 \geq 0 \quad (7)$$

$$\frac{\partial}{\partial p(s_u)} = -2t_F t_S \geq \text{or} < 0 \quad (8)$$

$$\frac{\partial}{\partial c_S} = -1 < 0 \quad (9)$$

When deciding between no sanctions versus unilateral sanctions, F would choose unilateral sanctions if the following inequality holds:

$$-(q - t_F)^2 \leq -(q - t_F)^2 (1 - p(s_u)) - c_F$$

After algebraic rearrangement, the following comparative statics can be derived:

$$\frac{\partial}{\partial p(s_u)} = t_F^2 \geq 0 \quad (10)$$

$$\frac{\partial}{\partial c_F} = -\frac{1}{t_F^2} < 0 \quad (11)$$

Case 2: $r_F = 0$, $\lambda_1 > 0$ and $Equation(3) = 0$, $\lambda_2 > 0$

From complementary slackness conditions, two possible y_m 's can be derived:

$$y_m = 1 \pm \frac{\sqrt{t_F^2 p(s_u) - 2t_F t_S p(s_u) - q^2 p(s_u) + q^2 p(s_m) + 2q t_S p(s_u) - 2q t_S p(s_m) - c_S + p(s_m)}}{\sqrt{p(s_m)}}$$

Plugging $r_F = 0$ and

$$y_m = 1 + \frac{\sqrt{t_F^2 p(s_u) - 2t_F t_S p(s_u) - q^2 p(s_u) + q^2 p(s_m) + 2q t_S p(s_u) - 2q t_S p(s_m) - c_S + p(s_m)}}{\sqrt{p(s_m)}}$$

(let $y_m = a$) into the payoff function for F results in the following inequality that, if fulfilled, would induce F to choose M over U .

$$-(q - t_F)^2(1 - p(s_u)) - c_F \leq -(a - t_F)^2 p(s_m) - (q - t_F)^2(1 - p(s_m)) - c_F - \epsilon$$

This results in the following inequality:

$$\epsilon \leq -(a - t_F)^2 p(s_m) + (q - t_F)^2(p(s_m) - p(s_u))$$

From these we can derive the following partial derivatives:

$$\frac{\partial}{\partial p(s_u)} = -(q - t_F)^2 - \left(\frac{\partial a^2}{\partial p(s_u)} - 2t_F \frac{\partial a}{\partial p(s_u)} \right) \geq \text{or} < 0 \quad (12)$$

$$\frac{\partial}{\partial c_S} = -\left(\frac{c_S}{p(s_m)} + \frac{1}{2\sqrt{c_S p(s_m)}} - \frac{t_F}{\sqrt{c_S p(s_m)}} \right) < 0 \quad (13)$$

Similarly, we can do the same for

$$y_m = 1 - \frac{\sqrt{t_F^2 p(s_u) - 2t_F t_S p(s_u) - q^2 p(s_u) + q^2 p(s_m) + 2q t_S p(s_u) - 2q t_S p(s_m) - c_S + p(s_m)}}{\sqrt{p(s_m)}}$$

by plugging it and $r_F = 0$ into the following inequality:

$$-(q - t_F)^2(1 - p(s_u)) - c_F \leq -(y_m - t_F)^2 p(s_m) - (q - t_F)^2(1 - p(s_m)) - c_F - r_F - \epsilon$$

If the inequality is fulfilled, then F would choose M over U . This returns the following partial derivatives:

$$\frac{\partial}{\partial p(s_u)} = -(q - t_F)^2 - \left(-\frac{\partial a^2}{\partial p(s_u)} + 2t_F \frac{\partial a}{\partial p(s_u)}\right) \geq \text{or} < 0 \quad (14)$$

$$\frac{\partial}{\partial c_S} = -\left(-\frac{c_S}{p(s_m)} - \frac{1}{2\sqrt{c_S p(s_m)}} + \frac{t_F}{\sqrt{c_S p(s_m)}}\right) < 0 \quad (15)$$

Case 3: $r_F = 0$, $\lambda_1 > 0$ and Equation(3) < 0 , $\lambda_2 = 0$

From the complementary slackness conditions, $\lambda_1 = 1$, $y_m = t_F$ and $r_F = 0$.

Using backward induction, F will choose M over U if the following inequality holds:

$$-(q - t_F)^2(1 - p(s_u)) - c_F \leq -(q - t_F)^2(1 - p(s_m)) - c_F - \epsilon$$

Algebraic rearrangement results in the following inequality:

$$\epsilon \leq (q - t_F)^2(p(s_m) - p(s_u))$$

After setting $q = 0$, the following comparative statics can be derived:

$$\frac{\partial}{\partial (p(s_m) - p(s_u))} = (q - t_F)^2 \geq 0 \quad (16)$$

$$\frac{\partial}{\partial t_F} = 2t_F(p(s_m) - p(s_u)) \geq \text{or} < 0 \quad (17)$$

Similarly, F would choose U over NS if the following inequality holds:

$$-(q - t_F)^2 \leq -(q - t_F)^2(1 - p(s_m)) - c_F - \epsilon$$

From this, the comparative statics can be derived:

$$\frac{\partial}{\partial c_F} = -1 < 0 \quad (18)$$

Due to the number of parameters and the complexity of the calculation, I have chosen to code and simulate data to show the effects of δt on the outcome. Specifically, I examine the impact that δt has on F 's decision between unilateral and multilateral sanctions.

A.1 Other propositions

Proposition 4: *Increasing c_S decreases the likelihood of seeing multilateral sanctions.*

An increase in c_S , the cost that S would incur if it implements sanctions, increases the attractiveness for S of free-riding on F 's efforts, all else equal. In this case, F has to offer S more incentive, either in the form of policy concessions or via the r_F term, to compensate S . This, in turn, decreases the attractiveness of a multilateral sanctioning coalition for F , since it increases the cost of multilateralism compared with implementing a unilateral sanction.

Proposition 5: *Increasing $|q - t_F|$ increases the likelihood of seeing sanctions from F compared with no sanctions.*

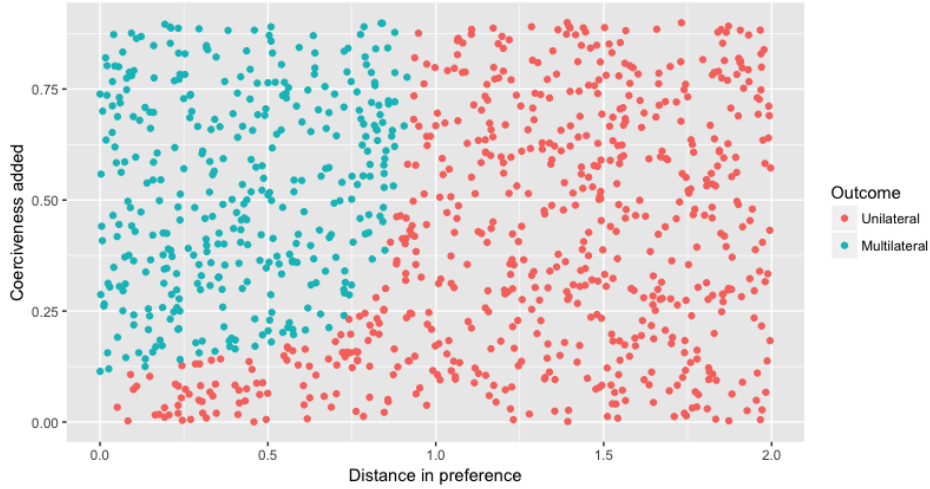


Figure 3: Simulated data with δt plotted against δp . Parameters held at $p(s_u) = 0.1$, $q = 0$, $t_S = 1$, $c_F = 1$, $c_S = 0.2$, $\epsilon = 0.0001$

The distance between the status quo (q) and F 's ideal foreign policy position, t_F , is an important determinant in F 's decision to engage in unilateral sanctions or no sanctions. As this distance increases, there is greater benefit for F to engage in unilateral sanctions, since F 's dissatisfaction with the status quo is greater. For F to choose unilateral sanctions over no sanctions, c_F must be smaller than $(q - t_F)^2 p(s_u)$. The inequality $c_F \leq (q - t_F)^2 p(s_u)$ demonstrates that as the difference $q - t_F$ grows, the threshold for the cost of unilateral sanctions also rises.

However, $q - t_F$ does not have a uniform effect on F 's willingness to engage in multilateral sanctions over unilateral ones over all parameter values. In some cases, an increase in $q - t_F$ could actually lead F to be more likely to use multilateral sanctions. This is particularly true for the case when $r_F = 0$ and $y_m = t_F$ in equilibrium. In this scenario, F does not need to offer S any transfers, either policy concession or other types of compensation, in order for S to join the multilateral sanctioning coalition. This situation could arise when F is closer to the status quo than S , c_S is low, and S is sufficiently far from the status quo (i.e., dissatisfied enough that it has less incentive to free-ride).

Proposition 6: *Increasing c_F decreases the likelihood of seeing any sanction.*

The term c_F denotes the cost that F inflicts upon itself if it pursues sanctions against the target state. An increase in c_F thus decreases the willingness for F to enact a unilateral sanction and increases the likelihood of seeing no sanctions. However, because c_F acts for both multilateral and unilateral sanctions equally, increasing it has no effect on the different sanction choices beyond making observing any sanctions at all less likely.

B Extended Game and Proof

B.1 Extended Game Setup and Game Tree

The structure of the extended game remains generally the same as the original's. The primary sender F starts out with three choices, no sanctions (NS), unilateral sanctions (U) and multilateral sanctions (M).

F now has the option to threaten secondary sanctions. The decision of whether or not to pursue secondary sanctions occurs at two points: a) after F chooses to use unilateral sanctions, and b) after F chooses to use multilateral sanctions, but has the offer rejected by S . In each scenario, F can choose between threatening (T) or not threatening (NT) to impose secondary sanctions. If F chooses NT , the game ends, and F and S receive payoffs of $-(q - t_F)^2(1 - p(s_u)) - c_F(l, e)$ and $-(t_F - t_S)^2p(s_u) - (q - t_S)^2(1 - p(s_u))$, respectively.¹⁵ In this extension of the game, I explicitly separate out the components of the cost terms c_F and c_S . I previously noted in the original model that the cost term encompasses a wide range of domestic costs that the primary sender would have to bear, including lost economic opportunities and potential political backlash. Here, I use e to denote specifically the domestic economic costs of carrying out the sanctions, and l to denote domestic political or societal costs of enacting sanctions. I rewrite the cost terms in the original model as $c_F(e, l)$ and $c_S(e, l)$. However, I use the term $c_S(e)$ in order to reflect the ability of secondary senders to deflect political blame onto the primary sender in the cases of secondary sanctions. In essence, the secondary sender, if it chooses to abide by secondary sanctions, only has to pay the price of decoupling economically from the target.¹⁶

If F chooses T , then the game moves onto the next stage, where S could choose to either comply (C) or not comply (NC). If S chooses C , the game ends, and F and S receive payoffs of $-(q - t_F)^2(1 - p(s_m)) - b - c_F(l, e)$ and $-(t_F - t_S)^2p(s_m) - (q - t_S)^2(1 - p(s_m)) - c_S(e)$, respectively. The term b denotes the additional cost that F has to pay when it threatens secondary sanctions. This is consistent with reputational costs and pushback from other countries, particularly amongst the sender state's allies, that are often associated with secondary sanctions. The European Union, for example, has been aggressively counteracting U.S. secondary sanctions starting as early as 1996, when it initiated a World Trade Organization

¹⁵The payoffs for F and S are the same whether F enters the "secondary sanctions stage" through deciding first on unilateral sanctions or entering into negotiations for and getting rejected by S for multilateral sanctions. The only difference in payoffs is that both F and S pay the small bargain price of ϵ if F starts the bargaining process for multilateral sanctions. This cost exists in the original model, too.

¹⁶I recognize that this may be a simplification of reality given that secondary sanctions tend to target individuals and corporations. There has also been little study on states' responses to secondary sanctions imposed by other countries, and whether the leaders of such states would incur political consequences if they decide to back the primary sender's claims. Nonetheless, it is not unreasonable to assume that the policy-makers of the secondary state would be able to deflect responsibility onto the primary sender, and at least would not have to partake in the political or legislative process needed to push through sanctions of their own.

proceeding against the extra-terrestrial portion of the Helms-Burton act.

If S chooses to not comply with F 's secondary sanction threats, the game moves on to the next stage where F could choose to either to follow through with its secondary sanction threats (G) or to not follow through (NG). If F follows through, F receives a payoff of $-(q - t_F)^2(1 - p(s_u)) - b - \mu_F - c_F(l, e)$, and S receives a payoff of $-(t_F - t_S)^2p(s_u) - (q - t_S)^2(1 - p(s_u)) - \mu_s$. The parameters $\mu_i, i \in \{F, S\}$ denote the cost that F would incur when it punishes S , and the cost that S would suffer from F 's punishment for failing to abide by secondary sanctions. If F chooses not to follow through, then F would receive a payoff of $-(q - t_F)^2(1 - p(s_u)) - b - c_F(l, e) - n$, where n denotes the cost to F of not following through with its secondary sanction threat, and S a payoff of $-(c_F - t_S)^2p(s_u) - (q - t_S)^2(1 - p(s_u))$.

B.2 Proof of Extended Game

The extended game is solved through backward induction. It is clear that whenever F decides to utilize secondary sanctions, it would never go through multilateral sanctions. Instead, the secondary sanctions stage can only be reached through unilateral sanctions. This is because engaging in secondary sanctions after multilateral sanction bargaining has failed would cost both players ϵ . Namely, both F and S would need to deduct the bargaining cost ϵ from their payoffs. The payoffs, therefore, would be less than they would otherwise have been for both players had they reached the secondary sanction stage through unilateral sanctions. Therefore, only an examination of secondary sanctions versus multilateral sanctions is needed.

Using backward induction, the last mover on the unilateral sanctions path is F . F decides between following through with its secondary sanction threats (G) or not following through with its threats (NG). F 's payoff for G is $-(q - t_F)^2(1 - p(s_u)) - b - \mu_F - c_F(l, e)$, and its payoff for NG is $-(q - t_F)^2(1 - p(s_u)) - b - c_F(l, e) - n$. Therefore, F would choose G when $\mu_F \leq n$. Namely, F will choose to follow through with its secondary sanction threats on the secondary sender if the cost of punishing S is lower than the cost of inconsistency. As μ_F , the cost of punishing S , increases, F is less likely to actually go through with punishing S .

However, at this juncture, it is important to note that F would never choose to threaten secondary sanctions if S does not comply. If F chooses to just pursue unilateral sanctions, it would receive a payoff of $-(q - t_F)^2(1 - p(s_u)) - c_F(l, e)$. This is larger than either of F 's payoffs if S does not comply ($-(q - t_F)^2(1 - p(s_u)) - b - \mu_F - c_F(l, e)$ if F chooses to punish S for non-compliance and $-(q - t_F)^2(1 - p(s_u)) - b - c_F(l, e) - n$ if F chooses to not follow through on its secondary sanction threats) since non-compliance from S necessitates some sort of costs from F . Therefore, the next step is to compare F 's payoff if it does not threaten secondary sanctions (i.e. if it pursues unilateral sanctions), and its payoff from threatening secondary sanctions and S complying with the sanctions.

In the above scenario, F will choose to threaten secondary sanctions if the following

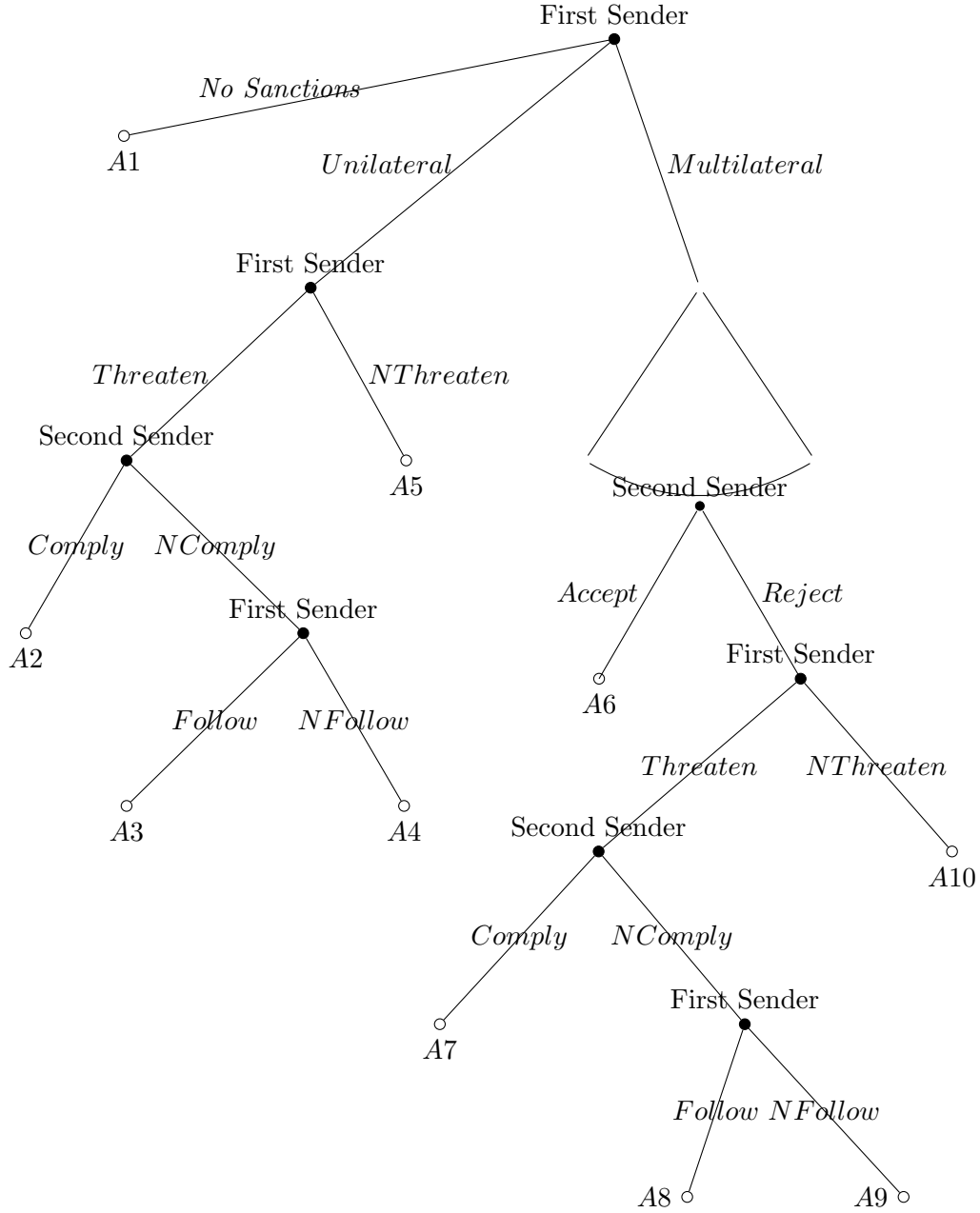


Figure 4: Extended formal model. The payoff pairs for F and S at each of the terminal nodes are listed in order. $A1$: $\{-(q-t_F)^2, -(q-t_S)^2\}$; $A2$: $\{-(q-t_F)^2(1-p(s_m)) - c_F(l, e) - b, -(t_F - t_S)^2 p(s_m) - (q-t_S)^2(1-p(s_m)) - c_S(e)\}$; $A3$: $\{-(q-t_F)^2(1-p(s_u)) - b - \mu_F - c_F(l, e), -(t_F - t_S)^2 p(s_u) - (q-t_S)^2(1-p(s_u)) - \mu_S\}$; $A4$: $\{-(q-t_F)^2(1-p(s_u)) - b - c_F(l, e) - n, -(c_F - t_S)^2 p(s_u) - (q-t_S)^2(1-p(s_u))\}$; $A5$: $\{-(q-t_F)^2(1-p(s_u)) - c_F(l, e), -(t_F - t_S)^2 p(s_u) - (q-t_S)^2(1-p(s_u))\}$; $A6$: $\{-(y_m - t_F)^2 p(s_m) - (q-t_F)^2(1-p(s_m)) - r_F - c_F(l, e) - \epsilon, -(y_m - t_S)^2 p(s_m) - (q-t_S)^2(1-p(s_m)) - c_S(l, e) - \epsilon\}$; $A7, A8, A9, A10$: Same payoffs for both F and S at $A2, A3, A4, A5$, respectively, minus ϵ .

inequality is met:

$$-(q - t_F)^2(1 - p(s_m)) - b - c_F(l, e) \geq -(q - t_F)^2(1 - p(s_u)) - c_F(l, e) \quad (19)$$

This results in the following inequality after algebraic rearrangement:

$$(q - t_F)^2(p(s_m) - p(s_u)) - b \geq 0 \quad (20)$$

The comparative statics that can be derived are:

$$\frac{\partial}{\partial b} = -1 < 0 \quad (21)$$

$$\frac{\partial}{\partial \delta p} = (q - t_F)^2 \geq 0 \quad (22)$$

$$\frac{\partial}{\partial (q - t_F)^2} = p(s_m) - p(s_u) \geq 0 \quad (23)$$

The next step is to compare when F would choose to threaten secondary sanctions and when F would choose to form a multilateral sanctioning coalition. For comparison between F choosing to pursue unilateral sanctions (NT) and to enter into multilateral sanctions bargaining with S (M), see the previous section of the appendix for the proof.

The proof in the previous section shows that F will not choose to go down the multilateral bargaining route if S will not accept the offer, and will instead choose to unilaterally sanction the target. Thus, the cases that needs to be compared here is when F will choose to threaten secondary sanctions (and S complies) versus when F will make S an offer in the multilateral bargaining route (that S will accept). The set up for comparing F 's choice between T and M is exactly the same as the proof for the comparison of F 's choice between U and M . Since the constrained optimization is the same from Equation 2 to Equation 7, I will not repeat them here. Instead, I will discuss the three Kuhn-Tucker cases one by one.

Case 1: $r_F > 0$, $\lambda_1 = 0$ and $\lambda_2 > 0$, Equation(3) = 0

From the complementary slackness conditions: $\lambda_2 = 1$, $y_m = \frac{t_F + t_S}{2}$ Plugging in y_m , it is possible to rewrite r_F as

$$r_F = -(t_F - t_S)^2 p(s_u) + \left(\frac{t_F - t_S}{2}\right)^2 p(s_m) + (q - t_S)^2 (p(s_u) - p(s_m)) + c_S > 0$$

In this case, F will choose T over M if the following inequality holds:

$$-(q - t_F)^2(1 - p(s_m)) - b - c_F(l, e) \geq -\left(\frac{t_F + t_S}{2} - t_F\right)^2(1 - p(s_m)) - c_F(l, e) - \epsilon + (t_F - t_S)^2 p(s_u) - \left(\frac{t_F - t_S}{2}\right)^2 p(s_m) - (q - t_S)^2 (p(s_u) - p(s_m)) + c_S(l, e)$$

This results in the following inequality:

$$-b + \left(\frac{t_S - t_F}{2}\right)^2 p(s_m) + \epsilon - (t_F - t_S)^2 p(s_u) + \left(\frac{t_F - t_S}{2}\right)^2 p(s_m) + (q - t_s)^2 (p(s_u) - p(s_m)) + c_s(l, e)$$

After setting $q = 0$, the following comparative statics can be derived:

$$\frac{\partial}{\partial b} = -1 < 0 \quad (24)$$

$$\frac{\partial}{\partial c_S(l, e)} > 0 \quad (25)$$

Case 2: $r_F = 0$, $\lambda_1 > 0$ and Equation(3) = 0, $\lambda_2 > 0$

From complementary slackness conditions, two possible y_m 's can be derived:

$$y_m = 1 \pm \frac{\sqrt{t_F^2 p(s_u) - 2t_F t_S p(s_u) - q^2 p(s_u) + q^2 p(s_m) + 2q t_S p(s_u) - 2q t_S p(s_m) - c_S + p(s_m)}}{\sqrt{p(s_m)}}$$

Case 3: $r_F = 0$, $\lambda_1 > 0$ and Equation(3) < 0, $\lambda_2 = 0$

From the complementary slackness conditions, $\lambda_1 = 1$, $y_m = t_F$ and $r_F = 0$.

In this case, F will choose T over M if the following inequality holds:

$$-(q - t_F)^2 (1 - p(s_m)) - b - c_F(l, e) \geq -(q - t_F)^2 (1 - p(s_m)) - c_F(l, e) - \epsilon$$

Therefore, F will choose T over M if $-b \geq -\epsilon$, or $b \leq \epsilon$. Since ϵ is meant to represent a small bargaining cost, it is usually the case that $b \geq \epsilon$. In this case, because multilateral sanctions are “costless” compared to secondary sanctions, F would generally choose multilateral sanctions even when S complies with secondary sanctions.

Due to the number of parameters and the complexity of the calculation, I have chosen to code and simulate data to show the effects of δt on the outcome. Specifically, I examine the impact that δt has on F 's decision between unilateral, unilateral and secondary, and multilateral sanctions.

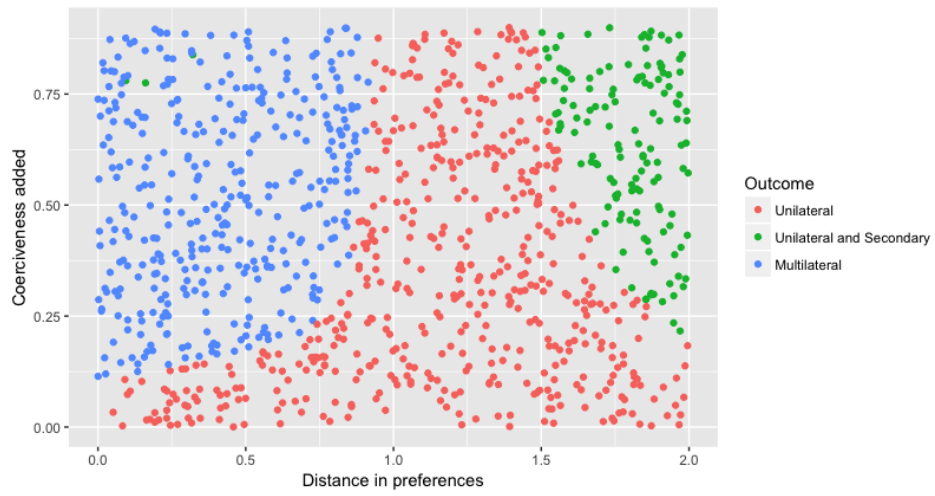


Figure 5: Simulated data with δt plotted against δp . Parameters held at $p(s_u) = 0.1$, $q = 0$, $t_S = 1$, $c_F = 1$, $c_S = 0.2$, $b = 0.2$, $\epsilon = 0.0001$

C Additional Empirical Tests

C.1 Unclustered Logit Tests

Table 6: Ideal Point Difference Effects on Multilateral Sanctions

	<i>Dependent variable:</i>			
	Multilateral Sanctions			
	(1)	(2)	(3)	(4)
Ideal Point Diff.	-3.355*** (1.060)	-2.503** (1.171)	-3.049*** (1.128)	-1.575 (1.264)
Relative Wealth		-0.353 (0.468)		-0.422 (0.505)
CINC			0.467 (1.059)	-1.161 (1.270)
Constant	-1.643*** (0.104)	-1.747*** (0.119)	-1.764*** (0.139)	-1.731*** (0.146)
Observations	1,258	1,193	1,236	1,174
Log Likelihood	-489.070	-437.570	-466.547	-419.490
Akaike Inf. Crit.	982.140	881.139	939.094	846.981

Note:

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

Table 7: Coercive Power Effects on Multilateral Sanctions

	<i>Dependent variable:</i>					
	Multilateral Sanctions					
	(1)	(2)	(3)	(4)	(5)	(6)
Added Coercive Power	0.572* (0.314)	0.677** (0.321)	0.676** (0.320)	0.630* (0.321)	0.672** (0.322)	0.670** (0.321)
Polity		-0.059*** (0.012)	-0.059*** (0.013)		-0.054*** (0.015)	-0.054*** (0.015)
Relative Wealth			0.048 (0.445)			0.113 (0.452)
CINC				-3.168*** (1.209)	-0.859 (1.423)	-0.942 (1.467)
Constant	-2.119*** (0.131)	-1.833*** (0.147)	-1.837*** (0.151)	-1.905*** (0.171)	-1.784*** (0.168)	-1.787*** (0.168)
Observations	1,212	1,149	1,149	1,191	1,149	1,149
Log Likelihood	-454.001	-409.955	-409.950	-427.610	-409.772	-409.741
Akaike Inf. Crit.	912.002	825.911	827.899	861.220	827.544	829.483

Note:

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

Table 8: Weighted (50%-50%) Optimal Partner Effects on Multilateral Sanctions

	<i>Dependent variable:</i>			
	Multilateral Sanctions			
	(1)	(2)	(3)	(4)
Weighted Measure	1.341* (0.688)	0.931 (0.757)	1.168 (0.717)	0.820 (0.778)
CINC		-1.765 (1.231)		-1.386 (1.258)
Relative Wealth			-0.554 (0.459)	-0.517 (0.494)
Constant	-3.358*** (0.715)	-2.808*** (0.826)	-3.099*** (0.760)	-2.656*** (0.852)
Observations	1,193	1,174	1,193	1,174
Log Likelihood	-437.522	-418.361	-436.716	-417.760
Akaike Inf. Crit.	879.043	842.722	879.433	843.521

Note:

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

C.2 Linear Models with Clustering

Table 9: Ideal Point Distance Effects on Multilateral Sanctions W/ Clustering

		<i>Dependent variable:</i>							
		Multilateral Sanctions							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ideal Point Dist.		-0.354* (0.205)	-0.315*** (0.121)	-0.251 (0.182)	-0.354* (0.202)	-0.251 (0.180)	-0.315*** (0.122)	-0.155 (0.116)	-0.155 (0.126)
CINC			0.055 (0.307)				0.055 (0.310)	-0.134 (0.316)	-0.134 (0.321)
Relative Wealth				-0.032 (0.039)		-0.032 (0.049)		-0.035 (0.023)	-0.035 (0.035)
Constant		0.161*** (0.040)	0.146** (0.063)	0.147*** (0.043)	0.161*** (0.040)	0.147*** (0.043)	0.146** (0.063)	0.149*** (0.065)	0.149*** (0.066)
Observations		1,258	1,236	1,193	1,258	1,193	1,236	1,174	1,174
R ²		0.008	0.006	0.006	0.008	0.006	0.006	0.006	0.006
Adjusted R ²		0.007	0.005	0.004	0.007	0.004	0.005	0.003	0.003
Residual Std. Error		0.339	0.332	0.326	0.339	0.326	0.332	0.321	0.321

Note:

1-4 clustered by primary sender
5-8 clustered by primary sender and year

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

Table 10: Coercive Power Effects on Multilateral Sanctions w/ Clustering (Primary Sender)

	<i>Dependent variable:</i>							
	Multilateral Sanction							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Coercive Power Added	0.033*** (0.005)	0.032*** (0.006)	0.034*** (0.005)	0.034*** (0.005)	0.032*** (0.005)	0.034*** (0.005)	0.032*** (0.006)	0.034*** (0.005)
CINC		-0.318 (0.400)		-0.071 (0.421)			-0.314 (0.387)	-0.079 (0.414)
Polity			-0.008 (0.007)	-0.007 (0.008)		-0.008 (0.007)		-0.007 (0.008)
Relative Wealth					-0.031 (0.062)	0.007 (0.046)	-0.005 (0.033)	0.012 (0.031)
Constant	0.115*** (0.033)	0.141** (0.068)	0.163*** (0.062)	0.167** (0.067)	0.120*** (0.040)	0.163*** (0.062)	0.141** (0.069)	0.167** (0.068)
Observations	1,212	1,191	1,149	1,149	1,212	1,149	1,191	1,149
R ²	0.008	0.014	0.028	0.029	0.008	0.028	0.014	0.029
Adjusted R ²	0.007	0.013	0.027	0.026	0.006	0.026	0.012	0.025
Residual Std. Error	0.330	0.322	0.322	0.322	0.330	0.322	0.322	0.322

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

Table 11: Coercive Power Effects on Multilateral Sanctions w/ Clustering (Primary Sender & Year)

	<i>Dependent variable:</i>							
	Multilateral Sanctions							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Added Coercive Power	0.033*** (0.005)	0.032*** (0.006)	0.034*** (0.005)	0.034*** (0.005)	0.032*** (0.006)	0.034*** (0.005)	0.032*** (0.006)	0.034*** (0.005)
CINC		-0.318 (0.403)		-0.071 (0.410)			-0.314 (0.388)	-0.079 (0.401)
Polity			-0.008 (0.007)	-0.007 (0.008)		-0.008 (0.007)		-0.007 (0.008)
Relative Wealth					-0.031 (0.069)	0.007 (0.053)	-0.005 (0.043)	0.012 (0.042)
Constant	0.115*** (0.034)	0.141** (0.069)	0.163*** (0.061)	0.167** (0.068)	0.120*** (0.041)	0.163*** (0.062)	0.141** (0.070)	0.167** (0.068)
Observations	1,212	1,191	1,149	1,149	1,212	1,149	1,191	1,149
R ²	0.008	0.014	0.028	0.029	0.008	0.028	0.014	0.029
Adjusted R ²	0.007	0.013	0.027	0.026	0.006	0.026	0.012	0.025
Residual Std. Error	0.330	0.322	0.322	0.322	0.330	0.322	0.322	0.322

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

C.3 Linearly Combined Weights Choices

Table 12: Linear Combination Choices

	<i>Dependent variable:</i>				
	Multilateral (1)	Multilateral (2)	Multilateral (3)	Multilateral (4)	Multilateral (5)
Ideal10	0.491 (0.453)				
Ideal25		0.704 (0.668)			
Ideal50			1.341 (1.372)		
Ideal75				2.104 (2.231)	
Ideal90					2.851 (1.928)
Constant	-2.202*** (0.230)	-2.437*** (0.353)	-3.358*** (1.236)	-5.049 (3.094)	-6.925** (3.158)
Observations	1,193	1,193	1,193	1,193	1,193
Log Likelihood	-438.484	-438.142	-437.522	-437.298	-435.971
Akaike Inf. Crit.	880.968	880.283	879.043	878.597	875.941

Note:

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

C.4 Non-Democratic Countries Ideal Point Distance

Table 13: Non-Democratic Countries Ideal Point Distance

	<i>Dependent variable:</i>			
	Multilateral Sanctions			
	(1)	(2)	(3)	(4)
Ideal Point Dist.	11.606 (15.833)	21.078 (25.059)	12.203 (14.303)	22.606 (21.192)
CINC		-114.709* (58.696)		-124.007** (61.894)
Relative Wealth			-19.572 (17.215)	-16.849 (16.398)
Constant	-1.651* (0.593)	-0.862 (0.678)	-1.305* (0.709)	-0.526 (0.796)
Observations	170	170	157	157
Log Likelihood	-77.310	-69.724	-68.554	-61.894
Akaike Inf. Crit.	158.619	145.448	143.108	131.789

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