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Link to publication

Routledge
Taylor & Francis Group

Success of economic sanctions threats: coercion, information and commitment

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ABSTRACT

This study examines when and why threats of economic sanctions lead to the successful extraction of policy concessions. Scholars identified three (not mutually exclusive) hypotheses that explain the success of sanction threats: (a) the coercive, (b) the informational and (c) the public commitment hypothesis. The underpinning mechanisms for the hypotheses are, respectively, the economic cost of sanctions, uncertainty about the resolve of the sender and domestic audience cost for issuing empty threats. In this study, we offer an empirical test of the three hypotheses on threats effectiveness. In addition, we assess how variation in the three mechanisms affects the effectiveness of threats relative to imposed sanctions. For the expected economic cost, we use the TIES data. To measure uncertainty, we generate a network of diplomatic relations, based on Formal Alliance data, utilizing methods from complex network theory. To assess public commitment, we use the democracy score based on the POLITY IV data. Our results show that the effectiveness of threats strongly increases in an economic cost to the target; however, threats become increasingly effective relative to imposed sanctions for lower uncertainty and higher domestic audience cost.

Cette étude examine les moments auxquels et les raisons pour lesquelles les menaces de sanctions économiques permettent de réussir à soutirer des concessions politiques. Des chercheurs ont identifié trois hypothèses (qui ne sont pas mutuellement exclusives) qui expliquent la réussite des menaces de sanctions: les hypothèses liées (a) à la coercition, (b) à l'information et (c) à l'engagement public. Les mécanismes sous-jacents à ces hypothèses sont respectivement: le coût économique des sanctions, l'incertitude concernant la détermination de l'auteur des menaces, et le coût pour le public national de l'émission de vaines menaces. Dans cette étude, nous proposons une mise à l'épreuve empirique des trois hypothèses sur l'efficacité des menaces. De plus, nous avons évalué la manière dont la

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 Supplemental data for this article can be accessed on the publisher's website

variation des trois mécanismes affecte l'efficacité des menaces par rapport aux sanctions imposées. Pour le coût économique prévu, nous avons utilisé les données TIES (Threat and Imposition of Sanctions, Menace et imposition de sanctions). Pour évaluer l'incertitude, nous avons retracé un réseau de relations diplomatiques en nous appuyant sur le jeu de données Formal Alliance et en employant des méthodes issues de la théorie des réseaux complexes. Et pour déterminer l'engagement public, nous avons exploité le score démocratique issu des données POLITY IV. Nos résultats montrent que l'efficacité des menaces augmente considérablement parallèlement à l'augmentation du coût économique pour la cible; cependant, les menaces deviennent également de plus en plus efficaces par rapport aux sanctions imposées lorsque l'incertitude est plus faible et que le coût pour le public national est plus élevé.

Este estudio investiga cuándo y por qué las amenazas de sanciones económicas producen una obtención exitosa de concesiones de políticas. Los académicos identificaron tres hipótesis (que no son mutuamente excluyentes) que explican el éxito de las amenazas de sanciones: (a) la hipótesis coercitiva; (b) la informativa; y (c) la del compromiso público. Los mecanismos que respaldan las hipótesis son, respectivamente, el costo económico de las sanciones, la incertidumbre sobre la resolución del emisor y el costo interno para el público por emitir amenazas vacías. En este estudio, ofrecemos una prueba empírica de las tres hipótesis sobre la efectividad de las amenazas. Además, evaluamos de qué manera la variación en los tres mecanismos afecta la efectividad de las amenazas en relación con las sanciones impuestas. Para el costo económico esperado, utilizamos los datos de Amenazas e Imposición de Sanciones Económicas (Threat and Imposition of Economic Sanctions, TIES). Para medir la incertidumbre, generamos una red de relaciones diplomáticas, basada en los datos de las alianzas formales, utilizando métodos de la teoría de la red compleja. Para evaluar el compromiso público, utilizamos la puntuación democrática en función de los datos del SISTEMA GUBERNAMENTAL IV (POLITY IV). Nuestros resultados demuestran que la efectividad de las amenazas aumenta considerablemente el costo económico para el objetivo; sin embargo, las amenazas se vuelven cada vez más efectivas en relación con las sanciones impuestas para una incertidumbre menor y un costo interno para el público más elevado.

Introduction

In 1991, the US and the USSR sponsored a multilateral peace conference in Madrid, with the objective of advancing the Israeli Palestinian peace process and normalizing the diplomatic relations in the region. That conference was unique in bringing the representatives of Israel, Palestine, Jordan, Lebanon and Syria to one table. However, it was at risk because Israel was proceeding with the construction of new settlements in the Occupied Territories. At first,

the Prime Minister of Israel, Yitzhak Shamir, refused to suspend the construction of the settlements, so undermining the prospect of the Madrid Conference. The Bush administration put pressure on the Israeli government by threatening to cancel a loan of USD 10 billion for the housing project and making it conditional on freezing of construction activities in the Occupied Territories. The Israeli administration eventually conceded to this threat by the US, which took a heavy toll on the government of Prime Minister Shamir and contributed to electoral defeat (Drezner 1999).

The US-Israeli dispute over the settlements in the Occupied Territories is an example of a successful threat of an economic sanction.[1] However, it is unclear what led to the threat's success: (a) the expected economic cost to Israel, (b) the close diplomatic ties between the two countries and resulting certainty in Israel about Washington's resolve, or (c) the determination of the US due to domestic pressure on the Bush administration.[2] This relates to a broader body of research on the question of "why some economic sanction threats lead to concessions" (Whang, Mclean, and Kuberski 2013) while others do not.

Scholars propose that the success of sanction threats in extracting policy concessions from a target state is subject to three mechanisms: (a) the potential economic cost of a sanction to the target, (b) the target's uncertainty about the resolve of the sender to impose the sanction, and (c) the domestic audience cost faced by the sender for backing down on a threat (Drezner 2003; Lacy and Niou 2004; Whang, Mclean, and Kubersk 2013). These three mechanisms are summarized in the literature in three hypotheses: (a) the coercive, (b) the informational, and (c) the public commitment hypothesis. So far, scholars have operationalized the first hypothesis (coercive) using the economic ties between the sender and the target of sanction threats (Schultz 1999; Whang, Mclean, and Kuberski 2013), the second (informational) by using the public issuing of a sanction threat (Lacy and Niou 2004; Whang, Mclean, and Kuberski 2013), and the third (public commitment) by using the level of democracy of the sender state (Fearon 1994; Schultz 1999).[3]

The purpose of this study is to combine the diverse literature and examine these three not mutually exclusive hypotheses, in order to provide an answer to the question of when and why threats of economic sanctions are successful in extracting policy concessions. To do this, we first address the coercive hypothesis with the TIES data set (Morgan, Bapat, and Kobayashi 2014) by investigating how the target's expected cost of economic sanctions, measured on the basis of the news coverage surrounding the sanction threat, influences

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[1]We consider economic sanctions to be "actions that one or more countries take to limit or end their economic relations with a target country in an effort to persuade that country to change its polices" (Morgan, Bapat, and Kobayashi 2014, PG).

[2]We use the terms economic sanctions and economic coercion interchangeably.

[3]While it is likely that other variables also affect the success of sanction threats, in this article, following the crisis-bargaining literature (Schultz 1999), we elaborate on the role of the three listed mechanism (economic cost, uncertainty and domestic audience cost).

the success of threats of economic coercion. Despite their validity and reliability, event specific observations on the expected costs of economic sanctions offered by the TIES data set have not yet been used to study threats of economic sanctions. As complete trade embargos are rarely threatened or imposed (Drezner 2011), previous studies (e.g. Whang, McLean, and Kuberski 2013) have used aggregate trade data, thus overlooking the complexity of targeted sanctions.

Second, to address the informational hypothesis, we generate a proxy for the uncertainty that states face. To this end, we produce a diplomatic network based on the Formal Alliance data set (Gibler 2009) and generate a measure of diplomatic relations between pairs of states, which is our proxy for uncertainty. This novel method allows moving beyond a dyadic approach to data on diplomatic ties and provides a richer depiction of relations between states. Unlike previous research, which models uncertainty as constant and argues that threats of economic sanctions help to extract concession equally for all states (Fearon 1994; Schultz 1999; Whang, Mclean, and Kuberski 2013), we propose a novel theoretical contribution to the crisis-bargaining framework: uncertainty varies between pairs of states, subject to their diplomatic relations.

Third, we use the Polity IV data set (Marshall, Gurr, and Jaggers 2018) to test the public commitment hypothesis and assess the relation between the democracy level of a sender state, our proxy for domestic audience cost (Fearon 1994), and the effectiveness of sanction threats. Finally, for each of the three mechanisms, we study the relative effectiveness of threats of sanctions and imposed sanctions. On the basis of the crisis-bargaining literature (Schultz 2001, 1999), we expect threats of economic sanctions to be more effective than imposed sanctions for higher levels of target's economic cost, higher levels of sender's domestic audience cost and lower level of uncertainty.[4]

In this research, we find empirical support for the coercive hypothesis. The success of threats of economic sanctions appears to be statistically related to the target's expected cost of economic sanctions. We also observe that, when the sender and the target share close diplomatic ties and the sender is a democracy, threats of economic sanctions are systematically more effective than imposed sanctions. In relation to the expected economic cost of a sanction, we find no systematic difference between the effectiveness of sanction threats and imposed sanctions. These results are in line with the research on the effectiveness of threats of economic sanctions, which supports the coercive hypothesis (Whang, Mclean, and Kuberski 2013). In addition, we provide empirical support for the predictions of the crisis-bargaining model

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[4]In fact, for high values of economic cost, information completeness or domestic audience cost, we ought to observe only successful threats or status quo outcomes (Drezner 2003), following from applying the backward induction logic to the crisis-bargaining model. However, more variables than specified in the crisis-bargaining model affect states' decisions, introducing unaccounted for variation into the empirical data.

(Fearon 1994; Schultz 1999), where the effectiveness of threats, in relation to imposed sanctions, ought to increase with information and domestic audience cost.

Unlike previous studies, we test all three mechanisms arising from the crisis-bargaining framework in a single study. We also investigate the relative effectiveness of threats in relation to imposed sanctions and offer a clear specification of the role of uncertainty. Consequently, this article enriches our understanding of the mechanisms driving the success of threats of economic sanctions (Whang, Mclean, and Kuberski 2013). The results also support findings in the broader literature on interstate conflict and in relation to research on the symbolic role of economic sanctions (Whang 2011), domestic audience cost (Kertzer and Brutger 2016), the role of information (Drezner 2003; Schultz 1999) and the impact of economic cost (Bapat and Kwon 2015). This work also provides empirical support for the long-standing call for the inclusion of threat data in the study of the effectiveness of economic sanctions, as both the rate of and the mechanisms driving success at the threat and the imposition stage can differ systematically (Drezner 2003; Eaton and Engers 1999; Smith 1995).

Besides generating new insight into the study of why and when threats of economic sanctions succeed, this study also offers a novel methodological contribution. The network approach to the diplomatic relations between states, where we use data on formal alliances to map out global diplomatic ties, allows capturing more information than a dyadic method and leads to more robust empirical findings. Even if a sender and a target state do not share a direct alliance, we can assess their relation using the distance between them on the diplomatic network. In contrast, a dyadic approach can only distinguish between the presence and absence of a direct alliance. The network approach to economic coercion and diplomatic relations also relates both to an older call in the literature on economic sanctions for a network perspective (Galtung 1967), and to the more recent descriptive results uncovering the complex nature of sanctions (Cranmer, Heinrich, and Desmarais 2014; Peterson 2018) and international relations more generally (Farrell and Newman 2019; Thurner et al. 2019). The behavior of states appears not only to be conditioned by their direct ties but also by the broader constellation of international relations and a network of indirect connections, so relying solely on dyadic data can be misleading.

The article is organized as follows. In Section 2, we begin with an overview of the relevant literature and motivate the three hypotheses to be tested. In Section 3, we provide an overview of the research design and discuss the data and the econometric model for this study. Following that, in Section 4, we present the results of the empirical analysis and a brief discussion of the

findings. Finally, in Section 5, we conclude and elaborate on the potential further research avenues addressing sanction threats.

Literature and Theory

In this section, we first discuss the literature on the effectiveness of economic sanctions in general. Scholars have produced a large body of research that identifies the conditions under which economic sanctions are more likely to succeed. This serves as a starting point to the further elaboration of when threats of economic sanctions are successful and offers guidance for the selection of control variables for the empirical section of this article. After that, we focus on the literature on the effectiveness of threats of economic sanctions, and also more broadly on the effectiveness of threats in international conflict. We identify three main hypotheses in the literature, and, based on those, generate three hypotheses and empirically test them.

Literature on Economic Sanctions

The use of economic sanctions has been increasing since the end of World War II (Morgan, Bapat, and Kobayashi 2014), arguably because they allow for flexible use of economic power to coerce states in a world where options for military intervention are limited (Whang and Kim 2015). This increasing use has not escaped scholarly attention, and researchers have focused on mapping the conditions for the successful imposition of economic coercion. Next, we discuss the key determinants for the success of economic sanctions that are covered in the literature.

First, the impact of economic sanctions on the economy of the target state appears to be systematically related to the effectiveness of the tool (Bapat et al. 2013; Bapat and Kwon 2015; Drezner 1999; Drury 1998; Morgan and Schwebach 1997; Whang and Kim 2015). This follows from an intuitive understanding of the mechanism underlying sanctions' success: Citizens, or elites, pressured by economic hardship resulting from economic sanctions, force the government to change its policy and offer concessions to the sender state.

Second, effectiveness has been linked to the democracy level of the target and the sender of economic coercion (Bapat et al. 2013; Cox and Drury 2006; Jeong and Peksen 2019; Lektzian and Souva 2003). Democratic targets are expected to be more resilient when faced with economic sanctions as a result of the rally-round-the-flag effect. Citizens of a target state are more likely to defend their country, and the ruling government, if political power is transferred through an electoral process (Maoz and Russett 1993). Compared to non-democratic senders, democratic senders also appear more likely to achieve a policy change in the target state through economic

sanctions. Research suggests that this is an outcome of the institutional constraints and incentives placed on the elected political leaders in the sender state: democratic leaders are motivated to select weak targets because voters appreciate effectiveness in foreign policy, which inflates the success rate for democracies. Relative to authoritarian regimes, democratic leaders are also motivated to mobilize a larger amount of resources during a conflict, because a lost international conflict may be penalized by the voters and result in a lost election (Bueno de Mesquita et al. 1999).

Third, the reputation of the sender state matters for the effectiveness of economic sanctions (Peterson 2013). Research operationalizes reputation as the past commitment to sanction threats: Aggregated past empty threats of sanctions are expected to make the future successful imposition of economic coercion less likely. Data support this argument: targets are more willing to accommodate the demands of a sender that shows a strong record of commitment to economic coercion (Peterson 2013).

Fourth, the number of issues at stake that the sender(s) want(s) to address with economic sanctions can also be associated with the effectiveness of the tool (Bapat and Kwon 2015; Miers and Morgan 2002): as the number of issues increases, the prospect of success of a sanction regime decreases. In addition, the type of issues at stake matters for the effectiveness of economic sanctions. Senders of economic sanctions are less likely to succeed for issues of high salience, for example, security-related matters (Ang and Peksen 2007; Drury and Li 2006; Li and Drury 2004; Morgan, Bapat, and Kobayashi 2014).

Fifth, research shows that multilateral economic sanctions are more effective than unilateral sanctions (Morgan, Bapat, and Kobayashi 2014). This finding is consistent with the results on the role of the costs of economic coercion, given that multilateral economic sanctions generate more economic pressure on the target state (Morgan, Bapat, and Kobayashi 2014). In addition, scholars note a higher effectiveness of economic sanctions introduced through international organizations (IOs) (Bapat and Morgan 2009), which are very frequently multilateral, too (Morgan, Bapat, and Kobayashi 2014). IOs appear to help to address the problems associated with multilateral efforts: the need for coordination and supervision to reduce the chance of free-riding among the senders and breaches of the sanction regimes.

Literature on Threats of Economic Sanctions

Economic sanctions are an increasingly popular tool in foreign policy (Morgan, Bapat, and Kobayashi 2014), and there is a growing literature dedicated to economic sanctions that end, and succeed, at the threat stage. Scholars are interested in "when and why sanction threats succeed in extracting concessions from the targeted country" (Whang, Mclean, and Kuberski 2013, PG). Researchers want to understand why it is that, in some instances,

the sender needs to enforce economic coercion in order to obtain a concession from the target state, while in other cases, a mere threat of economic sanctions is sufficient.

The early work on sanction threats focuses on a research design flaw in studies of economic sanctions, the omission of the threat stage in the empirical analysis (Drezner 2003; Eaton and Engers 1999; Lacy and Niou 2004; Smith 1995). According to Lacy and Niou (2004, PG), "empirical studies that examine cases only in which sanction were imposed systematically omit a class of cases that represent successful sanctions," but where the success occurred at the threat stage. In addition, scholars argue that, since targets prefer to avoid costly potential conflict, successful sanctions are, in fact, most likely to already end at the threat stage (Drezner 2003; Fearon 1994). Thus, studies that omit the threat stage, by introducing selection bias to the empirical analysis, also systematically underestimate the effectiveness of economic coercion.

The TIES data set (Morgan, Bapat, and Kobayashi 2014) resolved this issue by recording both sanction threats and imposed sanctions. This allowed researchers to address the selection bias resulting from the missing observations of threats not followed by an imposition in the past sanctions data (Hufbauer et al. 2007). A new wave of research on sanction threats emerged (Drezner 2003; Lacy and Niou 2004; Whang, Mclean, and Kuberski 2013), with the starting point that, in an interstate conflict, there is a possibility of settlement without resorting to actual coercion (Fearon 1994; Whang, Mclean, and Kuberski 2013). Researchers model economic sanction as a sequential game, in which the sender and the target decide, in turns, whether to issue a threat of economic sanctions (sender), resist the threat of economic sanctions (target) if a threat is issued by the sender, and follow up on the threat with imposition (sender) if the target resists (Drezner 2003; Lacy and Niou 2004; Whang, Mclean, and Kuberski 2013). Scholars argue that the sender and the target play a game of incomplete information, meaning that the payoffs at each sequence of the game-tree are private information: Actors know their own payoffs, but do not know the payoffs of the opponent.[5]

In literature both on economic sanctions and, more generally, on conflict, the game theory models of threat effectiveness share a number of characteristics and produce similar predictions to guide empirical research (Drezner 2003; Fearon 1994; Lacy and Niou 2004; Schultz 1999; Signorino 1999; Whang, Mclean, and Kuberski 2013). In the next paragraphs, we discuss the three main hypotheses resulting from the formal models of threats effectiveness: coercion, information and public commitment. We also address the mechanisms underlying these three hypotheses: the economic cost of sanctions, uncertainty about the sender's resolve and domestic audience cost of empty threats.

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[5]The game theory models of economic sanction threats follow earlier work on inter-state conflict and the role of threats, the crisis-bargaining literature (Fearon 1994; Schultz 1999; Signorino 1999). We, therefore, refer to this family of theoretical models as the crisis-bargaining framework.

Coercion The coercive hypothesis posits that increasing the economic costs of sanctions relative to the size of the target's economy makes it more likely that economic coercion succeeds at the threat stage (Whang, Mclean, and Kuberski 2013). Scholars assume that economic sanctions are costly in most cases and that there is an outcome that is satisfactory for both parties without resorting to actual economic coercion (Drezner 2003; Fearon 1994). This hypothesis is consistent with the general research on economic sanctions, which indicates that the cost of economic sanctions is a key predictor of sanctions' success (Bapat and Kwon 2015; Drezner 2003; Drury 1998; Morgan Morgan and Schwebach 1997; Whang and Kim 2015) and the game theory modeling on the relation between economic costs and threats effectiveness (Drezner 2003; Lacy and Niou 2004; Schultz 1999; Whang, Mclean, and Kuberski 2013). This argument can be summarized by the following hypothesis:

H1: Effectiveness of sanction threats increases as the expected cost to the target of a sanction regime increases.

Information The informational hypothesis expresses the expectation that a threat of economic sanctions changes the belief of the target about the resolve of the sender (Schultz 1999; Whang, Mclean, and Kuberski 2013). Scholars refer to this change in expectations as signaling, learning or belief updating, all referring to the same process, that issuing a threat addresses the uncertainty of the target about the sender's determination to follow up on a threatened sanction. This understanding rests on the assumption that a target expects a possibility of a sanction imposition from a sender as a response to her hostile policy, yet is uncertain about the sender's assessment of the status quo: here a threat helps to reveal to the target the sender's resolve to engage in economic coercion.

This information is relevant because, as in the formal models of sanction threats, senders are of two types, with high and low resolve, respectively (Drezner 2003; Lacy and Niou 2004; Schultz 1999; Whang, Mclean, and Kuberski 2013). The sender's resolve is her private information and is reflected in her own payoffs: high resolve senders have higher domestic audience cost relative to sanction imposition cost, and the opposite is the case for low resolve senders. As a consequence, high resolve senders issue genuine threats and, if the target stands firm, do follow through with an imposition after a sanction threat. On the other hand, low resolve senders issue empty threats and do not follow through with imposition. Consequently, following the theoretical model proposed by sanction threats scholars, targets that can correctly identify a low resolve sender can ignore the threat without risking a sanction imposition. At the same time, targets that mistakenly identify a high resolve sender for a low resolve sender may submit themselves to undesired, and costly,

economic coercion. This is particularly relevant under the assumption that there is a possible settlement between the sender and the target state that does not require the use of economic coercion (Fearon 1994).

Scholars argue that issuing a threat addresses the uncertainty problem and allows a target state to distinguish a high resolve from a low resolve sender (Drezner 2003; Lacy and Niou 2004; Schultz 1999; Whang, Mclean, and Kuberski 2013). We extend this argument and suggest that threats unequally address the uncertainty faced by the target state and that the incompleteness of information is not constant, but varies between pairs of states (Spaniel and Smith 2015).[6] This article proposes that, as diplomacy is the tool at states' disposal to assess the viability of a coercive threat and prospects of a conflict (Katagiri and Min 2019), diplomatic relations are a measure of uncertainty that states face in international conflict. The measure of diplomacy, formal alliances, follows an established approximation in studies of diplomacy and conflict – where alliances are an empirical manifestation of close diplomatic ties (Christensen and Snyder 1990; Walt 1985).[7] We propose that states with strong diplomatic relations operate during conflict in a setting with little uncertainty and can more clearly showcase their resolve. Consequently, as in the case of complete information in the crisis-bargaining model (Schultz 1999), a mere threat is likely to succeed; otherwise, following from backward induction, it would have not been issued. Thus, the adaptation of the informational hypothesis takes the following form:

H2: As the diplomatic distance between the sender and the target of economic sanctions increases, threats of economic sanctions become less effective.

Public commitment Finally, the public commitment hypothesis posits that democracies are more likely to experience higher domestic audience cost and, as a result, are more likely to succeed at a threat stage, compared to non-democracies (Fearon 1994; Schultz 1999).

In the literature on sanction threats, scholars assume a domestic audience cost for issuing an empty threat and suggest that this cost is both publicly known and increases with the level of democracy of the sender state (Drezner 2003; Fearon 1994; Lacy and Niou 2004; Schultz 1999; Whang, Mclean, and Kuberski 2013). The game theory models of sanction threats suggest that a sender, faced with resistance from the target, follows up on a threat only if the economics cost of sanctions is lesser than the domestic audience cost

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[6]For an extensive and formal discussion on the difference between uncertainty, domestic audience cost and economic cost in determining success of threats see work of Dekker et al. (2020).

[7]Reed (2003) argues that strength of economic ties is negatively related to uncertainty. However, work of Reed does not offer a formal model consistent with the crisis-bargaining framework (e.g. Schultz 1999), nor it addresses the possibility of uncertainty about the economic cost of engagement in a conflict. This is problematic, given that relation between economic ties and strength of economic sanctions is not linear and total embargoes are seldom (Drezner 2011).

resulting from an empty threat. Otherwise, a rational sender will not follow up on a threat if faced with resistance, accepting the status quo and the voters discontent with not keeping the word (Kertzer and Brutger 2016). Consequently, scholars argue that democratic senders are more likely to succeed at the threat stage, as they experience a higher domestic audience cost relative to other regime types (Bas and Schub 2018; Gartzke et al. 2017). We summarize this argument with the public commitment hypothesis below.[8]

H3: The more democratic a sender of economic sanctions is, the more likely it is that her threats succeed.

Research Design

This section discusses the data, the variables and the econometric model we use to empirically test the above hypotheses.

Data

In this article, for observations on economic sanctions, we use the Threat and Imposition of Sanctions (TIES) data set (Morgan, Bapat, and Kobayashi 2014). For information on the diplomatic ties between states, we use the Formal Alliances data set (Gibler 2009). The data on the democracy level of the sender and the target state are collected from the Polity IV data set (Marshall, Gurr, and Jaggers 2018). We next discuss each of the data sets in detail.

TIES (v.4.0) is the largest data set and most up-to-date collection of observations of economic sanctions (Morgan, Bapat, and Kobayashi 2014). It covers 1,412 cases and spans the period from 1945 to 2005.[9] The authors use a broad definition for economic sanctions: "actions that one or more countries take to limit or end their economic relations with a target country in an effort to persuade that country to change its policies." Restrictions on trade that serve only a domestic purpose, for example, sheltering an infant industry, are not coded as sanction incidents. The data set includes both impositions and threats of economic sanctions, where threats "may be initiated in several ways, such as through verbal statements by government officials, drafting of legislation against a target state or the passage of a conditional law against a target state stipulating that sanctions will be imposed if certain target behaviors are not changed."

In the TIES data set, sanctions were imposed in 60% of the threatened cases; 48% of sanctions were of high salience (non-trade), the remaining 52% trade-related. The most frequent sender of sanctions is the US, with involvement in

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[8]We acknowledge that authoritarian regimes may also experience a domestic audience cost, an outcome shown, for example, in Weiss (2013). To account for this, we tested the effect of a squared democracy term, following Bennett (2006), but the coefficient of the squared democracy variable was not statistically significant, nor was the joint significance test.
[9]Available at: http://sanctions.web.unc.edu.

48% of sanction incidents, though fewer than in the classic sanction data set of Hufbauer et al. (2007), referred to as HSE (after the authors) in the remainder of this article. Sanctions appear less effective in the TIES than in the HSE data set and are considered a success in only 27% of cases (for the "strict estimate," following the TIES authors' guideline). However, with a more relaxed definition of success, which includes negotiated settlements, the success rate increases to 40%, 6% above the rate in the HSE data set.

Formal Alliance (v.4.1) is a data set that identifies diplomatic relations between states from 1816 to 2012 (Gibler 2009). The authors of the data set seek to "identify each formal alliance between at least two states that falls into the classes of defence pact, neutrality or non-aggression treaty, or entente agreement."[10] The US is the country most frequently present in the data set, and Latin America is the region with the densest networks of formal alliances. The data set registered alliances for 180 distinct states in total.

We use the Formal Alliances data to generate a variable that approximates the diplomatic relations between states. First, we generate a network of the global diplomatic ties based on the Formal Alliance data set, and then compute the shortest path measure for each economic sanction sender-target pair from the TIES data set. This variable provides information about the minimum amount of alliances between country A and country B needed to get from A to B in the diplomatic network. This is referred to as the "shortest path." In other words, we derive how many "hand-shakes" the sender and the target are away from one another at the time of the sanction, based on the Formal Alliance data. We interpret the shortest path variable as a measure of uncertainty that states face when involved in an international conflict, and use this variable to test the informational hypothesis, that the longer the path, the larger the uncertainty. This network method allows going beyond the dyadic approach and capturing greater variation in international relations (Cranmer and Desmarais 2016; Cranmer, Heinrich, and Desmarais et al. 2014). To illustrate the network method, we provide an overview of alliances for France in Figure 1. The lighter the color on the map, the closer this state is to France in the diplomatic network, based on the Formal Alliance data.[11]

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[10]Available at: http://www.correlatesofwar.org/data-sets/formal-alliances.
[11]This approach to measuring diplomatic ties faces a limitation for states that pursue a policy of neutrality with respect to international conflict, for example, Switzerland or Sweden. As neutral states rarely engage in alliances, the path measure of diplomatic distance exhibits low reliability for such actors. However, states that pursue a policy of neutrality in international relation are rarely involved in conflict and coercion, both as senders and as targets.

What is more, a number of scholars focus solely on defense pacts when studying conflict resolution in international relations (Melin, Gartner, and Bercovitch 2013; Melin and Svensson 2009), because the three types of formal alliances (defense pact, neutrality or non-aggression treaty and entente agreement) are not the same phenomenon in a varying degree of intensity but policy measures with substantially different strategic objectives. In our perspective, all three play an informational role – reducing uncertainty. However, we have conducted a robustness test using a shortest path measure based on a network generated only with defense pacts. The results are consistent with our main findings. Interested scholars can find the shortest path measure for defense pacts only in the data set associated with this article as the *Path defense* variable.
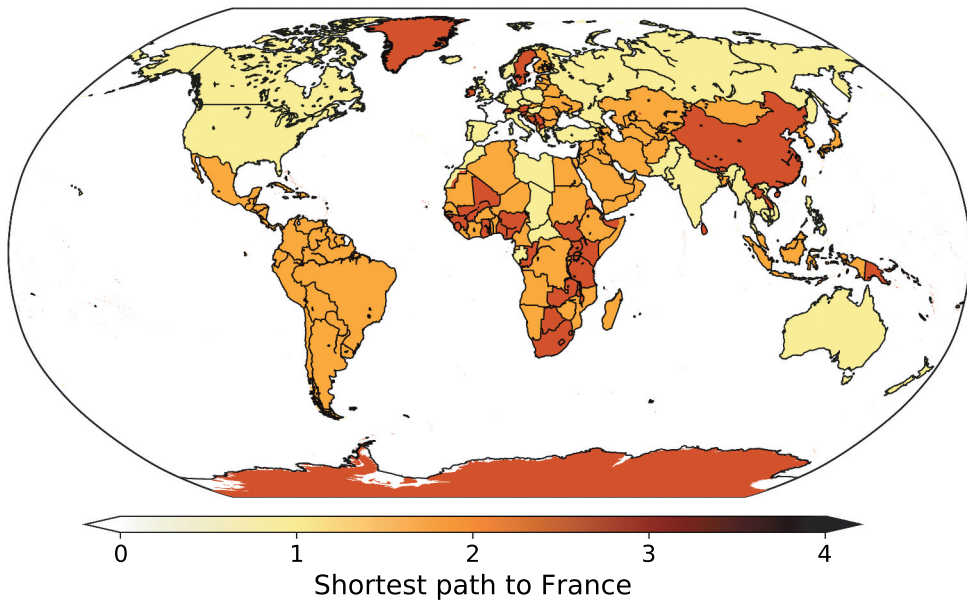
Figure 1. Shortest paths between France and any other country in the Formal Alliance diplomatic network.

Figure 2 provides an overview of the complete diplomatic network that we use to generate the shortest path for each pair of states, based on the Formal Alliance data. The node's (the circle representing a state) size indicates the aggregate number of formal alliances that a state has. The width of the link (the line connecting states) between a country-pair is related to the duration of the agreement. The coloring of the nodes indicates clusters generated with the Louvain method (Blondel et al. 2008). Such clusters do not necessarily indicate a direct alliance, rather a high number of common allies. As a result, two countries may be in the same cluster (the same node color) without having a direct alliance but by being only a single "handshake" apart through a high number of intermediary states, as is, for example, the case for Iraq and Ethiopia.

Polity IV (Marshall, Gurr, and Jaggers 2018) is a data set that traces the level of democracy for independent countries with a population of more than half a million inhabitants.[12] The data span the years 1800 to 2017; in its last year, it covered 167 countries. We use the *DEMOC* score from the Polity IV data, which assigns a score ranging from 0 to 10 to a country on a year-basis, where 0 represents an absence of democratic institutions (i.e. an authoritarian state) and 10 a state with all democratic institutions operating.[13] Scholars consider a country with a *DEMOC* score of 6 or more (Jeong and Peksen 2019) (or 7 and above (Wallace 2013)) democratic. We use this distinction only when discussing visualizations of the

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[12]Available at: http://www.systemicpeace.org/inscrdata.html.
[13]For example, for the year 2000, the US has a *DEMOC* score of 10, Cuba a score of 0 and Mexico a score of 8.
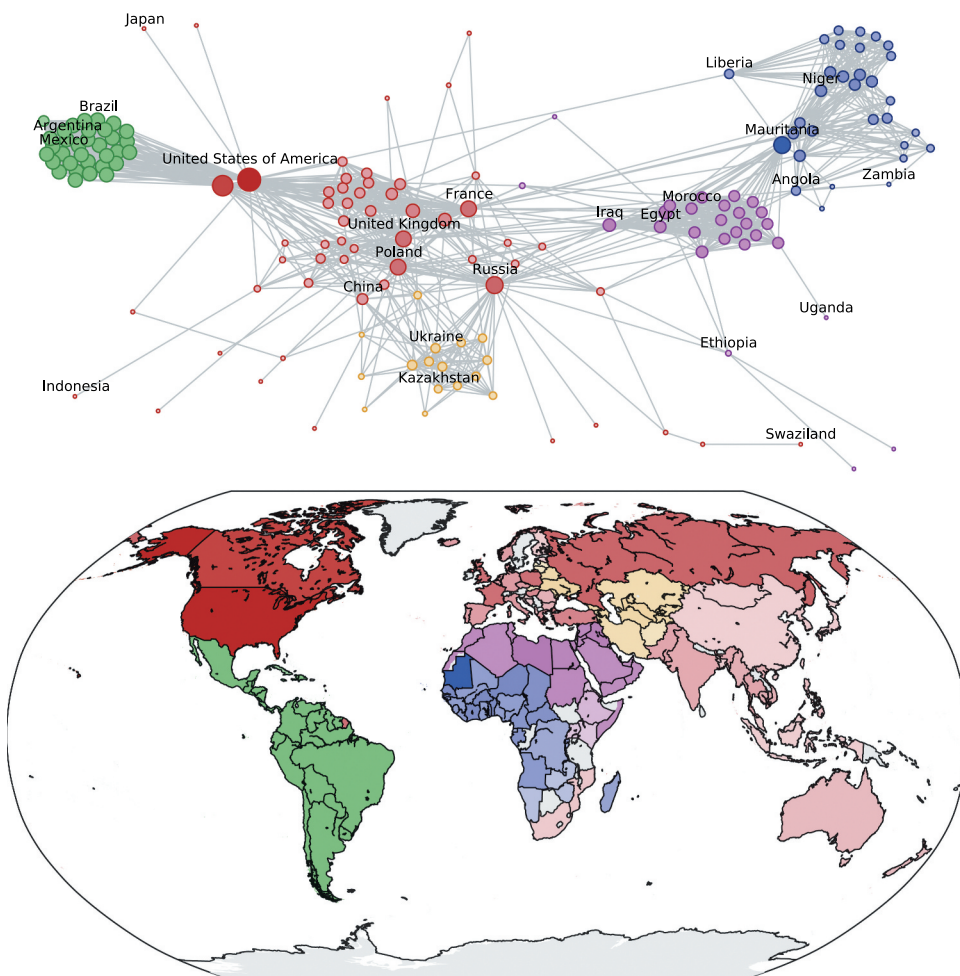
Figure 2. Top: diplomatic network of all countries based on the Formal Alliance data. Bottom: clusters from the above diplomatic network plotted on a map.

findings, and do not use a dichotomized democracy variable for the empirical analysis.

Variables

In this section, we introduce the dependent, independent and control variables used in this research. We also present a summary table of the variables used in the statistical analysis.

Dependent variable *Success* is a dichotomous variable based on the TIES data set that indicates the success or failure of an economic sanction episode (threat only or imposition). It takes a value of 0 for a failure and 1 for a successful event of economic coercion. We consider a policy change and

a negotiated settlement a success. We code an ongoing case as a failure. In our sample, 40% of sanctions resulted in a success.[14]

Independent variables We use three independent variables in the analysis. First, to test the coercive hypothesis (Bapat and Kwon 2015; Drury 1998; Morgan Morgan and Schwebach 1997; Whang and Kim 2015), we account for the economic cost of a prospective sanction for the target state. We assess the impact of the variation in the expected sanction cost for the target of economic coercion on threat effectiveness. The data for the variable *Expected cost target* are gathered from the TIES data set; the variable varies from 1 to 3, where 1 represents minor, 2 major, and 3 severe economic cost. The data on expected economic cost are based on news coverage surrounding sanction threats. Authors of TIES searched in the NexixLexis library for reporting that followed a sanction threat and indicated potential economic cost specific to that threat. In the TIES data set, there are 863 observations for expected target cost and 875 observations for expected sender cost.[15]

As a robustness test for the coercive hypothesis, we use lagged (by 1 year) trade data, based on the Expanded Trade and GDP Data from Gleditsch (2002). We generate a trade dependency index for the target state, *Dependence target*, that indicates the share of the bilateral trade (imports and exports) between the sender and the target as a share of the total trade (all imports and exports) of the target state. The closer the index is to 1, the higher the dependence of the target on trade with the sender state. The results of the robustness test for the coercive hypothesis are consistent with the main findings.[16]

Second, to test the information hypothesis, we use the *Path* variable (Drezner 2003; Fearon 1994; Lacy and Niou 2004; Schultz 1999; Whang, Mclean, and Kuberski 2013), which indicates the distance (i.e. the shortest-path) between the sender and the target of economic sanction on the diplomatic network, generated with the Formal Alliance data. The distance varies from 1 (a direct alliance) to 5 (four states-alliances between the sender and the target). We expect the uncertainty about the opponent's resolve to increase as a function of the distance between the sender and the target in the alliance network, and that effectiveness of sanctions threats will decrease with the

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[14]This operationalization of success is common in research on economic coercion (Morgan, Bapat, and Kobayashi 2014). Nevertheless, we have conducted an analysis with the on-going cases removed the the sample – it did no affect our main findings.

[15]As economic sanctions are rarely complete trade embargos (Drezner 2011), the TIES data on expected cost of economic coercion offers higher reliability than aggregated trade data. For example, recent EU-Russia sanctions, where Russia's main export (natural gas) was excluded from sanctions (Giumelli 2017), show that goods or services that form a large share of bilateral trade may not be covered by a sanction regime and, consequently, aggregated trade data may suffer from low validity as an indicator in studies of economic coercion.

[16]We have conducted an additional robustness test using the data on target's expected economic cost from Kavaklı, Chatagnier, and Hatipoğlu (2020). The results are largely consistent with our main findings; we observe that a higher level of economic complexity and more market power of a target state in relation to a sender results in a lower success rate of threats and imposed sanction (and, like in our main findings, both tend to follow a similar trend).

distance between states on the Formal Alliance network.[17] Due to missing observations in the Formal Alliance data set, we were only able to compute the shortest path measure for 1,058 out of 1,412 available observations in the TIES data set.

For robustness, we generate a dichotomous variable, *Alliance*, which indicates a direct alliance between a sender and a target of economic sanctions, based on the Formal Alliance data set. The variable is equal to 1 if the target and sender share a direct alliance; otherwise, it takes a value of 0. Although the results are consistent for the network and dyadic variables, the analysis with the use of the *Path* variable yields more robust results. This highlights the value of introducing a network approach to the study of economic sanctions and conflict.[18]

Third, in order to test the public commitment hypothesis, we account for the democracy level of the sender of economic sanctions (Cox and Drury 2006; Fearon 1994; Jeong and Peksenl. 2019; Lektzian and Souva 2003; Whang, Mclean, and Kuberski 2013). We use the *DEMOC* measure from the Polity IV data set that assigns a score ranging from 0 to 10 to countries, where 0 is an autocracy and 10 a complete democracy. We observe the *Democracy score* for 1,269 senders and 1,293 targets of economic sanctions in the TIES data. This is consistent with other studies of economic sanctions and democracy (Wallace 2013). We use the score for the first or primary sender of economic sanctions (sanction leader), as indicated in the TIES data set, following Jeong and Peksen (2019). Given that our focus is the effect of domestic audience cost on a political leader, discounting or increasing the democracy score of a sender state based on the democracy of fellow sender-states of a sanction is likely to bias our analysis. We do not expect that voters will be less critical of a democratic leader that issues empty threats of economic sanctions, that they have been threatened jointly with less democratic regimes (and vice versa). In the empirical analysis, we use the continuous specification of the democracy score because dichotomizing observations leads to data distortion comparable to a major (up to a 30%) sample reduction (Austin and Brunner 2004; MacCallum et al. 2002).

However, as a robustness test, we do use a dichotomous measure of democracy based on the Political Regimes data set (Boix, Miller, and Rosato 2013). The variable *Democracy Score Sender (PR)* indicates whether the sender

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[17]The shortest path variable is generated based on the first or primary sender indicated in the TIES data set. Thus, for multilateral sanctions, it reflects the position of the sanction leader and not the whole sanctioning group. Otherwise, the coefficient would inflate substantially for multilateral sanctions and we would not be able to distinguish between co-senders that are as involved as the primary sender. This approach is consistent with current research on economic sanctions (Jeong and Peksen 2019).

[18]We also attempted to measure the diplomatic relations using data on the presence and seniority of diplomatic missions for the sender-target dyad, with the Correlates of War Diplomatic Exchange data set (Bayer 2006). However, too few observations available in the Diplomatic Exchange data set match the TIES sample on threats of economic sanctions to support a statistical analysis. This further highlights the limitations of a dyadic approach to the study of uncertainty in international relations.

state is a democracy (equal to 1) or an autocracy (equal to 0). The results of the robustness test of the public commitment hypothesis are consistent with the main findings.

Control variables First, we control for the reputation of the sender state (Peterson 2013) by generating the *Past commitment* variable, which is the average of the sender's commitment to past sanction regimes. The commitment variable is offered by the TIES data set; it varies from 1 (weak commitment) to 3 (strong commitment). Second, we control for issue salience and security matters (Ang and Peksen 2007; Cox and Drury 2006; Li and Drury 2004; Morgan, Bapat, and Kobayashi 2014; Wallace 2013). The dichotomous variable *Salience* separates issues into non-trade and trade-related, where 1 indicates a non-trade-related sanction. The dichotomous variable *Security* indicates whether a sanction regime covers security-only issues. We base the categorization for the security variable on issue type information provided by the authors of the TIES data set.[19] In addition, given its dominant position in the global economy and foreign policy power (Farrell and Newman 2019; Haas 1997; Hafner-Burton and Montgomery 2008), we control for the role of the US as a sender. To this end, we use a dichotomous *US* variable. The final variable we control for is whether the sanction regime is multilateral (Bapat and Morgan 2009; Martin 1992; Miers et al. 2002), based on the information available in the TIES data set. The variable *Multilateral* takes a value of 1 if there was more than one sender of economic sanctions; for unilateral sanctions, it is equal to 0.

There are a number of missing observations in the data, for the *Path, Expected cost sender, Expected cost target, Democracy score sender* and *Democracy score target* variables. Besides, a public threat has not been registered for all sanction events in the TIES data set. As a result, the sample for the regression analysis is censored in relation to the complete TIES data set. If we only study cases with a public threat and control for the expected cost of the target and the sender and democracy score of the target and the sender, the sample reduces to 487 observations.[20] If we only study cases with a public threat and control for the expected cost of the target and the democracy score of the sender, the sample reduces to 556 observations. In this article, because it offers more observations and is necessary to test the hypotheses, we use the latter specification of the variables. However, in the appendix (Table A.2) we provide the results of a regression with both target's and sender's expected cost and democracy score variables – the results are consistent with the main findings. In addition,

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[19]We identify the following categories in the TIES data set as security issues: "Contain Political Influence"; "Contain Military Behavior"; "Destabilize Regime"; "Release Citizens, Property, or Material"; "Solve Territorial Dispute"; "Deny Strategic Materials"; "Retaliate for Alliance or Alignment Choice"; "End Weapons/Materials Proliferation" and "Terminate Support of Non-State Actors".

[20]While it is possible that the domestic audience cost of the target state and the economic cost of the sender state are also relevant to the success of threats, we do not discuss mechanism related to them in this article.

Table 1. Summary statistics.

Variables	N	Mean	SD	Min	Max
Threat	1,412	0.746	0.436	0	1
Imposition	1,412	0.598	0.490	0	1
Success	1,412	0.408	0.492	0	1
Expected cost sender	875	1.056	0.240	1	3
Expected cost target	863	1.246	0.498	1	3
Dependence target	811	0.170	0.193	0	0.935
Path	1,058	1.432	0.696	1	5
Alliance	1,058	0.663	0.473	0	1
Democracy score sender (Polity IV)	1,269	8.437	3.268	0	10
Democracy score target (Polity IV)	1,293	6.399	4.079	0	10
Democracy score sender (PR)	1,239	0.829	0.377	0	1
Electoral democracy sender (V-Dem)	1,319	0.699	0.264	0.0130	0.913
Liberal democracy sender (V-Dem)	1,271	0.611	0.267	0.0130	0.865
Freedom of expression sender (V-Dem)	1,271	0.795	0.280	0.0130	0.982
US	1,412	0.521	0.500	0	1
Salience	1,412	0.483	0.500	0	1
Security	1,412	0.305	0.461	0	1
Multilateral	1,412	0.262	0.440	0	1
Past commitment	1,247	2.327	0.599	1	3

for all analyses in this article, we use cases of economic sanctions where a public threat has been issued and registered in the TIES data set.

Data overview Table 1 presents an overview of the variables that we use for the regression analysis.

Econometric Model

In the econometric model, the dependent variable is *P(Success)*: the probability that an economic sanction results in a policy concession from the target state. We are interested in the effects of: (i) the target's expected economic cost, (ii) the uncertainty about the costs of the sender and the target and (iii) the democracy level of the sender on the effectiveness of sanction threats. These three independent variables (IVs) relate to the three hypotheses that we have specified: (i) coercive, (ii) informational and (iii) public commitment.

Recalling the theory section, with respect to the coercive hypothesis (**H1**), we expect the effectiveness of sanction threats to increase as the expected cost to the target of a sanction regime increases. For the informational hypothesis (**H2**), we expect that as the diplomatic distance between the sender and the target of economic sanctions increases, threats of economic coercion become less effective. Finally, for the public commitment hypothesis (**H3**), we expect that the more democratic a sender of economic sanctions, the more likely her threats are to succeed.

Furthermore, based on the crisis-bargaining literature (Drezner 2003; Fearon 1994; Schultz 1999), we expect to observe a different dynamic for imposed and threatened economic sanctions with respect to their effectiveness. To address this theoretical expectation, we introduce a factor

variable *Imposition* as an interaction term in the regression to separate the two trends for each of the hypotheses (Brambor, Clark, and Golder 2006). *Imposition*, a dichotomous variable coded as 0 for threats not followed by an imposition and as 1 for imposed sanctions, allows separation of the two slopes for the study of the effectiveness of imposed sanctions and threats.[21]

We use the following logistic regression model to test each of the three hypotheses:

$$P(Success) = \frac{1}{1 + \exp\{-(\beta_0 + \beta_1 V + \beta_2 I + \beta_3 C)\}} \qquad (1)$$

and the model below to test whether the probability of success of threats relative to imposed sanctions statistically differs for the three hypotheses:

$$P(Success) = \frac{1}{1 + \exp\{-(\beta_0 + \beta_1 V + \beta_2 I + \beta_3 VI + \beta_4 C)\}} \qquad (2)$$

where V is the independent variable that depends on the hypothesis we test, I is the dichotomous *Imposition* variable that separates threatened-only and imposed sanctions, and VI is the product of those two variables – the interaction term in the analysis. C is a control variable. Note that in the regression analyses, we include more than one control variable.

Results and Discussion

In this section, we present the empirical tests of the three hypotheses that may account for the effectiveness of threats of economic sanctions and a brief discussion of the findings.[22]

Coercion

First, we test the coercive hypothesis. The expectation is that as the costs of a sanction regime increase for a target, the prospect of success at the threat stage increases as well. In Table 2, we present the results of the estimates of the relation between economic costs and sanction threats success. We employ a logistic regression and show the results in form of odds ratios (this holds for all regressions in this article). In Model (1) of Table 2, where the sample is limited to sanctions terminated at the threat stage, we observe that expected costs of the target state strongly predict the threat's success (*OR = 5.862, p = .01*). We, therefore, find evidence in favor of the coercive hypothesis and

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[21]Note that in this study we do not use a selection model. Given that the TIES data set offers information both on threatened and imposed sanctions, we can identify a counterfactual event.

[22]While, in this section, for clarity's sake, we test the three mechanism separately, in the appendix (Table A.1) we provide a test with all main IV combined. It has no effect on the findings, what indicates that we study three mechanisms that are systematically related to the outcome variable *and* separate from one another.

Table 2. Estimation results for the economic cost mechanism. Robust standard errors are displayed in parentheses: *** indicates $p < 0.01$, ** indicates $p < 0.05$ and * indicate $p < 0.1$.

Variables	Model (1)	Model (2)	Model (3)	Model (4)
	Odds ratio	Odds ratio	Odds ratio	Odds ratio
Success				
Expected cost target	**5.862*****	**4.919*****		
	($\pm$ 2.087)	($\pm$ 1.540)		
Imposition		1.077		0.644
		($\pm$ 0.639)		($\pm$ 0.214)
Imposition * Expected cost target		0.639		
		($\pm$ 0.302)		
Dependence target			**8.765****	**12.45*****
			($\pm$ 8.491)	($\pm$ 11.74)
Imposition * Dependence target				0.360
				($\pm$ 0.433)
Democracy score target	0.947	0.966	0.947	**0.951***
	($\pm$ 0.0326)	($\pm$ 0.0233)	($\pm$ 0.0344)	($\pm$ 0.0275)
Path	0.916	1.175	1.027	1.247
	($\pm$ 0.169)	($\pm$ 0.158)	($\pm$ 0.210)	($\pm$ 0.202)
US	1.312	**1.461***	1.590	1.587
	($\pm$ 0.404)	($\pm$ 0.322)	($\pm$ 0.742)	($\pm$ 0.573)
Salience	0.680	1.027	0.711	1.119
	($\pm$ 0.257)	($\pm$ 0.268)	($\pm$ 0.262)	($\pm$ 0.322)
Security	0.558	0.991	1.518	**1.807***
	($\pm$ 0.235)	($\pm$ 0.293)	($\pm$ 0.654)	($\pm$ 0.584)
Multilateral	1.284	1.258	**3.693*****	**2.948*****
	($\pm$ 0.458)	($\pm$ 0.314)	($\pm$ 1.733)	($\pm$ 0.995)
Past commitment	**2.002*****	**1.529****	**1.563***	**1.454***
	($\pm$ 0.496)	($\pm$ 0.262)	($\pm$ 0.389)	($\pm$ 0.296)
Constant	**0.0341*****	**0.0331*****	**0.145*****	**0.0964*****
	($\pm$ 0.0261)	($\pm$ 0.0203)	($\pm$ 0.106)	($\pm$ 0.0587)
Observations	280	556	223	402
Interaction term	NO	YES	NO	YES
Pseudo R2	0.142	0.111	0.0723	0.111
Log Lik	−165.9	−334.4	−142.1	−240.3

in line with previous research on the effectiveness of sanction threats (Whang, Mclean, and Kuberski 2013). We also see that the result holds for the robustness test, reported in Model (3), where higher dependence of the target on trade with the sender state is a statistically significant predictor of the success of sanction threats.

We further test whether the effect of expected economic costs on success is statistically different for threats and imposed sanctions. We address this question with the inclusion of an interaction between the dichotomous *Imposition* variable and the *Expected target cost* variable and by expanding the sample to include both threatened-only and imposed sanctions. We report the results of the interaction in Model (2) of Table 2. We do not observe the interaction to be statistically significant and do not find a sufficient difference in the effectiveness of threats and imposed sanctions, subject to the expected economic cost of the target. We do observe the same (non-)result for the robustness test in Model (4).

A selection mechanism – cases with severe expected economic cost for the target – might be expected to succeed at the threat stage but fail when they are imposed (Drezner 2003) because the issue is most likely of vital importance to the
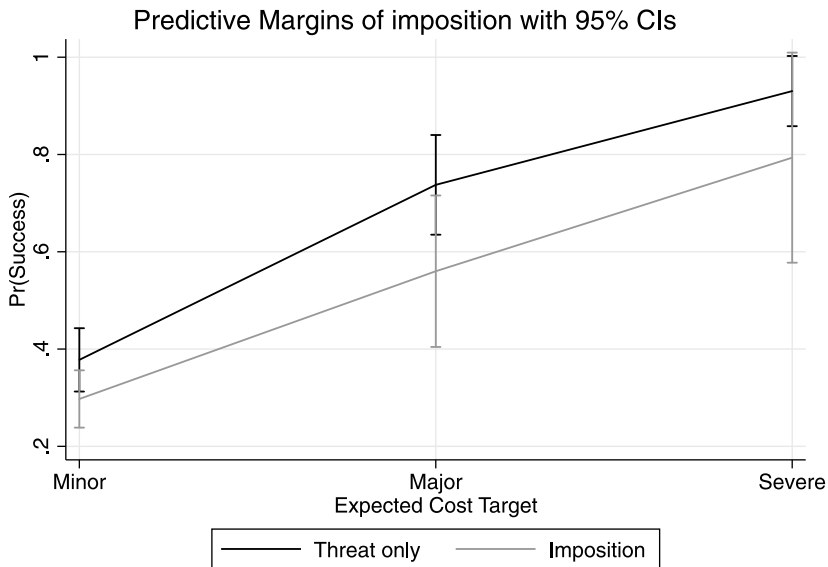
Figure 3. Impact of expected target cost of economic sanctions on effectiveness of threats and imposed economic sanctions.

target state (e.g. economic sanctions against Iraq cost the country close to 50% of its GDP, yet failed (Hufbauer et al. 2007)). However, the literature suggests that, once sanctions are in place, policy-makers are willing to accommodate domestic business demands and adjust sanction regimes (McLean and Whang 2014). This may create a temptation for the target to resist a threat, particularly in the face of an expected high cost, and to yield only if no concessions are made by the sender to its domestic business sector after the sanction is imposed.

Following Brambor, Clark, and Golder (2006), we provide a graphic representation of the results of the regressions with an interaction term by plotting the predicted probabilities. This allows an intuitive interpretation of the regression results and the role of the moderating term. In Figure 3, based on Table 2, Model (2), we depict the predicted probabilities of success of economic coercion for threats and imposed sanctions, subject to the expected cost of the target. In the figure, there are two slopes, one for threats and another for imposed sanctions. The vertical axis depicts the predicted probability of success and the horizontal axis the expected cost of economic sanctions to the target, based on the TIES data set.

We observe that the effectiveness of threats increases with the expected costs to the target state, consistent with both the literature (Whang, Mclean, and Kuberski 2013) and the expectations about the conditions under which threats of economic sanctions succeed. However, the two slopes follow the same, upward, trend closely, so there is no systematic difference in the effect of economic cost for the target state on the effectiveness of threats of economic sanctions compared to imposed sanctions.

Table 3. Estimation results for the uncertainty mechanism. Robust standard errors are displayed in parentheses: *** indicates $p < 0.01$, ** indicates $p < 0.05$ and * indicate $p < 0.1$.

Variables	Model (1)	Model (2)	Model (3)	Model (4)
	Odds ratio	Odds ratio	Odds ratio	Odds ratio
Success				
Path	0.916	0.915		
	($\pm$ 0.169)	($\pm$ 0.159)		
Imposition		0.292***		1.022
		($\pm$ 0.127)		($\pm$ 0.330)
Imposition * Path		1.729**		
		($\pm$ 0.470)		
Alliance			1.113	1.112
			($\pm$ 0.313)	($\pm$ 0.297)
Imposition * Alliance				0.490*
				($\pm$ 0.195)
Expected cost target	5.862***	4.046***	5.884***	4.016***
	($\pm$ 2.087)	($\pm$ 1.032)	($\pm$ 2.098)	($\pm$ 1.026)
Democracy score target	0.947	0.967	0.947	0.968
	($\pm$ 0.0326)	($\pm$ 0.0232)	($\pm$ 0.0327)	($\pm$ 0.0232)
US	1.312	1.379	1.314	1.399
	($\pm$ 0.404)	($\pm$ 0.306)	($\pm$ 0.405)	($\pm$ 0.309)
Salience	0.680	1.036	0.679	1.044
	($\pm$ 0.257)	($\pm$ 0.270)	($\pm$ 0.257)	($\pm$ 0.271)
Security	0.558	0.925	0.558	0.917
	($\pm$ 0.235)	($\pm$ 0.278)	($\pm$ 0.236)	($\pm$ 0.276)
Multilateral	1.284	1.215	1.287	1.235
	($\pm$ 0.458)	($\pm$ 0.305)	($\pm$ 0.458)	($\pm$ 0.309)
Past commitment	2.002***	1.577***	1.992***	1.570***
	($\pm$ 0.496)	($\pm$ 0.269)	($\pm$ 0.494)	($\pm$ 0.267)
Constant	0.0341***	0.0584***	0.0282***	0.0480***
	($\pm$ 0.0261)	($\pm$ 0.0345)	($\pm$ 0.0213)	($\pm$ 0.0274)
Observations	280	556	280	556
Interaction term	NO	YES	NO	YES
Pseudo R2	0.142	0.115	0.142	0.114
Log Lik	−165.9	−333	−165.9	−333.4

Information

Second, we have hypothesized that the level of uncertainty between the sender and the target state is systematically related to the effectiveness of sanction threats. In order to test this mechanism (the informational hypothesis), we use the network-based *Path* variable. In Model (1) of Table 3, where the sample is limited to sanctions terminated at the threat stage, we observe that the proxy for information incompleteness – the *Path* variable – is not statistically significantly related to the success of threats of economic coercion. Thus, we do not find evidence for the informational hypothesis.

In Model (2) of Table 3, we report the results of an estimation for the variable *Path* and the *Imposition* moderating term. This interaction allows us to assess whether there is a different effectiveness dynamic for the threatened-only and imposed sanctions, subject to the diplomatic relations – our measure of uncertainty. In Model (2), we observe a positive and statistically significant result for the *Imposition * Path* interaction term (*OR = 1.729, p = .05*). The coefficient's odds ratio for the interaction term indicates that there is a statistically significant difference between the two

slopes. The coefficient of the interaction term indicates that the less states know about each other (measured as distance on the diplomatic network), the less likely threats of economic sanctions are to succeed, relative to imposed sanctions. We also observe that, in the situation of close diplomatic ties, threats are more likely to succeed than imposed economic sanctions.

The results of the robustness test are consistent with the main findings. In Model (3) of Table 3, we do not find a statistically significant relation, but in Model (4), where the interaction term *Imposition * Alliance* is present, we do observe a significant and negative relation (*OR = 0.49, p = .1*). It is worth noting that the coefficient for the *Imposition * Alliance* interaction is statistically significant at a lower level than for the interaction with the Path variable; this underlines the robustness of a network approach.

Figure 4 depicts the results of the logistic regression of the *Path* variable moderated by the *Imposition* variable (Table 3, Model (2)). In the figure, there are two slopes – one for threats and another for imposed sanctions. The vertical axis, as in the previous figure, depicts the predicted probability of success, and the horizontal axis the distance between the sender and the target on the diplomatic network, measured by the shortest path.

In Figure 4, we observe that, for a direct alliance (path of length one), threats are more effective than imposed sanctions. However, as the distance increases between the sender and the target, the effectiveness of threats decreases and the cleavage between the effectiveness of imposed sanctions and threats increases. This finding is consistent with the crisis-bargaining literature
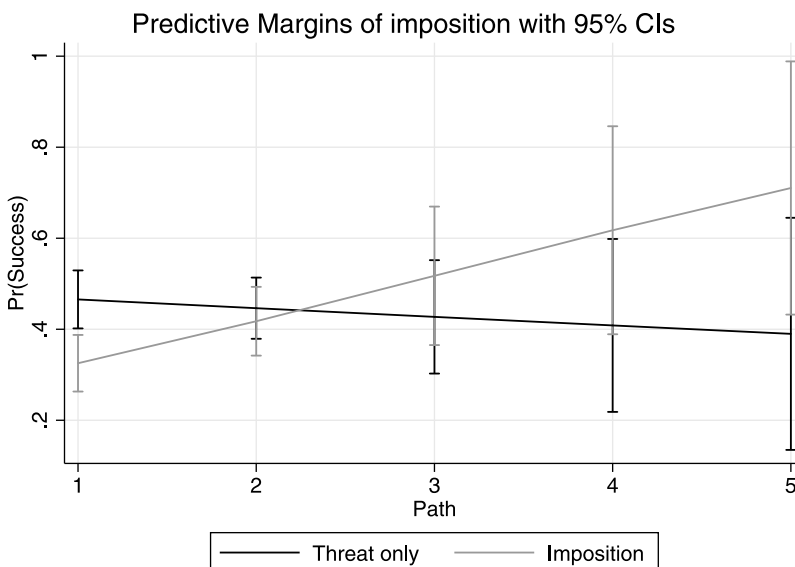

Figure 4. Impact of distance on the diplomatic network between the sender and the target on the effectiveness of threats and imposed economic sanctions.

(Schultz 1999), where higher effectiveness of threats is associated with more information (e.g. comparison of the complete and incomplete information game), and the scholarly expectation that threatened sanctions are likely to be more successful than imposed sanctions for cases close to a complete information setting (Drezner 2003).[23]

The private signals literature suggests an alternative interpretation of this result. In that strand of research, developed counter to the crisis-bargaining literature, scholars look into the alternative to public commitment (e.g. publicly announced threats of economic sanctions) and focus on private signals – information shared between diplomats outside public scrutiny. Researchers show (Katagiri and Min 2019; Kurizaki 2007), both theoretically and empirically, that private signals may have a stronger effect on the target's evaluation of the resolve of the sender, relative to public commitment, and "hands-tying" through publicly made threats (Fearon 1997) is not a necessary condition for successful coercion. Research on private signals does not, however, specify whether all states can (equally) engage in private diplomacy. Potentially, our finding – that threats of economic sanctions are more successful than imposed sanctions when the sender and the target share close diplomatic ties – may indicate the role played by private signals in interstate conflict. In this case, our variable would be a proxy for the ability to issue private signals.

Public Commitment

Third, in the literature review section of this article, we have proposed that senders with a high domestic audience cost (i.e. democratic states) are more likely to succeed at the threat stage of an economic sanction. We test this mechanism (the public commitment hypothesis) with the *Democracy score sender* variable, our proxy for domestic audience cost. The underlying assumption is that, as the number of democratic institutions in a state increases, the more responsive a political leader will be to the voters. We also test whether there is a statistically significant difference in the effectiveness of threats and imposed sanctions, subject to the democracy score of the sender. To this end, we interact with two independent variables: *Democracy score sender* and *Imposition*.

In Model (1) of Table 4, we provide the results of the regression analysis of the dependent variable *Democracy score sender*, where we limit the sample to cases of economic sanctions terminated at the threat stage. We observe that our proxy for domestic audience cost – *Democracy score sender* – is not

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[23]In addition, our findings provide support for the work of Drezner (1999), in which allies are identified as the most likely to obtain a concession when engaging in economic coercion. However, due to data availability, Drezner could only study imposed economic sanctions (a concern that the author has acknowledged and addressed in a later publication (Drezner 2003)).

Table 4. Estimation results for the public commitment mechanism. Robust standard errors are displayed in parentheses: *** indicates $p < 0.01$, ** indicates $p < 0.05$ and * indicate $p < 0.1$.

Variables	Model (1)	Model (2)	Model (3)	Model (4)
	Odds ratio	Odds ratio	Odds ratio	Odds ratio
Success				
Democracy score sender	1.085	**1.098***		
	($\pm$ 0.0608)	($\pm$ 0.0585)		
Imposition		2.625		2.700
		($\pm$ 1.746)		($\pm$ 1.712)
Imposition * Democracy score sender		**0.858****		
		($\pm$ 0.0605)		
Democracy score sender (PR)			1.549	1.858
			($\pm$ 0.797)	($\pm$ 0.927)
Imposition * Democracy score sender (PR)				**0.227****
				($\pm$ 0.153)
Expected cost target	**3.880*****	**3.170*****	**3.926*****	**3.190*****
	($\pm$ 1.239)	($\pm$ 0.750)	($\pm$ 1.272)	($\pm$ 0.765)
Path	0.835	1.132	0.812	1.107
	($\pm$ 0.159)	($\pm$ 0.152)	($\pm$ 0.159)	($\pm$ 0.149)
US	1.160	1.453	1.419	**1.595***
	($\pm$ 0.394)	($\pm$ 0.367)	($\pm$ 0.475)	($\pm$ 0.407)
Salience	0.642	1.131	0.644	1.137
	($\pm$ 0.215)	($\pm$ 0.275)	($\pm$ 0.223)	($\pm$ 0.279)
Security	0.688	0.917	0.611	0.856
	($\pm$ 0.290)	($\pm$ 0.274)	($\pm$ 0.258)	($\pm$ 0.254)
Multilateral	1.231	1.462	1.399	1.513
	($\pm$ 0.446)	($\pm$ 0.368)	($\pm$ 0.518)	($\pm$ 0.392)
Past commitment	**1.906****	**1.390***	**2.134*****	**1.519****
	($\pm$ 0.488)	($\pm$ 0.238)	($\pm$ 0.541)	($\pm$ 0.261)
Constant	**0.0258*****	**0.0244*****	**0.0240*****	**0.0243*****
	($\pm$ 0.0237)	($\pm$ 0.0175)	($\pm$ 0.0214)	($\pm$ 0.0171)
Observations	264	536	267	536
Interaction term	NO	YES	NO	YES
Pseudo R2	0.105	0.0880	0.121	0.0959
Log Lik	−163.2	−332.8	−161.5	−329.4

statistically significantly related to the success of threats of economic coercion, measured with the *Success* variable. Thus, we do not find evidence in favor of the public commitment hypothesis; we observe that the democracy score of the sender does not influence the success rate of economic sanctions threats.

In Table 4, Model (2), we report the results of the estimations for the independent variable *Democracy score sender* and the moderating term *Imposition*. In Model (2) we obtain a statistically significant (*OR = 0.858, p = .05*) negative relation between the effectiveness of threatened and imposed sanctions, subject to the democracy score of the sender. The coefficient estimate indicates that, as the democracy level of the sender increases, so does the effectiveness of sanction threats relative to imposed sanctions.

The results of the robustness test are consistent with the main findings. In Table 4, Model (3), we do not observe a statistically significant result for the dichotomous measure of democracy based on the Political Regime data set. However, the interaction term *Imposition * Democracy score sender (PR)* is statistically significant (*OR = 0.227, p = .05*) and points
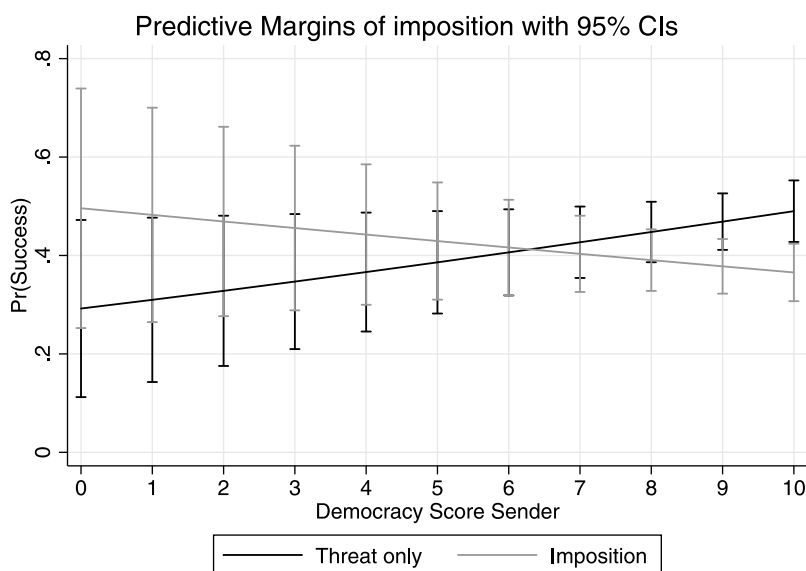
Predictive Margins of imposition with 95% CIs

Figure 5. Impact of democracy level of the sender on effectiveness of threats and imposed economic sanctions.

in the same direction as the result in Model (2) based on the continuous Polity IV democracy score.[24]

In Figure 5, we plot the predicted probabilities, based on Model (2) from Table 4, of the success of a threat only and an imposed economic sanction, subject to the democracy score of a sender. In the figure, there are two slopes, one for threats and another for imposed sanctions. The vertical axis depicts the predicted probability of success, and the horizontal axis the democracy score of the sender state based on the *DEMOC* score for the Polity IV data set. The interaction suggests an increasing role of domestic audience cost and a relatively low ability of authoritarian leaders to issue successful threats. This result is consistent with the theoretical predictions of the crisis-bargaining model (Fearon 1994, 1997; Schultz 1999). Political leaders with a low domestic audience cost, like autocrats (Allen 2008), appear unlikely to succeed at the threat stage, because public commitment may not "tie their hands" (Fearon 1997). In addition, the theoretical prediction that, relative to autocracies, democracies are more likely to succeed at the threat stage (Fearon 1994) is also confirmed in Figure 4, as threats become increasingly more successful than

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[24]Following a call in the literature that more detailed attention ought to be given to the building blocks of audience cost (Kertzer et al. 2016), in the appendix in Table A.3, we offer a further robustness test with the use of the Varieties of Democracy (V-Dem) data set (Coppedge et al. 2020). V-Dem allows us to zoom into specific aspects of democracy – namely, the level of responsiveness of leaders to citizens through democratic competition (*Electoral democracy* variable) and how liberal a democracy is (*Liberal democracy* variable). We also asses the role of freedom of expression (*Freedom of Expression and Alternative Sources of Information* variable), because a number of scholars argue that free press and speech are the necessary and sufficient conditions for the presence of a domestic audience cost, rather than democracy and democratic institutions more broadly understood (Crisman-Cox and Gibilisco 2018; Potter and Baum 2010, 2014; Slantchev 2006). The results of the additional robustness test with the V-Dem data is consistent with our main findings. We see that an increase on the three V-Dem variables is associated with threats of economic sanctions being more likely to succeed relative to imposed sanctions; findings are reported in Table A.3 and margins are plotted in Figure A.1

imposed sanctions for a democracy score above 6, which is a common reference point in the literature for a state to be considered a democracy (Jeong and Peksen 2019).

Conclusion

The purpose of this research has been to bring together the diverse literature on the effectiveness of threats and to study when and why threats of economic sanctions lead to policy concessions. We also assessed the conditions under which threats of economic sanctions are more successful than imposed sanctions. We first identified the main theoretical frameworks used for the study of threat effectiveness. Based on the literature, we then derived three, not mutually exclusive, hypotheses to study the effectiveness of sanction threats: (a) the coercive, (b) the informational and (c) the public commitment hypotheses. These three hypotheses specify three mechanisms that affect the effectiveness of sanction threats: (a) economic cost, (b) uncertainty and (c) domestic audience cost.

We have also proposed a novel and clear specification of uncertainty and argued that diplomatic relations between states can be used as a measure of uncertainty in inter-state conflict. Based on the Formal Alliance data, we have generated a network of diplomatic relations. This innovative method has allowed moving beyond a dyadic approach and measuring the diplomatic relation between sender and target, even if they do not share a direct alliance. This contribution to the data-generating process may help advance the use of network methods in the study of economic sanctions and conflict in international relations more broadly.

The results of the empirical analysis support the coercive hypothesis. We show that the target's expected cost of economic sanctions is systematically related to the effectiveness of threats of economic coercion. We also show that the further the sender and the target are from one another on the diplomatic network, the less effective sanction threats are relative to imposed sanctions, pointing to the role of uncertainty. We further show that the more democratic a sender of economic sanctions is, the more likely is the success of a sanction threat relative to imposed sanctions – indicating the role of domestic audience cost in determining the relative effectiveness of threats. Our findings provide support, and further enrich, recent work on the success of sanction threats (Whang, Mclean, and Kuberski 2013). Previous research overlooked the aspect of the relative effectiveness of threats vis-a-vis imposition in relation to the three causal mechanism listed in this article. It also provided limited specifications and operationalizations of expected economic cost, uncertainty and domestic audience cost. To support further study of the three theoretical frameworks discussed in this article, the measures of economic costs, uncertainty and democracy should be improved. In particular, the use of alternative indicators to capture diplomatic ties and produce a network – effectively offering a proxy for the degree of uncertainty – is likely to be of benefit to the political economy community.

This article has a direct two-fold implication. First, the network approach to the measure of uncertainty in international relations can be more broadly applied. Scholars interested in military conflict, types of aid allocation or economic policy diffusion may benefit from the network of diplomatic ties that we have constructed for this article, as uncertainty is likely to play a systematic role in these subjects as well. Moreover, incorporating our methodological advancement would be in line with the recent calls in the literature to more thoroughly address the complex and interdependent nature of international relations (Cranmer and Desmarais 2016; Farrell and Newman 2019; Peterson 2018; Thurner et al. 2019). Second, this article calls for a revision of the theoretical work on uncertainty and audience cost, highlighting that these are two distinct mechanisms that influence the effectiveness of threats in international conflict.

The findings of this study have implications for the broader research on economic sanctions and conflict, too. Data show that threats of economic sanctions are an increasingly popular tool among policy-makers, particularly since the end of the Cold War (Morgan, Bapat, and Kobayashi 2014). It is possible that the increasingly international nature of economic activities (Chang and Lee 2011; Keohane and Nye 2000) and the post-Cold War wave of democratization and rise of international organizations – traditionally seen as a source of peace by the social science community (Dixon 1994; Gartzke 2007; Goldstein 2011; Ikenberry 2018; Keohane and Martin 1995; Pinker 2011; Russett, Oneal, and Davis 1998) – are the mechanisms underlying the increase in the use of threats of economic sanctions. This would occur because the prospective effectiveness of economic sanctions increases as the world becomes more democratic and more interconnected, through economic and diplomatic ties, potentially leading to an inflation of the use of economic sanctions. As Eaton and Engers (1999, PG) write, "governments often seek influence beyond their borders," and it is possible that the more likely they are to succeed, the more often they will take a chance.

Acknowledgments

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