Power or Plenty
HOW DO INTERNATIONAL TRADE INSTITUTIONS AFFECT ECONOMIC SANCTIONS?¹

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ABSTRACT

A long intellectual tradition suggests that economic interdependence prevents militarized conflict between states by increasing the benefits of trade, resolving disputes, and promoting like-minded security communities. By the logic of this tradition, international trade institutions should also prevent economic sanctions. The authors argue otherwise: wisdom about the pacifying effects of trade institutions is too optimistic and one-dimensional, since these institutions can create power imbalances as well as plenty. Rather, preferential trade agreements (PTAs) are vehicles for power politics that can exacerbate conflict in two ways: (1) market power, increased by gains from trade, can create competition and capacity for conflict and (2) social power, increased by institutional membership patterns in the population of PTAs, can create animosity. We offer the first systematic test of the proposition that mutual membership in PTAs significantly decreases the propensity of member states to sanction each other. We test our hypotheses on sanctions onset using a dataset of sanctions episodes from 1947 through 2000; we find that mutual membership in PTAs has no clear effect on the propensity of states to sanction each other. Increases in trade dependence independent of PTAs does decrease sanctioning behavior, while relative differences in social power structures (created by PTA membership) or economic power (GDP) make sanctioning more likely.

Keywords: economic sanctions; interstate conflict; liberal peace; power politics; preferential trade agreement (PTA); social network

Word Count: 11,508
INTRODUCTION

It has long been thought that interdependence prevents war; in particular, the formation of global trade ties and international institutions create incentives to settle disputes before they come to violence.² Trade fosters economic dependence among governments, generates expectations about welfare gains, and can create a sense of community among nations.³ Many believe that international institutions like preferential trade arrangements (PTAs) or the World Trade Organization (WTO) reinforce these peace-making processes, preventing war or human rights violations and consolidating democracy.⁴ Trade institutions provide a formal mechanism through which states lengthen the shadow of future trade relations, credibly commit to economic interdependence, resolve disputes, and cooperate to overcome coordination problems; informally, they can create a sense of shared identity and increase trust.

For these reasons, economic interdependence should also prevent economic sanctions; a substantial literature on economic statecraft concludes that states’ anticipation of lost trade benefits should deter the onset and decrease the duration of sanctions. This belief is taken for granted: we are aware of no study that considers whether or how trade institutions shape the probability that states engage in sanctioning behavior. The conflict literature on trade institutions is devoted almost exclusively to the prevention of war and repression while the literature on economic sanctions disregards international institutions entirely.⁶ That no one has studied this question is remarkable because trade institutions are above all designed to discourage politically motivated market penalties between member states, the very thing sanctions harshly impose.

In the following pages we challenge the liberal idea that that a growing population of international trade institutions should deter the onset of economic sanctions, a widely used and

² (Angell 1913; Mitrany 1966; Nye 1971; Keohane and Nye 1977; Doyle 1997; Russett and Oneal 2001)
³ (Deutsch 1957; Haas 1961; Polachek 1980; Gartzke 1998; Russett, Oneal, and Davis 1998)
⁶ For important exceptions see Martin (1992) and Drezner (2000) on the role of international institutions on the success (although not onset or duration) of multilateral sanctions.
criticized policy of economic statecraft. Belief in the pacifying effects of trade institutions is too one-sided and empirically inaccurate. Instances of economic sanctions between members of trade institutions raise questions about the ability of these institutions to do their most basic job: to prevent states from closing markets. We propose an alternative structural perspective that views PTAs as vehicles for power politics that can exacerbate conflict by 1) creating asymmetries in material power that are known to cause disputes, 2) creating asymmetries in social power, increasing incentives for prestigious states to abuse this power, and 3) placing states in adversarial positions that create animosity instead of community.

In standing with the theme of this proposed special issue—Title—we accordingly offer the first systematic test of the proposition that mutual membership in PTAs decreases the propensity of member states to sanction each other. We begin with a brief overview of the state of knowledge regarding the onset, duration, and success rates of economic sanctions. We then discuss why it is commonly believed that international trade institutions should reduce the use of sanctions by raising the cost of disputes, helping to resolve them, or promoting like-minded security communities. We argue that contrary to this one-sided conventional wisdom, PTAs at times increase sanctioning behavior by creating disparities in relative market power and social power (prestige) as well as by encouraging states in similar structural positions to compete rather than cooperate. We specify our hypotheses and test them on sanctions onset using a dataset of sanctions episodes from 1947 through 2000.

WHAT WE KNOW ABOUT ECONOMIC SANCTIONS

Economic sanctions are a form of political coercion ruled by similar dynamics as war, but are commonly viewed as a more reasonable alternative to, or companion strategy for, the use of military force. By design, sanctions punish through the manipulation of economic welfare; they are “measures in which one country (the initiator) publicly suspends a major portion of its trade with another country (the target) to attain political objectives,” such as compliance, subversion, vendettas, and retaliation.

7 (Marinov 2003; Drezner 2003)
8 (Baldwin 1985; Hufbauer et al. 1990; Pape 1997; Elliott 1998; Bolks and Al-Sowayel 2000)
9 (Nossal 1989)
deterrence, punishment, and symbolism.\textsuperscript{10} We thus explicitly exclude sanctions initiated for economic purposes, such as the retaliatory sanctions permitted by some institutions for violation of trade agreements. The vast majority of research on sanctions accordingly studies their effectiveness, generally understood to be a matter of economic costs relative to political gains.\textsuperscript{11}

By all accounts, sanctions have a debilitating effect on economic cooperation. Their use represents “a deadweight loss of utility” through lost welfare benefits for all governments involved\textsuperscript{12} that mount as sanctions endure.\textsuperscript{13} Sanctions can affect firms’ ability to succeed in a competitive environment, imposing risks for businesses in both initiators and targets\textsuperscript{14} with a lingering impact on levels of trade.\textsuperscript{15} Although governments may use them to appease political groups,\textsuperscript{16} economic sanctions can also devastate peoples’ lives and national infrastructure through resource deprivation, pressuring target governments to concede. When they are effective, costs or fear of costs imposed by sanctions thus motivate targets to moderate their offending behaviors and it is consequently believed that sanctions are most likely to succeed when greater costs are imposed or threatened.\textsuperscript{17}

The ability of initiators to impose costs on a target through sanctions, however, often depends on international institutions. A persistent assumption of sanctions research has been that multilateral cooperation among initiators is necessary for success.\textsuperscript{18} Cooperation not only increases costs on target governments by escalating economic coercion but also demonstrates the credibility of an initiator’s threat as well as its resolve to endure. Yet evidence shows otherwise: international cooperation on its own is overvalued in determining the effectiveness of economic sanctions and unilateral sanctions are commonly more successful.\textsuperscript{19} Rather, history shows that multilateral sanctions are most effective in achieving initiators’ satisfaction when coordinated
within international institutions, which reduce transaction costs of cooperation and provide incentives to commit.\textsuperscript{20} To the extent that international institutions are believed to matter for economic sanctions they are of importance in determining success rather than onset under conditions of multilateralism.

Yet very few people believe that sanctions are always or usually effective; mounting evidence is confounded by substantial methodological debates.\textsuperscript{21} The most widely cited study concludes that economic sanctions are successful only one in three times.\textsuperscript{22} Others argue this is an overly optimistic artifact of poor coding and case selection and that sanctions fail in nearly all cases; they are especially futile in the pursuit of non-economic goals because states are commonly willing to endure considerable punishment rather than concede to external pressures and may strategically redistribute resources to alleviate damages or shield privileged groups.\textsuperscript{23}

It is puzzling, then, why sanctions can and do endure despite high costs to both the initiator and target and limited apparent success.\textsuperscript{24} Some argue that the failure of sanctions is due to a selection effect; sanctions are successful as threats, but once implemented have already failed to change the target's behavior.\textsuperscript{25} They may, therefore, only be carried out for reputational reasons. Another explanation is that sanctions may be carried out as punishment with no expectation of a behavioral change. They may also be largely symbolic in nature; the United States has repeatedly passed layer upon layer of economic sanctions on North Korea and Iran despite the lack of trade remaining with the United States to sanction.\textsuperscript{26} A substantial fraction (34 out of 226) of the cases studied in this article are implemented on targets whose trade with the sanctioner is less than 0.1\% of the target's GDP.

Several studies on the duration of sanctions episodes support the general liberal outlook. Although sanctions onset is more likely when initiators perceive sanctions will be domestically

\textsuperscript{20} (Drezner 2000).
\textsuperscript{21} For a nice overview and critique of these debates, see (Drezner 2000).
\textsuperscript{22} (Hufbauer et al. 1990)
\textsuperscript{23} For a response to HSE, see: (Pape 1997) and (Morgan and Schwebach 1997). For more general discussions of the ineffectiveness of sanctions, see (Galtung 1967; Hoffmann 1967; Knorr 1977; Renwick 1981; Daoudi and Dajani 1983)
\textsuperscript{24} (Bolks and Al-Sowayel 2000)
\textsuperscript{25} (Drezner 2003)
\textsuperscript{26} For accounts of the multi-layered sanctions on Iran, see Perkovich (2004); for North Korea, see Lee (2003).
expedient,\textsuperscript{27} democratic states appear less likely to sanction each other\textsuperscript{28} and quicker to return to pre-sanctions level of trade when they do.\textsuperscript{29} Military rivals, by contrast, are no more likely to sanction each other than other states but once sanctions are initiated they are more likely to endure among rivals than allies.\textsuperscript{30} So far, no studies explore whether the principal institutions designed to promote market access, PTAs, play a role in preventing economic sanctions.

\section*{WHY INTERNATIONAL TRADE INSTITUTIONS COULD PREVENT SANCTIONS}

Although the causal mechanisms that link trade and conflict are underspecified,\textsuperscript{31} it is commonly believed that trade institutions reduce conflict among member states or between governments and citizens. Three principal arguments are made: they provide dispute-resolution mechanisms, increase the potential losses from disputes, and promote security communities.

In the first argument, international trade institutions supply the characteristics to resolve disputes and overcome information and commitment problems. They manage the distributional effects of relative gains that can be a barrier to cooperation in international anarchy, and moderate defection.\textsuperscript{32} They reduce conflict among states through legal provisions to adjudicate and arbitrate disputes, diminishing enforcement costs, transaction costs, and uncertainty and facilitating credible commitments.\textsuperscript{33} In this respect, PTAs are particularly well suited to the prevention of sanctions, in most cases having institutionalized procedures for negotiation and early resolution.\textsuperscript{34} Moreover, they regularly offer reciprocal terms of trade between members, signaling reciprocity that can help alleviate sanctions before they happen,\textsuperscript{35} decreasing uncertainty about relative disparities in distribution, capabilities and resolve that provide

\begin{enumerate}
  \item[(27)] (Dorussen and Mo 2001)
  \item[(28)] (Cox and Drury 2006). However, Hafner-Burton and Montgomery (2006b) show that this finding is an artifact of US hegemony; most sanctions are initiated by the US and the US is unlikely to target another democracy. Other democracies, by contrast, are not so reticent to sanction democracies.
  \item[(29)] (Lektzian and Souva 2001; Bolks and Al-Sowayel 2000)
  \item[(30)] (Marinov 2003)
  \item[(31)] (Mansfield and Pollins 2001).
  \item[(32)] (Keohane 1984; Snidal 1991)
  \item[(33)] (Russett and Oneal 2001).
  \item[(34)] (Mansfield and Pevehouse 2000; Yarborough and Yarborough 1997)
  \item[(35)] (Fernández 1997; Mansfield and Pevehouse 2000; Grieco 1988; Mastanduno 1991)
\end{enumerate}
governments with rational incentives to avoid sanctions. Consequently, states sharing memberships in international trade institutions should generally prefer and be able to maintain cooperation and be more successful in avoiding sanctions than other states. Moreover, states sharing memberships in international trade institutions with dispute resolution mechanisms should be more likely to avoid sanctions than states without access to dispute resolution.

The second argument is the most widely asserted; PTAs promote economic interdependence and thereby increase the opportunity costs of sanctions that states seek to minimize. Trade institutions reduce market barriers to exchange among members and secure commitments to follow the rules. Member states accordingly have strong reasons to expect substantial gains from interdependence, now or into the future. From this perspective, these gains produce incentives to avoid sanctions as well as war with trade partners and in some circumstances to protect human rights. For states that are highly dependent on their trade partners for goods and services, that trade heavily, or that receive or expect to receive substantial foreign investment, sanctions of trade partners is likely to come at a high price: lost commerce and investment. Consequently, as trade gains from institutional membership increase so do the costs of sanctions among partners; as a result, the probability of sanctions should also diminish.

Finally, many believe that trade institutions, like other international institutions, create a sense of community among nations, as leaders in repeated interactions learn to trust one another and develop mutual respect that can dampen conflict. Since the time of Immanuel Kant, scholars of international politics have proposed that peace is possible through the forging of an international social structure based on liberal principles of rights, obligations, and law. In the modern world, international institutions and economic interdependence create this social

36 (Fearon 1995)
37 (Viner 1950; Mansfield 1998; Whalley 1996)
39 (Hafner-Burton 2005)
40 (Fernández and Portes 1998)
46 (Kant [1795] (1991))
structure through the establishment of authority, providing a foundation for the building of trust among nations in an anarchic world and the diffusion of the value of cooperation.\textsuperscript{47} Trade institutions, like the European Community, can merge the interests of age-old rivals by establishing a community of states and peoples long divided.\textsuperscript{48} This sense of community among states can have a pacifying effect through the legitimation of norms that facilitate cooperation and create common interests,\textsuperscript{49} generating bonds of trust\textsuperscript{50} among potential adversaries and reducing problems of misperception. Considerable evidence supports this view that members of the same trade institution are less likely to resort to war.\textsuperscript{51} Consequently, states that have broadly similar patterns of trade institution membership may be more likely to see each other as belonging to a common community and therefore will be less likely to sanction each other.

\textbf{WHY INTERNATIONAL TRADE INSTITUTIONS COULD ENCOURAGE SANCTIONS}

Trade institutions are not a panacea for conflict; they also place states into relative positions of power over each other and increase competition. We challenge the three mechanisms proposed by institutional theory: institutional information-sharing and dispute resolution mechanisms are often underdeveloped, ineffective, or undermined by powerful members of international institutions; the material gains from trade and the prestige that can be obtained from membership in many agreements could cause conflict through shifting the balance of power; and institutional memberships can create competitive relationships of animosity among some states rather than community.\textsuperscript{52} All suggest that PTAs may at times encourage rather than deter sanctions among members.

\textsuperscript{47} (Angell 1913; Zimmern 1936)
\textsuperscript{48} (Wallace 1994)
\textsuperscript{49} (Oneal and Russett 1999; Russett and Oneal 2001)
\textsuperscript{50} (Bearce 2003; Schiff and Winters 1998) similarly assume that trade between neighboring states creates trust and reduces the likelihood of conflict and that international organizations can serve a trust-building function. See also (Schiff and Winters 2002).
\textsuperscript{51} (Mansfield, Pevehouse, and Bearce 1999; Mansfield and Pevehouse 2000; Powers 2003b, 2004)
\textsuperscript{52} (Gallarotti 1991)
INSTITUTIONAL MECHANISMS ARE INEFFECTIVE

Only a minority of PTAs are aptly equipped with the necessary institutional features to reduce conflict leading to sanctions. Not all PTAs offer dispute settlement procedures and many are weakly institutionalized. Trade institutions may very well have a direct impact on sanction behavior, but it is unclear a priori that this impact is peace-making rather than conflict-provoking; it is probably the case that different institutional features have a varying impact.\(^{53}\) Organizational pathologies often affect international organizations;\(^ {54}\) since the international system lacks a central authority, such pathologies are even more likely to occur. Consequently, the promised benefits of trade institutions for resolving conflict are unlikely to be seen in practice.

*Hypothesis 1:* Pairs of states with joint membership in international trade institutions are no more likely to engage in sanctions than pairs without joint membership.

*Hypothesis 2:* Pairs of states with joint membership in international trade institutions with higher levels of dispute resolution are no less likely to engage in sanctions than pairs with joint membership in institutions with lower levels of dispute resolution.

PTAS CREATE POWER IMBALANCES

PTAs can potentially create two types of relative power imbalances, enhancing market and social power unevenly among PTA members; they do so creating relative asymmetries in economic gains and by endowing states that belong to a large number of important PTAs with more social prestige. PTAs therefore give states both the motives to implement sanctions as symbolic or punitive actions and the incentives to take advantage of these imbalances; market power (GDP) insulates states from the potentially harmful effects of sanctions on the initiator, while social power (prestige) allows states to call upon and rely on external support of their efforts.

There is substantial debate whether trade institutions actually produce considerable trade and investment gains and little formal evidence to support the claim that PTAs or the WTO

\(^{53}\) Our thanks to Dan Drezner for bringing this issue to our attention.

\(^{54}\) (Barnett and Finnemore 1999)
necessarily create enough profit, especially among the developing world.\textsuperscript{55} Moreover, trade institutions do not always supply reciprocity, as a great number of PTAs are non-reciprocal agreements whereby more powerful states grant one-way market access to countries of the developing world.\textsuperscript{56} Even when they do supply reciprocal rules, trade institutions rarely produce equality in the distribution of gains, particularly when they are formed between developed and developing states. Although trade agreements may reveal information about the distribution of gains, this information may well create hostilities between nations over relative gains.\textsuperscript{57} And while there is some evidence that trade institutions confer credibility on domestic economic reform programs by revealing previously hidden information about policy preferences,\textsuperscript{58} there is no evidence that they supply information about initiators’ or targets’ capabilities or resolve that can preempt the onset of sanctions. Institutional ties between states more generally do not always or automatically enhance trade or welfare gains.

Albert Hirschman proposed many years ago that trade integration can provoke hostilities between states because welfare gains are rarely felt equally and large inequalities in the relative distribution of benefits shifts the balance of interstate market power,\textsuperscript{59} a known source of conflict between states.\textsuperscript{60} It has long been understood that power politics are an inevitable feature of any trade institution because trade gains create security externalities.\textsuperscript{61} It has been well understood, moreover, that rivalry is not a sufficient condition to end trade; enemies trade under certain conditions.\textsuperscript{62} States that are active in numerous international institutions may also have a greater

\textsuperscript{55} (Schiff and Winters 1998; Bhagwati 1996; Bhagwati and Panagariya 1996; Eichengreen and Frankel 1995; Viner 1950; Vamvakidis 1998; Pomfret 1997; Melo and Panagariya 1996; Lawrence 1996)
\textsuperscript{56} Examples include the Cotonou Agreement between the EU and the African, Caribbean, and Pacific group of states (ACP), or the Generalized System of Preferences supplied by the EU or the US.
\textsuperscript{57} (Hirschman 1945; Grieco 1990)
\textsuperscript{58} (Fernández 1997; Staiger and Tabellini 1987; Whalley 1996)
\textsuperscript{59} (Hirschman 1945)
\textsuperscript{60} (Gilpin 1981; Mearsheimer 1990; Waltz 1970, 1979)
\textsuperscript{61} (Gowa and Mansfield 1993)
\textsuperscript{62} (Pollins 1989b, 1989a; Gowa and Mansfield 1993; Morrow 1997). Barbieri has shown that open trade before World War II increased the likelihood of observing military disputes among partners. (Barbieri 2002, 1996)
number of international interests to defend and thus may end up in more disputes.\textsuperscript{63} Similarly, scholars argue that institutions are simply vehicles for market power politics in general, and will be ineffective in preventing real conflicts between powerful members from arising through dispute resolution mechanisms.\textsuperscript{65}

\textit{Hypothesis 3: Pairs of states with joint membership in international trade institutions with substantial welfare gains are no more likely to engage in sanctions than pairs with joint membership but small welfare gains.}

Moreover, we expect that states with greater relative social power that belong to many PTAs with many other states are more likely to act aggressively. They are motivated by the expectation that they will receive support from many other states due to the greater social capital available to them as prestigious (or socially powerful) actors.\textsuperscript{66} This argument is parallel to realist views on material power; a preponderance of material power may lead other states to capitulate before conflicts escalate; conversely, a state with few resources may resist in order to establish a reputation for toughness. Hafner-Burton and Montgomery find that pairs of states with high relative disparities in a form of social power, prestige from international organization (IO) membership, engage in war less often with each other.\textsuperscript{67} Dorussen and Ward (in this issue) find that when the state with the least prestige in a dyad increases in IO prestige (a weak-link hypothesis), militarized disputes occur less often.\textsuperscript{68} States with a great deal of social power (in this case, prestige from being a member of many PTAs) may therefore have an increased propensity to engage in sanctioning behavior due to an increased expectation of popular support of their aggressive actions, a form of political bandwagoning;\textsuperscript{69} however, common knowledge of

\begin{itemize}
\item \textsuperscript{63} (Boehmer, Gartzke, and Nordstrom 2004, p. 20)
\item \textsuperscript{65} (Mearsheimer 1994).
\item \textsuperscript{66} (Coleman 1990; O'Neill 1999). Institutional prestige is proportional to the number of institutional ties received by a state; a state accordingly has high institutional prestige if many other states have institutional ties to it. For a complete theoretical and mathematical treatment of these measures, see (Hafner-Burton and Montgomery 2006a).
\item \textsuperscript{67} (Hafner-Burton and Montgomery 2006a)
\item \textsuperscript{68} Dorussen and Ward 2005 use a different conceptual measurement (\textit{maxflow}) of network effects than prestige which mathematically is equivalent in the case of IGO membership to the minimum prestige of the two states in a dyad. This result is confirmed by (Hafner-Burton and Montgomery 2006a) in a robustness test of this weak-link hypothesis on page 22.
\item \textsuperscript{69} (Walt 1988; Schweller 1994, 2004)
\end{itemize}
these states' privileged positions may result in more conflicts being solved in the prestigious state's favor before sanctions start, a form of rational deterrence. We believe that the former is more likely, since a target's ability to assess social support is inherently less certain than its ability to assess other characteristics such as formal alliances.

_Hypothesis 4: States with high social power (measured by PTA prestige) will be more likely to initiate sanctions than states with low social power (prestige)._  
_Hypothesis 5: States with high social power (measured by PTA prestige) will be less likely to initiate sanctions than states with low social power (prestige)._

**PTAS CREATE COMPETITION NOT COMMUNITY**

Finally, there are good reasons to be skeptical that PTAs create trust among members. The lessons of European integration suggest that building community through upgrading the common interest between PTA members requires a pluralist social structure, a high level of economic and industrial development, and ideological similarity.\(^71\) The peace-promoting benefits of institutions are only likely to occur when states have a high number of shared memberships in organizations with sufficient institutional capacity.\(^72\) Security communities are thus most likely to develop through economic relations among western nations, as even the most institutionalized forms of integration in the developing world cannot be said to create the mutual identification at the core of the concept.\(^73\) Although economic integration has led to the formation of a collective identity and trust among member states of the European Union over time, it is also well understood that “democratic features of liberal democracies enable the community in the first place.”\(^74\) The argument that trade institutions dampen conflicts like war or sanctions by building trust among leaders to overcome commitment problems may apply primarily to the world of advanced democratic nations. Yet the overwhelming majority of trade institutions manage exchange between partners that include at least one developing or non-democratic state, and there is no evidence to show that these institutions build trust rather than competition over asymmetrical distribution of gains.

\(^{71}\) (Haas 1961); Pevehouse and Russett forthcoming (IO 2006).  
\(^{72}\) (Kinsella and Russett 2002; Pevehouse and Russett 2006)  
\(^{73}\) (Bearce 2003)  
\(^{74}\) (Russett and Oneal 2001, p. 166)
To the contrary, trade institutions generate asymmetrical socioeconomic relationships that generate power politics, both market and social. While some scholars believe that shared patterns of memberships in international institutions create security communities, we argue that these patterns place states into oppositional positions. Membership in international trade institutions divides states into segregated groups and establishes hierarchies in the international system.\(^{76}\) We argue that states that are in similar positions—that have similar portfolios of PTA membership—will compete more fiercely and that this competition may at times lead to sanctions.\(^{79}\) Additionally, states that have to compete with a large number of other states in similar positions are more likely to use sanctions, motivated by a decreased sense of common identification in a larger group and increased competition with additional contestants.\(^{80}\) Like multipolar systems, competition will occur among states in similar positions; the more states in similar positions, the more likely conflict is to occur.\(^{81}\)

*Hypothesis 6: States will be more likely to initiate sanctions if a potential target has similar patterns of trade institution membership.*

*Hypothesis 7: States that have similar patterns of trade institution membership with a large number of states will be more likely to initiate sanctions than states that have similar patterns with only a small number of states.*

\(^{76}\) (Hafner-Burton and Montgomery 2006a)  
\(^{79}\) (Levine and Moreland 1998; Burt 1987)  
\(^{80}\) (Bales and Borgatta 1955; Thorne and Luria 1986; Maccoby 1990)  
\(^{81}\) (Waltz 1979)

\(^{76}\) Traditional sample limitations to politically relevant dyads in the study of war are not appropriate here, as almost all states trade with all other states making sanctions possible. We choose to use all dyads instead of the "sanctions-relevant" dyads used by Cox and Drury since we observe several instances of sanctions among non-sanctions relevant dyads or dyads with low levels of trade, as well as multiple (redundant) layers of sanctions on some states. We replicate on this limited sample as a robustness check.
RESEARCH DESIGN

We explore the merits of our conjectures using pooled cross-national time-series data. Our attention is focused on all pairs of states from 1947—the year of the General Agreement on Tariffs and Trade (GATT)—to 2000. Because sanctions are directed political behavior—punitive actions taken by one state toward another rather than mutually between two states—our unit of analysis is the directed dyad year, which allows us to analyze the strategic behavior of both initiators and targets accordingly.

In order to ensure comparison with studies supporting the thesis that international institutions dampen conflict (see censored for review in this issue), we draw insights from Oneal and Russett’s analysis of the effects of international organizations on war as well as Mansfield and Pevehouse’s study of the effects of PTAs on militarized disputes. However, we rely on an alternative trade institution data set in order to examine the post-Cold War period and a larger sample of institutions. To ensure comparison with studies predicting the onset of economic sanctions we draw insight from Marinov and Cox and Drury and rely upon Hufbauer, Schott, and Elliot’s (HSE) data on sanctions. We base our GDP and trade data on Gleditsch’s expanded

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An alternative unit of analysis is the symmetrical dyad year, which allows analyses of mutual behavior of two states with each other, e.g. total trade or democracy between a pair of states. Directed dyad years are common in the study of economic sanctions and are the appropriate unit from which to test our directed hypotheses.

Oneal and Russett’s (1999) study gives full details of their model specification and their results; both manuscript and data are available online at http://www.yale.edu/unsy/democ/democ1.htm.

(Mansfield and Pevehouse 2000)

Data were collected by Emilie Hafner-Burton using sources from the WTO, (Smith 2000; Schott 2003) among other sources. We would like to thank Ed Mansfield, John Oneal, Jon Pevehouse, and Bruce Russett for generously sharing their data. Additionally, we note that trade institutions exhibit a great deal of institutional variation. Ideally, any study comparing their effects on conflict would also include information about varying institutional qualities, such as dispute settlement mechanisms or security aims. Unfortunately, these data are simply not available for most trade institutions. Following Mansfield and Pevehouse and Oneal and Russett we consequently adopt the simplifying assumption that trade institutions can be analyzed as if they supply homogenous institutional qualities across agreements.

(Marinov 2003, 2005)

(Cox and Drury 2006)

We thank Nikolay Marinov for providing us with our original dyadic version of the HSE data updated through 2000 including corrections from Dan Drezner; we have since extended it to include every case in the forthcoming third edition of the HSE book (Elliott et al. forthcoming).
set, our measures of regime type from Polity IVb, and generate the remainder of our data using EUGene. We calculate our social network variables using the sna package in R. Regression analysis was done in STATA using logistic regression appropriate for rare events data.

We begin by estimating the following model in which all independent variables are lagged by one year:

\[
(1) \quad \text{Sanctions}_{ij} = \beta_0 + \beta_1 \text{PTA}_{ij-1} + \beta_2 (\text{PTA}_{ij-1} \times \text{Trade}_{ij-1}) + \beta_3 (\text{PTA}_{ij-1} \times \text{GDP}_{i-1}) + \\
\beta_4 (\text{PTA}_{ij-1} \times \text{GDP}_{j-1}) + \beta_5 \text{PTAPrestige}/1000_{i-1} + \\
\beta_6 \text{PTAClusterSize}_{i-1} + \beta_7 \text{PTAClusterSame}_{ij-1} + \beta_8 \text{Polity}_{i-1} + \beta_9 \text{Polity}_{j-1} + \\
\beta_{10} \text{Trade}_{ij-1} + \beta_{11} \text{GDP}_{i-1} + \beta_{12} \text{GDP}_{j-1} + \beta_{13} \text{Allies}_{ij-1} + e_{ij}
\]

Sanctions onset (Sanctions$_{ij}$) is coded by HSE as occurring in the first year that a sanctions threat from official recorded sources occurs or a sanctioning event is recorded (e.g., 1991 is the first year if a threat or event is recorded at any point in 1991); sanctions end when initiator or target countries change their policies or "when the campaign simply withers away." Sanctions are coded to have continued in a year if the sanctions were still in force at the end of the year. We employ these data because they are ubiquitous in the study of economic sanctions and are the basis for nearly all empirical research; they also suffer considerable limitations.

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97 (Gleditsch 2002). Due to a lack of GDP data before 1950, lagging the data, and including GDP in every model, we effectively test the period 1951-2000.

98 (Marshall and Jaggers 2003)

99 (Bennett and Stam 2000, 2005)

100 (R. Development Core Team 2005; Butts 2005)

101 (Stata Corporation 2005)

102 (King and Zeng 2001b, 2001a) King and Zeng have shown in the case of rare-events that logit coefficients are commonly biased in substantively meaningful ways, even in large samples: estimated event probabilities are always too small. We correct for these biases accordingly.

103 See (Hufbauer et al. 1990, p. 43). HSE define economic sanctions "to mean the deliberate, government-inspired withdrawal, or threat of withdrawal, of customary trade or financial relations." They only include sanctions in support of explicit foreign policy goals, while excluding "the normal realm of economic objectives sought in banking, commercial, and tax negotiations between sovereign states." Note that the sanctions observed in this dataset are not sanctions initiated by a PTA but rather sanctions initiated by a government.

104 (Drezner 2000; Dorussen and Mo 2001; Lektzian and Souva 2001; Cox and Drury 2006; Dashti-Gibson, Davis, and Radcliff 1997; Morgan and Schwebach 1997)
Sampled on the availability of media coverage, the data were non-randomly selected. Moreover, there is debate over their coding; the set includes five instances (out of 226) of two other types of economic instruments that may be distinct from economic sanctions: commercial negotiations and economic warfare.\textsuperscript{105} Although we cannot control the sample and are subject to its limitations we can address several coding errors; while we do not consider the inclusion of a small number of alternative forms of economic coercion to be problematic, we nevertheless select out these instances accordingly in our robustness checks.

The dataset includes 226 cases of dyadic sanctions onset between 1948 and 2000, compiled from HSE’s expanded list of sanctions cases.\textsuperscript{106} Institutions commonly participate in sanctioning episodes; about one quarter of the cases involve institutions either directly or indirectly. In order to maximize the small sample of sanctions cases, we include the lead state (defined as the state with the highest CINC score) in each institution as the initiator of a sanction.\textsuperscript{107} For sanctions outside an institution but involving multiple states, we include every initiator-target dyad. Twelve "non-sanctions-relevant" dyads (between states that do not trade) experienced sanctions episodes; if target states that trade less than 0.1% of their GDP with their sanctioners were also excluded, this would expand to thirty-four cases. We choose to include all of these dyads because sanctions are used for symbolic and social punishment purposes as well as for altering the policies of the target state; excluding them would artificially cut off the dataset. Finally, we allow for sanctions onset even when a previous episode is still ongoing for similar reasons. The US dominates the dataset, representing 60 percent of the cases of sanctions onset. We include a US dummy variable in a robustness check to determine whether our results are driven by US behavior.\textsuperscript{109}

\textsuperscript{105} (Morgan and Schwebach 1997; Pape 1997).
\textsuperscript{106} One case of double sanctions onset (US sanctions on Peru, 68-1 and 68-2) is treated as a single onset. By splitting cases into multiple separate episodes and including actors discarded by HSE as per Drezner and Marinov’s recommendations, 15 cases are added to HSE’s expanded list of 211 (dyadic) cases.
\textsuperscript{107} In the few cases where institutions were sanctioning its own members, we used the state with the second highest CINC score; we used the same coding rules if sanctions targeted an institution.
\textsuperscript{109} (Hafner-Burton and Montgomery 2006b)
To test our hypotheses on PTAs and market power, we employ four institutional variables consistent with previous research. Mansfield and Pevehouse measure whether a pair of states $ij$ share membership in any PTA during a given year $t$, drawing upon their sample of institutions from 1950 to 1985.\(^{110}\) They call this binary variable $PTA_{ij}$ and expect that dyads sharing mutual membership will be less likely to go to war. We replicate this variable in our updated sample, which includes more institutions and covers the period 1947 to 2000. Since the authors’ sample excludes general trade institutions that were not agreements (e.g. GATT), we exclude these institutions from our principal sample.\(^{111}\) Using $PTA_{ij}$, we re-create several interaction terms with GDP and trade variables, described below.

Unfortunately, systematic data on PTA enforcement does not exist for our sample of institutions and would be difficult to collect. This lack of data makes a precise test of the hypothesis on enforcement difficult. However, data on PTA proposed integration provide a reasonable way to explore this hypothesis, albeit on a reduced sample of institutions.\(^{112}\) PTAs vary in their degree of integration and include non-reciprocal agreements,\(^{113}\) free trade areas,\(^{114}\) customs unions,\(^{115}\) common markets,\(^{116}\) and economic unions.\(^{117}\) Commonly, as integration deepens, so too do expected gains and adjudication procedures. We thus create an ordered variable, $PTADisputeRes_{ij}$, to consider whether dyads with mutual membership in at least one PTA with reciprocal market access (a free trade area = 1, common market = 2, customs union =

\(^{110}\) (Mansfield and Pevehouse 2000)
\(^{111}\) For the subset of matching dyads between our samples, our $PTA_{ij}$ is highly correlated with their variable (~0.84).
\(^{112}\) Data measuring PTA integration are only available for a smaller sample of PTAs than the sample which we use for our analyses; while we observe over 170,000 observations of joint membership in PTAs in our sample, the integration sample records just over 120,000 observations. This difference in sample size makes comparison difficult. We thank Jon Pevehouse for generously sharing these data.
\(^{113}\) The term Non-Reciprocal refers to the structure of a trade agreement that offers one-way access of a state party to the negotiated market of another state or trading entity.
\(^{114}\) The goal of a Free Trade Area is to facilitate easier trading within the area. These agreements prohibit internal tariffs among members, although each member country keeps their own external tariff policies.
\(^{115}\) A Customs Union is a Free Trade Area with common external tariff policies on goods imported from countries outside the union.
\(^{116}\) A Common Market is a Customs Union with removal of restrictions on the free flow of capital, labor, and technology among members.
\(^{117}\) (Balassa 1961)
3, economic union = 4) behave differently than other dyads due to their higher likelihood of having access to increasing levels of dispute resolution. We create similar variables to test the effects of membership in at least one PTA with a proposed common market, a customs union, or an economic union, respectively.

To test our remaining hypotheses, we compute three variables consistent with Hafner-Burton and Montgomery’s social network analysis of international organizations.\textsuperscript{118} We use the same base measures; however, since economic sanctions, unlike militarized disputes, are inherently directed, we use different derivations of those base measures for our directed-dyadic regression. Hafner-Burton and Montgomery use indegree centrality to measure the prestige of each actor, summing up the total number of international organizations that each state shares with each other state; we do the same with PTAs. However, we refine their symmetric measure of prestige difference by adopting a directed-dyadic design consistent with the literature on sanctions. We accordingly hypothesize that it is the prestige of each potential sanctions sender that is the crucial variable and not its prestige relative to the target. The prestige variable allows us to test our hypothesis on social power.

In order to test whether states that have similar patterns of institutional membership are more or less likely to use sanctions, we first calculate a measure of distance (dissimilarity) by taking the sum of the differences between two states' membership with every other state. Note that these states do not have to belong to the same PTAs as long as they share the same number of memberships with other states; for example, if two states belong to two different bilateral PTAs with the United States and no other PTAs, the distance between them would be zero. Since we hypothesize that competition is a function of both whether the other state in a dyad is close and the total number of other states that are close to the sender, we then use the distance measure to divide the international system into structurally equivalent clusters (a group of states a short distance from each other and a larger distance from other states). Following Hafner-Burton and Montgomery, we divide states into these clusters while controlling for the average size of clusters in each year, creating two variables, \( PTAClusterSize_i \) (the total number of other states a short distance away) and \( PTAClusterSame_{ij} \) (whether two states are a short distance from each

\textsuperscript{118} (Hafner-Burton and Montgomery 2006a). For additional research on international organizations and social networks, see Dorussen and Ward, and von Stein in this issue.
other or not). However, instead of measuring the maximum cluster size in a dyad as they do, we use the cluster size of the potential initiator. The cluster variables allow us to test our hypotheses on social position.

Finally, we control for a variety of alternative factors believed to shape the onset of sanctions. Polity$_i$ and Polity$_j$ measure the political character of the potential sender and targets, respectively. The variables range from -10 for a state characterized by extremely autocratic political institutions, to 10 for a state characterized by extremely democratic political institutions. These variables control for arguments common in the literature that democracies may be less likely to initiate or suffer economic sanctions, as well as faster to recover.\footnote{(Lektzian and Souva 2001; Cox and Drury 2006)} Trade$_{ij}$ measures the sum of i’s exports to and imports from $j$ in year $t$, while GDP$_i$ and GDP$_j$ measure the real Gross Domestic Product of the potential sender and target states respectively in trillions of 1996 US dollars. Both are centered at mean zero for proper interpretation of the interaction terms. Allies$_{ij}$ equals 1 if dyad members were linked by formal mutual defense treaties, neutrality pacts, or an entente, and equals 0 otherwise. This variable is important to control for the common wisdom that allies are generally likely to conflict with each other less than non-allied states because they share a common security interest.

**RESULTS**

We report estimates of equation 1 in the first column of Table 1;\footnote{The correlation matrix is available in the appendix. A VIF table is available in the replication file.} columns two, three and four report estimates for models testing fewer hypotheses separately. Our results cast doubt on the institutional view. Dyads linked by mutual ties to trade institutions are not less likely to engage in sanctioning behavior than other pairs of states, regardless of their associated market power ($PTA_{ij} - 1 \times GDP_{i,-1} = 0; PTA_{ij} - 1 \times GDP_{j,-1} = 0; PTA_{ij} - 1 \times Trade_{ij} = 0$), and may in fact be associated with sanctions onset; in two of the four models, dyads that belong to a PTA are more likely (at the 0.10 level) than other dyads to sanction. While PTAs may help to prevent war among trade partners, they do not prevent economic sanctions.\footnote{Correlation between $Trade_{ij} - 1$ and $PTA_{ij} - 1 \times Trade_{ij} - 1$ is high, inflating the associated standard errors reported in Table 1. We therefore run models 1 and 2 without $PTA_{ij} - 1 \times Trade_{ij} - 1$ as well;} Moreover, none of the integration variables,
tested in column four, affect the likelihood of sanctions onset: dyads with mutual memberships in PTAs that have higher levels of integration (such as proposing to establish common markets) are just as likely to experience sanctions as dyads with memberships in free trade agreements, non-reciprocal agreements, or no PTAs at all. Since this variable is non-significant and came from a different sample of PTAs, we drop it for the rest of our analyses.

Although relative market power does not influence whether PTA members use sanctions, disparities in social power and positions do. We find three circumstances under which trade institutions significantly increase the likelihood of sanctions among PTA members. When the potential initiator is prestigious in the socioeconomic network \((PTAPrestige_{i,t} > 0)\), is in the same group as a potential target \((PTAClusterSame_{ij,t} > 0)\), or belongs to a particularly large group \((PTAClusterSize_{i,t} > 0)\), they are more likely to enact sanctions against a target. This result was robust whether the liberal institutional variables were included in the regression or not (columns one and four) and indicates that relative disparities in social power, measured by the socioeconomic networks formed through PTAs, exacerbate the use of sanctions rather than decrease it, and that senders in the same group with targets or senders in groups with a larger number of members were more likely to enact sanctions, although the findings on \(PTAClusterSame_{ij,t}\) are only of significance at the 0.10 level.\(^{122}\)

Our findings with respect to other variables were mixed. An increase in the GDP of either initiator or target leads to an increased likelihood of sanctions, consistent with standard power politics views, but regardless of PTA membership. Some of our results were consistent with previous findings on sanctions; while democracies are more likely to use sanctions, they are less likely to be targets, although this latter observation is an artifact of US hegemony, as we discuss our results are robust.

Dyads linked by mutual ties to trade institutions are neither more nor less likely to sanction than other dyads.

\(^{122}\) In contrast to Hafner-Burton and Montgomery’s research on IGO social networks and militarized disputes, we found that states were more likely to enact sanctions against other states in the same structurally equivalent cluster. This is consistent with a logic of competition among peers, rather than a logic of in-group favoritism. Similarly, states that were highly prestigious in the PTA network were more likely to enact sanctions, whereas for dyads in the IGO network, large differences in prestige tended to dampen militarized disputes. In both IGO and PTA networks, particularly large clusters tended to increase conflict. (Hafner-Burton and Montgomery 2006a).
below. Additionally, alliances seem to increase the use of sanctions. This apparently odd result seems more plausible if sanctions are viewed as a less violent alternative to war. We found that increased trade actually led to decreased sanctions, regardless of PTA membership and consistent with the general liberal notion that increased trade should decrease conflict.

---TABLE 1 ABOUT HERE---

We compute predicted probabilities of sanctions onset based on the model presented in column three of Table 1 to interpret our findings. The results are presented in Table 2. The first row predicts the baseline probability that an average dyad engages in sanctions. This probability is low because sanctions are rare events. In column 1 we calculate the absolute change in the probability of sanctions onset across a range of conditions to isolate the influence of each covariate. In column 2 we compute the relative risk for sanctions onset due to that change. The results show that PTAs influence the probability of sanctions in important ways. Although mutual membership does not change the probability that dyads engage in sanctions in a statistically significant way, senders' relative social power—measured by their prestige in the socioeconomic network, and social position—measured by their cluster size and whether they belong to the same cluster as the potential target—do in ways that can promote conflict rather than quell it.

The influence of prestige is particularly notable. When the initiating state is extremely prestigious, the probability that sanctions will take place is ten times greater than under average conditions. Controlling for trade and the GDP of states, prestige strongly reinforces the aggressive behavior of powerful actors; states that belong to many PTAs with many other states are considerably more likely to aggressively sanction others. By contrast, when the initiating state enjoys no prestige, the probability that sanctions will occur is only slightly smaller than average; while high degrees of prestige can encourage potential initiators to sanction, low prestige does not substantially deter them. Our results confirm that democracies are indeed more likely than other states to initiate economic sanctions but that states are less likely to be targeted if they are democracies than autocracies. Moving from an autocracy (-10) to a democracy (+10) increases the fractional risk of implementing sanctions by a factor close to that of prestige. Table

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123 We evaluate all variables in our base model (Table 1, column 1, excluding interaction terms) at their means, with the binary variables $PTA_{ij-1}$, $ClusterSame_{ij-1}$ and $Allies_{ij-1}$ at their medians (zero in all three cases).
2 also suggests that, like prestige, the size of the initiators’ and targets’ economies matter a great deal; wealthier states are much more likely to initiate sanctions and also to be a target, but as bilateral trade increases to its maximum value, the probability goes to zero, although the maximum here is a clear outlier.

--TABLE 2 ABOUT HERE—

Apart from institutional hypotheses, our analyses show that more economically powerful states take advantage of their powerful positions, and are consequently much more likely to enact sanctions. Evidence regarding the effects of military alliances on trade between allies is mixed, showing, variously, that allied dyads trade more than, less than, or equal to non-allied dyads. Similarly, our results with respect to allies are mixed: the US in particular is more likely to sanction its allies (see Table 3), even if military allies in general have only a weak propensity to do so. Still, we do find that increased levels of trade do lead to a decrease in economic sanctioning behavior; while liberal claims about PTAs may not hold up, the general pacific effects of trade do appear to hold. We do not directly test the democratic peace hypothesis in our work, although elsewhere we find that when accounting for the role of the US, democracies are no more or less likely to sanction each other than other dyads; however, democracies were consistently more likely to enact sanctions than other states.

FURTHER METHODOLOGICAL CONSIDERATIONS

Our findings are strongly robust: members of the same PTA are no less likely to engage in economic sanctions than other pairs of states and they may actually be more likely. Whether this finding is causal—that PTAs instigate sanctions—or spurious—that PTAs are correlated with sanctions because their members are predisposed remains an open question. However, while PTA membership alone does not prevent economic sanctions, the emergent properties of the entire socioeconomic network of PTA memberships do have significant effects: relative social power in this network matters. In this section we perform a number of additional analyses to provide results that are as consistent with as many different sample and variable specifications as

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124 (Gowa and Mansfield 1993; Gowa 1994; Long 2003; Mansfield and Bronson 1997; Mansfield, Milner, and Rosendorff 2000)
125 (Hafner-Burton and Montgomery 2006b)
possible. Although we cannot report all of those steps here, we do address some of the more important issues.

Table 3 offers estimates across four additional models. Our first two robustness checks consider key variables we may have omitted from the core analyses. In Model (5), we consider the influence of the United States, $US_i$, the world’s most frequent initiator of economic sanctions. This is important because previous research has shown that the United States, unlike other states, commonly sanctions its allies.\textsuperscript{126} We find that after accounting for the influence of the US, while democracies are still more likely to enact sanctions, they are no more or less likely to be targets than autocracies. In Model (6), we test whether our results are consistent when we control for mutual membership in the GATT/WTO, $GATT_{ij}$, in which most PTAs are nested. Finally, Models (7) and (8) offer different corrections for temporal dependence common in the literature. Following Beck, Katz and Tucker\textsuperscript{127} and much of the research on war (see censored for review in this issue) we include cubic splines as well as a linear term to correct for the length of time since the previous sanction between a dyad. Following Marinov’s\textsuperscript{128} research on sanctions we include the logarithm of the number of years since the last sanction.\textsuperscript{129}

--TABLE 3 ABOUT HERE--

Our results are quite stable across models, with small variations. The United States is observably unique among states, willing to initiate sanctions more often than others.\textsuperscript{130} When we control for this outlier our findings on PTA influence remain largely stable; mutual membership in PTAs by itself does not influence the probability of sanctions although states’ prestige within

\textsuperscript{126} (Cox and Drury 2006; Hafner-Burton and Montgomery 2006b)
\textsuperscript{127} (Beck, Katz, and Tucker 1998)
\textsuperscript{128} (Marinov 2003)
\textsuperscript{129} Additionally, we have limited our sample to Cox and Drury’s “sanctions relevant dyads” in order to ensure consistency, although as we have argued, we do not believe this sample is appropriate because sanctions do take place within non-relevant dyads. Our substantive results on this reduced sample are identical. We have also replaced our binary $PTA_{ij}$ variable with a continuous measure to see whether a greater number of mutual memberships in PTAs affects dyads’ likelihood of sanctions and find no substantive change in our results. We have replaced our binary $Allies_{ij}$ variable with several binary measures to see whether formal mutual defense treaties, neutrality pacts, or ententes affect the likelihood of sanctions independently. We find no such evidence.
\textsuperscript{130} States in the EU are also more likely to sanction, although less so than the US. When we included an EU sender dummy, our prestige results lost statistical significance.
the PTA network as well as cluster size both increase the likelihood. Moreover, controlling for GATT/WTO membership as well as temporal dependence has no effect on our findings. In other results not reported in our tables, we found that when trade was eliminated or when contiguity and the log of the distance between states were included, the PTA coefficient became insignificant, but other variables were not substantively affected; when trade dependence of both the target and initiator are substituted for bilateral trade, an increase in the initiator's dependence decreases the likelihood of sanctions, while the target's trade dependence has no effect. Including the capability ratio of states had no substantive effect on the results, either.

**CONCLUSION**

A core premise unifying the contributions to this proposed special issue is that international institutions shape international affairs of all kinds but that they do so in complex and often contingent ways that have yet to be very well understood or observed. A principal goal of our collective research is to show systematically the many ways by which institutions shape international politics. Our contribution accordingly makes the claim that a growing population of international trade institutions plays an independent and significant role in the dynamics of economic sanctions between states—a rapport between increasingly authoritative institutions in world affairs and sharply criticized foreign policies that has never been robustly examined.

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138 This premise stands in contrast to views that international organization have little effect on international relations between states (Mearsheimer 1994).
Widespread claims that international institutions are either intrinsically peace promoting or entirely epiphenomenal miss an important part of what institutions do and how they shape political behavior. International institutions not only provide for the reduction of transaction costs or arbitration between states depending on their individual designs, and they are not just mirrors for states’ material power; they also confer relative positions of social power on states in the international system. These positions, in turn, can exacerbate conflict and lead to the use of sanctions. PTAs provide many useful and even virtuous functions; they can at times institutionalize cooperation among nations, preventing outbreaks of war and repression of human rights in some circumstances. Many of their consciously designed institutional qualities provide these services. Yet they also form a socioeconomic network that structures the international system and creates a counteractive set of forces that—far from solving the world’s problems driven by interstate aggression—can exacerbate conflict by creating distributional problems in both economic wealth and structural power.

Our approach thus relies upon insights from realism in international relations and from social network analysis common to other behavioral sciences about what international institutions do and how they shape politics. In particular, our social network approach suggests that PTA memberships endow particular states that are connected to a large number of other states with social power (prestige); in the realm of economic sanctions, we found that states with a great deal of prestige from trade institutions are more likely to initiate conflict. This may in part be due to the highly asymmetrical networks that PTAs create, which are much less egalitarian than international institutions in general; the difference in prestige between the most esteemed states and least is much wider as a result. Additionally, we found that states that have similar patterns of joining institutions are more likely to conflict. PTAs are, by nature, exclusionary; consequently, states that are in similar network positions are more likely to conflict. Moreover, the more states that are in the same group, the more competition that results among them. An analogy with ecological niches might be appropriate: increased competition results if a particular niche (or position) is overcrowded.

PTAs are growing in number, authority, and membership, and are increasingly influencing conflicts taking place within and between states. As institutions go, they are among the few that offer design features that our most prominent theorists of international organizations believe matter, such as the creation of substantial expected gains, dispute settlement, and shared
identities, and which may help to deter some kinds of conflicts under certain circumstances—though not, apparently, economic sanctions. Yet PTAs also shape conflict in ways that our most central theories of institutions have yet to fully acknowledge, much less to evaluate systematically: they generate power politics. While any single institution may or may not prevent conflict through a particular design feature, the entire network made up of institutions shapes international relations through a balance of power politics, creating relative disparities in economic and social power between states that can sometimes make sanctions viable.
Table 1: Estimates of the Effects of Preferential Trade Agreements (PTAs) on Economic Sanctions, 1947-2000

<table>
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<th>(2) Institutional</th>
<th>(3) Power Politics</th>
<th>(4) Dispute Res</th>
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<td>0.34</td>
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NOTE: The numbers in parentheses are Huber standard errors. +p<.10. *p<.05. **p<.01. ***p<.001. Estimation is rare events logit.
Table 2: Effects of Covariates on the Predicted Probability of an Economic Sanction

<table>
<thead>
<tr>
<th>Covariate</th>
<th>Change in Probability</th>
<th>Relative Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>4.71E-05</td>
<td></td>
</tr>
<tr>
<td>(PTA_{ij})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum value (1)</td>
<td>2.65E-05</td>
<td>1.56</td>
</tr>
<tr>
<td>(PTAPrestige/1000_{ij})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum value (0)</td>
<td>-7.16E-06</td>
<td>0.85 *</td>
</tr>
<tr>
<td>Maximum value (0.696)</td>
<td>4.25E-04</td>
<td>10.03 *</td>
</tr>
<tr>
<td>(PTAClusterSize_{ij})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum value (1)</td>
<td>-2.93E-05</td>
<td>0.38 *</td>
</tr>
<tr>
<td>Maximum value (108)</td>
<td>6.63E-05</td>
<td>2.41 *</td>
</tr>
<tr>
<td>(PTAClusterSame_{ij})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum value (1)</td>
<td>1.43E-05</td>
<td>1.30</td>
</tr>
<tr>
<td>(Polity_{i,t})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum value (-10)</td>
<td>-3.25E-05</td>
<td>0.31 *</td>
</tr>
<tr>
<td>Maximum value (10)</td>
<td>1.27E-04</td>
<td>3.70 *</td>
</tr>
<tr>
<td>(Polity_{j,t})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum value (-10)</td>
<td>2.41E-05</td>
<td>1.51 *</td>
</tr>
<tr>
<td>Maximum value (10)</td>
<td>-1.66E-05</td>
<td>0.65 *</td>
</tr>
<tr>
<td>(Trade_{ij})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum value (.000165)</td>
<td>5.25E-07</td>
<td>1.01 *</td>
</tr>
<tr>
<td>Maximum value (.36142)</td>
<td>-4.71E-05</td>
<td>0.00 *</td>
</tr>
<tr>
<td>(GDP_{i,t})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum value (-.1557)</td>
<td>-2.42E-06</td>
<td>0.95 *</td>
</tr>
<tr>
<td>Maximum value (.8615)</td>
<td>5.37E-04</td>
<td>11.06 *</td>
</tr>
<tr>
<td>(GDP_{j,t})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum value (-.1557)</td>
<td>-3.21E-05</td>
<td>0.40 *</td>
</tr>
<tr>
<td>Maximum value (.8615)</td>
<td>1.41E-03</td>
<td>27.48 *</td>
</tr>
<tr>
<td>(Allies_{ij})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum value (1)</td>
<td>1.04E-04</td>
<td>3.22 *</td>
</tr>
</tbody>
</table>

*Predictions fall within 95% confidence intervals. NOTE: predictions for \(GDP_{i,t}\) and \(GDP_{j,t}\) are calculated with control for the US economy (Table 3, Model 5). All other predictions based on Power Politics model (Table 1, Model 3).
Table 3: Estimates of the Effects of Preferential Trade Agreements (PTAs) on Economic Sanctions, 1947-2000, Robustness Checks

<table>
<thead>
<tr>
<th>Variable</th>
<th>(5) US</th>
<th>(6) GATT/WTO</th>
<th>(7) Splines</th>
<th>(8) Log Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTA_{ij-1}</td>
<td>0.58 *</td>
<td>0.48 +</td>
<td>0.49 +</td>
<td>0.53 *</td>
</tr>
<tr>
<td></td>
<td>(0.28)</td>
<td>(0.27)</td>
<td>(0.27)</td>
<td>(0.26)</td>
</tr>
<tr>
<td>PTAPrestige/1000_{i-1}</td>
<td>3.82 ***</td>
<td>3.61 ***</td>
<td>3.96 ***</td>
<td>3.67 ***</td>
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<tr>
<td></td>
<td>(0.64)</td>
<td>(0.64)</td>
<td>(0.71)</td>
<td>(0.64)</td>
</tr>
<tr>
<td>PTAClusterSize_{i-1}</td>
<td>8.77E-03</td>
<td>1.90E-02 ***</td>
<td>1.88E-02 ***</td>
<td>1.87E-02 ***</td>
</tr>
<tr>
<td></td>
<td>(4.10E-03)</td>
<td>(4.04E-03)</td>
<td>(4.05E-03)</td>
<td>(4.06E-03)</td>
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<tr>
<td>PTAClusterSame_{ij-1}</td>
<td>0.17</td>
<td>0.26</td>
<td>0.25</td>
<td>0.22</td>
</tr>
<tr>
<td></td>
<td>(0.16)</td>
<td>(0.17)</td>
<td>(0.16)</td>
<td>(0.15)</td>
</tr>
<tr>
<td>Polity_{i-1}</td>
<td>7.49E-02 ***</td>
<td>0.13 ***</td>
<td>0.12 ***</td>
<td>0.12 ***</td>
</tr>
<tr>
<td></td>
<td>(1.92E-02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Polity_{j-1}</td>
<td>-9.69E-03</td>
<td>-4.26E-02 **</td>
<td>-3.71E-02 *</td>
<td>-4.13E-02 *</td>
</tr>
<tr>
<td></td>
<td>(1.75E-02)</td>
<td>(1.60E-02)</td>
<td>(1.60E-02)</td>
<td>(1.62E-02)</td>
</tr>
<tr>
<td>Trade_{ij-1}</td>
<td>-45.17 **</td>
<td>-57.50 ***</td>
<td>-47.37 ***</td>
<td>-53.89 ***</td>
</tr>
<tr>
<td></td>
<td>(13.72)</td>
<td>(16.02)</td>
<td>(11.80)</td>
<td>(14.08)</td>
</tr>
<tr>
<td>GDP_{i-1}</td>
<td>0.29 ***</td>
<td>0.70 ***</td>
<td>0.69 ***</td>
<td>0.69 ***</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.03)</td>
<td>(0.02)</td>
<td>(0.02)</td>
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<tr>
<td>GDP_{j-1}</td>
<td>0.35 ***</td>
<td>0.36 ***</td>
<td>0.39 ***</td>
<td>0.37 ***</td>
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<tr>
<td></td>
<td>(0.09)</td>
<td>(0.09)</td>
<td>(0.09)</td>
<td>(0.08)</td>
</tr>
<tr>
<td>Allies_{ij-1}</td>
<td>0.75 **</td>
<td>1.17 ***</td>
<td>1.21 ***</td>
<td>1.18 ***</td>
</tr>
<tr>
<td></td>
<td>(0.25)</td>
<td>(0.23)</td>
<td>(0.21)</td>
<td>(0.21)</td>
</tr>
<tr>
<td>US_{ij}</td>
<td>3.38 ***</td>
<td></td>
<td></td>
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<td></td>
<td>(0.53)</td>
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<td></td>
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<tr>
<td>GATT/WTO_{ij-1}</td>
<td></td>
<td>-8.71E-02</td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td>(2.04E-01)</td>
<td></td>
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<tr>
<td>splines0</td>
<td></td>
<td>-6.48E-02</td>
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<tr>
<td></td>
<td></td>
<td>(6.34E-02)</td>
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<tr>
<td>splines1</td>
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<td>1.97E-04</td>
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<tr>
<td></td>
<td></td>
<td>(6.83E-04)</td>
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<tr>
<td>splines2</td>
<td></td>
<td>-5.27E-04</td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td>(5.10E-04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>splines3</td>
<td></td>
<td>3.72E-04 *</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.76E-04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log years</td>
<td></td>
<td>-0.24 **</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>constant</td>
<td>-10.45 ***</td>
<td>-11.10 ***</td>
<td>-10.55 ***</td>
<td>-10.42 ***</td>
</tr>
<tr>
<td></td>
<td>(0.27)</td>
<td>(0.34)</td>
<td>(0.42)</td>
<td>(0.41)</td>
</tr>
<tr>
<td>n</td>
<td>815992</td>
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</tr>
</tbody>
</table>

NOTE: The numbers in parentheses are Huber standard errors. +p<.10. *p<.05. **p<.01. ***p<.001. Estimation is rare events logit.
## APPENDIX

<table>
<thead>
<tr>
<th>PTA_{i,t-1}</th>
<th>PTA_{i,t-1} \times \text{Trade}_{i,t-1}</th>
<th>PTA_{i,t-1} \times \text{GDP}_{i,t-1}</th>
<th>PTA_{i,t-1} \times \text{GDP}_{j,t-1}</th>
<th>PTA_{i,t-1} \times \text{Prestige}_{i,t-1}</th>
<th>PTA_{i,t-1} \times \text{ClusterSize}_{i,t-1}</th>
<th>PTA_{i,t-1} \times \text{ClusterSame}_{i,t-1}</th>
<th>Polity_{i,t-1}</th>
<th>Polity_{j,t-1}</th>
<th>Trade_{i,t-1}</th>
<th>GDP_{i,t-1}</th>
<th>GDP_{j,t-1}</th>
<th>Allies_{i,t-1}</th>
<th>US_{i,t-1}</th>
<th>GATT_{i,t-1}</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>0.07 1.00</td>
<td>0.01 0.37 1.00</td>
<td>0.01 0.37 0.07 1.00</td>
<td>0.37 0.08 0.17 -0.03 1.00</td>
<td>-0.36 -0.02 0.00 0.02 -0.52 1.00</td>
<td>-0.03 0.02 -0.01 -0.01 -0.29 0.54 1.00</td>
<td>0.06 0.05 0.12 0.02 0.27 -0.17 -0.10 1.00</td>
<td>0.06 0.05 0.02 0.12 0.07 -0.05 -0.10 0.05 1.00</td>
<td>0.08 0.90 0.33 0.33 0.10 -0.02 0.02 0.07 0.07 1.00</td>
<td>-0.01 0.12 0.31 0.02 0.09 0.03 -0.01 0.21 0.01 0.20 1.00</td>
<td>-0.01 0.12 0.02 0.31 0.04 -0.03 -0.01 0.01 0.21 0.20 0.00 1.00</td>
<td>0.18 0.08 0.01 0.01 0.00 -0.01 0.11 0.02 0.02 0.12 0.06 0.06 1.00</td>
<td>-0.03 0.05 0.10 0.01 -0.04 0.07 0.04 0.12 0.00 0.11 0.72 -0.01 0.09 1.00</td>
<td>0.19 0.03 0.03 0.03 0.21 -0.20 -0.17 0.22 0.22 0.05 0.08 0.08 0.01 0.04 1.00</td>
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