DO INTERGOVERNMENTAL ORGANIZATIONS PROMOTE PEACE?

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I. INTRODUCTION

TRADITIONAL paradigms in world politics offer starkly contrasting interpretations of the role of intergovernmental organizations (IGOs). Liberal institutional theory argues that IGOs foster nonviolent conflict resolution and constrain the advent of disputes. Functionalists conceive of IGOs as capable of transforming state preferences and promoting pacific global relations. Students of the democratic peace have now added IGOs to the prescriptive liberal cocktail.[1] Together, the three pillars of the "Kantian tripod"—democracy, cross-border trade, and international organizations—appear to diminish the likelihood of militarized contests in some large-sample quantitative studies. Realists, by contrast, have long argued that IGOs reflect, rather than effect, world politics. Quantitative support for a link between IGOs and peace also appears attenuated, with IGOs increasing the probability of conflict when violations of certain statistical assumptions are addressed.[2]

Conventional accounts of the role of IGOs in influencing war and peace seem to us to be incomplete and overly categorical in their praise as well as in their criticism. We develop a more nuanced alternative to

[1] See, for example, Bruce Russett, John R. Oneal, and David Davis, "The Third Leg of the Kantian Tripod for Peace: International Organizations and Militarized Disputes, 1950–1985," *International Organization* 52, no. 3 (1998); Bruce Russett and John R. Oneal, *Triangulating Peace: Democracy, Interdependence, and International Organizations* (New York: W. W. Norton, 2001).

[2] See John R. Oneal and Bruce Russett, "The Kantian Peace: The Pacific Benefits of Democracy, Interdependence, and International Organizations, 1885–1992," *World Politics* 52 (October 1999); Erik Gartzke, Quan Li, and Charles Boehmer, "Investing in the Peace: Economic Interdependence and International Conflict," *International Organization* 55, no. 2 (2001).

the contrasting visions of classical arguments. Bargaining theory explains war as the result of both material and informational conditions. States often disagree and power is omnipresent, but conflict among nations results more often in diplomatic bargains than in violent contests. Diplomacy fails and warfare occasionally ensues when states differ in their beliefs about power and interest. Third parties, such as IGOs, can most effectively foster peace by credibly informing competitors or by intervening in ways that carefully prevent participants from converting new strategic conditions into different, more extractive demands. As such, our explanation constitutes a "middle path" in which IGO effectiveness is a variable rather than a parameter. The theory offers a number of empirical implications—only some of which are explored here—even as it suggests two improvements in research design. First, IGOs are not all created equal. If IGOs vary in their institutional structure, mandate, and member cohesion, then it follows that they can also vary in their impact on interstate disputes. We identify IGO attributes that are likely to make some of them more effective at fostering agreements among states. Second, states are not all equal, either. The sometimes positive statistical relationship between IGO membership and militarized conflict can be accounted for if the countries that are most active internationally are also those most likely to belong to intergovernmental organizations. We introduce a control variable for state engagement in world politics that accounts for an observed tendency of IGOs to be associated with disputes.

The article proceeds as follows. We briefly review relevant studies of intergovernmental organizations. We then outline an argument for why states fight, why they join IGOs, and how IGOs can influence international conflict. Next, we explain our research design, introduce variables to measure the institutionalization and contentiousness of IGOs, and report our findings. The tests presented are a necessary first step in analyzing the theory. Because of space limitations and the need to maintain comparability with previous studies, some of the most intriguing implications of our argument await further study. While individual results can be interpreted as favoring realist or liberal arguments, collectively our findings challenge classical accounts. IGOs are not broadly effective in the way they should be if international organizations alter preferences or form a web of constraining commitments. Neither are IGOs universally ineffective, as suggested by critics. The bargaining approach suggests that only those IGOs with certain attributes are likely to promote peace. We show that institutionalized IGOs reduce the risk of militarized disputes but that other IGOs have little direct influence on conflict. We also show that cohesion among IGO members increases IGO effectiveness. IGOs with a security mandate are more effective at promoting peace

than are economic organizations. Finally, controlling for engagement in the international system helps to explain previous anomalous findings. We conclude with a discussion of the implications of the study.

II. LITERATURE: LINKAGES BETWEEN IGOS AND PEACE

Research on interstate conflict and international institutions broadly speaking or on intergovernmental organizations in particular can be summarized as follows. First, it is a matter of debate how and when IGOs matter. Second, there is limited systematic examination of IGO efficacy even while existing evidence appears to be contradictory. Third, controversy and anecdotal evidence suggest that IGOs have a nonuniform effect on state behavior; they may both increase and decrease conflict. Fourth, states select into IGOs in ways that could correlate with the impact of IGOs on disputes.

Realists, liberals, and others have long debated the utility of IGOs.[3] Most agree that IGOs matter in some form or in certain contexts, but there is no consensus as to the extent of IGO influence and how best to treat IGOs analytically as an aspect of world politics. By holding that IGOs *matter*, participants in the debate usually mean that they should be capable of altering state behavior. On one side in the debate, constructivists, functionalists, and liberal institutionalists contend that IGOs are (or can be) a central component of world order. On the other side, many realists argue that IGOs are only marginally influential in world politics and that IGOs typically reflect status quo power relations.

Constructivists, functionalists, and institutionalists argue that global politics is increasingly organized around regimes and institutions that foster cooperation by providing information and organizational structure, promoting norms and common belief systems, and reducing transaction costs.[4] Realpolitik should become less important with the

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[3] John Mearsheimer, "The False Promise of International Institutions," *International Security* 19, no. 3 (1995); Randall L. Schweller and David Preiss, "A Tale of Two Realisms: Expanding the Institutions Debate," *Mershon International Studies Review* 41, no. 1 (1997). And for reviews of and perspectives on the literature, see Lisa L. Martin and Beth A. Simmons, "Theories and Empirical Studies of International Organizations," *International Organization* 52, no. 4 (1998).

[4] See, for example, Ernst B. Haas, *Beyond the Nation-State: Functionalism and International Organization* (Palo Alto, Calif.: Stanford University Press, 1964); Robert O. Keohane and Joseph S. Nye, *Power and Interdependence* (New York: Harper Collins, 1989); Oran R. Young, "International Regimes: Toward a New Theory of Institutions," *World Politics* 39 (October 1986); idem, "The Effectiveness of International Institutions: Hard Cases and Critical Variables," in James M. Rosenau and Ernst-Otto Czempiel, eds., *Governance without Government* (Cambridge: Cambridge University Press, 1992); John Gerard Ruggie, "Continuity and Transformation in the World Polity: Toward a Neorealist Synthesis," *World Politics* 35 (January 1983); idem, "The False Promise of Realism," *International Security* 20, no. 1 (1995); James M. Rosenau, "Citizenship in a Changing Global Order," in Rosenau and Czempiel, *Governance without Government*; and Alexander Wendt, "Constructing International Politics," *International Security* 20, no. 1 (1995).

rise of multiple channels of interaction and the growing salience of nonstate actors, leading to a decline in militarized violence.

Neoliberal institutionalists accept much of the functionalist/Kantian prescription for international politics, but they also accept the realist tenets of systemic anarchy, the importance of power, and the preeminence of states' interests.[5] Collective security and cooperation are nevertheless feasible where states share common or complementary interests and where states value absolute over relative gains.[6] IGOs help foster cooperation by encouraging reciprocity through regularizing interactions.[7] Indeed, the institutionalist perspective may be construed as the strongest advocate for IGOs, given the lack of alternatives once one accepts anarchy as endemic to international affairs.

While conceptual work by functionalists, liberals, and realists is extensive, the empirical literature on institutions is decidedly sparse. It is unclear whether IGOs are as effective (or ineffective) as partisans claim. Indeed, the limited scope of empirical research may have retarded theoretical development. Theory stands to advance most quickly when confronted with contrasting evidence. The literature suggests that IGO heterogeneity and factors such as regime type and major power status influence IGO functionality. Nonetheless, current analysis fails to address these claims fully, and although several studies call for assessments of institutional efficacy, much remains to be done.[8]

[5] Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Economy* (Princeton: Princeton University Press, 1984); Robert Axelrod, *The Evolution of Cooperation* (New York: Basic Books, 1984); Robert Axelrod and Robert O. Keohane, "Achieving Cooperation under Anarchy: Strategies and Institutions," *World Politics* 38 (October 1985); Robert Powell, "Absolute and Relative Gains in International Relations Theory," *American Political Science Review* 85, no. 4 (1991); Duncan Snidal, "Relative Gains and the Pattern of International Cooperation," *American Political Science Review* 85, no. 3 (1991); Robert O. Keohane and Lisa Martin, "The Promise of Institutionalist Theory," *International Security* 20, no. 1 (1995); Charles A. Kupchan and Clifford A. Kupchan, "The Promise of Collective Security," *International Security* 20, no. 1 (1995); Duncan Snidal and Kenneth Abbott, "Why States Act through Formal International Organizations," *Journal of Conflict Resolution* 42, no. 1 (1998); Martin and Simmons (fn. 3).

[6] Snidal (fn. 5) points out that contrasting predictions of absolute and relative gains depend on the number of actors involved. For an informative debate, see comments by Joseph M. Grieco, Robert Powell, and Duncan Snidal, "The Relative-Gains Problem for International Cooperation," *American Political Science Review* 87, no. 3 (1993). See also James S. Mosher, "Relative Gains Concerns When the Number of States in the International System Increases," *Journal of Conflict Resolution* 47, no. 5 (2003); and David L. Rousseau, "Motivations for Choice: The Salience of Relative Gains in International Relations," *Journal of Conflict Resolution* 46, no. 3 (2002).

[7] Subsequent research suggests that the shadow of the future can actually inhibit cooperation. See Curtis S. Signorino, "Simulating International Cooperation under Anarchy: The Effects of Symmetric and Asymmetric Noise," *Journal of Conflict Resolution* 40, no. 1 (1996); James D. Fearon, "Bargaining, Enforcement, and International Cooperation," *International Organization* 52, no. 2 (1998); J. Samuel Barkin, "Time Horizons and Multilateral Enforcement in International Cooperation," *International Studies Quarterly* 48, no. 2 (2004).

[8] J. David Singer and Michael Wallace, "Intergovernmental Organization and the Preservation of Peace, 1816–1964: Some Bivariate Relationships," *International Organization* 24, no. 3 (1970);

Most existing empirical research involves qualitative case studies.[9] Recently, however, democratic peace researchers have become interested in the role of IGOs and have provided the strongest extant evidence to date that IGOs alter state behavior.[10] Oneal and Russett argue in a series of articles that dyads that share more IGO memberships are less likely to experience disputes. This result appears sensitive to the choice of sample and econometric technique. IGOs either increase conflict or have no effect when assessing all dyads or when adding nonlinear controls for temporal dependence. Other studies find little or no indication that IGOs bring peace. Jacobson, Reisinger, and Mathers and Domke offer regression analysis of IGOs and interstate conflict, but neither reports significant results for intergovernmental organizations.[11] Oneal and Russett and Gartzke, Li, and Boehmer produce results suggesting that IGOs *increase* interstate conflict among members.[12]

At least three factors appear responsible for these disparate findings. First, IGOs are institutionally heterogeneous. In the three decades since Singer and Wallace first highlighted the issue, no study has investigated heterogeneity in a systematic fashion.[13] NATO and the EU exemplify institutionalized IGOs with an ability to alter state behavior. Other organizations with more moderate or limited institutional structures, such as the Southern Cone Common Market (MERCOSUR) or the Economic Community of West African States (ECOWAS), hold promise. IGOs such as the South Asian Association for Regional Cooperation (SAARC) or the Economic Community of the Great Lakes Countries (CEPGL) have little ability to influence member behavior. Attempts to treat organizations with different institutional structure and scope homogeneously distorts the apparent impact of the minority of IGOs with a genuine ability to influence state foreign policies.

Michael Wallace and J. David Singer, "Intergovernmental Organization in the Global System, 1815–1964: A Quantitative Description," *International Organization* 24, no. 2 (1970); William Domke, *War and the Changing Global System* (New Haven: Yale University Press, 1988); Young (fn. 4, 1992); Martin and Simmons (fn. 3).

[9] Martin and Simmons (fn. 3) provide a review of the extensive case study literature.

[10] John R. Oneal, Bruce Russett, and Michael L. Berbaum, "Causes of Peace: Democracy, Interdependence, and International Organizations," *International Studies Quarterly* 47, no. 3 (2003); Oneal and Russett (fn. 2); Russett, Oneal, and Davis (fn. 1).

[11] Harold Jacobson and Domke (fn. 8) provide typologies of IGOs; Jacobson, *Networks of Interdependence: International Organizations and the Global Political System* (New York: Knopf, 1984). However, Harold Jacobson, William M. Reisinger, and Todd Mathers use an inappropriate dependent variable, whereas Domke relies on disaggregated probit estimates for each year; see Jacobson, Reisinger, and Mathers, "National Entanglements in Governmental Organizations," *American Political Science Review* 80, no. 1 (1986).

[12] Oneal and Russett (fn. 2); and Gartzke, Li, and Boehmer (fn. 2).

[13] Singer and Wallace (fn. 8).

Second, states with extensive interests abroad are more likely to act internationally and are more likely to be members of international organizations. Even IGOs that are successful in reducing tensions between rivals may *appear* unsuccessful if at least part of the impetus for membership in IGOs follows from diplomatic need. States that share in many IGO memberships are more likely to interact—cooperatively, competitively, and occasionally violently—than are other states.

Realists will not be surprised by findings suggesting that IGOs fail to function as liberals would expect. According to Mearsheimer, IGOs have no international impact independent of that of powerful states.[14] Major powers use IGOs to mold the global system and maintain or enhance their own power. "For realists, the causes of war and peace are mainly a function of the balance of power, and institutions largely mirror the distribution of power in the system."[15] Moreover, concerns over relative gains and cheating block substantial cooperation even while institutions fail to alter system structure. Not all realists dismiss international institutions, however. Schweller and Preiss contend that traditional realists have always understood that IGOs can play a role in altering state behavior.[16] Modified structural realists argue that institutions act as mechanisms through which powerful states exert control, impose rules, bind other states, and collude to preserve the status quo. In short, IGOs act as intervening variables between power and world politics.

A third challenge to traditional explanations involves the lack of an explicit theory of contests. For IGOs to influence dispute behavior, they must impinge on the causal processes that lead states to fight. An evaluation of the utility of IGOs as a means for promoting peace necessarily involves linking the capabilities and actions of IGOs with the decision calculus of states in conflict. Fearon argues that variables such as the distribution of power, threat, or interests—while key to determining the content of negotiated bargains (that is, who gets what)—tell us relatively little about why states occasionally resort to overt force.[17] The symmetry inherent in dispute behavior requires that the "causes" of a contest must be remedied for the contest to end. If, for example, states fight because of an imbalance of power, then war must lead to a balance of power in order for peace to be restored. *Uncertainty* about the bal-

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[14] Mearsheimer (fn. 3).
[15] Ibid., 13.
[16] Schweller and Preiss (fn. 3).
[17] James D. Fearon, "Rationalist Explanations for War," *International Organization* 49, no. 3 (1995). See also James D. Morrow, "Capabilities, Uncertainty, and Resolve: A Limited Information Model of Crisis Bargaining," *American Journal of Political Science* 33, no. 2 (1989).

ance of power, rather than the balance itself, can accommodate the need for a symmetric explanation for war. States fight not because of material or motivational factors per se but because they have private knowledge of the actual status of these factors. Since any claims about how IGOs influence dispute behavior must be embedded in some theory of why disputes occur, we adopt the bargaining approach here.

III. A Theory of IGO Influence on Peace and International Conflict

The causal processes linking IGOs and interstate conflict behavior are complex and indirect. The effect of intergovernmental organizations on disputes depends on the genesis and structure of IGOs, the origins of interstate contests, and the interaction of the two. Traditional approaches offer very different interpretations of IGOs, in part because they emphasize different elements in this complex causal process. We develop a middle path, based on bargaining theory, between the contrasting claims of realists and liberals. Our approach uses simple formal models to illustrate the likely effectiveness of different methods of third-party intervention. (See Appendix 1.) IGOs can promote peace, but success depends on attributes present in only the most cohesive and institutionalized organizations.

After summarizing the bargaining argument, we look within the basic framework for ways that can best diminish the risk of contests.[18] Rather than develop complex three-actor models that incorporate additional aspects of strategic behavior, we believe that it is most appropriate at this point to identify which actions a third party can take that are most likely to influence competition between two states. Our goal is to identify how IGOs can best influence conflict behavior, not whether (and when) they will seek to do so.[19] We argue that IGOs will have the greatest impact on dispute behavior in a limited number of ways related to mandate, member cohesion, and institutional structure. The resulting theory produces a number of empirical implications, some of which

[18] For reviews of the rationalist literature on bargaining and war, see Dan Reiter, "Exploring the Bargaining Model of War," *Perspectives on Politics* 1, no. 1 (2003); and Robert Powell, "Bargaining Theory and International Conflict," *Annual Review of Political Science* 5 (2002). For a critique, see Jonathan Kirshner, "Rationalist Explanations for War?" *Security Studies* 10, no. 1 (2000).

[19] The notion that IGOs are selective in their mediation efforts is contrasted by normative and institutional incentives to intervene. Unlike peacekeeping, say, where the investment is high, organizing talks, pressuring delegates, brokering deals, informing parties, and promoting sanctions are all relatively low-cost actions. These activities are often explicitly encouraged by IGO charters, members, and interested publics. Indeed, the proliferation of security IGOs, the bulk of which are unequipped to impose peace, would appear peculiar if they were not meant to conduct such activities.

cannot be evaluated here. Nevertheless, our tests support the theory while challenging existing alternatives.[20] We hope to extend analysis of the theory in subsequent research.

The Bargaining Approach to War

Theories of war commonly conflate the motives for conflict with the choice of method for conflict resolution. Costly contests involve at least two elements. First, there exists a zero-sum competition for excludable goods.[21] States differ over issues or territory that each cannot simultaneously control. Second, states choose a method of settlement, a choice that is non–zero sum. Fighting deprives victors of benefits and increases burdens on the vanquished, implying that states are collectively better off selecting methods that minimize the transaction costs of bargaining. Since war is costly and since almost all contests end in some settlement, fighting is rational only if states are unable to arrive at the settlements that eventually terminate contests prior to hostilities. A theory of war is thus an account of why states sometimes fail to achieve ex ante the bargains that obtain ex post.

Fearon identifies three conditions that can precipitate costly contests: issue indivisibilities, commitment problems, and information asymmetries.[22] States can experience bargaining failures and war if the stakes in dispute are not readily divisible (mutually acceptable bargains are unavailable, either because apportioning the stakes is impossible or because prior action by one of the states has made compromise costly). Fearon discounts indivisibilities as a precipitant because side payments are generally available and appear to be practiced. For example, U.S. negotiators resolved a deadlock in talks ending the Spanish-American War by offering Spain $20 million in reparations.[23] We follow Fearon

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[20] Formal models serve, among other things, to tie tests of implications of an argument to untested elements of a theory. See Rebecca B. Morton, *Methods and Models: A Guide to the Empirical Analysis of Formal Models in Political Science* (Cambridge: Cambridge University Press, 1999).

[21] States can have no incentive to dispute benefits that cannot be denied to the loser or third parties. If players value relative gains, however, war can result from nonrivalrous goods.

[22] Fearon's list is not exhaustive. Risk acceptance can motivate contests, as can a consumption value for war. There is also a broader set of commitment problems that is assumed away by Fearon's modeling framework. See, for example, Michelle R. Garfinkel and Stergios Skaperdas, "Conflict without Misperception or Incomplete Information: How the Future Matters," *Journal of Conflict Resolution* 44, no. 6 (2000); Branislav Slantchev, "The Power to Hurt: Costly Conflict with Completely Informed States," *American Political Science Review* 97, no. 1 (2003). Still, Fearon's characterization of war is coherent, widely addressed in the literature, and tractable.

[23] David F. Trask, *The War with Spain in 1898* (New York: Macmillan, 1981), 445–66. "The likelihood of an agreement was greatly assisted by a proposal emanating from Senator Frye that the United States should offer financial compensation in exchange for the Philippines"; Joseph Smith, *The Spanish–American War: Conflict in the Caribbean* (London: Longman, 1994), 199–200.

in arguing that indivisibility is a relatively infrequent cause of interstate war.[24]

Commitment problems occur when changes in the balance of power, in war costs, or in interests provide disincentives for a rising state to honor existing agreements. A declining state can fight because its strategic position is better in the present than in the future and because its opponent cannot credibly commit under anarchy to honor a contract. As with indivisibilities, contests that result from commitment problems must resolve the commitment problem in order to reconcile the motives for fighting: otherwise there is resort to involve military solutions. This implies that commitment problems lead to particularly intractable contests or knife-edged bargains in which neither party expects its opponent to gain significant advantage in the future.[25] States may be able to use IGOs to improve the credibility of commitments, but IGO influence is again limited by capabilities and member cohesion.

Fearon follows Blainey in arguing that uncertainty about relative power, war costs, or interests represents the most common explanation for war.[26] States possess private information about variables likely to influence a contest (capabilities, resolve, and so on). While an actor might reveal private information, competition makes revelation problematic. Only by fighting or similar actions can states distinguish resolved or capable opponents from those seeking to bluff. That some states are willing and able to fight does not explain the need for contests unless it is impossible to distinguish these states from others that are less capable or resolved. If states can agree about the content of eventual bargains, then opponents should mutually prefer the anticipated bargain to fighting. In short, disagreements about the nature of the eventual bargains explain the need for contests.

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[24] States often have incentives to seek to generate indivisibilities. Commitment increases bargaining power by making it harder to compromise. Third parties could allow states to extract themselves from commitments. Blaming an IGO for having to renege on a promise may free a leader from domestic audience costs, for example. It is also possible, however, that IGOs increase opportunities for generating indivisibilities. IGOs allow leaders to formalize agreements that are later binding (or at least impinging) on domestic politics. We do not explore these issues here.

[25] Commitment problems and indivisibilities may be more prevalent in intrastate conflict, where settlements often include a loss of autonomy for one of the competing parties or where any settlement implies recognition, which is part of the stakes in the contest. See Barbara F. Walter, "Explaining the Intractability of Territorial Conflict," *International Studies Review* 5, no. 4 (2003); Monica Duffy Toft, *The Geography of Ethnic Violence: Identity, Interests, and the Indivisibility of Territory* (Princeton: Princeton University Press, 2003); James D. Fearon and David Laitin, "Explaining Interethnic Cooperation," *American Political Science Review* 90, no. 4 (1996); idem, "Ethnicity, Insurgency, and Civil War," *American Political Science Review* 97, no. 1 (2003).

[26] For a succinct and highly intuitive account of the bargaining argument, see also James D. Morrow, "How Could Trade Affect Conflict?" *Journal of Peace Research* 36, no. 4 (1999).

Fearon's bargaining approach to war leads us to focus on the informational impact of IGOs. Uncertainty and incentives to compete can precipitate costly interstate warfare.[27] IGOs can alleviate the motives for contests by credibly communicating information about strategic variables that otherwise remain the private domain of particular states. IGOs can also seek to reduce dispute behavior by sanctioning or intervention, though the bargaining approach suggests a different causal logic than that offered by traditional explanations. Below we examine ways in which third parties can reduce the likelihood or duration of international contests. We then tailor these generic insights to the characteristic features of intergovernmental organizations. First, however, we review ways that third parties are likely to be *ineffective* in limiting disputes.

Why Third Parties Often Fail to Influence Dispute Behavior

Students of international organization often argue that third parties (such as IGOs) influence states' interest in or ability to pursue conflict by altering the costs or benefits associated with contests. Deterrence attempts to reduce the chances of costly contests by making such contests more expensive or by reducing the odds of victory. Appeasement seeks to alter the probability of contests by increasing the net benefit of settlements made in lieu of fighting. Such arguments are plausible to the extent one believes that states are restricted to fixed and exogenously determined demands. Yet we normally think of anarchy and sovereignty as allowing states wide latitude in the formulation of agreements. Efforts to alter strategic conditions can change *either* the probability of a contest *or* the bargains states make in lieu of fighting. Bargaining theory emphasizes that altering cost/benefit parameters facing competitors will often fail to reduce the risk of war significantly.[28]

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[27] Erik Gartzke, "War Is in the Error Term," *International Organization* 53, no. 3 (1999). The asymmetric information argument is not theoretically sufficient to explain war. A sufficient account of the causes of war requires that researchers access the private information of competing states.

[28] Fearon (fn. 17) provides a formal proof. We use Fearon as the basis for our theory. Robert Powell, *In the Shadow of Power: States and Strategies in International Politics* (Princeton: Princeton University Press, 1999); idem, "The Inefficient Use of Power: Costly Conflict with Complete Information" *American Political Science Review* 98, no. 2 (2004). Garfinkel and Skaperdas (fn. 22); and Slantchev (fn. 22) offer alternative bargaining frameworks in which commitment problems are a more important cause of war and contests can occur under full information. Which characterization of bargaining is most general empirically remains a subject of debate. Note, however, that alternative conceptions hinge on assumptions about the sequence of offers in bargaining. Since states often negotiate about how they will negotiate (structure is endogenous), and since a satisfactory theory of this aspect of bargaining has yet to be introduced to international relations, we adopt the simplest model of bargaining as a place of departure. The theory we supply is shown here to better explain observed behavior than conventional liberal or realist alternatives.

The strategic nature of contests means that any effort that changes costs or benefits for one actor in competition does so in a roughly reciprocal fashion for competitors: if war becomes more expensive or the net benefits of fighting diminish for one state, then war is relatively cheaper or more appealing for opponents.[29] If competitors can convert advantage into better bargains, then simply altering the costs or benefits of fighting for one actor should have relatively little effect on the probability of a dispute. If IGOs intervene, changing the balance of power or interests, but allow competitors to bargain, we should often see little or no reduction in conflict behavior.

> Proposition 1. Actions by IGOs that alter the bargaining power between two competitors, when common knowledge, encourage revised demands rather than just prompting a change in decisions to fight.

If competitors are informed about changes in strategic variables and are free to act, then the effects of changes should often be subsumed in bargaining, regardless of whether the change is endogenous to a contest or imposed by outside actors. Even where imposing costs succeeds in compelling peace (as in "corner solutions," where one party prefers any available offer to fighting), the approach is relatively inefficient, since much of the third party's effort is diverted by competitors into obtaining a better bargain. Attempting to deter or appease all parties might appear to be a remedy. However, just as in a chicken game, increasing the cost of fighting (or the benefits of peace) for all competitors only alters the odds of a contest if conflict is prohibitively costly *regardless* of what opponents demand.[30] States may occasionally be uninformed about changes in the balance of power, threat, or interests, or they may be unable to bargain effectively. However, competitors clearly have incentives to be aware of and to act on new or better information. We argue that third parties can promote peace most often and most economically by influencing the informational conditions surrounding contests.

How Third Parties Can Best Promote Peace

IGOs can potentially affect dispute behavior in a variety of ways. First, they can act as mediators and information brokers.[31] To the degree that

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[29] The security dilemma makes clear the zero-sum nature of dynamics in the balance of power. However, realists have failed to extend the insight to diplomatic bargaining. Factors that alter the likely outcomes of contests should alter the demands of diplomats in roughly the same fashion.

[30] Changing the payoffs in the chicken game alters play only if changes are ordinal. The effect is stronger in a bargaining game, where competitors set payoffs endogenously through their offers.

[31] A review of the traditional literature on the effects of third-party mediation can be found in Lilach Gilady and Bruce Russett, "Peace-Making and Conflict Resolution," in Walter Carlesnaes, Thomas Risse, and Beth Simmons, eds., *Handbook of International Relations* (London: Sage, 2002).

contests result from private information about capability and resolve, revelation of this information reduces the incentives to fight. Second, third parties can directly intervene in contests but constrain participants from converting advantages into more extractive demands where necessary. While changing the value of strategic variables may or may not diminish dispute behavior, third parties can promote peace by restraining competitors from acting on new conditions or by concealing information about new conditions from states that stand to benefit. Finally, third parties can reduce uncertainty by creating minor contests that have the effect of credibly communicating resolve among relevant parties (signaling). Talk is cheap in international relations.[32] If threats of force face costly consequences (sanctions, diplomatic censure), then leaders' words can be more informative, allowing observers to draw more accurate inferences.

INFORMATIONAL ARBITRAGE

Third parties can act as information arbitrageurs, reducing the risk of war by revealing private information about strategic variables. The bargaining approach suggests that war often results from uncertainty and incentives to bluff. If a third party informs one state of the status of an opponent's military capabilities, for example, then the state can make concessions when necessary.

> Proposition 2. IGOs promote peace by revealing private information about competitor states.

Nevertheless, there are barriers to effective third-party promotion of peace through information arbitrage. To function as an arbitrageur, a third party must have information that is not available to at least one of the competing states. In practical terms, the best way to achieve this is to have access to sophisticated administrative and intelligence-gathering capabilities. This implies that IGOs with extensive institutional structures or support from member countries (particularly major powers) will be more effective at promoting peace. Further, even by acting only as information arbitrageurs, third parties stand to disadvantage some parties and so will be seen as strategic participants.[33]

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[32] For a discussion of credible diplomacy, see Anne Sartori, "The Might of the Pen: A Reputational Theory of Communication in International Disputes," *International Organization* 55, no. 3 (2002).

[33] IGOs must also convince states of the veracity of information. Paradoxically, a third-party intent only on averting a contest may be less effective than a biased actor with preferences over the outcome of bargaining. Randall Calvert demonstrates that information from biased political sources can be informative; Calvert, "The Value of Biased Information: A Rational Choice Model of Political Advice," *Journal of Politics* 47, no. 2 (1985). Andrew Kydd extends this logic to the context of third-party mediation of

INTERVENTION WITH SECRECY OR CONSTRAINT

A second method by which third parties can promote peace is by altering the payoffs for one side in a conflict while keeping the new payoffs secret from other competitors or constraining opponents from using the new conditions to advantage themselves in bargaining. A third party, such as an IGO, can assist one side in a conflict or, alternatively, punish one or both parties. Unfortunately, as noted above, when a third party intervenes, the beneficiary of new strategic conditions has an incentive to seek to extract additional concessions from its opponent. If instead, the beneficiary does not know of the new strategic conditions or if the beneficiary is restrained from demanding greater concessions from its opponent, then intervention is likely to have a greater effect on peace.

> Proposition 3. IGOs promote peace by intervening secretly or by constraining states that stand to benefit from IGO intervention.

Keeping changes secret is arguably the least taxing method in terms of resources for third parties. All that is necessary to promote peace is that the beneficiary be uninformed of new conditions. However, secrecy may also be the *least effective* method, especially for IGOs. Once new strategic conditions are revealed, failure ensues.[34] Members of IGOs may have divergent objectives. States with partisan interests have incentives to divulge IGO secrets to fellow partisans in a conflict. Thus, IGOs that possess or develop a consensus among members are more likely to be successful in promoting peace, while IGOs housing divergent interests will more often face problems using this method.

> Proposition 4. Preference homogeneity among IGO members increases the effectiveness of efforts to promote peace through intervention and secrecy.

Third parties can also change incentives for one side in a contest while constraining opponents from changing their demands. If an IGO punishes a state for fighting or provides the state with a subsidy for agreeing to a bargain, while its opponent is forced to make its regular offer,

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interstate conflicts; Kydd, "Which Side Are You On? Bias, Credibility, and Mediation," *American Journal of Political Science* 47, no. 4 (2003). In a subsequent paper, Kydd points out that reputation can be used to make unbiased mediators more credible, though the balance between costs and credibility is critical. See Andrew Kydd, "The Honest Broker: Mediation and Mistrust" (Manuscript, Harvard University, Cambridge, July 2004). Similarly, Robert W. Rauchhaus relaxes the assumption that mediators prefer peace; Rauchhaus, "Asymmetric Information, Mediation and Conflict Management" (Manuscript, University of California, Santa Barbara, 2003).

[34] Secret threats lack the consequences often viewed as critical to successful deterrence. See Robert Powell, *Nuclear Deterrence Theory: The Search for Credibility* (Cambridge: Cambridge University Press, 1990). Uncertainty about third-party actions could increase the onset of disputes.

then competitors will more often avoid disputes. The approach may be more difficult to implement than informational arbitrage or signaling, since it requires third parties to take two simultaneous actions (intervene and constrain). If the IGO intervenes to appease or deter one state, it must also restrain the counterpart. The institutional strength of the organization, as well as the cohesion and capabilities of members, will be critical in implementing intervention and constraint.[35]

COSTLY SIGNALING

The third option available to third parties in promoting peace is to confront states contemplating warfare with an additional layer of intermediate challenges. The bargaining approach implies that states fight because force represents one of the only available practical means for generating differential costs and thus for distinguishing between resolved competitors and those seeking to bluff.[36] One way of reducing the frequency of disputes, then, is to create other methods of demonstrating resolve. Third parties can impose sanctions, embargo products, or take other actions that make it more costly for competitors to compete. Again, it is not the deterrent effect of these efforts that reduces the frequency of disputes.[37] States can simply change their demands in response to new opportunities or constraints. Instead, the peace-producing effect of sanctions is to remove some of the uncertainty that surrounds competition. States that endure sanctions or other third-party punishment inform opponents by distinguishing themselves from other, less-resolved competitors.

> Proposition 5. IGOs promote peace by facilitating costly signaling among states through the imposition of sanctions, embargoes, or other nonmilitarized punishments.

Costly signaling can be implemented even when the ability of the IGO to constrain competitors is partial or incomplete. As long as at least some competitors find sanctions burdensome, resulting differences in behavior allow observers to learn something new about relative resolve

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[35] Neutral third parties, while arguably less effective at information arbitrage, are likely to be more effective at intervention and constraint. Biased IGOs may fail to constrain their favored faction, leading to more extractive demands and a higher risk of war.

[36] Actors can autonomously reveal resolve through costly actions, but "burning money" also weakens bargaining power. We should see such actions only when the reduction in uncertainty leads to payoffs exceeding the cost in resources and the loss of leverage. See David Austen-Smith and Jeffrey S. Banks, "Cheap Talk and Burning Money" (Manuscript, Northwestern University, Evanston, Ill., and the California Institute of Technology, Pasadena, Calif., 1998).

[37] Gartzke, Li, and Boehmer (fn. 2).

or capabilities. Competitors that interact in the presence of IGO sanctions or other punishments will more often arrive at bargains prior to the onset of violence. The potential to act in ways that allow states to signal implies that IGOs need not have sufficient capabilities to impose their will on states in order to be effective. Still, IGOs that are primarily interested in security and that are willing to sacrifice economic and social interests in the pursuit of peace stand to be most effective. Third parties must also possess a mandate to punish states for political acts. IGOs with economic or social mandates may be disinclined or unable to punish states for purely political behavior. Thus, promoting peace through signaling is probably most effectively achieved through security-oriented IGOs.

> Proposition 6. IGOs with a mandate as security organizations are more effective at promoting peace through costly signaling than are those with nonsecurity objectives and interests.

Bargaining failures can be reduced if competitors are confronted with "tests" prior to escalation to militarized acts. Holding punishments in reserve may be problematic, since it invites misperception on the part of both competing states and the third party. Concern about appearing ineffective may be misplaced. Even if punishments fail to deter, the resulting reduction in uncertainty about relative resolve among competitors allows for ex ante settlements. Punishments directly inhibit contests only if they are so large that the target finds any offer preferable to fighting. It seems unlikely in most contexts that states contemplating costly violent force will be cowed by the punishments available to most IGOs. Even more troubling, delay in implementation can create added uncertainty, increasing the likelihood of a contest. The ability of the third party to act decisively and with sufficient sanctioning power to influence events and inform competitors depends once again on mandate, institutional structure, member cohesion, and the presence of major powers.

EVALUATING IGOS

Testing bargaining theories is challenging because of the difficulty in observing information. We thus need to take an indirect route, seeking implications that are uniquely indicative of the theory. The need to adopt existing research designs also constrains our efforts. Our findings suggest, nonetheless, that the theory possesses considerable face validity. While individual results can be interpreted as supporting competing conventional perspectives, other findings contradict each classical view. We believe that our theory best explains the particular mixture of IGO strengths and weakness that we observe.

We present four hypotheses designed to differentiate between our argument and the conventional alternatives. First, we have argued that disparate findings in the literature about the effect of IGOs on war and peace can be explained by variability in state activity. States that are active abroad share both more IGO memberships and a higher likelihood of involvement in militarized disputes.

> Hypothesis 1. After controlling for the level of *international activity,* dyads with more IGO memberships should appear about as likely to experience militarized disputes as other dyads.

Second, the effectiveness of IGOs at promoting peace should vary with institutional structure. Institutionalized IGOs possess at least some of the resources needed for informational arbitrage, intervention and constraint (or secrecy), or signaling. Realists imply that the notion of IGOs with strong institutions is an oxymoron. Liberals and functionalists argue that merely constructing IGOs may be sufficient to promote peace. All treat IGOs as more or less uniform in their impact on conflict.

> Hypothesis 2. Dyads in which states share membership in a large number of IGOs with greater *institutional structure* are less likely to experience militarized disputes.

Third, IGOs vary in the level of contentiousness among their members. IGOs require consensus to be effective. Dissatisfied members may seek to delay or obstruct interventions, or they may reveal secrets to protégés. Even more serious, IGOs that are undecided about intervention increase uncertainty, potentially leading competitors to fight when a contest might otherwise have been avoided. Traditional approaches fail to emphasize the impact of internal political struggles for IGO effectiveness. Indeed, functionalists see IGOs as ensuring that differences among states gradually "wither away."

> Hypothesis 3. Dyads in which states share membership in IGOs with tighter *member cohesion* are less likely to be associated with militarized disputes.

Finally, IGOs differ in their organizational mandate. IGOs with a security mandate are more likely to influence disputes. This contrasts with the realist assertion that IGOs are hollow shells, but it also differs from functionalist and liberal claims that IGOs broadly transform interstate relations.

> Hypothesis 4. Dyads in which states participate in more IGOs with a *security mandate* have a lower probability of experiencing a militarized dispute.

IV. Research Design

This study uses pooled time-series cross-national data with a unit of analysis of nondirected dyad-years. We focus primarily on the all-dyads sample, though results using politically relevant dyads are generally the same.[38] We base our analysis on Oneal and Russett, though data on IGO attributes limit the temporal domain to 1950–91.[39] We first replicate Oneal and Russett's findings and then introduce additional variables measuring the attributes of IGOs. We employ both the BTSCS technique detailed by Beck, Katz, and Tucker and General Estimating Equations to correct for temporal dependence in the dependent variable.[40] The former method uses a "peace year" variable and cubic splines to account for autocorrelation in militarized disputes. Due to limited space and because the results are comparable, we report only the logit/BTSCS analyses.

We use a new schema to code the IGO data, details of which are provided in Appendix 2. IGOs vary in their degree of institutionalization. At one end of the institutionalization continuum are organizations that contain only a nominal organizational structure. The heads of states or various ministers meet annually or biannually under the auspices of the organization. But agreements seldom require the organization to implement policy. The member states themselves are responsible for coordination and cooperation, which often leads to defections from agreements in the absence of further institutional support. The goals of these IGOs thus often go unfulfilled. Somewhere in the middle of the continuum are organizations with formal structures guided by procedures and rules regarding control of the agenda and voting. The members of some IGOs go further, making decisions that are binding on all members. Many of these organizations also possess bureaucracies that aid implementation and that produce other tangible benefits for members. Last, the most highly institutionalized organizations possess organs or mechanisms of mediation, arbitration, or adjudication aimed at conflict resolution and the enforcement of organizational decisions; or they may possess other benefits such as economic aid that can be withheld from states to influence decision making. These IGOs are also capable of un-

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[38] All results mentioned but not published in the study are available from the authors.

[39] Oneal and Russett (fn. 2). We collected data on institutionalization for 297 IGOs, coding 198 as "minimal," 52 as "structured," and 47 as "interventionist." Details for defunct IGOs are often unavailable.

[40] Nathaniel Beck, Jonathan N. Katz, and Richard Tucker, "Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable," *American Journal of Political Science* 42, no. 4 (1998).

covering private strategic information, especially in cases where states forgo organizational benefits under sanctions, thus signaling resolve. Institutionalized IGOs should be most capable of affecting international conflict. IGOs are coded on a three-point scale of institutionalization.

1. *Minimal organizations* contain plenary meetings, committees, and possibly a secretariat without an extensive bureaucracy beyond research, planning, and information gathering.

2. *Structured organizations* contain structures of assembly, executive (nonceremonial), and/or bureaucracy to implement policy, as well as formal procedures and rules.

3. *Interventionist organizations* contain mechanisms for mediation, arbitration and adjudication, and/or other means to coerce state decisions (such as withholding loans or aid), as well as means to enforce organizational decisions and norms.

Dependent Variable

The dependent variable comes from the Militarized Interstate Dispute data set produced by the Correlates of War Project.[41] A MID occurs when a state threatens, displays, or uses military force against another state. We use Maoz's dyadic version (DYMID1.0), which also corrects for some errors in the basic MID data.[42] MID *Onset* only equals one for the onset year of a MID.[43] Onset and duration are conceptually distinct processes to which IGOs might contribute in very different ways. Using *Onset* also addresses the generic problem of the nonindependence of subsequent dispute years. Of even greater importance here, the tendency for conflict and IGO membership to be serially autocorrelated could produce a misleading positive correlation *between* the variables.

Independent Variables

We analyze four different IGO membership variables. The first measure counts the number of intergovernmental organizations in which both states of a dyad are members in a given year. We begin by replicating Oneal and Russett's aggregate joint IGO variable.[44] The replication vari-

[41] Daniel Jones, Stuart Bremer, and J. David Singer, "Militarized Interstate Disputes, 1816–1992: Rationale, Coding Rules, and Empirical Patterns," *Conflict Management and Peace Science* 15, no. 2 (1996); Charles S. Gochman and Zeev Maoz, "Militarized Interstate Disputes, 1816–1976: Procedure, Patterns, and Insights," *Journal of Conflict Resolution* 28, no. 4 (1984).

[42] Zeev Maoz, "Dyadic Militarized Interstate Disputes (DYMID 1.1) Dataset, Version 1.1" (Codebook, Department of Political Science, Tel Aviv University, 1999).

[43] For a useful discussion of the debate over onset and ongoing MIDs, see D. Scott Bennett and Allan Stam, "Research Design and Estimator Choices in the Analysis of Interstate Dyads: When Decisions Matter," *Journal of Conflict Resolution* 44, no. 5 (2000).

[44] Oneal and Russett (fn. 2). Replication is approximate given idiosyncrasies in data and coding.

able ranges in value from 1 to a maximum of 93. Data were collected from multiple sources. Data from 1950 to 1963 were taken from the Correlates of War *Intergovernmental Organizations* data set.[45] Data for 1964 to 1992 come from the *Yearbook of International Organizations*,[46] the *Political Handbook of the World*,[47] and from information provided by individual organizations. We next subdivide IGO memberships according to the three institutionalization levels outlined above, to provide three different variables, one for each category in our typology.

IGO Mandate reflects the type of role framers of the IGO anticipated when the organization was founded, as formalized in the founding documents of the organization (security, economic, or other). In the analysis section, we use *IGO Mandate* to identify the sample of security IGOs.

Other attributes strengthen or undermine the ability of IGOs to foster interstate cooperation. Organizational efficacy is presumably affected by the degree of cohesion among members, irrespective of mandate or institutionalization. We measure the level of agreement among IGO members using data on the similarity of state voting patterns in the United Nations.[48] The similarity of state preferences is measured for all members of a given IGO and ranked in quartiles of contentiousness. Values are then aggregated and averaged across all IGOs within a given dyad, so that the resulting variables can be used in our analysis. *Floor Member Contention* measures the average contentiousness among members of IGOs in which states of a given dyad share membership. We expect that IGOs that suffer from more contentious memberships are less able to act decisively to prevent or extinguish interstate violence. Similarly, *Major Power Contention* measures the average divergence of preferences among major power members of IGOs in which the states in a dyad share membership. Finally, we combine the two variables above into a third variable, *Difference in Floor-*

Major Power Contention, which reflects the degree of contentiousness between the average position of all states in the IGO relative to the mean position of major power members of the IGO.[49]

Our next explanatory variable controls for the magnitude of state interactions with the international system. There is likely to be a relationship between participating in IGOs and involvement in military contests. States active in numerous IGOs potentially have a greater number of international interests to defend. States that interact extensively also have more opportunities to engage in conflict. States with a large number of diplomatic relations are differentially likely to join IGOs and are more likely to experience conflict. *Diplomatic Missions Low* is based on Oneal and Russett's "weak link" assumption and equals the value for the state in a given dyad that maintains the fewest foreign diplomatic missions. We anticipate that the higher the value of *Diplomatic Missions Low*, the more likely it is that a MID will occur. *Diplomatic Missions Low* controls for international engagement.[50]

ONEAL AND RUSSETT CONTROL VARIABLES

To maintain comparability with other studies, the remaining variables are all from Oneal and Russett.[51] The two additional "legs" of the Kantian tripod for peace (along with IGOs) are joint democracy and trade interdependence. Both *Democracy Low* and *Trade Dependence Low* use the "weak link" assumption. We measure regime type by subtracting each state's autocracy score from its democracy score, as coded in Polity III,[52] for an index from −10 (most autocratic) to +10 (most democratic). *Democracy Low* then equals the lower of the two state regime scores, while *Trade Dependence Low* equals the lower of the sum of a state's exports plus imports with its dyadic partner divided by its IGO. Again, the higher the lower value in a dyad, the less likely is a MID.

Oneal and Russett identify realist variables that potentially predict conflict. *Allies* equals one when the states of a dyad are allied, and zero otherwise. Similarly, *Major Power Dyad* equals one if at least one dyad member is a major power. Major powers by definition have greater opportunity to engage in MIDs. Of course, deterrence may work as well. *Capability Ratio* equals the ratio of the stronger dyadic state's capability

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[49] We also created an alternative measure of IGO member contentiousness by inverting and summing quartiles. The resulting variables correlate highly with the IGO institutionalization variables.
[50] In future research we plan to explore selection effects in IGOs using a different unit of analysis.
[51] Oneal and Russett (fn. 2).
[52] Keith Jaggers and Ted R. Gurr, "Transitions to Democracy: Tracking Democracy's 'Third Wave' with the Polity III Data," *Journal of Peace Research* 32, no. 4 (1995).

to the weaker state. We take the natural logarithm of the variable since power arguably has diminishing returns to scale. The greater the relative difference in power in a dyad, the less likely states are to fight. Lastly, distance has proven a reliable predictor of conflict. States are much less likely to fight with geographically distant counterparts. Two variables are included to control for geographic space. First, *Contiguity* is a dummy variable equal to one when dyad members are contiguous by land or by water within 150 miles (zero otherwise). Second, *Distance* is the natural log distance between capitals or major ports of dyad members.

Temporal Dependence

One of the primary functions of IGOs is to offer structures that encourage ongoing, amicable interstate interaction. Thus, time becomes a major factor in the analysis of IGOs and peace. States that have coexisted amicably for many years are more likely to remain at peace. IGOs may help to regularize interactions between states, or they may simply reflect a cooperative status quo. Russett, Oneal, and Davis fail to control for temporal dependence.[53] Oneal and Russett and Gartzke, Li, and Boehmer find that, after controlling for temporal dependence with the Beck, Katz, and Tucker procedure, IGOs appear to *increase* the dispute propensity of member states.[54] Militarized disputes (MIDs) and other indicators of interstate violence appear to be associated temporally. The probability of a dispute at time t may be statistically related to the duration of peace since the last conflict. Past decisions to cooperate coincide with a lack of motives for disputes and so IGOs appear to reduce disputes when in fact they simply coincide with prior peace.

V. Results

To assess the effects of IGOs on the conflict propensity of states, we first replicate analysis by Oneal and Russett.[55] In Table 1 we use logistic regression to estimate MID *Involvement*, the Oneal and Russett dependent variable, with the Beck, Katz, and Tucker controls for serial

[53] Russett, Oneal, and Davis (fn. 1).

[54] Ibid; Gartzke, Li, and Boehmer (fn. 2).

[55] Oneal and Russett (fn. 2). We use Oneal and Russett's data and statistical model to establish a baseline for comparison. The changes in data and variable construction mentioned previously are reported in subsequent tables. We also replicated all regressions using the ReLogit procedure, but found no substantive differences in results. See Gary King and Langche Zeng, "Explaining Rare Events in International Relations," *International Organization* 55, no. 3 (2001); idem, "Logistic Regression in Rare Events Data," *Political Analysis* 98 (2001).

autocorrelation.[56] Logistic regression constitutes a more demanding test than GEE, as the latter produces results friendlier to our theory and to that of Oneal and Russett. As reported by Gartzke, Li, and Boehmer and Oneal and Russett, introducing the BTSCS temporal controls implies that the effect of IGOs on disputes is positive and significant.[57] Table 1 includes two regressions each for politically relevant dyads and for the larger all-dyads sample. Regression models 1-1 and 1-3 replicate Oneal and Russett, while models 1-2 and 1-4 introduce the control for international activity, *Diplomatic Missions*, suggested by hypothesis 1. Our contention that the association between conflict and IGO status can be explained by states' international activity is largely substantiated. In model 1-2, adding *Diplomatic Missions* makes the IGO variable statistically insignificant. In model 1-4, using all dyads, the effect is similar, though not as strong. *Joint IGO Membership* continues to be positively associated with disputes, though only at the marginal 10 percent level. While it is useful to control activity, more needs to be done to adequately assess the impact of IGOs on war and peace.

We can now begin to relax the assumption that all IGOs are created equal. Estimates in Tables 2 and 4 are again obtained using logistic regression, but with *Onset* as the dependent variable. The first column of Tables 2 and 4 reports estimates of a model using an aggregate variable including all joint IGO memberships in a dyad. The three remaining columns offer models with IGO membership variables disaggregated by level of institutional structure, beginning with minimally institutionalized organizations in the second column and moving to interventionist organizations in the right-hand-most column. Tables 3 and 5 detail substantive effects for the estimated coefficients.

Model 2-1 shows that there is no statistically significant effect of IGOs in aggregate on war and peace. Once we use a more appropriate dependent variable (*Onset*) and, as suggested by hypothesis 3, add variables measuring contentiousness among IGO members to the Oneal and Russett model, realist skepticism would appear to be justified. We are not yet finished modifying the Oneal and Russett model, however. Hypothesis 2 asserts that the level of IGO institutionalization is a critical factor. Aggregating IGO data produces one common coefficient estimate for all types of IGOs, while the "true" model arguably contains several coefficients for different IGO categories.

Breaking down the joint IGO variable by level of institutionalization reveals a different, more nuanced picture. The average IGO may be ir-

[56] Beck, Katz, and Tucker (fn. 40).
[57] Oneal and Russett (fn. 2); Gartzke, Li, and Boehmer (fn. 2).

TABLE 1
IGOs, Time Dependence, International Interactions and Militarized Disputes Involvement (1950–91)

Variable	Model 1-1 Membership in All IGOs Politically Relevant Dyads Coefficient	S.E.	Model 1-2 Membership in All IGOs Politically Relevant Dyads Coefficient	S.E.	Model 1-3 Membership in All IGOs All Dyads Coefficient	S.E.	Model 1-4 Membership in All IGOs All Dyads Coefficient	S.E.
Joint IGO Membership	0.008	0.003**	0.005	0.006	0.016	0.004***	0.015	0.006*
Diplomatic Missions, Low	—		0.009	0.002***	—		0.010	0.002***
Democracy, Low	-0.055	0.009***	-0.040	0.012***	-0.063	0.009***	-0.058	0.012***
Interdependence, Low	-18.253	8.852*	-33.610	23.848	-31.073	10.603**	-43.245	22.617*
Capability Ratio	-0.245	0.040***	-0.110	0.057*	-0.191	0.040***	-0.037	0.055
Allies	-0.301	0.154*	-0.232	0.182	-0.369	0.157**	-0.304	0.200
Geographic Contiguity	0.757	0.134***	0.588	0.217**	1.586	0.153***	1.582	0.195***
Distance between Capitals	-0.125	0.051**	-0.052	0.072	-0.361	0.049***	-0.333	0.080***
Major Power Dyad	0.589	0.155***	-0.017	0.239	1.711	0.135***	1.214	0.198***
Peace Years	-0.106	0.008***	-0.175	0.015***	-0.100	0.008***	-0.170	0.013***
Spline 1	0.164	0.016***	0.282	0.028***	0.152	0.015***	0.266	0.025***
Spline 2	-0.074	0.016***	-0.133	0.030***	-0.051	0.014***	-0.090	0.023***
Spline 3	-0.033	0.053	0.005	0.057	-0.134	0.082	-0.127	0.082
Constant	-1.462	0.408***	-1.516	0.641**	-1.617	0.406***	-1.671	0.701**
	n = 33337 Log Likelihood = -4267.3		n = 20708 Log Likelihood = -2234.2		n = 149404 Log Likelihood = -5732.4		n = 110769 Log Likelihood = -3111.1	

*p < .10, **p < .05, ***p < .01

TABLE 2

IGO Institutionalization, Contentiousness, and the Onset of Militarized Disputes (1950–91)

Variable[a]	Model 2-1 Membership in All IGOs		Model 2-2 Membership in Minimal IGOs		Model 2-3 Membership in Structured IGOs		Model 2-4 Membership in Interventionist IGOs	
	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
Joint IGO Membership	−0.0078	0.0069	—	—	—	—	—	—
Joint Membership, Minimal	—	—	−0.0045	0.0117	—	—	—	—
Joint Membership, Structured	—	—	—	—	−0.0854	0.0429**	—	—
Joint Membership, Interventionist	—	—	—	—	—	—	−0.0094	0.0162
Floor Member Contention	0.0536	0.0661	0.0615	0.0652	0.0508	0.0672	0.0602	0.0649
Major Power Contention	0.2051	0.0861**	0.2128	0.0877**	0.2080	0.0865**	0.2022	0.0866**
Dif Floor—MP Contention	0.0857	0.0879	0.0596	0.0875	0.0854	0.0804	0.0738	0.0887
Diplomatic Missions, Low	0.0086	0.0023***	0.0083	0.0023***	0.0098	0.0024***	0.0081	0.0023***
Democracy, Low	−0.0325	0.0117	−0.0353	0.0115***	−0.0253	0.0121**	−0.0352	0.0118***
Interdependence, Low	−10.3706	14.1792	−12.6852	14.7170	−5.4724	13.0465	−12.9022	14.0504
Capability Ratio	−0.0418	0.0480	−0.0393	0.0479	−0.0372	0.0473	−0.0405	0.0476
Allies	−0.065	0.1917	−0.094	0.1920	−0.040	0.1833	−0.098	0.1868
Geographic Contiguity	1.9381	0.1885***	1.9279	0.1869***	1.9390	0.1892***	1.9281	0.1880***
Distance between Capitals	−0.2965	0.0714***	−0.2922	0.0711***	−0.3175	0.0738***	−0.2906	0.0695***
Major Power Dyad	0.9416	0.1892***	0.9417	0.1882***	0.9299	0.1889***	0.9357	0.1873***
Peace Years	−0.3580	0.0347***	−0.3577	0.0347***	−0.3578	0.0345***	−0.3577	0.0347***
Spline 1	−0.0012	0.0003***	−0.0012	0.0003***	−0.0012	0.0003***	−0.0012	0.0003***
Spline 2	0.0003	0.0002	0.0003	0.0002	0.0003	0.0002	0.0003	0.0002
Spline 3	0.0001	0.0000**	0.0001	0.0000**	0.0001	0.0000**	0.0001	0.0000**
Constant	−2.2606	0.7551***	−2.3941	0.7447***	−2.1044	0.7815***	−2.3040	0.7468***
	n = 109965		n = 109965		n = 109965		n = 109965	
	Log likelihood = −2327.0		Log likelihood = −2327.6		Log likelihood = −2323.5		Log likelihood = −2327.5	

*p < .10, **p < .05, ***p < .01.
[a] Contention variables based on the Affinity data.

TABLE 3
IGO INSTITUTIONALIZATION, CONTENTION, AND MID ONSET

Based on Model 2–3	Probability[a]	% Change from Baseline
Baseline	0.0018	—
Joint Membership, Structured	0.0015	−12.12
Floor Member Contention	0.0018	4.08
Major Power Contention	0.002	14.89
Dif Floor—MP Contention	0.0019	8.02
Diplomatic Missions, Low	0.0022	22.97
Democracy, Low	0.0015	−15.41
Interdependence, Low	0.0017	−2.61
Capability Ratio	0.0017	−5.45
Allies	0.0017	−3.92
Geographic Contiguity	0.0121	587.82
Distance between Capitals	0.0013	−24.83
Major Power Dyad	0.0044	152.71

[a] prob after 1 standard deviation increase, or max value if binary, in given x variable holding others at their means or mins.

relevant to peace, but some IGOs significantly inhibit conflict. The coefficient for membership in minimal IGOs is negative but insignificant; the least institutionalized organizations do not discourage disputes. By contrast, joint membership in structured organizations, as reported in model 2-3, significantly reduces the probability of a dispute (a 12 percent decrease, as reported in Table 3). The overall number of organizations shared by states in a dyad is less important for interstate peace than the organization type. We thus find some support for our argument that IGOs require institutional structure in order to contribute to peace. Finally, interventionist organizations have no effect on the onset of MIDs. While this variable is negative and statistically significant in models estimated using GEE, we suspect that the category still contains unobserved heterogeneity. In particular, while both financial lending institutions and collective security organizations figure prominently as interventionist institutions, only the latter are likely to take active, coercive measures to affect the security behavior of states. Hypothesis 4 suggests that we should again disaggregate the data, differentiating between IGOs on the basis of their mandate. Before proceeding, however, we briefly review the other findings from Tables 2 and 3.

Results for the IGO contentiousness variables are consistent across the four models in Table 2. As suggested by hypothesis 3, organizations in which members share a substantially common agenda are less likely to get bogged down in intramural argument and more likely to act.

TABLE 4
INSTITUTIONALIZATION, CONTENTIOUSNESS, OF SECURITY IGOs AND THE ONSET OF MILITARIZED DISPUTES (1950–91)

Variable[a]	Model 4-1 Membership in All IGOs		Model 4-2 Membership in Minimal IGOs		Model 4-3 Membership in Structured IGOs		Model 4-4 Membership in Interventionist IGOs	
	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
Joint Security IGO Membership	−0.13557	0.0635**	—	—	—	—	—	—
Joint Security Mem, Minimal	—	—	0.1388	0.0881	—	—	—	—
Joint Security Mem, Structured	—	—	—	—	−0.1065	0.1244	—	—
Joint Security Mem, Interventionist	—	—	—	—	—	—	−0.5055	0.1335***
Floor Member Contention	0.0272	0.0690	0.0727	0.0645	0.0500	0.0677	0.0151	0.0694
Major Power Contention	0.2016	0.0868**	0.2152	0.0879**	0.2224	0.0889**	0.1414	0.0859*
Dif Floor—MP Contention	0.1122	0.0870	0.0325	0.0866	0.0594	0.0833	0.1814	0.0853**
Diplomatic Missions, Low	0.0085	0.0023***	0.0084	0.0023***	0.0083	0.0023***	0.0096	0.0024***
Democracy, Low	−0.0327	0.0118***	−0.0375	0.0115***	−0.0348	0.0119***	−0.0339	0.0116***
Interdependence, Low	−8.6261	13.8807	−14.9055	13.7941	−12.5133	13.9332	−5.3972	12.8378
Capability Ratio	−0.0379	0.0477	−0.0364	0.0472	−0.0375	0.0473	−0.0355	0.0479
Allies	0.0483	0.1904	−0.1598	0.1863	−0.0461	0.1725	0.0046	0.1843
Geographic Contiguity	1.9383	0.1894***	1.9087	0.1850***	1.9267	0.1889***	1.9187	0.1838***
Distance between Capitals	−0.2998	0.0747***	−0.2932	0.0670***	−0.2986	0.0727***	−0.2954	0.0692***
Major Power Dyad	0.9343	0.1870***	0.9459	0.1849***	0.9265	0.1894***	1.0096	0.1878***
Peace Years	−0.3552	0.0343***	−0.3576	0.0346***	−0.3575	0.0346***	−0.3481	0.0343***
Spline 1	−0.0012	0.0003***	−0.0012	0.0003***	−0.0012	0.0003***	−0.0011	0.0003***
Spline 2	0.0003	0.0002	0.0003	0.0002	0.0003	0.0002	0.0003	0.0002
Spline 3	0.0001	0.0000**	0.0001	0.0000**	0.0001	0.0000**	0.0001	0.0000**
Constant	−2.2372	0.7789***	−2.4007	0.7208***	−2.3331	0.7633***	−2.1192	0.7313***
	n = 109965		n = 109965		n = 109965		n = 109965	
	Log likelihood = −2325.3		Log likelihood = −2326.6		Log likelihood = −2327.1		Log likelihood = −2317.5	

*p < .10, **p < .05, ***p < .01

[a]Contention variables based on the Affinity data.

TABLE 5

SECURITY IGO INSTITUTIONALIZATION, CONTENTION, AND MID ONSET

Based on Model 3–4	Probability[a]	% Change from Baseline
Baseline	0.0017	—
Joint Security Mem, Interventionist	0.0013	−22.0
Floor Member Contention	0.0017	1.2
Major Power Contention	0.0019	9.9
Dif Floor—MP Contention	0.0020	17.8
Diplomatic Missions, Low	0.0021	22.5
Democracy, Low	0.0014	−20.1
Interdependence, Low	0.0017	−2.6
Capability Ratio	0.0016	−5.2
Allies	0.0017	0.5
Geographic Contiguity	0.0115	574.4
Distance between Capitals	0.0013	−23.3
Major Power Dyad	0.0047	173.6

[a] prob after 1 standard deviation increase, or max value if binary, in given x variable, holding others at the means or mins.

While contention among organizational members is consistently associated with a higher probability of conflict, the effect is not significant. By contrast, disagreement between major power members significantly increases the likelihood of militarized disputes. As reported in all four models of Table 2, dyads that share IGO memberships with a high degree of contentiousness among major power members are at higher risk for involvement in a dispute (roughly a 15 percent increase, as reported in Table 3). The effect is much weaker for contention between major powers and floor members of IGOs. Thus, our findings offer some support for the argument that major power cooperation bears on IGO efficacy. The results also show, however, that IGOs have an impact independent of major powers; IGOs are more than simply hollow passthroughs for major power influence.

Concerning the control variables, note also that while major powers and states that maintain extensive diplomatic ties globally are more likely to become involved in a MID, the effects of alliances and relative power appear minimal. The impact of relative power appears insignificant (literally), as suggested by proposition 1. As predicted by advocates of the Kantian peace, democracy appears to reduce MID onset by about 15 percent, although the substantive effect of trade dependence is minimal. As we would also expect, the risk of a MID appears to increase dramatically among contiguous states and in dyads that include at least one major power. Diplomatic Missions is significant and positive in all

models, regardless of which estimation technique, which dependent variable, and which set of dyads are examined. States that are more involved in the international system tend to be more conflict prone. These are also the states most likely to join large numbers of IGOs in order to advance or safeguard their global interests. Failing to control for variability in international engagement confounds efforts to identify the effect of IGOs on peace.

While the results in Table 2 show that structured IGOs reduce the risk of interstate conflict, they also fail to demonstrate that interventionist organizations play a similar role. Hypothesis 4 suggests a course of action. The interventionist category contains a large proportion of financial IGOs and other organizations that contain no explicit security mission. For this reason, we test our models again, this time further disaggregating IGOs to identify those with mandates addressing international security. Table 4 reports logit estimates for security IGOs, while Table 5 illustrates the substantive impact of relevant variables from Table 4. It appears that security organizations in general reduce militarized disputes, as reported in model 4-1, but subsequent regressions reveal that the level of institutionalization matters greatly. In fact, minimally institutionalized security organizations (model 4-2) marginally contribute to interstate conflict. As with our other findings, there is no indication that the mere presence of organizations encourages stability or discourages conflict escalation. Even for structured security IGOs (model 4-3) that possess codified rules and procedures facilitating ordinary interaction, attempts at conflict resolution may fail. Only interventionist security IGOs significantly reduce interstate conflict. Table 5 reports that membership in this type of IGO lowers the probability of a MID by 22 percent. Without foundational motives or explicit institutional mechanisms, IGOs lack the ability to intervene in crises in a manner likely to foster dispute resolution. Conversely, IGOs with a security mandate and sufficient institutional structure can promote peace. This contingent nature of IGO effectiveness appears to be lacking in traditional interpretations but is consistent with the argument presented here. The contribution of IGOs to peace depends not so much on forging common bonds or on converting international anarchy as it does on creating conditions that encourage effective interstate bargaining.

VI. Conclusions

The objective of this study has been to determine whether intergovernmental organizations contribute to interstate peace. Previous research

produced disparate findings, including the troubling possibility that IGOs might be associated with increased conflict. With several improvements in theory and research design, we find reason for cautious optimism. Although both liberal and realist expectations for IGOs are not without basis, our results do not seem to be fully consistent with either classical view. Rather, the contingent nature of IGO effectiveness best supports our alternative theoretical perspective—that IGOs can variously reduce or exacerbate conflict or have no effect, depending on the level of institutionalization, member cohesiveness, and organizational mandate. IGOs can constrain or inform if they possess sophisticated institutional structures capable of managing information or of intervening in a manner that shifts the balance of power or interests without allowing demands to shift as well. IGOs that possess a mandate to engage in security diplomacy are also more effective. The role of IGOs as a venue for deliberation does not in itself appear to be a direct contributor to interstate peace. Finally, IGOs can create conflict when they add to international uncertainty.

This article demonstrates that not all IGOs contribute to interstate peace. In particular, IGOs that lack extensive institutional structure pose no barrier to interstate conflict. Minimally institutionalized IGOs lack the ability to collect and disseminate information not commonly available to belligerents. The effect is most pronounced in security-oriented IGOs where the prospects for peace increase only for those organizations that contain extensive institutional structure. We also show that IGOs confronted with high levels of contentiousness, particularly among major powers, are less effective at ameliorating interstate conflict. Disparate claims and findings about the effect of IGOs on peace can in large part be attributed to the tendency to treat all IGOs as equivalent. Having now only begun to relax rigid assumptions of IGO uniformity, we find encouraging results.[58]

Returning to the traditional debate, our study suggests that whether IGOs matter depends on what it is that IGOs are intended to accomplish. While intuitive, discussions of IGO effectiveness have tended to ignore the possibility that *some* IGOs make a difference, whereas others do not. The presence of IGOs in and of themselves does relatively little to influence international conflict. IGOs may extend common norms and enhance global prosperity, but these objectives differ from a direct contribution to peace. IGOs are treated as a panacea in liberal and constructivist accounts. We believe that we have demonstrated that the

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[58] Aggregating memberships at the level of the dyad is far from ideal. We use the dyad as the unit of analysis to facilitate comparison of our results with other quantitative studies of IGOs.

mere presence of IGOs in the absence of extensive institutional structure and a mandate has little significance for whether states fight. The ability of IGOs to impinge on warfare is limited by the causes of war and by the resources of the IGO.

Conversely, realist criticism of IGOs, while offering a useful counterpoint, is equally categorical and flawed. Realists correctly point out that the countries that are most active in IGOs are also most active internationally. We have shown that the positive correlation found in previous studies between IGOs and conflict can be explained by the relationship between international engagement and IGO membership. Realists err, however, in claiming that IGOs are simply a proxy for power. Even after taking into account the contribution of major powers, the balance of capabilities, alliance ties, and international involvement, institutionalized and security-oriented interventionist IGOs reveal themselves to have an independent impact on the advent of disputes. As so often happens, claims of all or none must give way to more nuanced and contingent arguments in the light of empirical evidence. Do intergovernmental organizations promote peace? It depends.

APPENDIX 1: FORMAL THEORETICAL ANALYSIS OF THE PROPOSITIONS

This appendix provides formal arguments supporting the six propositions in the text. Many patterns of interaction are possible between autonomous actors. Ideally, a model of bargaining would incorporate a framework in which the structure of interaction among players is determined endogenously. States in the real world negotiate over how they will negotiate. Unfortunately, mimicking such a framework formally is extremely complex. Further, somewhat arbitrary assumptions about structure are still required to model preliminary negotiations, which in turn determine subsequent bargaining patterns. A second best option would be to mirror the patterns of bargaining we observe empirically. There remains considerable debate over what assumptions best characterize interstate negotiations. Several authors argue that iterated games are more realistic than single-shot static games.[59] We see iterated games as advantageous primarily when addressing issues of timing or duration, such as the insight that states can fight initially to signal resolve for subsequent bargaining.[60] Factors that preempt or terminate

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[59] Powell (fn. 28, 2004); idem, "Bargaining and Learning while Fighting," *American Journal of Political Science* 48, no. 2 (2004); Slantchev (fn. 22).

[60] R. Harrison Wagner, "Bargaining and War," *American Journal of Political Science* 44, no. 3 (2000).

contests can be illustrated using static models. Indeed, states themselves often devise bargaining structures similar to single shot ultimatum type games, particularly when time is precious or when war waits in the wings. While in theory states can bargain indefinitely, in practice they frequently seek to confine negotiations temporally and spatially. The Dayton Accords, for example, occurred over a specified three-week period in November 1995. At least one key participant credits success at Dayton to a finite game structure; last-minute bargaining that resulted in an agreement required that there be some terminus to bargaining.[61]

At some point, failure to accept an opponent's demands implies that bargaining will not continue. The target of a challenge must provide a final answer, and the challenger must decide whether to accept a compromise, fight, or back down. Static models represent this moment of crisis in dynamic games and in real-world negotiations. The chief virtue of non-sequential games, however, is practical. They are considerably easier to solve than are dynamic games and they avoid thorny questions about temporal discounting. In the present application, where we seek to address multiple extensions of the basic model, simplicity is an important virtue. We use an approach similar to Fearon because it is simple and logical and it creates a foundation for more elaborate explanations.

The Basic Model

To begin with, imagine that two states (A and B) compete over some issue or good (k, where $1 \geq k > 0$). States keep any division of the stakes but forfeit contest costs (c_i, where $c_i > 0$ and where $i \in [A,B]$). To keep the game simple, imagine that A makes a take-it-or-leave-it offer (d, where $k \geq d \geq 0$) to B. If B accepts the offer, then it receives d, while A receives ($k-d$). If instead B rejects the offer, then a contest ensues. Suppose that the victor gets k (minus costs) while the loser obtains zero (again minus costs). Assume also that p is the probability that A wins and ($1-p$) is the probability that B wins (where $1 \geq p \geq 0$). Thus, fighting has an expected value of $[p \cdot k + (1-p) \cdot 0 - c_A] = [p \cdot k - c_A]$ for A and $[p \cdot 0 + (1-p) \cdot k - c_B] = [(1-p) \cdot k - c_B]$ for B. We list below utility functions for each player, where f is B's dichotomous fight decision.[62]

$$U_A = (1-f)(k-d) + f \cdot [p \cdot k + (1-p) \cdot 0 - c_A] \tag{1}$$
$$U_B = (1-f) \cdot d + f \cdot [p \cdot 0 + (1-p) \cdot k - c_B] \tag{2}$$

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[61] Richard Holbrooke, *To End a War* (New York: Random House, 1998).
[62] Game-theoretic models often include the status quo as an outcome. We treat the status quo as a special case of the equilibrium in which the bargain in the game equals the bargain ex ante.

Obviously, whether A and B fight depends on d. If $d < [(1-p) \cdot k - c_B]$, then B prefers to reject A's offer. If $d \geq [(1-p) \cdot k - c_B]$, then B accepts A's offer and peace, or at least an absence of war, obtains. In the jargon of bargaining theory, $[(1-p) \cdot k - c_B]$ is B's reservation price. Similarly, A is willing to make an offer d such that $(k-d) \geq [p \cdot k - c_A] \Rightarrow d \leq [(1-p) \cdot k + c_A]$. This is A's reservation price, since A cannot willingly make an offer $d > [(1-p) \cdot k + c_A]$. The region between $[(1-p) \cdot k + c_A]$ and $[(1-p) \cdot k - c_B]$ is the bargaining space of size $[(1-p) \cdot k + c_A] - [(1-p) \cdot k - c_B] = c_A + c_B$. For risk-neutral or risk-averse actors with positive costs for fighting, the bargaining space is a positive interval. There always exists some bargain that is mutually preferred to fighting.

What does A's offer look like? Payoffs for A are strictly decreasing in d, $[(\partial U_A)/(\partial d)] < 0$, up to the point where B prefers to fight rather than accept d. Thus, A optimizes by just meeting B's reservation price ($d^* = [(1-p) \cdot k - c_B]$). Since B must be indifferent over equivalent outcomes, B is said to weakly prefer A's offer to fighting.[63] This basic bargaining game never leads to a military contest. The sole equilibrium in the full-information game is for A to offer d^* and for B to accept.

Suppose instead that we assume that the cost of fighting remains public information for A (c_A) but that B is privately informed about its costs ($\bar{c}_B \geq c_B \geq 0$, where $\bar{c}_B$ equals some arbitrarily high boundary for c_B). Introducing private information requires use of the Perfect Bayesian Equilibrium (PBE) solution concept rather than Nash subgame perfection above. If A is uncertain about what B prefers, then A's best offer is one that maximizes A's utility function, subject to A's beliefs about B's type at each information set. A's beliefs are characterized by the probability distribution over types of B. To keep things simple, we assume that B's costs are distributed uniformly over the interval ($c_B \sim U[0, \bar{c}_B]$). A must estimate the probability that B will fight as the portion of types that will reject a given offer d, $\text{Prob}(f = 1) = [(c'_B - 0)/(\bar{c}_B - 0)]$, where $c'_B = (1-p) \cdot k - d$ is the value of c_B or the "type" player B that is just indifferent between fighting and accepting a given offer d. Substituting A's estimate of f into equation (1) and solving for $[(\partial U_A)/(\partial d)]$, gives $[(2(-d - k \cdot (1-p)) + c_A - \bar{c}_B)/(\bar{c}_B)]$. Setting $[(\partial U_A)/(\partial d)]$ equal to 0 and solving for d as an optimal offer yields the following (where $k \geq d^* \geq 0$):

$$d^* = \frac{1}{2}[2k \cdot (1-p) + c_A - \bar{c}_B] \qquad (3)$$

[63] Having A sweeten its offer by making an arbitrarily small concession ε leads B to strictly prefer d to fighting. However, this clutters the model while yielding no new substantive conclusions.

Setting B's reservation price equal to equation 3 and solving for c_B, we get $c'_B = [1/2](\bar{c}_B - c_A)$. If $c_B < c'_B$, then B rejects A's offer and A and B fight. Otherwise, if $c_B \geq c'_B$, B accepts A's bargain. We now have an equilibrium solution for a game that involves both war or peace. The next section uses this basic model to derive the ten propositions offered in the body of the text.

SKETCHING PROOFS OF THE PROPOSITIONS

> Proposition 1. Actions by IGOs that alter the bargaining power between two competitors, when common knowledge, encourage revised demands rather than just a change in decisions to fight.

Suppose that some third party I raises B's war costs or lowers B's probability of victory $(1-p)$. We examine each possibility in turn. We can treat this added cost (h, where $h > 0$) as a dead weight loss for fighting. Where the distribution of types B was originally bounded $[\bar{c}_B,0]$, it is now bounded $[\bar{c}_B + h,h]$. Similarly, B's reservation price becomes $[(1-p) \cdot k-d-h]$. If A again offers equation 3 to the distribution of types B, then $c'^{+h}_B = [1/2](\bar{c}_B - c_A - 2h) < c'_B \Rightarrow \text{Prob}(f = 1 \mid h > 0) < \text{Prob}(f = 1 \mid h = 0)$. In this conception of third-party intervention, the probability that B accepts A's demand is strictly increasing in I's influence on B's war costs through the impact of h.

Yet if A is strategic, it no longer prefers its original demand. We can recalculate a solution to the modified game based on adding h. $\text{Prob}(f_h = 1) = [(c'^h_B - h)/(\bar{c}_B + h - h)]$, where $c'^h_B = (1-p) \cdot k-d-h$. Substituting into the modified equation (1) and solving for $[(\partial U_A)/(\partial d)]$ yields $[(2-(-d-h -k \cdot (1-p)) + c_A - \bar{c}_B)/(\bar{c}_B)]$. Setting this equal to 0 and solving for d, we get $d^{*h} = [1/2][2k \cdot (1-p) + c_A - \bar{c}_B - 2h]$. Solving for $U_B^{(f=1)} = U_B^{(f=0)}$ reveals that $c'^h_B = c'_B = [1/2](\bar{c}_B - c_A)$. Unless the change is very large (where boundary conditions limit the offer), the effect of h tends to be felt in terms of the bargains without reducing the likelihood of a contest. The same types of B reject d^*h as reject d^*. I's intervention does not increase the chances for peace.[64]

Suppose instead that I alters the probability of victory for one side or the other. Equation 3 is a function of relative capabilities (the size of p), but the probability of fighting depends only on the relationship between c_B and c'_B. By construction, interventions that change the probability of victory have little impact on whether bargaining fails. Since A's

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[64] Actors may be limited in their ability to optimize by the bounded nature of parameter values or by constraints imposed by third parties (assuming opponents are restrained from altering demands).

probability of victory, p, is a parameter, we can substitute some other value p' such that $p' > p$ or $p' < p$ without changing the results in any substantive way. Imagine that I attempts to influence the probability of victory for both parties. Trivially, the zero-sumness of relative power means that such an attempt is futile. Increasing p to $p' > p$ means that $(1-p) > (1-p')$ and that $p'-p = (1-p)-(1-p')$.

Finally, suppose that an effort is made to appease B. Imagine that I provides B with an inducement in the form of a side payment (m, where $m > 0$) to accept A's offer. If A makes its original offer, the probability that B rejects d will of course go down, but A again has incentives to alter its demand. It is easy to show that inducements (m) not to fight and punishments (h) for fighting are equivalent in expected utility terms. We omit the proof here to save space.

> Proposition 2. IGOs promote peace by revealing private information about competitor states.

Imagine that both B and I learn the value of c_B, but not A. If I can reveal this information, then A can make an offer that B will accept, leading to peace. The argument holds even if we relax the assumption that I is fully informed. Suppose that I can only provide A with an approximation of B's costs, say along some interval $[c_{Blow}, c_{Bhigh}]$, where $(0 \leq c_{Blow} < c_{Bhigh} \leq \bar{c}_B)$. A's offer to B is then $d^* = [1/2][2k \cdot (1-p) + c_A - c_{Bhigh}]$, and the probability of fighting, $\text{Prob}(f = 1 \mid [c_{Blow}, c_{Bhigh}]) = [(c_B'' - c_{Blow})/(c_{Bhigh} - c_{Blow})]$ $[(c_{Bhigh} - c_{Blow})/(\bar{c}_B - 0)] = [([1/2](c_{Bhigh} - c_A) - c_{Blow})/(\bar{c}_B)]$. Since $\text{Prob}(f = 1) = [(c_B' - 0)/(\bar{c}_B - 0)] = [([1/2](\bar{c}_B - c_A))/(\bar{c}_B)]$ and since, by definition, $\bar{c}_B \geq c_{Bhigh}$, it follows that $\text{Prob}(f = 1 \mid [c_{Blow}, c_{Bhigh}]) \leq \text{Prob}(f = 1)$.

> Proposition 3. IGOs promote peace by intervening secretly or by constraining states that stand to benefit from IGO intervention.

We can return to the setup for proposition 1. Suppose that I imposes h on B, but conceals this from A. State A offers d^* from equation 3, which is now accepted by more types of state B, $[\bar{c}_B + h, h] \Rightarrow c_B'^{+h} < c_B' \Rightarrow \text{Prob}(f = 1 \mid h > 0) < \text{Prob}(f = 1 \mid h = 0)$, as in proposition 1.

Alternatively, if h cannot be concealed from A, I can potentially force A to retain the default offer (d^*). Suppose that I imposes a punishment, $w = \mu \cdot (d^* - d^{*h})$, on A, where $\mu > 0$ scales the magnitude of the punishment for an offer less than d^*. Solving for A's optimal offer produces $d^{*h\mu} = [1/2][2k \cdot (1-p) - 2h + c_A - \bar{c}_B \cdot (1-\mu)]$. If 1 wants to exactly cancel the effect of punishment of B on A's offer, then it should impose sanction $\mu = [2h/(\bar{c}_B)]$. Given that $[(\partial U_B)/(\partial f)] = [1/2][\bar{c}_B \cdot (1-\mu) - c_A - 2c_B]$, the prob-

ability of a contest is strictly decreasing in μ. *I* may choose any value of μ to reduce the probability of fighting, depending again on *I*'s institutionalization or help from major powers.[65]

> Proposition 4. Preference homogeneity among IGO members increases the effectiveness of efforts to promote peace through intervention and secrecy.

Suppose that *n* members of an IGO have preferences as specified by equation 4:

$$U_i = (1-f)[v_i + \sigma \cdot (k-d)] + f \cdot [p \cdot (\sigma \cdot k) + (1-p) \cdot 0] \qquad (4)$$

Let $i \in [1,n]$ represent each member of *I*. The lowercase v_i, $(v > 0)$ reflects *i*'s payoff for achieving peace and σ, $(0 \geq \sigma \geq [(v_i)/(c_A)])$, is *i*'s degree of bias.[66] All other terms are as previously defined. For simplicity, assume that the first $n-1$ members of *I* are neutral ($\sigma = 0$), while member *n* favors *A* ($\sigma = 1$). Neutral members of *I* strictly prefer concealing *h* from *A*, but a single partisan member can prefer revealing *h* if $v_i < c_A + h$. In fact, any member such that $\sigma > [(v_i)/(c_A + h)]$ prefers to reveal *h* and allow *A* to obtain greater concessions from *B*, at the risk of a higher probability of a dispute.

> Proposition 5. IGOs promote peace by facilitating costly signaling among states through the imposition of sanctions, embargoes, or other nonmilitarized punishments.

Imposing a punishment on *B* for fighting shifts the distribution of benefits toward *A* without necessarily reducing the probability of a contest. An alternative is for *I* to impose *h* prior to bargaining. Without committing to particular substantive details, suppose that *B* can incur *h* early in the game. This ex ante sanction on *B* requires two conditions. First, some types of *B*, those with low war costs, will suffer *h* anyway. Second, precisely because the first condition is not true for high war cost types *B*, embracing *h* prior to bargaining can prove informative to *A*. In preparing its offer, *A* can identify two different groups of players *B*, one set with low war costs and one set with high war costs. *A* can tailor its offers to each group, reducing the range of types that reject both offers. Equations 5 and 6 below detail players' utility functions.

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[65] This result depends on the inability of *B* to make a counteroffer. In an iterated game, *B* could use the vulnerability of *A* to extract additional concessions, much as *A* does to *B* in proposition 1.

[66] Using 1 as the upper bound would both allow that the third party is more eager for a contest than *A* (not likely) and eliminate the possibility that *I* values the stakes more than *A*.

$$U_A = s \cdot [(1-f_{s=1}) \, (k - d_{s=1}) + f_{s=1} \cdot (p \cdot k - c_A)]$$
$$+ (1-s)[(1-f_{s=0}) \, (k - d_{s=0}) + f_{s=0} \cdot (p \cdot k - c_A)] \qquad (5)$$
$$U_B = s \cdot [(1-f_{s=1}) \cdot d_{s=1} + f \cdot ((1-p) \cdot k - c_B) - h]$$
$$+ (1-s)[(1-f_{s=0}) \cdot d_{s=0} + f \cdot ((1-p) \cdot k - c_B - h)] \qquad (6)$$

Define $c_B{}^{CRIT}$ as the type of player B such that $U_B{}^{s=1} = U_B{}^{s=0}$. Let $c_B'{}^{s=0}$ and $c_B'{}^{s=1}$ be the type of player B indifferent between fighting and not fighting in each subgame. $c_B'{}^{s=0} = c_B{}^{CRIT}$, since types B that will fight in the $s = 0$ subgame at least weakly prefer the $s = 1$ subgame. Solving as previously for A's optimal offer in each subgame yields $d^*_{s=1} = [1/3][3k \cdot (1-p) + 2c_A - \bar{c}_B + h]$ and $d^*_{s=0} = [1/3][3k \cdot (1-p) + c_A - 2\bar{c}_B - h]$. The probability of a contest in the $s = 1$ subgame is $[(2c_A - \bar{c}_B + h)/(c_A - 2\bar{c}_B + 2h)]$. Prob($s = 1$) $= [(2\bar{c}_B - c_A - 2h)/(3\bar{c}_B)]$, so that the probability of a contest given signaling, Prob($f = 1 \mid s = 1$), equals Prob($s = 1$) $\cdot$ Prob($f_{s=1} = 1$) $= [(\bar{c}_B - 2c_A - h)/(3\bar{c}_B)] \leq$ Prob($f = 1$) $= [(\bar{c}_B - c_A)/(2\bar{c}_B)]$.

> Proposition 6. IGOs with a mandate as security organizations are more effective at promoting peace through costly signaling than those with non-security objectives and interests.

Up to this point we have assumed that it is costless for I to impose sanctions. Imagine that the price for I of imposing h on B is $\rho \cdot h$, where $0 \leq \rho \leq 1$. Equation 7 below is I's utility function:

$$U_I = v \cdot [(1-f_{v=1} \cdot i + f_{v=1} \cdot 0)] + (1-v)[(1-f_{v=0})(i + \rho \cdot h) + f_{v=0} \cdot 0] \qquad (7)$$

I suffers an opportunity cost for sanctioning (v is I's dichotomous sanction decision). Substituting the probability of fighting, Prob($f = 1$), from proposition 1, and the probability of fighting with signaling, Prob($f = 1 \mid s = 1$), from proposition 5 for I's estimates of the probability of a contest in the $v = 0$ and $v = 1$ subgames, respectively, and taking the partial with respect to the sanction decision, we get $[(\partial U_I)/(\partial v)] = [(i \cdot (c_A + \bar{c}_B + 2h) - 3\rho h \cdot (c_A + \bar{c}_B))/(6 \bar{c}_B)]$. Setting $[(\partial U_I)/(\partial v)] = 0$ and solving, we are able to define $\rho' = [(i \cdot (c_A + \bar{c}_B + 2h))/(3h \cdot (c_A + \bar{c}_B))]$ such that $U_I{}^{v=0} = U_I{}^{v=1}$. Values of $\rho > \rho' \Rightarrow U_I{}^{v=0} > U_I{}^{v=1}$ and vice versa. The likelihood that I sanctions is thus a function of the relative size of i and $\rho \cdot h$. Security organizations ($i > \rho \cdot h$) more willingly sanction, pursuing peace at the cost of prosperity, for example. But non-security organizations may have mixed objectives ($i < \rho \cdot h$), considering prosperity as part of their mandate as much or more than political conflict.

APPENDIX 2: IGO INSTITUTIONAL CODING CRITERIA

We score the institutionalization of IGOs in three categories. A joint IGO membership variable is created for each category, as well as an indicator that combines the second and third categories.

MINIMAL

This category is composed of two IGO types. First, some organizations exist almost exclusively on paper. There is little evidence of any apparatus or organization. The English Commonwealth (prior to 1965) or the Group of Ten fall into this category. These organizations often give themselves a name and then the heads of state of member states or other ministers meet on a regular basis, whether annually, biannually, or otherwise. For example, the Central African Customs and Economic Union seems to hold meetings only of heads of states. These organizations lack any bureaucratic, executive, or judicial organs that possess any formalized power.

Second, some IGOs contain minimal organizational structure, often committees or councils where ministers or other representatives of member states meet and discuss issues. There may be a few rules on procedures, such as voting, that are nonbinding or do not compel states to take action. The ability to enforce agreements and the implementation of decisions is optional for member states. The most centralized feature in these organizations is often a secretariat or similar executive organ that generally possesses few autonomous powers or functions beyond the logistics of organizational meetings and communication. There are many examples of this type of organization, among them, the Arctic Council and the Central American Common Market.

STRUCTURED

Almost every organization appears on paper to possess several deliberative and administrative organs, but most often the linkages between bodies are unguided by codified procedures and little work is done beyond committees. At the intermediate institutionalization level, however, member states relinquish minimal amounts of their sovereignty to support IGO projects and missions. Organizational decisions are made by formal voting, and/or other codified procedures guide member interactions. Organizational operations (appointments and elections to positions) are also well specified. Additionally, a bureaucracy often exists to carry out decisions—some of which are binding on member

states—and manage programs that produce concrete benefits. In cases where there exists no extensive bureaucracy, other bodies or organs assume concrete administrative powers over organizational programs without directly relying on state decisions. For example, the secretariat of the Central European Initiative makes some binding decisions. Of course, all member states have the ability to ignore IGO dictates, but most IGOs never attempt to directly influence state behavior in this manner. Intermediate-level structural IGOs are scored as a two.

INTERVENTIONIST

These IGOs possess clear mechanisms for coercing or influencing state behavior. This can be realized in several ways. First, these IGOs include organizations with overt security or conflict-resolution statements in their official missions that allow them to inject themselves into interstate conflicts through established structures and mechanisms of mediation, arbitration, and adjudication. These organizations typically also possess many of the institutional characteristics regarding extensive codification of rules and procedures between and within the executive, legislative, and judicial structures. Any organization that possesses a judiciary structure is included in this category. The European Union is one such example. Another example is the League of Arab States (more commonly known as the Arab League). Second, some of these IGOs have the ability to influence state behavior by directly manipulating the opportunity costs associated with interstate conflict. IGOs may sanction states by withholding economic benefits in the form of grants, loans, credits, or access to other resources. The World Bank and IMF are high-profile examples. All IGOs in this category are scored a three.