The Coevolution of Networks of Interstate Support, Interstate Threat and Civil War

Kyle Beardsley

Duke University

Abstract

Interstate and intrastate conflicts are nested in broader networks of rivalry and cooperation and can be modeled as such. An intergroup security dilemma logic points to tradeoffs states face as they cultivate "support groups" – receiving security assistance has the potential to attract aggression and subversion from other states. Hypotheses from this logic are evaluated using Stochastic Actor Oriented Models (SAOMs) – treating support ties, interstate threat ties, and intrastate conflict as mutually constitutive. The results show that support groups with high military capacity but low levels of interest congruence are associated with higher propensities for interstate threat and intrastate conflict. Support groups with high military capacity and high levels of interest congruence have reduced propensity for interstate threat and intrastate conflict. A novel finding emerges: the same types of support relationships which are associated with interstate threats also are associated with intrastate conflict.

Keywords

International Conflict; Intrastate Conflict; Network coevolution; Alliance Politics

Introduction

States make geopolitical alignments in response to security vulnerabilities, but under what conditions will the resulting support ties deter, rather than incentivize, other states to respond with coercion and subversion? Many armed conflicts are rightly understood as proxy wars, including recent wars in Ukraine, Syria and Yemen, as well as past wars in El Salvador, Nicaragua, Angola and Vietnam. Explanations of such conflicts require attention to their embeddedness, via the constellation of alignments, in global and regional rivalries. Recent coups in Niger, Burkina Faso and Mali that have ushered in regimes friendly to Russia similarly raise concerns over a return of "great power competition" for dependencies in the geopolitical periphery.

A lens of international politics as the coevolution of networks of support, threat and civil war uncovers tradeoffs states face as they cultivate "support groups," receiving security assistance from other states. This paper develops hypotheses from an intergroup security dilemma logic and evaluates them using Stochastic Actor Oriented Models (SAOMs)—treating support ties, interstate threat ties, and intrastate conflict as mutually constitutive. The results show that support groups characterized by high military capacity but low levels of interest congruence with the supported states are associated with higher propensities for interstate threat and intrastate conflict. States with such support groups attract aggression, manifested as both interstate coercion and intrastate subversion, as adversaries benefit from weakening the ties in the support groups and supporter commitments waver. The study also finds that support groups characterized by high military capacity and high levels of interest congruence have reduced propensity for interstate threat and intrastate conflict. It thus uncovers a novel finding: the same types of support relationships which are associated with interstate threats also are associated with intrastate conflict.

Current Understandings of the Interplay between Support and Threat Ties

The question of whether ties of support enhance security has been well researched in the formal-alliance literature, but additional work is needed. While many studies find that defensive alliances both deter and restrain interstate aggression (Benson, 2011; Fang, Johnson and Leeds, 2014; Johnson, Leeds and Wu, 2015; Leeds, 2003), others find that alliances in some contexts increase the propensity for conflict (Gibler and Vasquez, 1998; Kenwick, 2015; Snyder, 1984; Trager, 2015). Existing quantitative scholarship has also not much considered the potential for alliances to shape intrastate security threats,[1] thereby missing the role of alliance blocs in fueling proxy wars. Moreover, alliances are not the only form of support crucial to a state's security (Kinne, 2018).

A coevolutionary analysis of support, threat and civil war improves upon two common shortcomings in the existing literature: 1) the use of dyadic analyses that omit extra-dyadic interdependencies, and 2) the inability to account for the endogenous formation of support ties. The value added of a network coevolution framework becomes clear with the recognition that purely dyadic conflicts are very rare if not nonexistent. A survey of contemporary flashpoints—from Ukraine to Syria to Yemen to Ethiopia to the Korean Peninsula to the Taiwan Straits reveals that information regarding more than two actors is almost always needed to adequately explain conflict processes. Armed conflict is nested in broader networks of rivalry and cooperation and can be modeled as such. Emerging scholarship has moved on from dyadic analysis and has uncovered how extra-dyadic cooperative interdependencies in the forms of military alliances, trade ties and mutual participation in international institutions shape the potential for conflict and cooperation (Chen, 2021; Crescenzi, 2018; Kinne, 2013). Studies of the onset, duration and severity of civil

[1] Thyne (2006) is an exception, and does not find that alliances affect the potential for civil war.

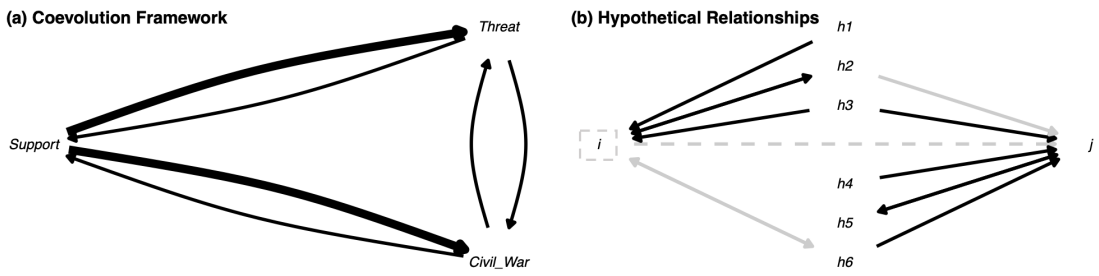


Figure 1: *Bolded lines in Panel (a) depict the directional ties emphasized in the analysis. In Panel (b), the dotted lines depict the outcome variables emphasized in the analysis; support ties are depicted in black; threat ties are depicted in grey.*

war, moreover, show the importance of considering extra-dyadic influences such as external support and potential third-party intervention (Akcinaroglu and Radziszewski, 2005; Balch-Lindsay, Enterline and Joyce, 2008; Cunningham, 2016; Findley and Teo, 2006; Saideman, 2001; Salehyan, Siroky and Wood, 2014). Relatedly, a state's network ties of support and threat also shape its potential to repress (Chyzh and Labzina, 2018; Di Lonardo, Sun and Tyson, 2020).

Additional work shows the potential for support networks to be endogenous to threat. Indeed, previous studies have separately examined the mutual responsiveness of interstate support, interstate threat, and intrastate conflict—the separate legs of Figure 1a. For example, alliance networks evolve in response to the conflict patterns that the alliances intend to shape (Maoz and Joyce, 2016; Warren, 2010). Maoz (2010) extensively analyzes how states form security "cliques" that both shape and are formed by the states' network ties of cooperation and conflict. Nearest to the approach taken in this paper, Warren (2016) models the coevolution of alliance and militarized dispute networks along with democratization. Previous work also endogenously relates interstate networks to *intrastate* conflict processes. Gleditsch, Salehyan and Schultz (2008), Salehyan (2009) and Kathman (2010) uncover mechanisms by which intrastate conflict spills over into interstate conflict, while Thies (2005) develops how interstate rivalry can shape state building. Kinne and

Maoz (2022) use a networks-of-networks approach to show how domestic politics shape interstate relationships. Returning to Figure 1a, this study models theoretically and empirically the coevolution of all three processes while focusing on the support-to-threat and support-to-civil war legs.

A Coevolution Theoretical Framework

The hypothetical relationships presented in Figure 1b illustrate the moving parts in a coevolutionary framework that focuses on two outcomes: whether i is likely to threaten j—as depicted by the dashed grey line in the center of the figure—and whether i is likely to experience intrastate armed violence—as depicted by the dashed box around i. To explain these outcomes, the relationships that i and j have with other states, h, matter, as well as the nodal (monadic) characteristics of i and j and the dyadic characteristics of their relationship. The relationships can be symmetric (arrows going both ways), asymmetric (one way), supportive (black) or threatening (grey). Of particular interest are the attributes of the states that constitute i's support group ($h1$, $h2$, $h3$)—defined as a state's direct neighbors in the support network based on its inward support ties—and the states that constitute j's support group ($h3$, $h4$, $h5$, $h6$), noting support groups can overlap.

I propose that variation in the outcomes of interest related to both interstate threat and intrastate conflict is well explained by an intergroup security dilemma logic. States with a powerful group of supporters are threatening to potential adversaries outside of the support group, which become incentivized to resolve the threat through coercion and subversion: potential adversaries can use interstate threat to overtly intimidate states to attenuate their alignments with strong supporters, and they can support non-state actors within the target states in hopes of weakening the states from the inside or ultimately pursuing regime change. I further propose that the extent to which support ties with strong states leads to interstate and intrastate threats depends on the level of

foreign-policy congruence between the supporting states and the supported states. With low congruence, supported states are particularly prone to experience higher interstate and intrastate threat because their ties are deemed a weak link in the support network—rivals prefer to take coercive or subversive action before the alignments strengthen. With high congruence, supported states are comparatively less vulnerable because the potential for strong retaliation by the support group is high; adversaries are more likely deterred from coercive and subversive actions in such cases.

To develop this argument, I start with an understanding of how support groups form and then develop the intergroup security dilemma logic. Support ties—defined as directional relationships of security assistance—are motivated, in part, by an anticipation of threat ties—defined as postures or actions that are intended to degrade another state's perceived security, either directly or via proxies. Ties of support in the form of alliances, coalitions and other types of security cooperation constitute a means to deter and defend against common security threats.[2] This type of behavior is considered balancing and has been used to explain patterns of international conflict and cooperation from ancient times to modern (Bull, 1977; Deutsch, 1968; Morgenthau and Thompson, 1993; Walt, 2013). Empirically, studies have found that military alliances have the potential to deter attacks (Benson, 2011; Fang, Johnson and Leeds, 2014; Gibler and Vasquez, 1998; Johnson, Leeds and Wu, 2015; Leeds, 2003). Support ties are thus a function of threat ties and vice versa.

Not only can international support ties help states improve their *external* security; they also can enhance *internal* security. Edry, Johnson and Leeds (2021) find that external security threats as well as internal security threats help explain alliance formation. Supporting states can serve in

[2]See, e.g., Lake (1999); Maoz and Joyce (2016); Niou and Zeigler (2019); Snyder (2007); Walt (2013); Wolford (2015); Yarhi-Milo, Lanoszka and Cooper (2016).

a peacemaking capacity (Regan and Aydin, 2006), and nurturing supportive ties with other states backstops regime security in the face of domestic threats. For example, the Concert of Europe, and later the Three Emperor's League, in the 19th century were intended to not only deter state aggression but to also provide mutual aid against the instability that liberal revolutions might bring (Braumoeller, 2019; Jervis, 1982). More recently, Syria's Assad regime has depended on Russian and Iranian assistance in maintaining power against various internal and external threats.

Turning to network coevolution, I examine the properties of "support groups" which influence interstate and intrastate security. Conceptually, "support groups" are related to but distinct from "security communities," defined from social network analysis as sets of nodes that have denser security ties with one another than with others[3] or from international relations theory as groups with an obligation to contribute to one another's security.[4] Studies have uncovered how network properties of security communities affect conflict dynamics (Beardsley et al., 2020; Cranmer, Menninga and Mucha, 2015). The hypotheses here focus on state-level interests and security perceptions and thus probe the properties of *support groups* (instead of *communities* per se) because they do not omit relevant extra-community sources of support,[5] and they capture only direct support ties.[6] Future work that models *community* evolution could explore additional implications of the intergroup

[3]Cranmer, Menninga and Mucha (2015) discuss community identification in international politics using modularity optimization. Also see Maoz (2010) for a network definition of "cliques."

[4]See Adler and Barnett (1998, 7-8), Deutsch (1968, 160-161) and Kupchan (2010, 30-31).

[5]For example, a state like India, which has received significant support from both the US and Russia since 2005, can have supporters which do not belong to the same community.

[6]Israel and Egypt, e.g., have been co-members of a US-led community (Beardsley et al., 2020) but are not members of one another's support groups.

security dilemma logic, especially at the community level.

Intergroup Security Dilemmas

States build up their support groups to bolster external and internal security, but doing so also carries the risk of inviting additional threats via an intergroup security dilemma logic. As Snyder (1984, 477-479) observes, the pursuit of mutual security support by aligned states creates security concerns for other states. Interstate security dilemmas are replaced by inter-alliance-bloc security dilemmas. Similarly, Braumoeller (2019) posits that "international orders" can increase conflict with those outside of the order, especially alternative orders. As existing evidence for these expectations, Maoz (2010) finds that system polarization, as defined by ideological distance between alliance groups, or cliques, is associated with international conflict. Building on Snyder's, Braumoeller's and Maoz's work, the intergroup security dilemma logic starts with insecurity that other states perceive when a state receives support from states with high military capabilities. The other states worry that as a state gains highly capable supporters, it will be better able to revise the status quo from a stronger bargaining position, or with brute force. Those worries are accentuated by the potential for a commitment problem in which states perceiving rapid gains in bargaining leverage from outside support cannot commit to abiding by status-quo arrangements; meanwhile, other states have an incentive to take aggressive, preventive action before the gains are fully consolidated (Powell, 2006). Those other states can respond to their perceived insecurity, diminished bargaining position and incentive to engage in preventive action with *coercion* and *subversion* efforts.

Coercion—manifested as interstate military threats—tries to resolve the perceived insecurity in at least four ways. First, coercion can be used as a "wedge strategy" to incentivize a supported state to distance itself from its support group lest it face military escalation (Izumikawa, 2013).

For example, the Saudi-led blockade of Qatar from 2017 to 2021 attempted to intimidate Qatar to weaken its ties with Iran and to return to the fold of the Gulf Cooperation Council. Second, states might attempt regime change to pull a country away from a rival's sphere of influence. The US invasion of Grenada and the Russian invasion of Ukraine are cases with such a motivation for attempted regime change via interstate war. Third, the coercion, regardless of whether it is successful in prying the target state away from its support group, could establish a reputation for punishment that deters other potential adversaries from establishing similar support ties with the strong states in question. George Shultz (1993, 344), for example, claims that the US invasion of Grenada led to a change in foreign policy in Suriname, which began reducing its diplomatic ties with Cuba for fear of further US action against leftist regimes in the region. Fourth, states might engage in hostility against members of a rival block to bolster the alliance commitments on their own side (Snyder 1984, 471). For instance, Australia's actions against Communist forces in Vietnam was motivated in part to strengthen its US support commitments (Cohen, 2023); furthermore, the US's own hostilities in Vietnam helped demonstrate its anti-Communist resolve to its security partners.

Subversion—manifested as support for non-state actors within a target state and thus a higher propensity for intrastate violence—can resolve the perceived insecurity in at least two ways. First, subversion can weaken the targeted state and its supporters, making it more costly for them to take actions against the interests of the subverting state, as resources are diverted toward costly counterinsurgency and the polity becomes more fractured. US support for UNITA, for example, was an important component of the US strategy to bring the MPLA to the bargaining table and to impose costs on the Cuban forces fighting in Angola (Crocker 1999, 226). US support for anti-Soviet forces in Afghanistan is another example of this strategy. Second, subversion is a path toward regime change, as the subverting state supports non-state actors which are more likely to

implement a favorable foreign policy less tightly aligned with the existing support group and perhaps well-aligned with the subverting state's interests. This was the essence of National Security Decision Directive 75 (January 1983, p. 5), which stated that "US policy will seek to ... weaken and, where possible, undermine the existing links between [Soviet Third World allies] and the Soviet Union. US policy will include active efforts to encourage democratic movements and forces to bring about political change inside these countries."[7] Subversion is often attractive because competition in the "grey zone" is less likely to invite retaliation if it is more easily concealed.

The potential for support ties to lead to more coercion and subversion raises a question about why states would enter into support ties that are not strictly security enhancing. One answer is that support ties often reflect asymmetric power, driven more by the interests of the great powers than by weaker states. And even when weaker states do have sufficient agency, they may cultivate their support group as a means to decrease the propensity for conflict with the group members even while potentially increasing the propensity for conflict with non-members (Beardsley et al., 2020; Braumoeller, 2019). Related, states can be caught between Washington and Moscow (or Beijing) in deciding among potential great-power patrons, with full knowledge that they will irk at least one great power. Lim and Cooper (2015) argue that hedging is often not an option; moreover, path dependencies due to high switching costs mean that an existing support tie might not well reflect the value of the tie relative to alternatives.

The incentives by adversaries of a great power to engage in coercion and subversion against its less powerful allies, especially peripheral allies as explored below, increase with the military strength of that great power. Military strength contributes to the sense of threat generated by a

[7]Quoted in Scott (1996, xii). Lee (2018) and Saideman (2002) further examine subversion.

given support group and at the same time makes direct challenge against the great power less prudent. The logic leads to the following two expectations:

Hypothesis 1. *Coercion hypothesis: State i is more likely to establish or maintain outward threat ties with state j when j has a support group of states h characterized by high military capacity.*

Hypothesis 2. *Subversion hypothesis: State i is more likely to experience intrastate conflict when it has a support group of states h characterized by high military capacity.*

Conditional Expectations

In light of the intergroup security dilemma logic, are there conditions in which it is more or less likely for ties of support to lead to coercion and subversion by potential adversaries? I argue that a state with militarily strong supporters are most prone to experience coercion and subversion when its interests have relatively low congruence with those of its support group. With low levels of congruent interests, supporting states will be less likely to follow through on their support commitments because there is less loss if the supported state's foreign policy changes. Related, security communities—and by extension support groups—struggle when the states are not sufficiently aligned such that they perceive one another as a potential threat (Jervis, 1982). Actions specifically targeting states that are less tightly connected to their support groups are less likely to incur a strong response from the support group and may even contribute to fractures within the group of supporters as they disagree over how to respond to security threats against states they commonly support. Targeting states can anticipate greater payoff from their coercion and subversion efforts without triggering costly retaliation from the support group. Such a weakest-link logic is supported by the observed pattern of proxy wars being fought in the geopolitical periphery.

Conversely, when states have foreign policy goals that are consistent with one another's, they

have more incentive to preserve the co-production of desirable foreign policy and lend assistance against a potential threat meant to affect the joint foreign-policy outputs (Johnson, Leeds and Wu, 2015).[8] Deterrence will be more effective in forestalling coercion and subversion. Moreover, tight alignment of interests in a support group can decrease a supported state's fear of abandonment, and Snyder (1984, 471) argues that intergroup conciliatory postures—making a support group appear less threatening—become more prudent in the absence of such abandonment concerns.

A separate dynamic also might play out and lead to more coercion and subversion when a state has strong supporters with relatively low foreign policy alignments. The above logic supposes that the coercion and subversion is coming from rivals of the supporting states. But examples such as Soviet military action against Hungary and Czechoslovakia, and the US and British support for the overthrow of Mossadegh in Iran, suggest that coercion and subversion can also be a tool of supporting states to prevent defection of their own group members. When there is looser alignment of preferences within a hierarchy, the strong states have more need to use coercion and subversion, rather than legitimated authority, as a means to maintain the hierarchy (Lake, 2009).

Related to congruent interests, some scholarship points to institutions as crucial to the functioning of support groups. Bull (1977, 62-71) emphasizes the importance of rules and institutions in the production of order within international society. Work by Deutsch (1968) and Adler and Barnett (1998) on security communities also is instructive here: states' norms and values can be shaped by dense, institutionalized communication with other states such that over time their interests converge and each state in the community can pursue its own preferences without impeding the pursuits of others. Empirically, Johnson, Leeds and Wu (2015) find that alliances that include

[8]However, Niou and Zeigler (2019) posit that intra-alliance rivalry improves collective action.

institutional commitments for peacetime military coordination have greater deterrence efficacy.

From these arguments, states with tight support groups—as defined by interest congruence and institutional ties with members of the support group—can better prevent forms of aggression that would manifest as interstate threats and intrastate conflict. That is, the tightness of the support group conditions the relationship between a support group's military capacity and the potential for coercion and subversion to occur in the midst of an intergroup security dilemma.

Hypothesis 3. *Safe among friends hypothesis: The relationship between the military capacity of j's support group and i's propensity to establish or maintain outward threat ties with j is decreasing in the ideal-point closeness and institutional co-membership among j and its supporters.*

Hypothesis 4. *Stability assistance hypothesis: The relationship between the military capacity of i's support group and i's propensity to experience intrastate conflict is decreasing in the ideal-point closeness and institutional co-membership among i and its supporters.*

Additional Mechanisms: Triadic Closure and Moral Hazard

Two additional processes connect changes in the support network to a heightened propensity for conflict. These processes are separate from the intergroup security dilemma logic; they are not the focus of the study but are accounted for in the analysis and connect to existing work.

First, expanding support groups can trigger a "friend of my enemy is my enemy" triadic closure logic (Lee, 2022; Maoz et al., 2007). The logic is similar to the concepts of entrapment (Snyder, 1984) and chain ganging (Christensen and Snyder, 1990) in which support ties are vectors for threat ties. State i is more likely to establish or maintain outward threat ties with state j when j is part of the support group of a state h that has existing threat ties with i.

Second, the existence of support ties with militarily strong states has the potential to generate a

form of moral hazard in which a state becomes prone to take greater risks regarding the potential for military escalation when it believes it is backed by strong allies.[9] Comporting with the potential for alliances to embolden, Gibler and Vasquez (1998) have found that alliances involving previously-victorious states can contribute to an increase in proneness for war, while Benson (2011) and Leeds (2003) have found that some offensive alliances are associated with higher propensities for conflict. Other scholarship, however, questions whether there should be an observed relationship between ties of support and belligerent behavior due to moral hazard. Yuen (2009) presents a contrary argument in which certain support can lead a state to be more likely to make prudent concessions. Lake (2009, 104-105) argues that the extent to which a given level of patron-client support leads to more conflict is indeterminate because of strategic behavior in which principals will adjust their levels and conditionality of support based on the potential for the supported state to act recklessly.

Empirical Analysis

To test the hypotheses while accounting for the mutually constitutive relationships and the non-independence of observations, a stochastic actor-oriented model (SAOM) can estimate the coevolution of endogenous networks and actor nodal-level behaviors (Ripley et al., 2021; Snijders, Steglich and Schweinberger, 2017). The approach taken has similarities with that of Warren (2016), who models the coevolution of alliance and militarized dispute networks along with nodal-level democratization. Alternative network modeling approaches—including other forms of Exponential Random Graph Models (ERGM) (Desmarais and Cranmer, 2012) and Additive and Multiplicative Effects (AME) models (Minhas, Hoff and Ward, 2019)—which have been used to study patterns of international politics and political violence do not (yet) have the capabilities to study how, over

[9] See Braumoeller (2019, 170); also Snyder (1984); Trager (2015).

time, ties on one network affect ties on another, as well as how nodal characteristics coevolve with network ties.[10]

The hypotheses focus on how a state's support group shapes its ties in the threat network and its propensity for civil war. At the same time, the underlying logic of what states are trying to accomplish via their support groups recognizes that a state's likelihood of establishing a given support tie is endogenous to its threat network, its propensity for experiencing intrastate conflict, and even its support ties with other states. In addition to testing the hypotheses, the empirical analyses model all the different directional relationships shown in Figure 1a, thereby accounting for a number of confounding relationships. For example, if a model does not account for the potential for states to be more interested in having strong and closely aligned supporters when experiencing interstate threat or intrastate conflict, it is likely to underestimate the extent to which such support groups reduce coercion (H3) and subversion (H4).

A key feature of the SAOMs is thus their ability to parse the roles that social selection and social influence separately but simultaneously play in shaping actor network ties and behavior (Lomi et al., 2011). Social selection, for example, is the extent to which a state establishes support ties from other states in response to its international and intrastate threats. Social influence, in contrast, would be the extent to which changes in the state's support group change the propensity for the state to experience a threat tie or civil war. The SAOMs thus account for the extent to which

[10]See also the exchange between Leifeld and Cranmer (2019) and Block et al. (2022). Another justification for the SAOM is its assumption of sequentiality in network changes, aligning with the arguments about threat networks, intrastate conflict and support networks responding to one another explicitly.

the support network is a function of the threat network and intrastate conflict—social selection—and the extent to which the threat network and intrastate conflict are a function of the support network—social influence. This is a clear advantage of the SAOMs over typical regression models that estimate separate models for the different outcome processes. We cannot, however, rule out all forms of endogeneity bias given the potential for social selection to be a function of un-modeled and unobservable *anticipation* of support, threat and civil war. The online appendix considers two threats to inference: whether support-group characteristics are co-symptomatic with coercion and subversion and whether the cultivation of support groups merely reflects the strategic anticipation of coercion and subversion. The analyses in the appendix do not find evidence that potential but unrealized additions to a support group shape the potential for threat or intrastate conflict in the same ways as realized support, providing some assurance that the support-group characteristics are not merely co-symptomatic with the outcomes. Moreover, we do not observe much evidence that anticipated interstate or intrastate conflict leads to the types of support relationships that would explain the key findings. Finally, even if the analyses uncover associational (not causal) relationships, it is still worth knowing which types of support groups are indicators of structural situations that are at high risks for inter- and intrastate conflict.

Defining the Endogenous, Co-evolving Variables

SAOMs use actor-centric utility functions to assess how actor social ties depend on both pre-existing social network characteristics and actor-level attributes and behaviors.[11] The parameters of the utility function are estimated by using a method-of-moments simulation approach developed by Snijders (2001) in which an agent-based simulation is compared to the observed data to form

[11] "Attributes" are exogenous nodal-level characteristics; "behaviors" are endogenous.

estimates of the effects that network and nodal characteristics have on the likelihood that a given relationship or behavior will be observed.

The data comprise yearly observations for 159 countries from 1980 to 2010. For estimation with the RSiena package, the endogenous network ties—**support ties** and **threat ties**—must be dichotomous while an endogenous nodal behavior—**intrastate conflict intensity**—can be ordinal. A limitation of the SAOMs is the inability to model weighted ties in the endogenous networks; information is lost in only defining whether a support or threat tie exists rather than measuring continuous or latent levels of support or threat. To measure the dichotomous networks ties, it is important to return to the conceptual definitions presented above: support ties are interstate "directional relationships of security assistance" and threat ties are "postures or actions that are intended to degrade another state's perceived security, either directly or via proxies." Given these definitions, support ties and threat ties come in various forms. For example, formal alliances do not alone capture the concept of support ties because many of the most troubling contemporary conflicts involve substantial security assistance occurring outside the context of a formal alliance—e.g., Russian supportive ties to Syria and Iran are not captured by definitions of formal alliances; neither are U.S. supportive ties to Israel, Taiwan, Egypt or Saudi Arabia. As another example, threat ties are not fully captured by direct military actions, which would miss many key adversarial relations such as those, say, between Iran and Saudi Arabia, or between the USA and many historical adversaries including North Korea, China, Russia, Nicaragua and Myanmar. Multiple indicators of support and threat are thus used to measure the network ties in the analysis.[12]

[12]Alternative approaches exist to reduce the dimensionality of a multiplex (Cranmer, Menninga and Mucha, 2015)—comprising each of the distinct indicators of both threat and support—to single network layers. The choice to define ties as unions of the component indicators was made based on

The dichotomous support ties measure, $\mathbf{x_{ij}(t)}$, is defined based on the union of four dyadic-level components that measure different aspects of security assistance. That is, security assistance comes in different forms, and the analysis here assumes that the presence of a formal alliance (defensive or offensive), a defense cooperation agreement, arms-trade dependency, or external armed-conflict military assistance each count as security assistance and constitute a support tie.[13] The first of these components focuses on the presence of a formal defensive or offensive (entente) alliance, indicating explicit commitments of support.[14] Second, defensive cooperation agreements (DCAs) indicate other security commitments that states make to one another that often occur outside of formal alliances (Kinne, 2018, 2020).[15] These first two components of support are symmetric such that support from *i* to *j* implies support from *j* to *i*. The next two components of support allow for asymmetric ties. The third component of support accounts for the level of heavy-arms exports from *i* to *j*.[16] To make this a dichotomous indicator of significant support that *j* is receiving from *i*, this component of a support tie is defined as whether *i* is the top arms exporter to *j* in a

construct validity—the presence of any of the indicators meets the conceptual definitions of threat and support—and categorical clarity—understanding whether a tie exists in a given case simply requires knowing if any of the respective indicators are present or not. Over 90 percent of the dyads with a support (threat) tie defined by any of the component measures of support (threat) have the tie defined by only one of the component measures.

[13]McManus and Nieman (2019) use multiple measures of support to construct a latent variable that would be difficult to reduce to dichotomous support ties in a way that has substantive meaning.

[14]Alliances are defined by the Correlates of War (COW), version 4.1 (Gibler, 2008).

[15]To count as a support tie, the DCA must be general and known with confidence.

[16]As collected by the SIPRI Arms Transfer Database, accessed on 19 June 2023.

given year.[17] The fourth component captures if state i is assisting state j in an armed conflict—specifically assistance in the form of sending combat troops to fight alongside j or providing access to its military infrastructure or conducting joint operations.[18]

The dichotomous threat ties measure, $\mathbf{y_{ij}(t)}$, is defined based on the union of five dyadic-level components that measure different aspects of threats and uses of military or economic coercion intended to degrade another state's perceived security. This measure is then smoothed because brief periods that occur between clear manifestations of threat should not actually indicate a lack of threat. Specifically, if j experiences a threat from i in a given year and then also again within two subsequent years, the interim years are also coded as having threat from i to j.

The first threat-tie component is whether there is a strategic rivalry between the two states.[19] The second component captures if a militarized interstate dispute (MID) between i and j occurred in a given year at the hostility level of use of force or war.[20] These first two components are symmetric, and the remaining components are asymmetric. A third component explicitly captures acute threat perception and comprises whether there is an International Crisis Behavior (ICB) crisis or near-ICB crisis that state j experiences with state i as the source of threat.[21] A fourth component uses information from international sanctions and defines a threat from i to j as present if i is imposing both complete trade sanctions and arms sanctions on state j.[22] By using information on

[17] Beardsley et al. (2020) argues that arms transfers imply seller-to-buyer security commitments.

[18] As defined by Meier et al. (2022), version 18.1.

[19] As defined by Thompson and Dreyer (2012) and Miller (2019).

[20] Version 4.02; Palmer et al. (2022).

[21] Brecher et al. (2023) and Iakhnis and James (2021).

[22] Global Sanctions Database (V3) (Felbermayr et al., 2020; Syropoulos et al., 2022).

both trade and arms sanctions, this component identifies the cases in which a state is intending to degrade the security of another state—e.g., US sanctions against Cuba, Myanmar and Sudan during much of the study period—and does not incorporate other uses of sanctions that are not intended as hostility against a state per se—e.g., sanctions against West African states as part of the Kimberley process to reduce the trade of "blood diamonds." The fifth component measures a threat from *i* to *j* as whether *i* is supporting a non-state armed actor in *j*—to directly capture proxy-war and subversion processes.[23]

The nodal-level intrastate conflict intensity, $\mathbf{z_i}(\mathbf{t})$, is defined based on the intensity of an intrastate armed conflict that state *i* experiences, using the dyadic Armed Conflict data, version 23.1 (Davies, Pettersson and Öberg, 2023; Gleditsch et al., 2002). This variable is coded for conflict types that are "intrastate' or "internationalized intrastate." The behavior is coded as ordinal from no armed conflict (less than 25 annual battle-related fatalities) to minor armed conflict (more than 25 annual battle-related fatalities but less than 1000) to war (more than 1000 annual battle-related fatalities).

Effects to Be Estimated

The support ties, threat ties and civil war behavior are modeled as functions of inter- and intra-network effects, dyadic variables and nodal variables. Per SAOM parlance, each modeled relationship is called an "effect," which are modeled such that the effect values in a given year are used as information to explain the structures of the networks in the next year. In addition to the effects listed

[23]Assistance is defined as either "active support" by San-Akca (2016), or as assistance in the form of sending combat troops to fight alongside the non-state actor or providing access to its military infrastructure or conducting joint operations by Meier et al. (2022).

in the appendix, each equation includes time-specific (fixed) effects that capture varying propensities for the network ties and civil war behavior from year to year. All estimated coefficients have t-ratios for convergence less than 0.1, achieving the standard level of acceptable convergence (Ripley et al., 2021, 66). The appendix presents the mathematical definitions of the effects, and also presents multiple goodness-of-fit diagnostics which confirm that the included effects are sufficient to well explain the observed data and also improve upon typical logistic regression models.

All models include basic network effects such as density and reciprocity, dyadic control variables and nodal control variables, which are included in all the models to mitigate confounding processes. The appendix defines the control variables and also presents the descriptive statistics for the dyadic and nodal variables that are used in the creation of the SAOM effects.

The models also include effects capturing how the military capabilities in the support groups shape the propensities for threat ties and civil war. ***i*'s support military spending** sums the military expenditure ratios, m, for all the states with which i has an incoming support tie.[24] Military spending in the support group, rather than other measures of latent military capabilities in the support group, is used to measure support-group capability because the type of support of relevance to the theoretical arguments is immediate—specifically related to the potential for arms deliveries and troop deployments available to respond to threats. This effect is included in both the threat ties equation and the civil war behavioral equation. ***j*'s support military spending** similarly captures the combined military expenditure ratios for all the states with which j has an incoming support tie. ***i*'s threat military spending**—the combined military spending ratios of states threatening

[24]Military expenditures are from Barnum et al. (2022). The ratio is calculated as the ratio between a country's military spending and the highest value of spending in the system in the year.

Table 1: Summary of Expected Relationships

Hyp.	Support group cond.	Expectation	Relevant eq.	Relevant effects
H1	j's with high capability	$\Uparrow i \rightarrow j$ threat	Threat ties	j's Support Mil. X j's Support Congruence
H2	i's with high capability	$\Uparrow i$ civil war	Intrastate conflict	i's Support Mil. X i's Support Congruence
H3	j's with high capability & high congruence	$\Downarrow i \rightarrow j$ threat	Threat ties	j's Support Mil. X j's Support Congruence
H4	i's with high capability & high congruence	$\Downarrow i$ civil war	Intrastate conflict	i's Support Mil. X i's Support Congruence

Note: "Support group condition" describes the characteristics of the relevant support group (i's or j's).
"Congruence" is measured as ideal-point closeness or IGO membership commonality.
"Support Mil." is the measure of military spending in the respective support group.

i—is added to the intrastate conflict intensity equation to allow intrastate conflict to coevolve with interstate threat. A triadic closure effect related to a **friend of my enemy** logic—a threat tie from i to j is a function of a threat tie from i to h in conjunction with a support tie from j to h—is also included in the threat ties equation to examine and account for that separate mechanism.

Model 1 also includes a measure of support-group congruence based on the average foreign policy ideal-point closeness between a state and those in its support group.[25] The threat and intrastate conflict equations include ***i*'s support ideal-point closeness**, and the threat equation also includes ***j*'s support ideal-point closeness**. The equations also interact these support closeness effects with the respective *support military spending* effects to test the hypotheses. Model 2 replaces the *support ideal-point closeness* effects with the average counts of common IGO memberships

[25]Ideal-point closeness is defined as $c_{ih} = \frac{1}{1+d_{ih}}$, where d_{ih} is the ideal point distance, measured by Bailey, Strezhnev and Voeten (2017) (July 2023 version) as the absolute ideal point distance between the states using UNGA votes.

that *i* or *j* have with the states in their support groups.[26] The threat and intrastate conflict equations in Model 2 thus include the ***i*'s support IGO commonality** and ***j*'s support IGO commonality** effects. Like the first model, these *support IGO commonality* effects are interacted with the respective *support military spending* effects.

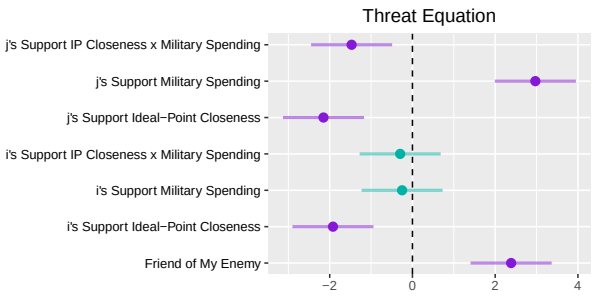
Results

Figure 2 presents the coefficients and standard errors for the effects estimated relevant to Hypotheses 1 and 3. For presentation, the coefficients are standardized, and statistically significant coefficients are shaded purple. It is important to note that RSiena centers the variables that are interacted, so that the coefficients on the constitutive terms of an interaction polynomial indicate the marginal effects when the other variable(s) in the interaction are at their means.

The results are consistent with expectations: support groups that include states with high military spending are associated with fewer incoming threats only when they also include ideologically close and institutionally-connected states. Otherwise, they are associated with more incoming threats. More specifically, we see in Model 1 that high amounts of military spending in *j*'s support group (*j's support military spending*) are associated with more threat ties from *i* to *j* when the group's ideal-point closeness variable (*j's support IP closeness*) is at its mean. Moreover, the coefficient on the interaction term shows that the marginal effect of military spending in the support group decreases as the level of ideological closeness in the support group increases. In Model 2, we observe the same pattern. When *j*'s support group has a high level of shared IGO memberships, the positive relationship between military spending in *j*'s support group and threat potential from *i* to *j* declines. The findings are consistent with H1 and H3—the cultivation of supporters with high

[26]Measured from Pevehouse et al. (2020), version 3.

(a) Model 1



(b) Model 2

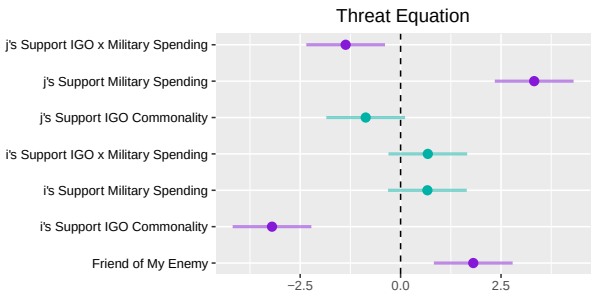
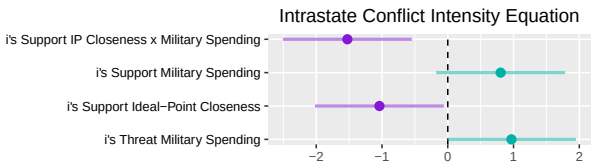


Figure 2: Coefficients Relevant to Hypotheses 1 and 3, Plus Additional Mechanisms

(a) Model 1



(b) Model 2

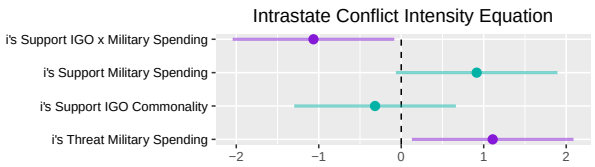


Figure 3: Coefficients Relevant to Hypotheses 2 and 4

military capacity but low congruence invites threats.

The results from the intrastate conflict intensity equations similarly confirm Hypotheses 2 and 4: support groups with high military spending are associated with more intrastate armed conflict when the level of congruence in the support group is low. The negative interaction effects in Figure 3 specifically show that the relationship between the amount of military spending in *i*'s support group and *i*'s propensity for intrastate conflict is negative when there is high ideological closeness or IGO co-membership in *i*'s support group. When there is below-mean ideal-point closeness or IGO co-membership in the support group, the relationship between military spending in the support group and the potential for intense intrastate conflict in *i* moves toward positive.

To see the interaction effects more clearly, and to tie Hypotheses 1-4 together, Figure 4 reports

the substantive effects related to the interaction effects in Model 1, calculated by exponentiating the coefficients and producing odds ratios for different changes in support-group military spending at low (two standard deviations below the mean), mean and high (two standard deviations above the mean) support-group ideal-point closeness. When *j*'s support group has average ideal-point closeness, we see that an increase in *j*'s support-group military spending leads to slight increases in the probability of an interstate threat. There is a similar relationship between the military spending in *i*'s support group and the propensity for escalations of intense intrastate conflict at average levels of support-group ideal-point closeness. Decreasing the ideal-point closeness in the support groups increases the strengths of the relationships; increasing the ideal-point closeness in support groups mitigates the relationships. A model shown in the appendix further finds, consistent with an intergroup security dilemma logic, that high ideal-point distance between a state's support and threat groups increases the propensity for civil war, and high ideal-point distance between *i*'s and *j*'s support groups increases the threat propensity when both have well-resourced support groups.

It is indeed striking how the support groups have parallel relationships with both interstate threats and civil war, which is a novel finding. Are interstate threat and intrastate conflict directly linked by a common intergroup security dilemma? The positive relationship between *i's threat military spending* and intrastate conflict intensity in Figure 3 provides some evidence. An additional SAOM in the appendix models whether support groups with strong but low-congruence states are associated with external support for non-state actors—one of the components of the threat ties measure—and whether that external support is associated with more intrastate conflict. That is, it replaces the aggregate threat ties network with one layer of the network pertaining to external support for non-state actors. The findings show that states with low-congruence support groups are more likely to experience subversion via external support for non-state actors, and also that such

(a) Interstate Threat Response (b) Intrastate Conflict Response

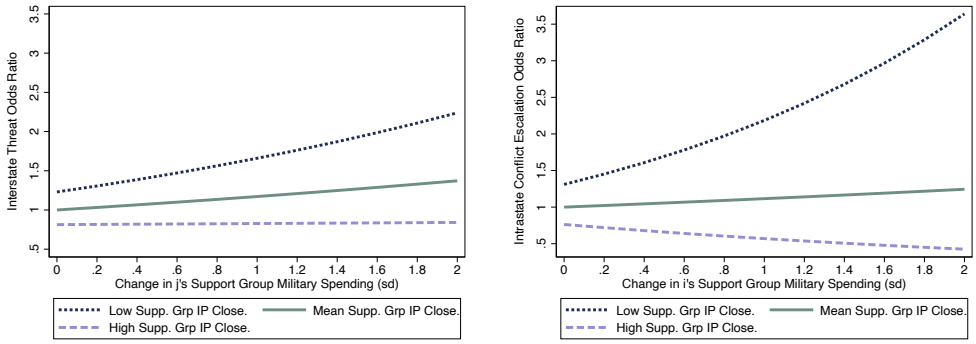


Figure 4: Substantive Effects from Model 1

subversion is associated with a higher proclivity for intense intrastate conflict.

Turning to potential additional mechanisms discussed earlier, Figure 2 includes the respective results from Models 1 and 2. Consistent with expectations, we observe a friend-of-my-enemy effect in which a state is more likely to form threat ties against members of the support groups of its adversaries. Regarding the potential for moral hazard, the results are mixed. Tight support groups—characterized by high ideal-point closeness and high overlap of IGO membership—are associated with fewer outgoing threats from *i* when *i*'s *support military spending* variable is at its mean. It follows that low congruence in *i*'s support group is associated with emboldened outgoing threats—revealing a potential for moral hazard when there is high principal-agent distance—but the level of support-group military spending does not have statistically significant additive or multiplicative effects, as might be expected from a moral hazard logic.

The hypotheses focused on how the support network shapes the threat network and the propensity for intrastate armed conflict. The underlying intergroup security dilemma logic, however, also expects the support network to be a product of the threat network and propensity for civil war. Figure 5 confirms, also consistent with Edry, Johnson and Leeds (2021), that states which are

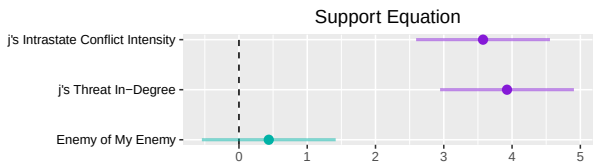


Figure 5: Support Network Responses

experiencing intrastate conflict and many interstate threats (*j's threat in-degree*) are more likely to experience an incoming support tie. An estimated enemy-of-my-enemy effect is also positive, though not statistically significant. In total, states under interstate and intrastate threat have a greater demand for assistance, and the earlier results show that such assistance is conditionally associated with the level of interstate and intrastate threat the states can anticipate.

Discussion and Conclusions

Across the models, we see support for the hypotheses. The dual role of support groups with high military spending is striking. On the one hand, such groups are associated with enhanced deterrence and stabilization potential for client states with congruent interests and shared IGO memberships. On the other hand, having support groups with high military capabilities but low congruence and few shared memberships is associated with greater risks for states to be targeted directly or indirectly via a proxy war. Consistent with an intergroup security dilemma logic, states with peripheral ties to great powers in their support groups—as seen when countries such as South Vietnam and Afghanistan are recipients of support from great powers that do not have strong affinities toward them—are at much higher risk for both interstate and intrastate conflict.

The analyses shed light on the the proxy wars in Ukraine since 2014. Consistent with the argument, the ideal-point distance between the USA and Ukraine in 2020—the last year of available

data—was more than a standard deviation higher than the mean distance, and higher than the distances between the USA and each of the Baltic NATO states. At the same time, it is also important to recognize that Ukraine had become more congruent with US interests in the years prior to the 2014 and 2022 escalations, in no small part *because* of Russian coercion and subversion. This case suggests that the *change* in foreign policy congruence is also important to take into account, and not just the *levels* of congruence. Future models could model how the trajectory of a state's support ties factors into a rival's calculus to use coercion and subversion.

This lens of networked international relations also speaks to emerging questions regarding the future of great power politics. It is an open question regarding how a more externally-oriented China will shape security threats in many regions. One implication from the findings of this paper is that the states on the receiving end of the attention from China, and the states on the receiving end of reciprocal attention from the US, are at risk of becoming the battlefields of new proxy wars and interstate contests. The potential for new proxy wars and interstate threats will only increase if the ties of support are opportunistic or reflexive and not well grounded in common interests.

The findings here refute isolationist claims—US support can and does increase the security of its core allies with interests that are in congruence with its own. The findings here also urge caution against a hubristic interventionism that sees the use of American power to secure all democracies and adversaries of its adversaries across the globe as crusades worth pursuing. The deterrent value of great-power support does not well extend beyond the core states with congruent interests, and there is real potential for the extension of tepid support to actually attract insecurity and war.

References

Adler, Emanuel and Michael Barnett. 1998. *Security Communities*. Cambridge University Press.

Akcinaroglu, Seden and Elizabeth Radziszewski. 2005. "Expectations, rivalries, and civil war duration." *International Interactions* 31(4):349–374.

Bailey, Michael A, Anton Strezhnev and Erik Voeten. 2017. "Estimating dynamic state preferences from United Nations voting data." *Journal of Conflict Resolution* 61(2):430–456.

Balch-Lindsay, Dylan, Andrew J Enterline and Kyle A Joyce. 2008. "Third-party intervention and the civil war process." *Journal of Peace Research* 45(3):345–363.

Barnum, Miriam, Christopher J. Fariss, Jonathan Markowitz and Gaea Patrice Morales. 2022. "Measuring Arms: Introducing the Global Military Spending Dataset." `osf.io/rsxze`.

Beardsley, Kyle, Howard Liu, Peter J Mucha, David A Siegel and Juan F Tellez. 2020. "Hierarchy and the Provision of Order in International Politics." *The Journal of Politics* 82(2):731–746.

Benson, Brett V. 2011. "Unpacking Alliances: Deterrent and Compellent Alliances and Their Relationship with Conflict: 1816-2000." *Journal of Politics* 73(4):1111–1127.

Block, Per, James Holloway, Christoph Stadtfeld, Johan Koskinen and Tom Snijders. 2022. "Circular specifications and "predicting" with information from the future: Errors in the empirical SAOM–TERGM comparison of Leifeld and Cranmer." *Network Science* 10(1):3–14.

Braumoeller, Bear. 2019. *Only the Dead: The Persistence of War in the Modern Age*. Oxford.

Brecher, Michael, Jonathan Wilkenfeld, Kyle Beardsley, Patrick James and David Quinn. 2023. "International Crisis Behavior Data Codebook, version 15." *URL: http://sites. duke. edu/icbdata/data-collections* .

Bull, Hedley. 1977. *The Anarchical Society: A Study of Order in World Politics*. 4th edition ed. Macmillan International Higher Education.

Chen, Frederick R. 2021. "Extended Dependence: Trade, Alliances, and Peace." *Journal of Politics* 83(1):246–259.

Christensen, Thomas J. and Jack Snyder. 1990. "Chain gangs and passed bucks: Predicting alliance patterns in multipolarity." *International Organization* 44(2):137–168.

Chyzh, Olga V and Elena Labzina. 2018. "Bankrolling Repression? Modeling Third-Party Influence on Protests and Repression." *American Journal of Political Science* 62(2):312–324.

Cohen, Michael D. 2023. *Ambiguous Alliance: Military Interventions, Credible Commitment, Australia and the United States*. Unpublished manuscript.

Cranmer, Skyler J., Elizabeth J. Menninga and Peter J. Mucha. 2015. "Kantian fractionalization predicts the conflict propensity of the international system." *Proceedings of the National Academy of Sciences* 112(38):11812–11816.

Crescenzi, Mark JC. 2018. *Of Friends and Foes: Reputation and Learning in International Politics*. Oxford University Press.

Crocker, Chester A. 1999. Peacemaking in Southern Africa. In *Herding Cats: Multiparty Mediation in a Complex World*, ed. Chester A. Crocker, Fen Osler Hampson and Pamela Aall. Washington, DC: United States Institute of Peace pp. 211–244.

Cunningham, David E. 2016. "Preventing civil war: How the potential for international intervention can deter conflict onset." *World Politics* 68(2):307–340.

Davies, Shawn, Therese Pettersson and Magnus Öberg. 2023. "Organized violence 1989-2022 and the return of conflicts between states?" *Journal of Peace Research* 60(4).

Desmarais, Bruce A. and Skyler J. Cranmer. 2012. "Micro-level interpretation of exponential random graph models with application to estuary networks." *Policy Studies Journal* 40(3):402–434.

Deutsch, Karl Wolfgang. 1968. *The Analysis of International Relations*. Prentice-Hall.

Di Lonardo, Livio, Jessica S Sun and Scott A Tyson. 2020. "Autocratic stability in the shadow of

foreign threats." *American Political Science Review* 114(4):1247–1265.

Edry, Jessica, Jesse C. Johnson and Brett Ashley Leeds. 2021. "Threats at Home and Abroad: Interstate War, Civil War, and Alliance Formation." *International Organization* 75(3):837–857.

Fang, Songying, Jesse C. Johnson and Brett Ashley Leeds. 2014. "To Concede or to Resist? The Restraining Effect of Military Alliances." *International Organization* 68(4):775–809.

Felbermayr, Gabriel, Aleksandra Kirilakha, Constantinos Syropoulos, Erdal Yalcin and Yoto V Yotov. 2020. "The global sanctions data base." *European Economic Review* 129:103561.

Findley, Michael G. and Tze Kwang Teo. 2006. "Rethinking Third-party Interventions into Civil Wars: An Actor-centric Approach." *The Journal of Politics* 68(4):828–837.

Gibler, Douglas M. 2008. *International Military Alliances, 1648-2008*. CQ Press.

Gibler, Douglas M. and John A. Vasquez. 1998. "Uncovering the Dangerous Alliances, 1495-1980." *International Studies Quarterly* 42:785–807.

Gleditsch, Kristian, Idean Salehyan and Kenneth Schultz. 2008. "Fighting at Home, Fighting Abroad: How Civil Wars Lead to International Disputes." *Journal of Conflict Resolution* 52(4):479–506.

Gleditsch, Nils Petter, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg and Havard Strand. 2002. "Armed Conflict 1946-2001: A New Dataset." *Journal of Peace Research* 39:615–637.

Iakhnis, Evgeniia and Patrick James. 2021. "Near crises in world politics: A new dataset." *Conflict Management and Peace Science* 38(2):224–243.

Izumikawa, Yasuhiro. 2013. "To Coerce or Reward? Theorizing Wedge Strategies in Alliance Politics." *Security Studies* 22(3):498–531.

Jervis, Robert. 1982. "Security Regimes." *International Organization* pp. 357–378.

Johnson, Jesse C., Brett Ashley Leeds and Ahra Wu. 2015. "Capability, Credibility, and Extended General Deterrence." *International Interactions* 41(2):309–336.

Kathman, Jacob D. 2010. "Civil War Contagion and Neighboring Interventions." *International Studies Quarterly* 54:989–1012.

Kenwick, Michael R. 2015. "Do Alliances Really Deter." *Journal of Politics* 77(4):943–954.

Kinne, Brandon J. 2013. "Network dynamics and the evolution of international cooperation." *American Political Science Review* 107(4):766–785.

Kinne, Brandon J. 2018. "Defense cooperation agreements and the emergence of a global security network." *International Organization* 72(4):799–837.

Kinne, Brandon J. 2020. "The Defense Cooperation Agreement Dataset (DCAD)." *Journal of Conflict Resolution* 64(4):729–755.

Kinne, Brandon J and Zeev Maoz. 2022. "Local Politics, Global Consequences: How Structural Imbalance in Domestic Political Networks Affects International Relations." *Journal of Politics* .

Kupchan, Charles A. 2010. *How Enemies Become Friends: The Sources of Stable Peace*. Vol. 121 Princeton University Press.

Lake, David A. 1999. *Entangling Relations: American Foreign Policy in its Century*. Princeton, NJ: Princeton University Press.

Lake, David A. 2009. *Hierarchy in International Relations*. Cornell University Press.

Lee, Bomi K. 2022. "Triangles, Major Powers, and Rivalry Duration." *Journal of Conflict Resolution* .

Lee, Melissa M. 2018. "The International Politics of Incomplete Sovereignty: How Hostile Neighbors Weaken the State." *International Organization* 72(2):283.

Leeds, Brett Ashley. 2003. "Do Alliances Deter Aggression? The Influence of Military Al-

liances on the Initiation of Militarized Interstate Disputes." *American Journal of Political Science* 47(3):427–439.

Leifeld, Philip and Skyler H. Cranmer. 2019. "A theoretical and empirical comparison of the temporal exponential random graph model and the stochastic actor-oriented model." *Network Science* 7(1):20–51.

Lim, Darren J. and Zack Cooper. 2015. "Reassessing Hedging: The Logic of Alignment in East Asia." *Security Studies* 24(4):696–727.

Lomi, Alessandro, Tom AB Snijders, Christian EG Steglich and Vanina Jasmine Torló. 2011. "Why are some more peer than others? Evidence from a longitudinal study of social networks and individual academic performance." *Social Science Research* 40(6):1506–1520.

Maoz, Zeev. 2010. *Networks of Nations: The Evolution, Structure, and Impact of International Networks, 1816–2001*. Cambridge University Press.

Maoz, Zeev and Kyle A Joyce. 2016. "The Effects of Shocks on International Networks: Changes in the Attributes of States and the Structure of International Alliance Networks." *Journal of Peace Research* 53(3):292–309.

Maoz, Zeev, Lesley G Terris, Ranan D Kuperman and Ilan Talmud. 2007. "What is the enemy of my enemy? Causes and consequences of imbalanced international relations, 1816–2001." *The Journal of Politics* 69(1):100–115.

McManus, Roseanne W. and Mark David Nieman. 2019. "Identifying the level of major power support signaled for protégés: A latent measure approach." *Journal of Peace Research* 56(3):364–378.

Meier, Vanessa, Niklas Karlén, Therése Pettersson and Mihai Croicu. 2022. "External Support in Armed Conflicts. Introducing the UCDP External Support Dataset (ESD), 1975-2017." *Journal*

of Peace Research Online First.

Miller, Steven V. 2019. "Create and Extend Strategic (International) Rivalry Data in R." *URL: http://svmiller.com/blog/2019/10/create-extend-strategic-rivalry-data-r/* .

Minhas, Shahryar, Peter D. Hoff and Michael Ward. 2019. "Inferential approaches for network analysis: Amen for latent factor models." *Political Analysis* 27(2):208–222.

Morgenthau, Hans J. and Kenneth W. Thompson. 1993. *Politics among Nations: The Struggle for Power and Peace*. Brief edition ed. McGraw-Hill.

Niou, Emerson M. S. and Sean M. Zeigler. 2019. "External Threat, Internal Rivalry, and Alliance Formation." *Journal of Politics* 81(2):571–584.

Palmer, Glenn, Roseanne W McManus, Vito D'Orazio, Michael R Kenwick, Mikaela Karstens, Chase Bloch, Nick Dietrich, Kayla Kahn, Kellan Ritter and Michael J Soules. 2022. "The MID5 Dataset, 2011–2014: Procedures, coding rules, and description." *Conflict Management and Peace Science* 39(4):470–482.

Pevehouse, Jon CW, Timothy Nordstrom, Roseanne W McManus and Anne Spencer Jamison. 2020. "Tracking organizations in the world: The Correlates of War IGO Version 3.0 datasets." *Journal of Peace Research* 57(3):492–503.

Powell, Robert. 2006. "War as a Commitment Problem." *International Organization* 60:169–203.

Regan, Patrick and Aysegul Aydin. 2006. "Diplomacy and other Forms of Intervention in Civil Wars." *Journal of Conflict Resolution* 50(5):736–756.

Ripley, Ruth M, Tom AB Snijders, Zsófia Boda, András Vörös and Paulina Preciado. 2021. *Manual for RSIENA*. University of Oxford, Department of Statistics, Nuffield College.

Saideman, Stephen M. 2001. *The Ties that Divide*. Columbia University Press.

Saideman, Stephen M. 2002. "Discrimination in International Relations: Analyzing External Sup-

port for Ethnic Groups." *Journal of Peace Research* 39(1):27–50.

Salehyan, Idean. 2009. *Rebels without Borders*. Ithaca, NY: Cornell University Press.

Salehyan, Idean, David Siroky and Reed M Wood. 2014. "External rebel sponsorship and civilian abuse: A principal-agent analysis of wartime atrocities." *International Organization* 68(3):633–661.

San-Akca, Belgin. 2016. *States in Disguise: Causes of State Support for Rebel Groups*. Oxford University Press.

Scott, James M. 1996. *Deciding to Intervene: The Reagan Doctrine and American Foreign Policy*. Duke University Press.

Shultz, George P. 1993. *Turmoil and Triumph: My Years as Secretary of State*. New York: Charles Scribner's Sons.

Snijders, Tom AB. 2001. "The statistical evaluation of social network dynamics." *Sociological Methodology* 31(1):361–395.

Snijders, Tom, Christian Steglich and Michael Schweinberger. 2017. *Modeling the Coevolution of Networks and Behavior*. Routledge.

Snyder, Glenn H. 1984. "The Security Dilemma in Alliance Politics." *World Politics* 36(4):461–495.

Snyder, Glenn Herald. 2007. *Alliance politics*. Cornell University Press.

Syropoulos, Constantinos, Gabriel Felbermayr, Aleksandra Kirilakha, Erdal Yalcin and Yoto Yotov. 2022. The Global Sanctions Data Base - Release 3: COVID-19, Russia, and Multilateral Sanctions. Technical report School of Economics Working Paper Series 2022-11, LeBow College of Business, Drexel University.

Thies, Cameron G. 2005. "War, rivalry, and state building in Latin America." *American Journal of*

Political Science 49(3):451–465.

Thompson, William R. and David Dreyer. 2012. *Handbook of International Rivalries*. CQ Press.

Thyne, Clayton L. 2006. "Cheap Signals with Costly Consequences: The Effect of Interstate Relations on Civil War." *Journal of Conflict Resolution* 50(6):937–961.

Trager, Robert F. 2015. "Diplomatic Signaling among Multiple States." *Journal of Politics* 77(3):635–647.

Walt, Stephen M. 2013. *The Origins of Alliances*. Cornell University Press.

Warren, T. Camber. 2010. "The geometry of security: Modeling interstate alliances as evolving networks." *Journal of Peace Research* 47(6):697–709.

Warren, T. Camber. 2016. "Modeling the coevolution of international and domestic institutions: Alliances, democracy, and the complex path to peace." *Journal of Peace Research* 53(3):424–441.

Wolford, Scott. 2015. *The Politics of Military Coalitions*. Cambridge University Press.

Yarhi-Milo, Keren, Alexander Lanoszka and Zack Cooper. 2016. "To arm or to ally? The patron's dilemma and the strategic logic of arms transfers and alliances." *International Security* 41(2):90–139.

Yuen, Amy. 2009. "Target Concessions in the Shadow of Intervention." *Journal of Conflict Resolution* 53(5):745–773.

Online Appendix

Contents

1 Acknowledgments **2**

2 Control Variables and Descriptive Statistics **3**

3 Full SAOM Results **6**

4 Threat and Support Networks **12**

5 End of the Cold War Cases as a Face Validity Probe **13**

6 Issues Related to Endogeneity **18**

7 Analysis of Outside Support of Non-state Actors as a Key Mechanism **27**

8 Analysis of Disjoint Support and Threat Networks **30**

9 Goodness of Fit **34**

10 SAOM Equation Specifications **41**

1 Acknowledgments

This project has been inspired and shaped by the work of Michael Ward and Bear Braumoeller, who are deeply missed. Progress on this paper has benefitted from constructive insight of Ernest Akuamoah, Maryum Alam, Mia Baxley, Alex Berg, Stuti Bhatnagar, Bear Braumoeller, Jan Box-Steffensmeier, Greg Butner, Jeff Carter, Chong Chen, Michael Cohen, Susan Colbourn, Anisha Datta, Jessica Davis, Rebecca Dudley, Barbara Elias, Peter Feaver, Brian Forrester, Nicholas Frank, Rich Frank, Evelyn Goh, Ben Goldsmith, Iain Henry, John Ikenberry, Renanah Joyce, Amy King, Brandon Kinne, David Lake, Kyle Lascurettes, Gabby Levy, Darren Lim, Howard Liu, Elizabeth Menninga, Daniel McCarthy, Charlie Miller, Rachel Myrick, Emerson Niou, Katy Robinson, Harvey Starr, Brendan Taylor, Priscilla Torres, Jana von Stein, Chen Wang, Suranjan Weeraratne, Pei-Yu Wei, Sam Whitt, Brandon Yoder, participants at the University of Melbourne International Relations Research Group seminar, participants at the lunch seminar series hosted by the US Embassy in Canberra, participants at the ANU School of Politics and International Relations seminar, participants at the TISS Conference on Partners, Proxies, and Peer Competition, participants at the OSU Mershon Center's Conference on International Order, Governance, and Network Cooperation, participants at the Carolinas Conflict Consortium 2022 meeting, and participants in Duke's SPC lab. Tom Snijders provided timely assistance in identifying and fixing issues in RSiena. Support for research conducted at the Australian National University was provided by the Australian-American Fulbright Commission. Data related to near crises was made possible by a grant: MINERVA #12432771 "Power Projection, Deterrence Strategies, and Escalation Dynamics in an Era of Challenging Near Peers, Rogue States, and

Terrorist and Insurgent Organizations," under the auspices of the Office of Naval Research. All content is the author's own and does not reflect the positions of the funders or experts who have provided feedback on the project.

2 Control Variables and Descriptive Statistics

For the support ties and threat ties equations, **density** accounts for varying out-degree tendencies for actor i. **Reciprocity** accounts for the tendency toward relational symmetry. The models also include both ego's (i's) and alter's (j's) **intrastate conflict intensity** as nodal effects for the threat ties and support ties equations, since the instability in i or j could shape the threat that i poses to j and the support that i provides to j. The civil war behavioral equation also includes **linear shape** and **quadratic shape** effects to account for general tendencies for actors to increase, decrease or maintain their existing behavioral values.

Also added to Models 1 and 2 to control for confounding processes are support-network and cross-network effects. Both the support ties and the threat ties equations include **cross reciprocity**. For the support ties equation, a ***j*'s threat in-degree** effect is added as an indication of the threats that j is experiencing from actors other than i. Also, an **enemy of my enemy** triadic closure effect is included in the support ties equation in order to capture a higher-order dependency between the threat and support networks such that support between i and j is a function of the shared threat from h to i and h to j.

The dyadic control variables in all models consist of **contiguity**,[1] **ideal point distance**,[2] number of **common IGO memberships**,[3] and **joint democracy**.[4]

The monadic control variables consist of **military expenditures ratio**,[5] **energy consumption per capita**,[6] and **military capabilities change**[7] and **democracy**.[8]

[1]Measured as whether states share a land or river border, from the Correlates of War Direct Contiguity Data, Version 3.2 (Stinnett, Tir, Diehl, Schafer and Gochman, 2002).

[2]Measured by Bailey, Strezhnev and Voeten (2017), 2023 version, as the absolute ideal point distance between the states using votes from the UN General Assembly.

[3]Measured as a count of all shared IGO memberships from Pevehouse, Nordstrom, McManus and Jamison (2020), version 3.

[4]Democracy is measured by Mattes, Leeds and Matsumura (2016), version 5.0. In essence, this is an interaction of the monadic democracy values for i and j.

[5]Military expenditures are measured by Barnum, Fariss, Markowitz and Morales (2022). Since military expenditures are most meaningful with a reference point, the military expenditures ratio is calculated as the ratio between a country's military spending and the highest military spending in the system—each state's military expenditure is divided by the maximum military expenditures for the year. To reduce data missingness, the previous year or subsequent year expenditures are substituted if those values are non-missing while a current-year value is missing.

[6]Energy consumption and population are measured by the Correlates of War National Military Capabilities Data, Version 6.0 (Singer, Bremer and Stuckey, 1972).

[7]Coded by Souva (2022). The change of this variable, calculated as the year-on-year change divided by the standard deviation, is included to account for the potential for commitment problems to arise when the distribution of benefits becomes out of sync with the distribution of power (Powell, 1999).

[8]Democracy is measured by Mattes, Leeds and Matsumura (2016), version 5.0.

Table 1: Descriptive Statistics

Variable	**N**	**mean**	**s.d.**	**min**	**max**
Dyadic Variables					
Threat tie (endogenous)	705,636	0.016	0.125	0	1
Support tie (endogenous)	705,636	0.098	0.297	0	1
Contiguity	705,636	0.023	0.151	0	1
Ideal Point Distance	693,728	1.004	0.821	0.000	5.288
Common IGO Memberships	705,636	29.93	12.15	0	106
Nodal Variables					
Intrastate Conflict Intensity (endogenous)	4,684	0.247	0.546	0	2
Democracy	4,684	0.459	0.498	0	1
Military Capabilities Change	4,661	0.000	0.032	-0.615	0.476
Energy Consumption per Capita	4,667	3.335	6.611	0	64.60
Military Expenditures Ratio	4,653	0.017	0.089	0.000	1
Support Mil. Spending	4,684	0.822	0.597	0	2.652
Threat Mil. Spending	4,684	0.111	0.361	0	2.948
Support IP Closeness	4,684	0.625	0.171	0	0.998
Support IGO commonality	4,684	40.50	14.47	0	85.85

3 Full SAOM Results

The main text focused primarily on depicting and interpreting the hypothesized effects. The full results, with interpretation of how they comport with existing understandings, are explored here. The coefficients for the model results are standardized such that they all have standard errors of 0.5. The coefficients for the reciprocity and density effects are further rescaled to be a tenth of their values for the purposes of visualization. For each equation, the coefficients for the year fixed effects are omitted from the display. Positive values indicate that a positive increase in the explanatory variable leads to a greater next-period propensity for the endogenous variable of the respective equation—i.e.,the propensity for an i-to-j threat tie, the propensity for an i-to-j support tie, or the propensity for an increase in the civil war intensity for state i. Statistically significant coefficients, based on 95% confidence intervals (two-tailed), are displayed in purple, while others are displayed in aquamarine.

Figure 1 presents a base model with the hypothesized effects stripped out. From the support ties equation, we see confirmation of the face validity of the basic effects that are accounted for in each of the models. States are more likely to give support when they have a high capacity to do so—by democratic, wealthy (high energy consumption) and militarily resourced (high military expenditures) states without many outstanding ties of support (low density), without severe armed conflict at home, and that are not ramping up investments in their own capabilities (low military capabilities change)—and there is a high need for support by the receiving state—toward states that are less wealthy, less militarily resourced and facing instability at home—and there are existing indicators of common interest—toward geographic, ideologically and institutionally proximate states that are also democratic and

reciprocating supporters. This description comports well with existing understandings.

In the threat ties equation, we also see relationships well anticipated by existing understandings. In short, i is more likely to threaten j when i has the opportunity to do so—it has high military expenditures and is geographically proximate to j—and the willingness to do so—i is increasing in capabilities and not overextended (low density), while j is a threat itself (reciprocity), is ideologically distant, is experiencing instability at home or is otherwise a status quo economic power (high energy consumption). Somewhat surprising is that common IGO memberships have a positive association with threat, but this, like contiguity, is likely picking up an additional dimension of *high opportunity* for threat between actors which interact much and thus have the potential to dispute much. Also not fully consistent with the existing literature on causes of interstate conflict is that threat is less likely when state j is a democracy (while i is a non-democracy), which could relate to a deterrent effect of democracies but also could relate to an elevated potential for non-democracies to threaten other non-democracies.

The intrastate conflict intensity equation produces expected relationships such that democratic states with high levels of economic development are less likely to experience severe intrastate conflict. Militarized states are more likely to experience civil war, while states that are gaining in power are less likely to experience civil war. Again, the base-model relationships provide face validity for the measures and model.

Models 1 and 2 also add in some cross-network effects and support-network effects. Some of the added cross-network effects, seen in Figures 2 and 3, are not related to the hypotheses and yet produce expected relationships. For example, we observe that i is less likely to threaten j when j is a supporter of i.

In the full model results, we can also see the interplay between interstate threat and civil war. From Models 1 and 2, we can see from *j's intrastate conflict intensity* in the threat-ties equation that states which are more prone to civil war are also more prone to be on the receiving end of interstate threats. Going in the other direction, threat ties are also associated with civil war, which can be seen from the estimated relationship between *i's threat military spending* and intrastate conflict intensity in Model 2. When the states which threaten i have high military capacity, i is more likely to experience intrastate conflict. One mechanism to explain the relationship is subversion, where the adversaries of i are directly supporting violent non-state actors in fighting against i.

Note that these results should be interpreted as short-term effects that understate the long-term effects. In terms of potential long-term effects, the results show that reduced propensity for interstate threat contributes to less propensity for intrastate conflict in the next period, and less propensity for intrastate conflict in j contributes in the next period to a reduced propensity for interstate threat. There is also reduced propensity for support, which will moderate the long-term effects. The negative and large density effects in both the threat and support equations further moderates the effects such that impulses have no further effect after a few time periods.

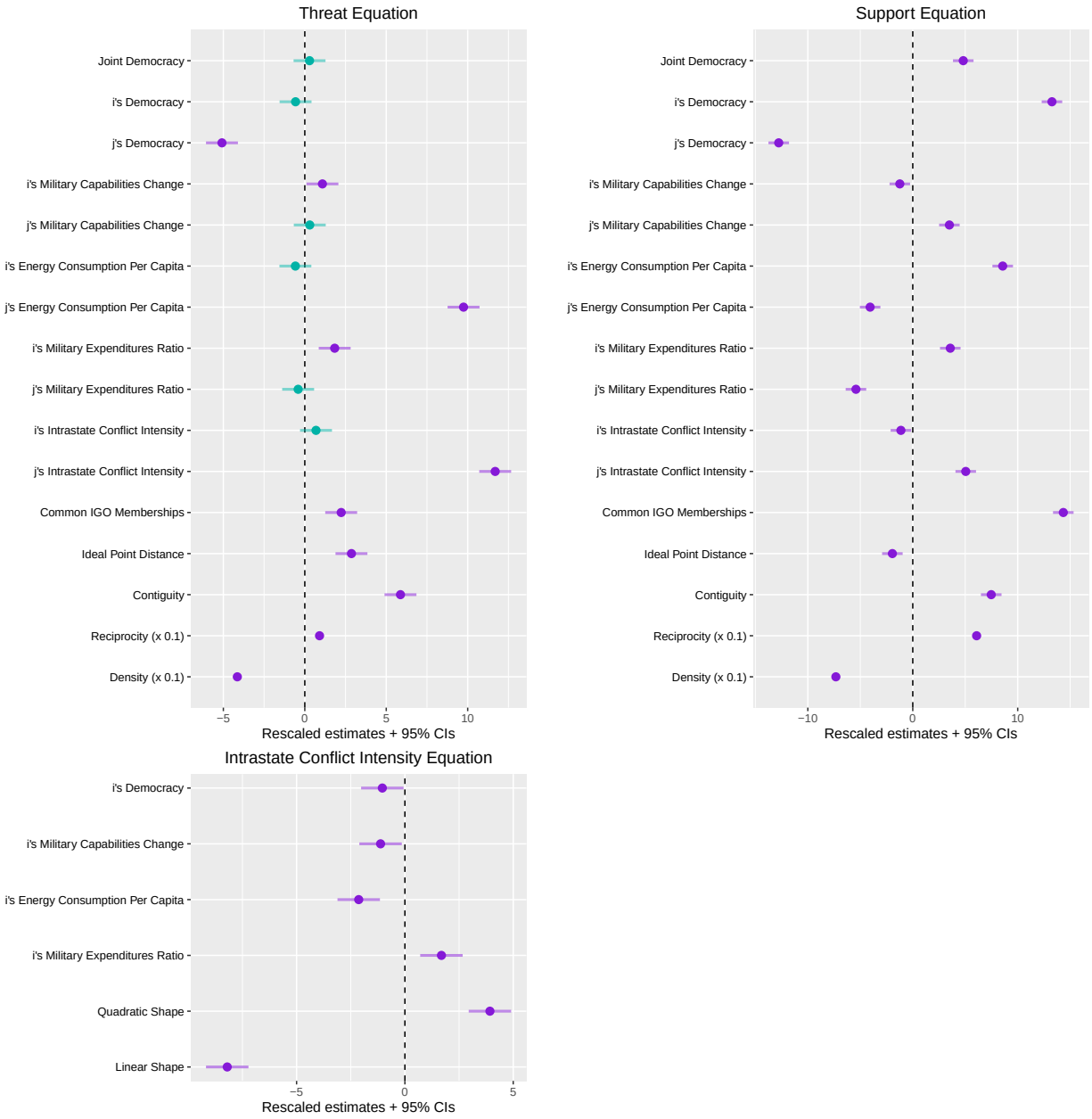


Figure 1: Base Model

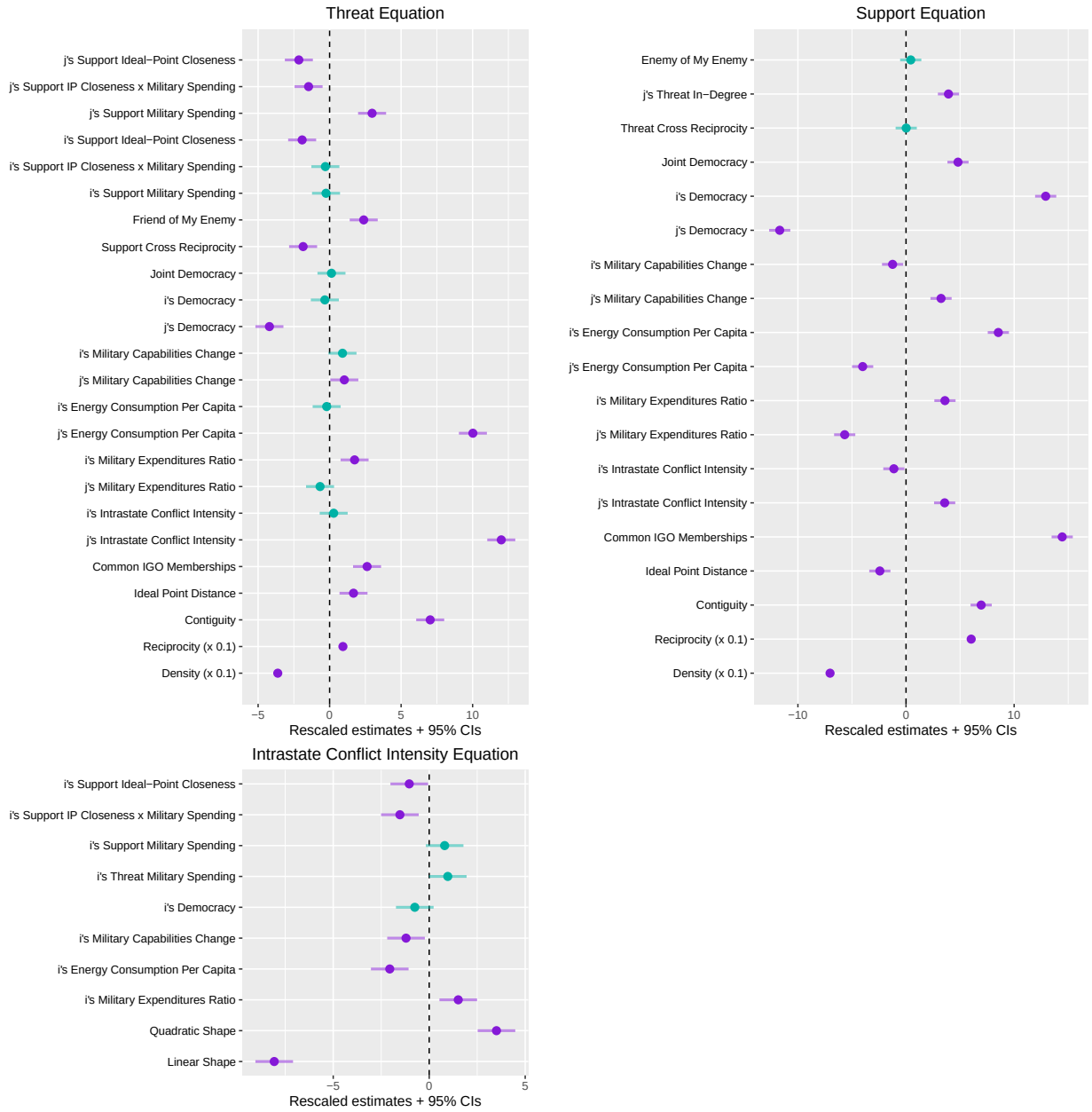


Figure 2: Model with the Interaction between Support-Group Military Capacity and Support-Group Ideal-Point Closeness (Model 1)

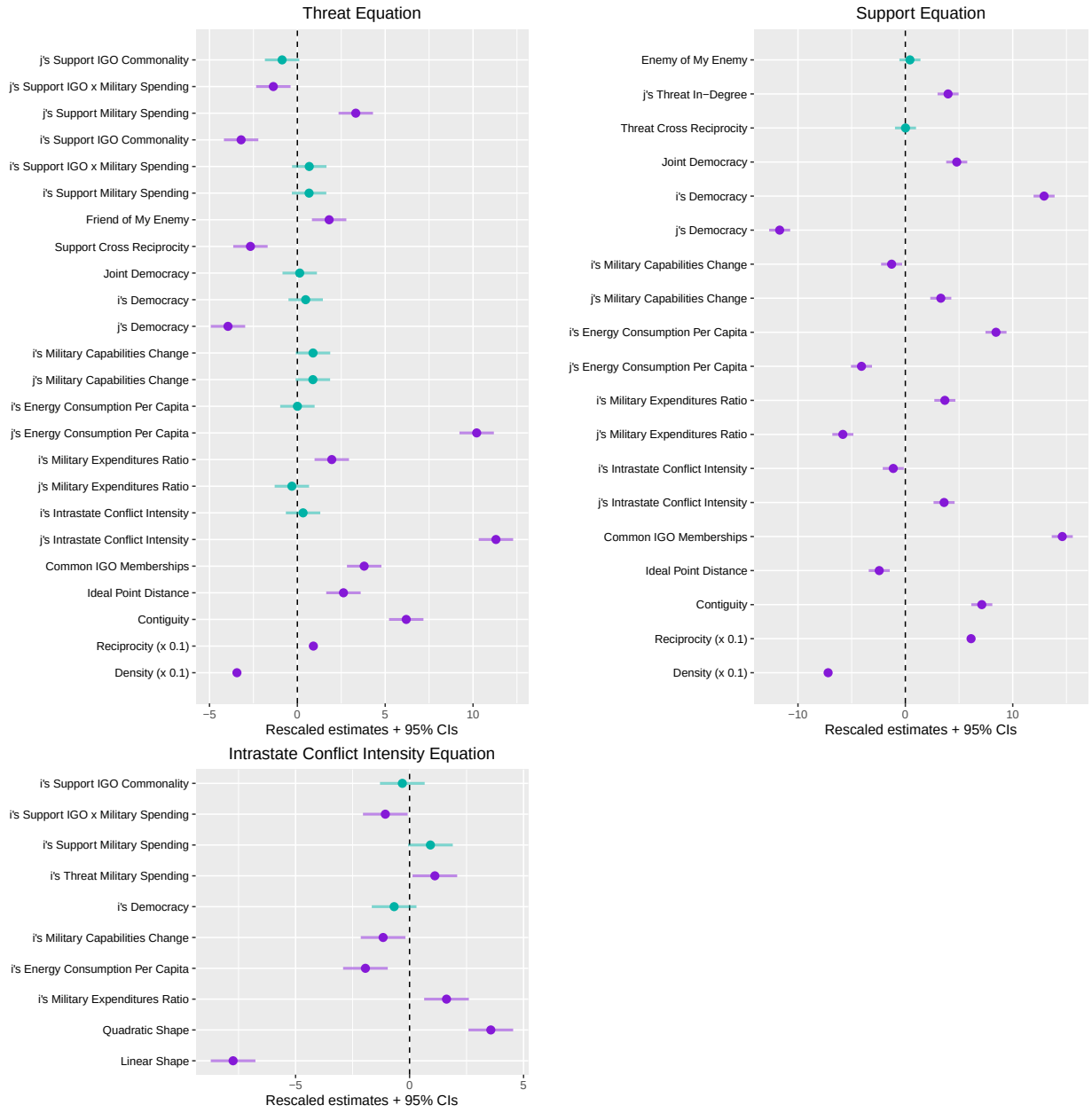


Figure 3: Model with the Interaction between Support-Group Military Capacity and Support-Group IGO Commonality (Model 2)

(a) Threat ties (b) Support ties

Figure 4: Threat and Support Networks (snapshot of 2005-2009)

4 Threat and Support Networks

Figure 4 depicts a snapshot of the threat and support networks, aggregated over the last five years of the available data. We immediately see that the threat network is much more sparse than the support network. Almost all states have either an incoming or outgoing (or both) support tie, with some states having rather high densities of outgoing support—seen in darker and larger shades of the nodes. Many fewer states have any threat ties, and the ones that do have much less density of ties, as seen in how the colors of the threat density are kept at the same levels as those of the support density.

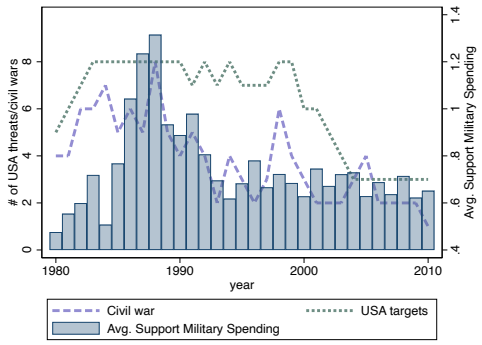


Figure 5: Characteristics of states which received Soviet support in 1988

5 End of the Cold War Cases as a Face Validity Probe

The end of the Cold War provides a useful period for a face-validity probe into some of the key measures. Focusing on the set of states with an incoming support tie from the USSR in 1988, Figure 5 tracks whether they experienced a civil war or a threat from the USA. It also shows the levels of military spending in their support groups. We see that the support-group military spending drops significantly in 1989—the beginning of the end of the Cold War—and further drops in 1993—when the Russian state nearly collapsed. At the same time, the numbers of states experiencing an interstate threat from the USA or a civil war increased during the 1980s, consistent with the Reagan administration's "rollback" strategy of political, military and economic pressure against (peripheral) Soviet-supported states. The decrease in threats from the USA and in civil war for the Soviet-supported states from their peaks in the 1980s is consistent with a dynamic in which the earlier ties with the USSR in some cases made the states more vulnerable to threats from the USA and to being the venue of a proxy war.

A consideration of the specific trajectories of states which were supported by the USSR

in 1988 uncovers a rich picture of how the Soviet support mattered to the regime security of the supported states. For all the states, we observe how the realities of an altered support group shaped their propensities for threat by the USA and also intrastate conflict.

In 1988, eight states with USSR support faced threats from the USA: Afghanistan, Angola, Cambodia, Cuba, Iraq, Libya, Nicaragua and North Korea. Each fits well in the category of states peripheral to core Soviet interests.[9] It is notable that no Warsaw Pact countries are on this list. This list of states is thus consistent with the potential for states with relatively tenuous support from powerful states to be attractive targets of aggression from the patron-states' rivals.

By 1992, Myanmar and Serbia (Former Republic of Yugoslavia) were added to this list of states facing USA threats, while Nicaragua and Libya were no longer on the list. The collapse of Yugoslavia and its descent into a series of brutal civil wars is a case in point of how the loss of a powerful ally with relatively close interests can contribute to new challenges at home and abroad that potentially would have otherwise been forestalled. At the same time, it is important to note that we still do not see any former Warsaw Pact countries on the 1992 list, as all were undergoing liberal regime transitions, and East Germany had reunified with West Germany. These facts are again consistent with the expected role that strong external support can play in deterring intrastate and interstate threats. Robust Soviet support maintained the Communist governments in the Eastern Bloc for four decades and contributed to a live-and-let-live relationship with NATO. The decline in the USSR

[9]Angola, Cambodia, Cuba and Nicaragua had Marxist-Leninist governments, but their geographic distance and peripheral roles in geopolitical and economic matters meant that their security did not much affect Soviet security.

contributed to liberal regime change across the Warsaw Pact countries (and Mongolia), and brutal civil war in the former republics of Yugoslavia.

By 2008, only three of the ten states on the 1988 or 1992 lists experienced a threat from the USA: Cuba, Myanmar and North Korea. Most of the states which used to be supported by the USSR and that faced aggression from the USA eventually no longer experienced a threat from the USA. The path of each of the relevant states matters to how we interpret what the support was doing.

The cases of Angola, Cambodia and Nicaragua are ones in which the winding down of Cold War tensions opened up opportunities for more security via the conclusion of peace talks. The end of the Cold War—involving not only the collapse of Soviet support but also the willingness of the USA and its allies to pursue regime change—resulted in more domestic stability and reductions in interstate hostility.

The cases of Iraq, Myanmar, North Korea and Serbia also are consistent with the hypothesized mechanisms, though differently because these are cases in which Russian (and Chinese) support persisted despite the collapse of the Soviet Union. Post-Soviet Russian support (as well as Chinese support for Myanmar, North Korea and Serbia) muddied the incentives to establish a less adversarial relationship with the USA, consistent with expectations. Russia's and China's support in the forms of sanctions busting, arms trade and UN Security Council vetoes contributed to the willingness of Iraq, Myanmar, North Korea and Serbia to commit atrocities and to be perceived as threats to US interests, keeping these countries as arenas for great power competition. Also consistent with expectations, the Russian and Chinese support for these states—relatively peripheral to their interests—was not sufficient to ensure their security. Iraq and Serbia are not listed on the USA threat list in

2008 because they experienced decisive military defeat earlier at the hands of the USA and its allies. For North Korea, it is possible that it too would have been at greater risk for decisive military action had it not successfully pursued nuclear weapons. In Myanmar, the global collapse of Soviet-style socialism gave traction to a pro-democracy movement in 1988, but a new military junta, supported in part by China and Russia in the 1990s and 2000s, ultimately squelched the potential for Myanmar to join the list of liberalizing states—instead taking the country into further authoritarianism and also continuing the motivation for US sanctions.

The cases of Afghanistan, Cuba, and Libya are ones in which the end of Soviet support opened up opportunities for a reduction in hostility vis-à-vis the USA and its allies but further complications prevented the realization of those opportunities. Soviet involvement in Afghanistan was a key source of instability during this Cold War proxy war, but post-Soviet Afghanistan was not a clear improvement in security. The eventual consolidation of power by the Taliban, harborers of al-Qaeda, actually increased the interstate threat from the USA, which invaded and carried out regime change in 2001. Cuba is an interesting particular case, as its constancy on the list of threat receivers from the USA and its economic desperation in the early 1990s belies tectonic changes made in the post-Soviet era, when it began accepting the US Dollar as legal tender, entered into much more economic cooperation with European states, and briefly achieved normal diplomatic relations with the Obama administration. This case shows that there was an opportunity for Cuba to become more secure and prosperous in the post-Soviet era, but dysfunctional domestic politics in which the Castro regime and pivotal constituencies in the USA benefited from a continuation of hostilities explains why the opportunity was ultimately missed. Libya is also a mixed case,

as the end of the Cold War eventually led to Gaddafi's willingness to make concessions—e.g., related to its nuclear program and to its culpability in the bombing of Pan Am Flight 103—on a path toward better relations with the US and Europe. Gaddafi's brutal response to a growing insurgency in the wake of the Arab Spring uprisings, however, led to a 2011 NATO air campaign that resulted in regime change and protracted civil war.

In summary, the post-Cold War reality shows that Soviet support had bolstered the security of the Warsaw Pact countries that were tightly aligned with the USSR. As a point of contrast, some Soviet supported states of peripheral importance to USSR security experienced threat from the USA and proxy wars that attenuated soon after the end of the Cold War in ways consistent with the analysis above. For the cases that did not experience threat attenuation, we can see the missed opportunities to experience greater security vis-à-vis the USA.

6 Issues Related to Endogeneity

The simultaneous estimation of network coevolution in the SAOMs allows separation of social selection and social influence processes (Lomi, Snijders, Steglich and Torló, 2011)—in effect, the potential for the characteristics of the support network to influence the threat network and the nodal experiences of civil war is estimated after having accounted for the potential for the threat network and nodal experiences to influence the support network. While the simultaneous estimation addresses some forms of endogeneity related to social selection and is an improvement upon single-equation regression models, causal identification is still a challenge because of additional forms of endogeneity that the SAOMs cannot account for. Two additional forms of endogeneity are considered here: the potential for support ties to be co-symptomatic with the threat environment, and, related, the potential for anticipated threat ties to shape support ties.

Starting with the first form of endogeneity, we might wonder if the types of environments in which various types of support groups are possible are merely indicative of broader processes that are also shaping the potential for threat and civil war. If so, then perhaps the choices made in forming the support network are merely co-symptomatic—they do not independently and directly change the potential for threat ties or civil war. That is, to the extent that participation in a support group is associated with a state's proclivity for interstate or intrastate conflict, does it follow that the state would have been more secure had it chosen a different support group? Or are unobserved, structural processes that make conflict more likely also at work in making current support-group participation attractive, regardless of the choice to actually participate?

One response is that the empirical results still provide insight in light of this potential for endogeneity. Given that in some cases weaker states often do not have much choice in their support-ties selection—as, for example, in many Latin American countries—or in other cases must make a lesser-of-evils judgment—the structural situation and not necessarily the choice-making itself is sometimes most important in understanding the relevant counterfactual claim. In a situation such as the conflict involving Ukraine, it can both be true that the Euromaidan revolution that strengthened Ukraine's ties with the EU and NATO powers created the immediate cause for Russia to take hostile action and also true that the structural situation in which Ukraine has occupied—a strategically important geopolitical space between great-power blocs—created a situation in which Ukraine would experience a high propensity for conflict regardless of its policy choices. It is still interesting to know if states with network characteristics like that of Ukraine are more prone to interstate and intrastate conflict even if threats to causal inference make it difficult to claim that the outcome facing Ukraine would have been much different had Ukraine just signed onto a different constellation of support ties.

Another response to this critique considers the related question of whether anticipated support generates the same dynamics as realized support, which is what we should expect if the support ties are merely co-symptomatic. Thus far the support group in the models has been defined by existing support ties. But what about anticipated, unrealized support? It is possible that unrealized support might be a catalyst for interstate aggression and subversion via proxy wars. A counter claim, however, is that it is only realized ties that should provoke a reaction by adversaries, since action against states which are considering the expansion of their support groups would further heighten their sense of insecurity and stimulate them to

hasten the expansion and tighten their support ties.

An auxiliary SAOM investigates whether anticipated support has similar effects as realized support. **Potential Support Military Capacity** is a weighted average of the military capacity of the states that are not yet supporters of the focal state (and that do not have threat ties with the focal state), in which the weights are based on the ideal-point similarities between the states not in the support group and the focal state.[10] High values of this measure indicate that the state has high ideal-point similarity with high-military spending states that are not yet supporters. These are cases in which it would be reasonable to expect that the state has a potential to gain strong supporters with high congruence in the near future. The effects of this measure of anticipated support from strong and congruent states can be compared to the interaction effect from Model 1 (between the support-group military capacity and the support-group ideological closeness), which is a measure of realized support from strong and congruent states.

The results, seen in Figure 6 do not show evidence of the potential for unrealized support to have the same relationship with threat ties and intrastate conflict as realized support. As a face validity probe, we see in the support-ties equation that *j's Potential Support Military Capability* does have a strong relationship with the potential for i-to$j$ support, which is consistent with what would be expected of a measure of anticipated (but yet unrealized) support. In the threat ties equation, *j's Potential Support Military Capability* has a positive association with threat ties, which is opposite of what should be expected if unrealized support from strong and ideologically proximate states had the same relationship as realized

[10]Specifically, the weights are calculated as $1 - \frac{\text{ideal point distance}_{ijt}}{\text{maximum ideal point distance}_t}$.

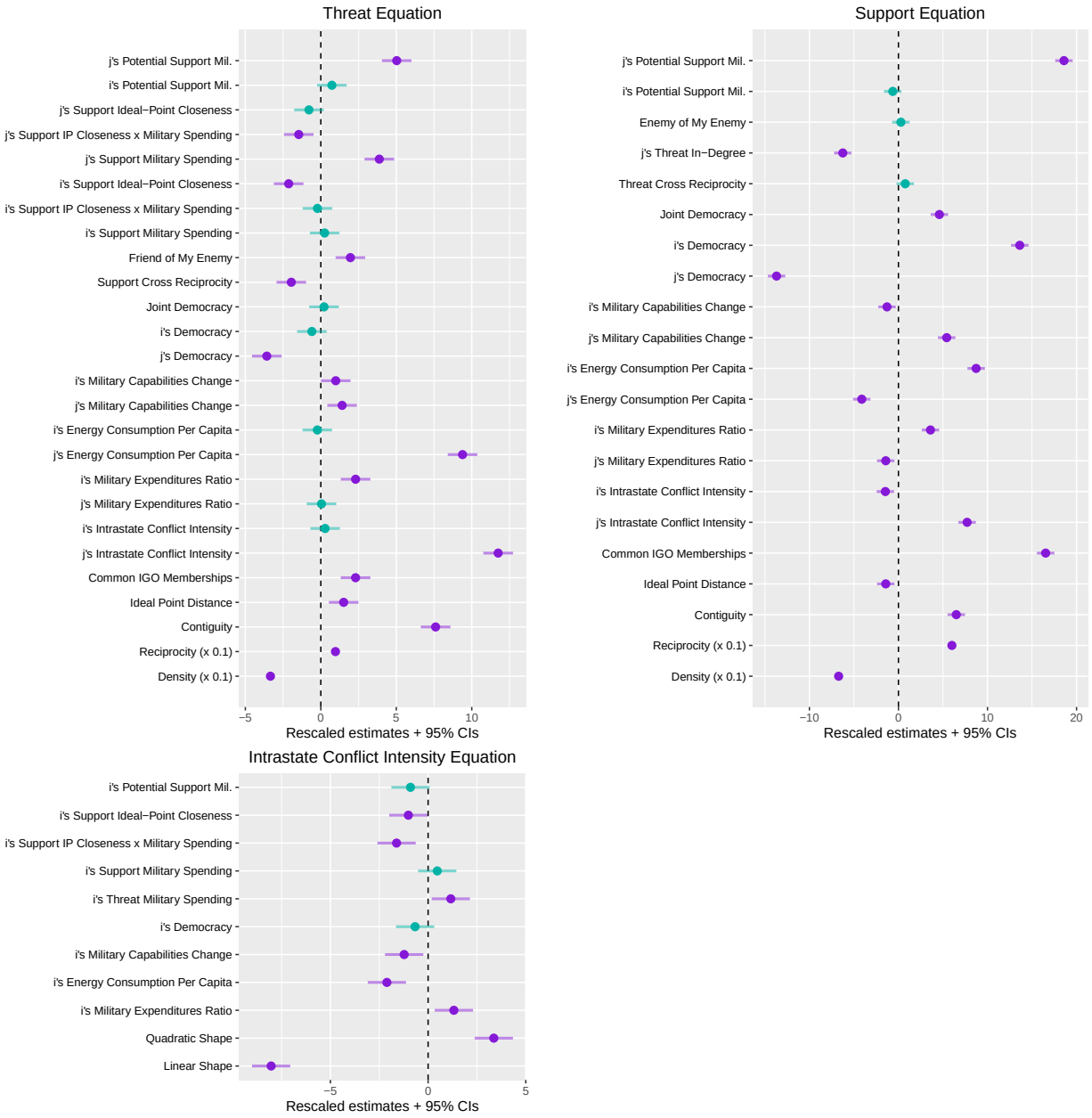


Figure 6: Model with Measure of Unrealized Potential Support-Group Military Capacity

support.[11] In addition, from the intrastate conflict intensity equation, the measure of *i's Potential Support Military Capability* does not have a statistically significant association with i's risk for civil war. It is not clear if unrealized potential for higher military capacity in a support group is security enhancing or degrading when it comes to intrastate conflict intensity. The results here suggest that we do not see evidence that support ties are merely co-symptomatic with threat and intrastate conflict in ways that would provide an alternative explanation for the associations that confirm the hypotheses. When looking at the other results, we still see that ideal-point closeness conditions the relationship between (realized) support-network military capacity and both threat ties and civil war escalation.

A second endogeneity issue relates to the potential for support ties to be made strategically, in anticipation of future threat ties. While contemporaneous threat ties and intrastate conflict can be accounted for in the SAOMs (Lomi et al., 2011), the models cannot account for *anticipated* threat or civil war. The concern here is that the observed associations between support-group characteristics and both threat ties and intrastate conflict are actually a reflection of the effects that potential threat or conflict have on support ties. Indeed, the theoretical argument posits, and the findings already show, that states are more likely to receive support ties when they are experiencing interstate threats or intrastate conflict, and the logic could also extend to an anticipation of conflict. States seek support when they perceive a greater need for the support.

In order for concerns related to anticipated conflict to confound the inferences drawn from,

[11] Because the potential support variable is calculated as a weighted average of the military capabilities of states that are not yet supporting a state, with the weights based on ideal-point closeness, high values of this variable represent cases in which there is potential support from strong and ideologically proximate states.

say, Model 1, one of two relationships would have to hold. For one, anticipation of low levels of threat or intrastate conflict would have to lead to a greater likelihood of states forming support groups with both high military capacity and high congruence. Or, anticipation of high levels of threat or intrastate conflict would have to lead to a greater likelihood of states forming support groups with both high military capacity and low congruence. If neither of these are the case, then reverse causality related to anticipated threats cannot explain well the results in Models 1 and 2. I take up each one in turn.

Might the anticipation of low levels of threat or intrastate conflict lead to a greater likelihood of states forming support groups with both high military capacity and high congruence? This seems implausible, as it would run counter to the basic logic that states will have a greater demand for support ties from strong actors when they perceive a need for the support. Indeed, we already observe that j is *less* likely to receive support ties when j has low levels of threat density and is not experiencing an intrastate conflict.

Alternatively, might the anticipation of high levels of threat or intrastate conflict lead to a greater likelihood of states forming support groups with both high military capacity and low congruence? While the potential to seek strong supporters when expecting threat is consistent with what is expected and observed thus far, the potential to seek supporters with low congruence seems less likely. High-congruent supporters would be preferable in times of perceived need. Although, one claim could be that when states are more desperate, they are more willing to accept a less-congruent support group.

To evaluate whether anticipated threat and conflict might lead to the formation of the types of support groups examined in Model 1, I consider the role of neighboring threats and conflict as proxies for anticipated threats. Interstate and intrastate conflicts can spread to

neighboring states (Gleditsch, 2002; Gleditsch, Salehyan and Schultz, 2008), so states with geographic neighbors that have a high proclivity for interstate threats and intrastate conflict can expect a higher propensity for their own interstate threats and intrastate conflict. I thus estimated a SAOM with the mean number of threats that j's neighbors are experiencing and the mean intrastate intensity that j's neighbors are experiencing. For the support-ties equation, I also include interactions of these variables with the ideal-point distance between i and j and with i's military expenditure ratio. These interactions can reveal how the conflict propensity of j's neighbors affects it's potential to receive support from an ideologically-distant i or a military capable i.

The full model results are presented in Figure 7. As a face validity probe, it is worth noting from the threat ties equation that j is more likely to experience an interstate threat when its neighbors are experiencing intrastate conflict, and, from the intrastate conflict intensity equation, states are more likely to experience intrastate conflict when their neighbors are experiencing intrastate conflict. These relationships are what should be expected from a logic of conflict diffusion, such that neighboring intrastate conflict could heighten a state's anticipation of future threat and civil war.

The key relationships of interest are in the support-ties equation. We see from the *j's Neighboring Threat Density* variable that when j has abundant neighboring threats, it is more likely to receive an incoming support tie from i when i has average ideal-point distance, but it is less likely when i is ideologically distant. This is not consistent with what should be expected if a high anticipation of threat leads to support groups that are stronger and less congruent. From the interaction of *j's Neighboring Intrastate Conflict* with the ideal-point distance, we do see that j is more willing to have a support tie from is that are more

ideologically distant when j's neighbors are experiencing intrastate conflict. However, from the other interaction effects we do not see that the threat and conflict experiences of j's neighbors condition the propensity for j to receive support ties from i's with more or less military capacity. We thus do not see much evidence from these results that the anticipation of low levels of threat or intrastate conflict would lead to a greater likelihood of states forming support groups with both high military capacity and high congruence; nor do we see that the anticipation of high levels of threat or intrastate conflict would lead to a greater likelihood of states forming support groups with both high military capacity and low congruence. A story that the Model 1 results can actually be explained by the anticipation of threat and conflict would have expected that neighboring threat and conflict would have positive conditioning effects on the marginal effects of both ideal-point distance and i's military expenditures.

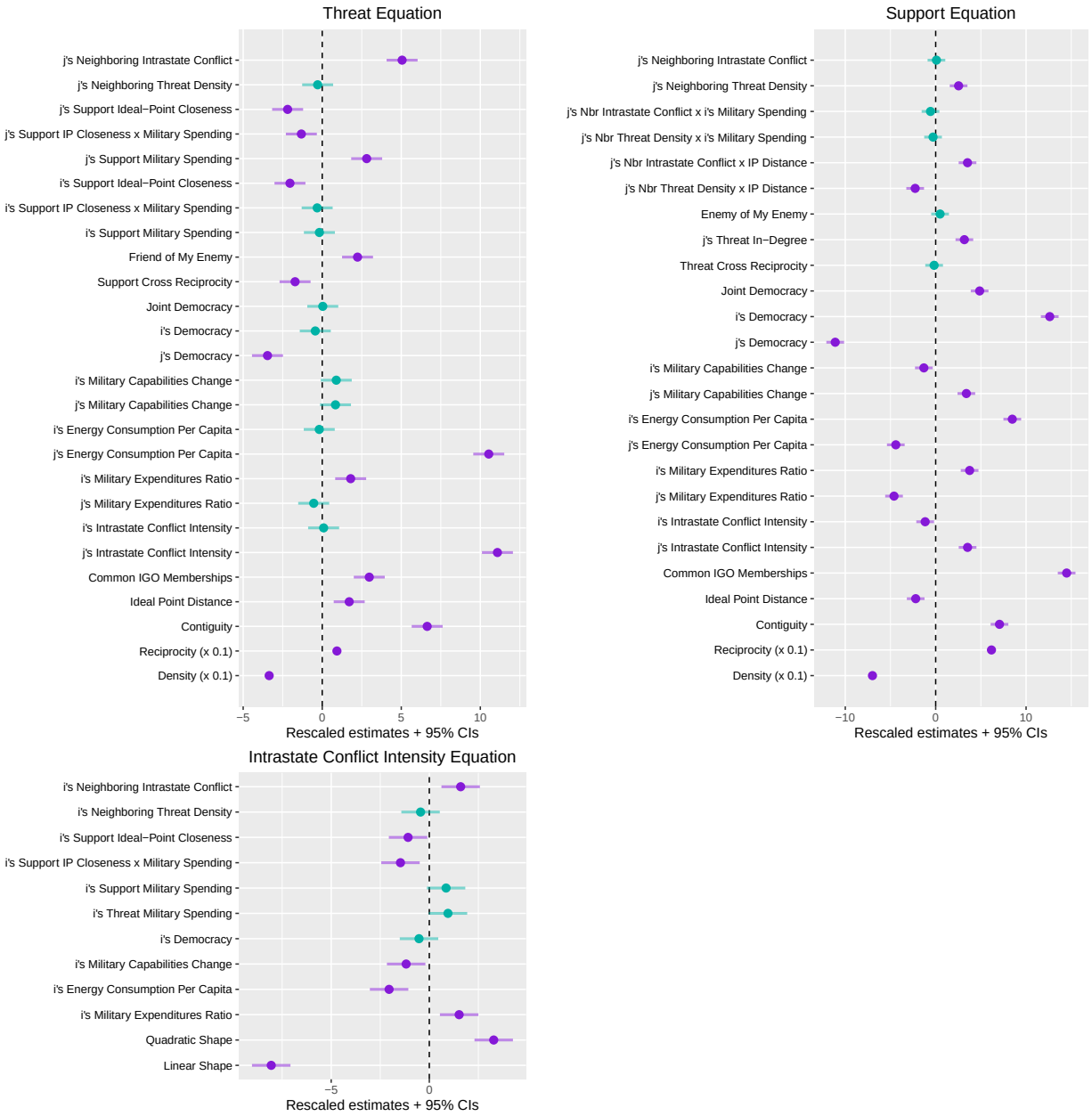


Figure 7: Model with Neighboring Threat and Conflict as Measures of Potential Threat and Conflict

7 Analysis of Outside Support of Non-state Actors as a Key Mechanism

One of the components of the threat-ties measure is the support that i gives to non-state actors in j. This specific component of threat is core to the mechanism of subversion that is motivated by an inter-group security dilemma. That is, the interpretation thus far of the key findings that support groups with strong but relatively incongruent states are associated with both more interstate threat and more intrastate conflict has implied a link between the two different outcomes. Adversaries of states with such support groups are more likely to turn to both coercion and subversion. But is it the case that adversaries of states with such support groups are more likely to support non-state actors in the focal state? And is such support associated with more intrastate conflict in the focal state? I run a SAOM that replaces the threat network with edges defined by multiple types of threat with a threat network with edges defined only by support for non-state actors in another state.

Figure 8 presents the results. From the threat equation, we see that when j has a support group that is relatively congruent with its ideal point, j is less likely to have other states attempt subversion via support for non-state actors within j. While we do not see evidence that this effect is further conditioned by the military capacity of the support group, the pattern has some consistency with the proposed mechanisms. In the intrastate conflict equation, we also see from the *i's Subverters Military Spending* effect that, consistent with the proposed mechanisms, the military spending in the set of states which are supporting non-state actors in i is positively associated with armed conflict intensity. As we would expect, when strong actors are supporting non-state actors in i, i is much more likely to

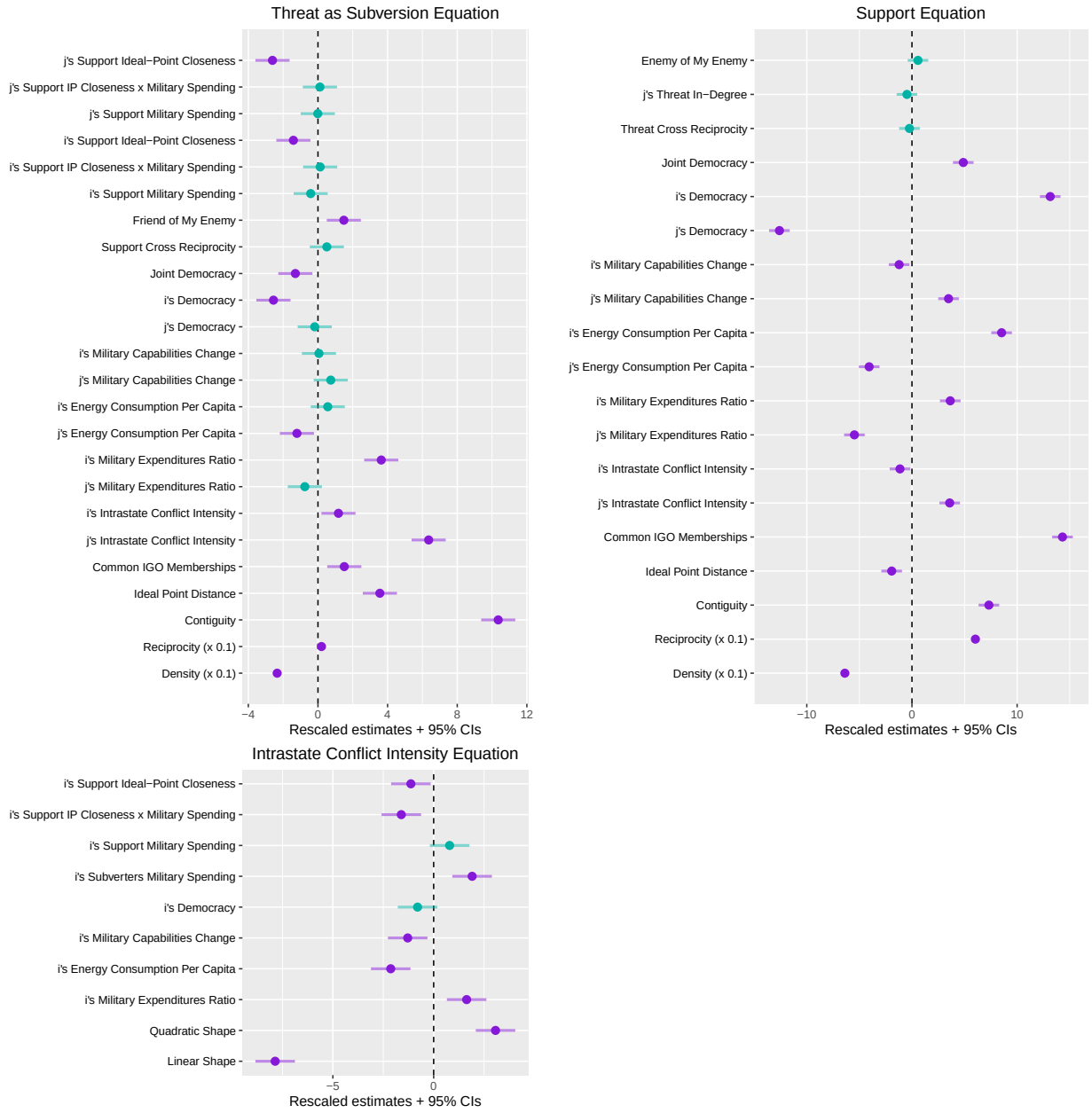


Figure 8: Model with Threat Ties Defined by External Support for Non-state Actors

experience a civil war. At the same time, support groups comprised of strong states with low congruence are still associated with a higher likelihood for civil war, suggesting that additional mechanisms aside from external support are also at work.

8 Analysis of Disjoint Support and Threat Networks

The proclivity for support groups to contribute to interstate threat is expected to increase in the extent that the support groups of potential adversaries are disjoint with the support group of the focal state. When states i and j have overlapping support groups, their common supporters could actively diffuse tensions. When they do not have common supporters, this is the ideal setup for inter-bloc competition. It also follows that a state with disparate sets of interstate supporters and interstate threateners—likely to support domestic challengers to the state, especially when the state's supporters and threateners are at odds with one another—is particularly prone to experiencing a protracted proxy war.

Inter-bloc competition also poses challenges to the management and resolution of intrastate armed violence. The potential involvement of multiple third parties with competing interests reduces the prospects of a negotiated settlement by adding issues and muddying the waters with regard to information about the capability and resolve of the adversaries (Shirkey, 2012). The involvement of multiple third-party supporting actors additionally makes resolution of the conflict more precarious via a veto-player logic (Akcinaroglu and Radziszewski, 2005; Cunningham, 2011). Aydin and Regan (2012) find that when interveners into a civil war support different sides, the conflicts tend to endure. For example, when a conflict is likely to draw in powerful supporters with clear preferences for either side—when the actors are embedded within different security communities—as in the Vietnam war or the Iran-Iraq war, it is often challenging to resolve. Studies have also found that multiparty mediation attempts without sufficient coordination or interest alignment struggle to resolve conflict (Beardsley, 2011; Böhmelt, 2011).

Another SAOM adds in effects to see how differences between the support groups of i and j shape the propensity for i-to-j threat ties, and how differences between a state's support and threat networks shape the propensity for it to experience civil war. **i-j support distance** is added to the threat network equation and is defined as the distance between the average ideal point in i's support group and the average ideal point in j's support group.[12] This then enters into the model as a dyadic variable.[13] The variable is also interacted with both the *i's support military spending* effect and the *j's support military spending* effect. For the civil war behavioral model, **support-threat distance** is the distance between the average ideal point in i's support group and the average ideal point in i's "threat group." It enters into the equation as a monadic variable and is also interacted with both the *i's support military spending* effect and the *i's threat military spending* effect. In addition, since Beardsley, Liu, Mucha, Siegel and Tellez (2020) find that conflict is less likely between states within the same hierarchal security community, a **common supporter** triadic closure effect is also added to the threat ties equation. The expectation is that a common supporter will decrease the propensity for interstate threat.

Figure 9 presents the results relevant to these expectations. The results from the intrastate conflict intensity equation support the expectations. The ideological distance between a state's support and threat networks increases the propensity for that state to experience a civil war when its *support military spending* variable is at its mean. Moreover, this relationship is substantively larger than many of the other observed effects in the intrastate conflict intensity equation. Consistent with a proxy-war logic, states are more likely to ex-

[12]Ideal points are measured by Bailey, Strezhnev and Voeten (2017).

[13]The value is set to 0 if either actor does not have a support group.

perience an intense civil war when they are caught between supporters and threateners that are far apart in ideal-point space.

Regarding the threat ties equation, we also see support for the expectations. While ideological distance between the support groups is associated with a decrease in threat propensity when there are mean levels of military spending in the support groups of i and j's, we see the expected increase in threat propensity when there is above average military spending in the support groups. When i and j have well-resourced support groups, there is a positive relationship between the ideal-point distance between i and j and the potential for threat. This is consistent with an intergroup security dilemma logic. We also observe that a common supporter in i's and j's support groups decreases the threat propensity.

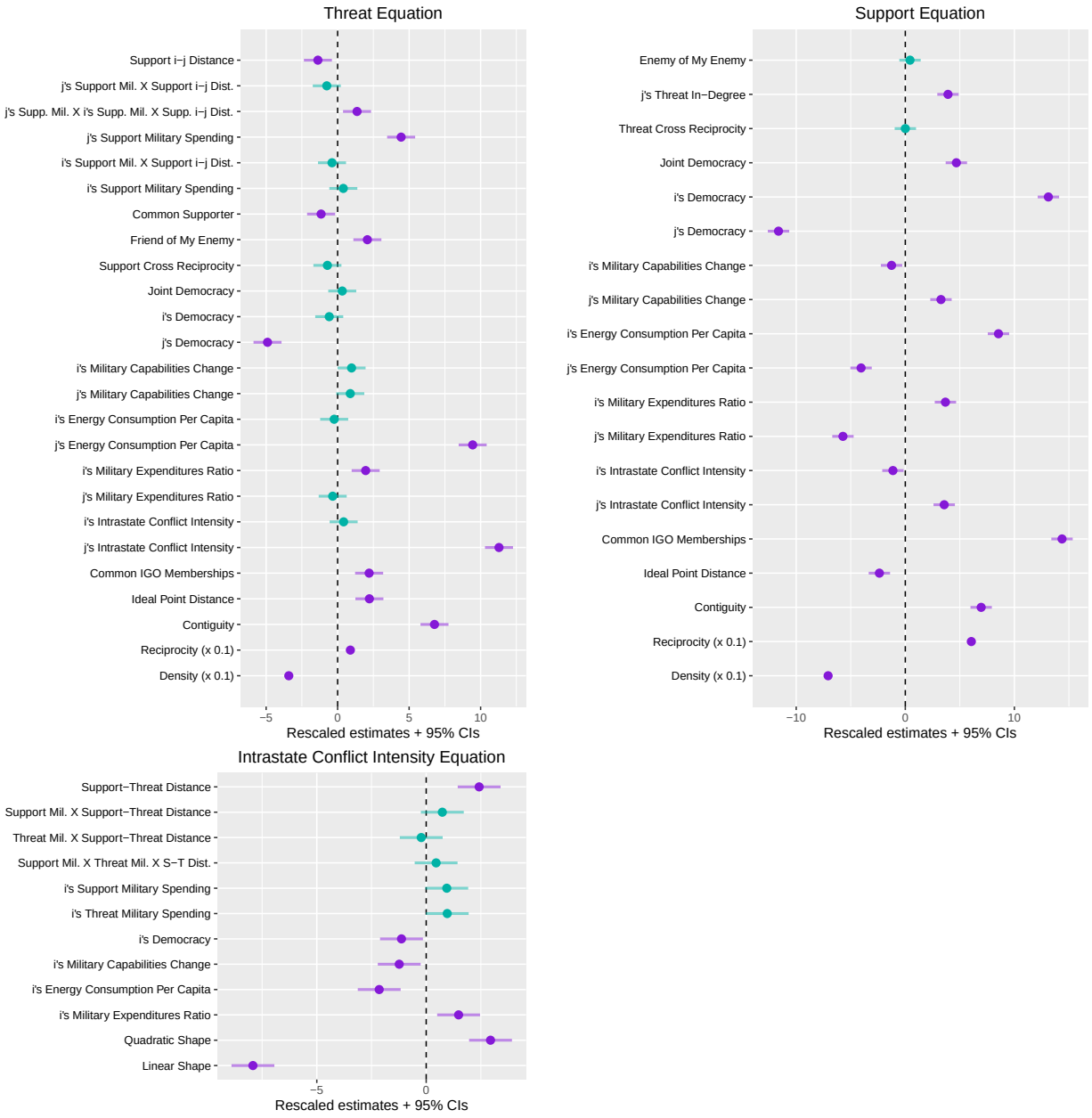


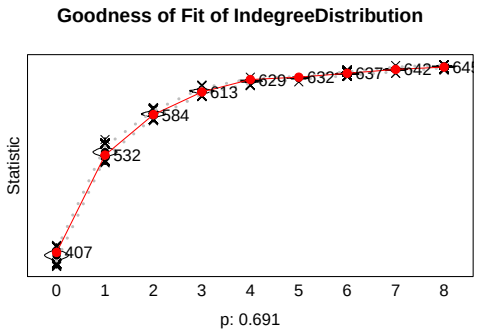
Figure 9: Model with the Interaction between Support-Group Military Capacity and Ideal-Point Separation among Support and (Potential) Threat Groups

9 Goodness of Fit

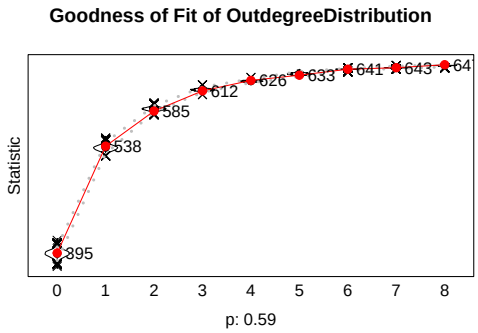
To assess the goodness of fit for the SAOM models, I follow the Mahalanobis distance-based Monte Carlo (MDMC) procedure proposed by Lospinoso and Snijders (2019). In this procedure, multiple auxiliary statists related to the network structure are used to see if the observed network data were likely generated by the fitted model. Specifically, the MDMC procedure is used to examine if the values of the threat in-degrees, threat out-degrees, threat triad census, and behavior (intrastate armed conflict) distribution are well anticipated by Model 1. For each auxiliary statistic, the MDMC procedure produces a p-value, with the null hypothesis being that the observed statistic was generated by the fitted model and not some other model — failure to reject the null is an indicator of adequate goodness of fit.

While these goodness-of-fit diagnostics can serve as a minimal test for SAOM model misspecification, it is important to note that the MDMC diagnostics are limited in being able to compare one model that passes the diagnostics to another model that also passes the diagnostics. Lospinoso and Snijders (2019, 11), for example, find with regard to their MDMC diagnostic that "misspecification with respect to covariates is not easily detected by auxiliary variables reflecting network structure." While the goodness-of-fit diagnostics can tell us that the models in the analysis do not have poor fit, it is hard to conclude that a SAOM with one set of independent variables included is a significant improvement over a SAOM with a different set of independent variables.

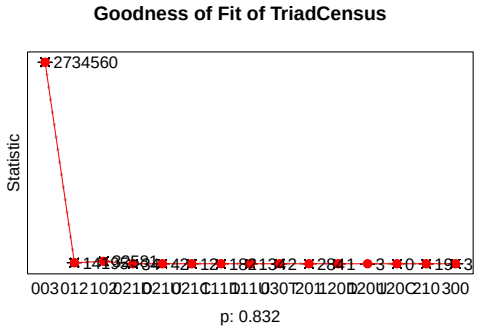
Since the SienaGOF algorithm (implemented in R) cannot handle changes in the composition of the units, unlike the Siena07 algorithm used to estimate the model effects, the MDMC procedure is conducted only on the last four years of the data (2006-2010), during



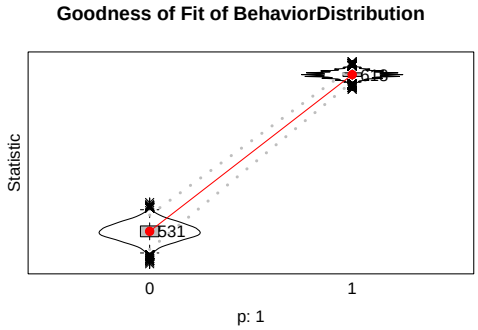
(a) Threat In-Degree



(b) Threat Out-Degree



(c) Triad Census on the Threat Network



(d) Behavior Distribution

Figure 10: MDMC Goodness of Fit Violin Plots

which no states entered or exited the system. The MDMC results are presented in a series of violin plots in Figure 10, which confirm that the expected distributions match well to the observed distributions for each of the auxiliary statistics. In addition, we see that the p-values are well over a 0.05 threshold. We can conclude that the SAOM model performs well on these MDMC goodness of fit metrics.

An alternative Goodness-of-Fit assessment uses out-of-sample forecasting, with the predictive accuracy of the Model 1 SAOM compared to Logit models.[14] SAOM models are

[14]The network effects in the Logit models exclude the triadic closure effects because these cannot be easily measured as a dyadic variable.

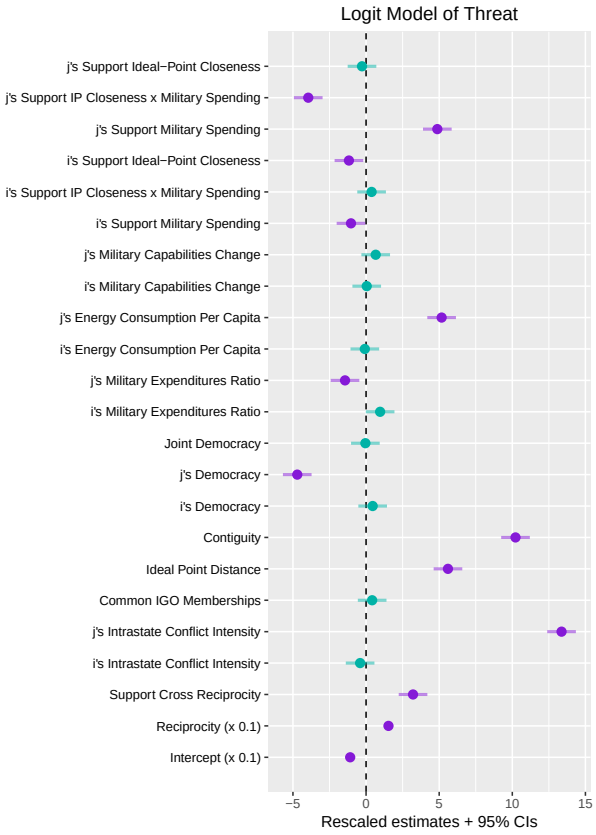
known to excel in one-step-ahead prediction accuracy of rarely changing ties because of assumed network dependencies between periods (Leifeld and Cranmer, 2019). Since strong out-of-sample forecasting performance by the SAOM model should be expected, poor performance should be indicative of model misspecification while superior performance should not be overvalued. Models were trained on the sample of data from 1980 to 2004, and then tested on the 2005-2010 data, with the $t-1$ data used to predict the outcomes in t.

To make comparison with a Logit model sensical, the three-point intrastate ordinal outcome was converted to a dichotomous outcome by combining the low-level conflict and civil war outcomes.[15]

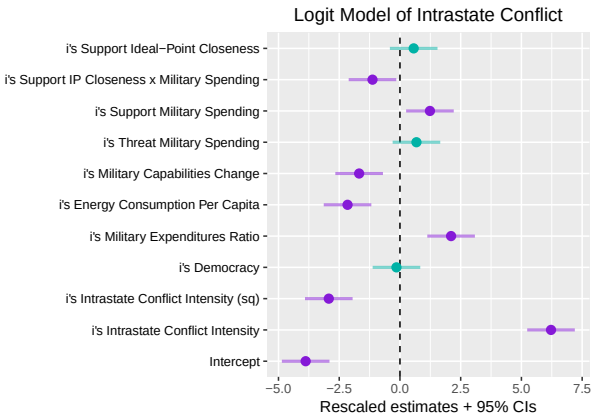
Figure 11 depicts the results of the Logit models, using the training sample of 1980 to 2004. All independent variables are lagged one year, which means that we lose the 1980 observations. The standard errors are robust to clustering at the dyad (for threat ties) and state (for intrastate conflict) levels. The results are consistent with the key findings from Model 1 of the SAOM estimation.

Figure 12 presents the respective predictive performances for the top-12 most-threatening states, and the 17 states that experienced intrastate armed conflict during each year of the test period. Since the number of interstate threats that a state experiences during the test period is an aggregation across all the dyads, and the number of years of intrastate armed conflict during the test period is also an aggregation across years, the figures present the

[15]The Logit model was run on this dichotomous outcome. For the SAOM, the reduction to a dichotomous outcome was done after the model estimation—treating predictions of either low-level armed conflict or war as equivalent to a positive prediction. A civil war is defined as experiencing over 1000 battle-related fatalities. Low-level armed conflict is defined as experiencing 25 to 999 battle-related fatalities.

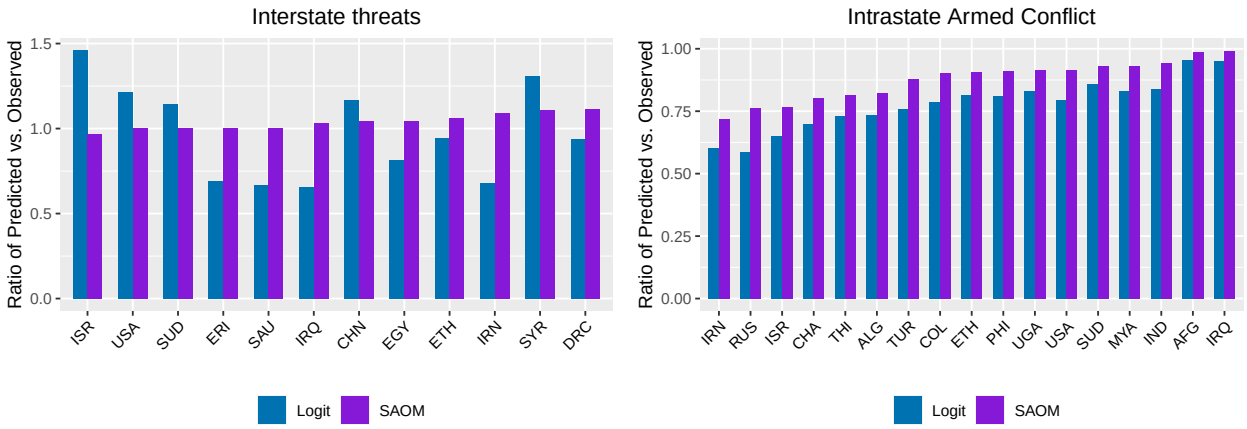


(a) Interstate Threat



(b) Intrastate Conflict

Figure 11: Logit Models, Training Sample (1980-2004)



(a) States with Most Outgoing Threat Ties, 2005-2009

(b) States with Intrastate Armed Conflict in Each Year, 2005-2009

Figure 12: Out-of-Sample Comparisons of the SAOM and Logit Models

ratios of the predicted numbers of threats and conflicts to the observed numbers. We observe that the SAOM predictions were nearly perfect—the ratios are close to 1—in predicting the number of threats for the most-threatened states, while the Logit model performed comparatively poorly in predicting the threat ties.

For the predictions of intrastate armed conflict among the set of states that experienced intrastate armed conflict during each year of the test period, the ratios of predicted-to-actual conflict for the SAOM are all closer to 1 than the corresponding ones for the Logit models. The differences, however, are less stark than in the predictions of threat ties.

The goodness of fit for the SAOM can be further seen in the areas under the curves (AUCs) for the receiver-operator-characteristics (ROC) curves and the precision-recall (PR) curves from the same out-of-sample predictions. Figure 13 depicts the curves for the SAOM and the Logit models on the set of dyads that experienced any interstate threats during the entire training period and the set of nodes that experienced intrastate conflict during

the period. Most striking, the curves for the SAOM performance in predicting interstate threats show nearly perfect accuracy. We observe a large drop off in the predictive accuracy of the Logit model for the threat-ties outcome, but the Logit model modestly outperforms the SAOM model for the intrastate conflict outcome. Inspection of the data confirms that the predicted probabilities of intrastate armed conflict were generally higher for the SAOM, which means that there are more false positives when the threshold for what counts as a predicted event is small. The tradeoff, observed in Figure 12, is that on high values of the decision threshold, the SAOMs excel at returning true positives. The key advantage of using the SAOM appears to be in modeling the coevolution of networks, as threat ties and support ties are mutually constitutive. The SAOM also appears to have an advantage in predicting intrastate conflict for the set of cases most prone to conflict.

In summary, the goodness-of-fit metrics do well to show that the SAOM models do not leave too much variation in the data left to explain. These metrics, however, should not be taken to show that other types of estimators could not also do well to examine the hypotheses and related coevolutionary dynamics. As network modeling continues to advance, other models are likely to do even better, especially if they are not constrained to binary indicators of ties and single network layers, as the SAOM models are.

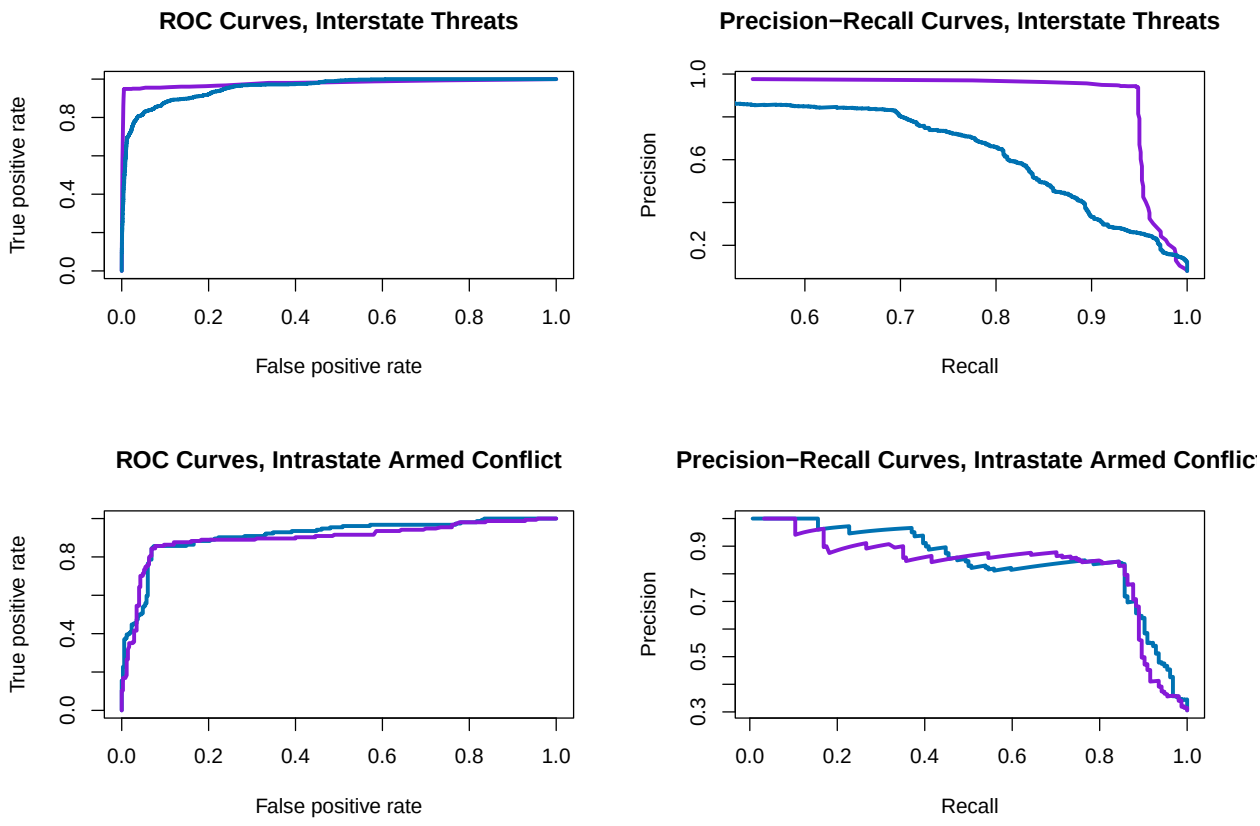


Figure 13: Out-of-Sample Performance for SAOM (purple) and Logit (blue) models

10 SAOM Equation Specifications

Let $\mathbf{x}$ denote the support network and $\mathbf{y}$ denote the threat network such that $\mathbf{x_{ij}(t)}$ is the directed support relationship between states i and j at time t, and $\mathbf{y_{ij}(t)}$ is the directed threat relationship. Let $\mathbf{z}$ denote the nodal civil war behavior such that $\mathbf{z_i(t)}$ is the extent to which state i is experiencing a civil war at time t. The SAOM simultaneously estimates equations of f($\mathbf{x}$), f($\mathbf{y}$) and f($\mathbf{z}$), with each equation comprising both network and nodal attributes.

To define the effects mathematically, let the network evaluation function for actor i on network [$\mathbf{x}$,$\mathbf{y}$]$\in\mathbf{w}$ for effect k be defined as $f_i^{net}(w) = \sum_k \beta_k^{\text{net}} s_{ik}^{\text{net}}(w)$, where β_k^{net} are parameters to be estimated and $s_{ik}^{\text{net}}(w)$ are effects defined as follows and expressed mathematically in Table 2.[16] The effects for civil war "behavior" are modeled using the behavior evaluation function $f_i^{beh}(w,z) = \sum_k \beta_k^{\text{beh}} s_{ik}^{\text{beh}}(w,z)$, where z is the ordinal behavioral dependent variable and w is the dependent network.[17]

[16]The effects are interpreted as how the existing values for $s_{ik}^{\text{net}}(w)$ at time t affect the actors' decisions to establish or maintain a tie at time $t+1$.

[17]The effects are interpreted as how the existing values for $s_{ik}^{\text{beh}}(w,z)$ at time t affect the actors' decisions to increase, decrease or maintain its behavior score at time $t+1$.

Table 2: Effect Definitions

Effect Name	**Definition**	**Equations**	**Models**
Density	$s_i^{\text{net}}(w) = \sum_j w_{ij}$	support, threat	all
Reciprocity	$s_i^{\text{net}}(w) = \sum_j w_{ij} w_{ji}$	support, threat	all
Dyadic controls	$s_i^{\text{net}}(w) = \sum_j w_{ij}(v_{ij} - \overline{v})$	support, threat	all
i's controls	$s_i^{\text{net}}(w) = v_i \sum_j w_{ij}$	support, threat	all
i's controls	$s_i^{\text{beh}}(w, z) = z_i v_i$	intrastate conflict	all
j's controls	$s_i^{\text{net}}(w) = \sum_j w_{ij} v_j$	support, threat	all
Linear shape	$s_i^{\text{beh}}(w, z) = z_i$	intrastate conflict	all
Quadratic shape	$s_i^{\text{beh}}(w, z) = z_i^2$	intrastate conflict	all
Cross reciprocity	$s_i^{\text{net}}(w_1) = \sum_j w_{1ij} w_{2ij}$	support, threat	1-3
j's threat in-degree	$s_i^{\text{net}}(x) = \sum_j x_{ij}(\sum_{h \neq i} y_{hj} - \overline{y})$	support	1-3
Enemy of my enemy	$s_i^{\text{net}}(x) = \sum_{j \neq h} x_{ij} y_{hi} y_{hj}$	support	1-3
Friend of my enemy	$s_i^{\text{net}}(y) = y_{ij} \sum_{h \neq j} y_{ih} x_{jh}$	threat	1-3
i's support mil. spend.	$s_i^{\text{net}}(y) = \sum_j y_{ij} \sum_h x_{hi} m_h$	threat	1-3
i's support mil. spend.	$s_i^{\text{beh}}(x, z) = z_i \sum_h x_{hi} m_h$	intrastate conflict	1-3
j's support mil. spend.	$s_i^{\text{net}}(y) = \sum_j y_{ij} \sum_h x_{hj} m_h$	threat	1-3
i's threat mil. spend.	$s_i^{\text{beh}}(y, z) = z_i \sum_h y_{hi} m_h$	intrastate conflict	1-3
i's support closeness	$s_i^{\text{net}}(y) = \sum_j y_{ij} \frac{\sum_h x_{hi} c_{ih}}{\sum_h x_{hi}}$	threat	1
i's support closeness	$s_i^{\text{beh}}(x, z) = z_i \frac{\sum_h x_{hi} c_{ih}}{\sum_h x_{hi}}$	intrastate conflict	1
j's support closeness	$s_i^{\text{net}}(y) = \sum_j y_{ij} \frac{\sum_h x_{hj} c_{jh}}{\sum_h x_{hj}}$	threat	1
i's support IGO	$s_i^{\text{net}}(y) = \sum_j y_{ij} \frac{\sum_h x_{hi} g_{ih}}{\sum_h x_{hi}}$	threat	2
i's support IGO	$s_i^{\text{beh}}(x, z) = z_i \frac{\sum_h x_{hi} g_{ih}}{\sum_h x_{hi}}$	intrastate conflict	2
j's support IGO	$s_i^{\text{net}}(y) = \sum_j y_{ij} \frac{\sum_h x_{hj} g_{jh}}{\sum_h x_{hj}}$	threat	2
i-j support distance	$s_i^{\text{net}}(y) = \sum_j y_{ij}(\frac{\sum_h x_{hi} p_h}{\sum_h x_{hi}} - \frac{\sum_h x_{hj} p_h}{\sum_h x_{hj}})$	threat	3
Support-threat distance	$s_i^{\text{beh}}(w, z) = z_i(\frac{\sum_h x_{hi} p_h}{\sum_h x_{hi}} - \frac{\sum_h y_{hi} p_h}{\sum_h y_{hi}})$	intrastate conflict	3
Common supporter	$s_i^{\text{net}}(y) = \sum_{j \neq h} y_{ij} x_{hi} x_{hj}$	threat	3

Note, $\overline{v}$ is the mean value of dyadic covariate v_{ij}. For the monadic effects, v_i is centered internally. w_{1ij} are the ties on either the support or threat network and w_{2ij} are the ties on the other network. $\overline{y}$ is the average number of incoming threat ties. $x_{hi} m_h$ gives the military

expenditure ratio for each state that has a support tie with i, with the military expenditures ratio defined as in the main paper. $y_{hi}m_h$ gives the military expenditure ratio for each state that has a threat tie with i. g_{ih} is the number of IGOs that i and h have in common. p_h is the ideal point of state h in the respective support group.

References

Akcinaroglu, Seden and Elizabeth Radziszewski. 2005. "Expectations, rivalries, and civil war duration." *International Interactions* 31(4):349–374.

Aydin, Aysegul and Patrick M Regan. 2012. "Networks of Third-party Interveners and Civil War Duration." *European Journal of International Relations* 18(3):573–597.

Bailey, Michael A, Anton Strezhnev and Erik Voeten. 2017. "Estimating dynamic state preferences from United Nations voting data." *Journal of Conflict Resolution* 61(2):430–456.

Barnum, Miriam, Christopher J. Fariss, Jonathan Markowitz and Gaea Patrice Morales. 2022. "Measuring Arms: Introducing the Global Military Spending Dataset." `osf.io/rsxze`.

Beardsley, Kyle. 2011. *The Mediation Dilemma*. Ithaca, NY: Cornell University Press.

Beardsley, Kyle, Howard Liu, Peter J Mucha, David A Siegel and Juan F Tellez. 2020. "Hierarchy and the Provision of Order in International Politics." *The Journal of Politics* 82(2):731–746.

Böhmelt, Tobias. 2011. "Disaggregating Mediations: The Impact of Multiparty Mediation." *British Journal of Political Science* 41(4):859–881.

Cunningham, David E. 2011. *Barriers to Peace in Civil War*. Cambridge University Press.

Gleditsch, Kristian. 2002. *All International Politics is Local: The Diffusion of Conflict*. Ann Arbor, MI: University of Michigan Press.

Gleditsch, Kristian, Idean Salehyan and Kenneth Schultz. 2008. "Fighting at Home, Fighting Abroad: How Civil Wars Lead to International Disputes." *Journal of Conflict Resolution* 52(4):479–506.

Leifeld, Philip and Skyler H. Cranmer. 2019. "A theoretical and empirical comparison of the temporal exponential random graph model and the stochastic actor-oriented model." *Network Science* 7(1):20–51.

Lomi, Alessandro, Tom AB Snijders, Christian EG Steglich and Vanina Jasmine Torló. 2011. "Why are some more peer than others? Evidence from a longitudinal study of social networks and individual academic performance." *Social Science Research* 40(6):1506–1520.

Lospinoso, Josh and Tom A.B. Snijders. 2019. "Goodness of fit for stochastic actor-oriented models." *Methodological Innovations* 12(3).

Mattes, Michaela, Brett Ashley Leeds and Naoko Matsumura. 2016. "Measuring change in source of leader support: The CHISOLS dataset." *Journal of Peace Research* 53(2):259–267.

Pevehouse, Jon CW, Timothy Nordstrom, Roseanne W McManus and Anne Spencer Jamison. 2020. "Tracking organizations in the world: The Correlates of War IGO Version 3.0 datasets." *Journal of Peace Research* 57(3):492–503.

Powell, Robert. 1999. *In the Shadow of Power: States and Strategies in International Politics.* Princeton, NJ: Princeton University Press.

Shirkey, Zachary C. 2012. "When and How Many: The Effects of Third Party Joining on Casualties and Duration in Interstate Wars." *Journal of Peace Research* 49(2):321–334.

Singer, J. David, Stuart Bremer and John Stuckey. 1972. Capability Distribution, Uncertainty, and Major Power War. In *Peace, War, and Numbers*, ed. Bruce M. Russett. Beverly Hills, CA: Sage pp. 19–48.

Souva, Mark. 2022. "Material Military Power: A Country-Year Measure of Military Power, 1865-2019." *Journal of Peace Research* Online First.

Stinnett, Douglas M, Jaroslav Tir, Paul F Diehl, Philip Schafer and Charles Gochman. 2002. "The correlates of war (cow) project direct contiguity data, version 3.0." *Conflict Management and Peace Science* 19(2):59–67.