



# Complex Interstate Rivals

BRANDON VALERIANO

*University of Glasgow*

AND

MATTHEW POWERS

*University of Illinois at Urbana-Champaign*

The goal of this article is to engage the concept of rivalry, analyze its possible deficiencies, and empirically identify which groups of states make up what we call *complex rivals*. A complex rivalry is defined as a group of at least three states whose relationships are linked by common issues, alignments, or dispute joiner dynamics in which there is a threat of militarized conflict and includes persistent long-term interactions and collective animosity. Once the cases that make up complex rivals are described, we examine the dynamics of conflict within complex rivalries. We show that complex rivals tend to follow a different path to war when compared to dyadic rivals in that they experience more war on average, are more likely to include major powers, and fight predominately over positional as opposed to spatial concerns.

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Conflict scholars have made tremendous progress in the investigation of the problem of international violence by looking to the dyadic level of analysis. The examination of what one state does to another has led researchers to such important findings as the democratic peace (Ray 1995), the inaccuracy of the balance of power as a predictor of peace (Bremer 1992), and the territorial study of conflict (Vasquez 1993). One flaw with this line of research lies in that multi-party groups of international actors have often been left unexplored, particularly in the context of rivalry. Like those doing research within network analysis (for example, Maoz, Terris, Kuperman, and Talmud 2007; Corbetta and Grant 2012), extended deterrence (for example, Smith 1998; Danilovic 2001), war diffusion (for example, Most, Starr, and Siverson 1989:chapter 5; Gleditsch 2002; Vasquez, Diehl, Flint, Scheffran, Chi, and Rider 2011), and *k*-ads (Poast 2010), we are trying to bring back the inherent diversity that is left out in dyadic approaches. This study takes an initial step in alleviating this deficiency by delineating what we dub *complex interstate rivals*.

Here, we explain how complex rivalries are coded and make an initial evaluation into the impact they have on international politics. The advantages of including this important grouping are wide-ranging, and this work hopes to push others toward the investigation of complex interactions. As researchers, we cannot assume that interactions in the international system are strictly or primarily dyadic processes. Third-party states can influence a dyadic relationship by serving as a potential intervener or engaging in a relationship with one (or both) of the parties (Croco and Teo 2005). Stated simply, complex groups of actors may

require new theories and new methods of analysis than those employed in dyadic studies.<sup>1</sup>

It may also be important to control statistically for complex actor groups in normal dyadic regression analyses or separate out these actors as a different "type," as Vasquez and Valeriano (2010) suggest in their examination of war. It is clear that general complexity is important in certain types of rivalry. Some rivals are not dyadic, but groups of actors linked together. These actors are what we call complex rivals, deeply coupled groups that should be categorized and investigated in their complex form. There is likely a dyadic rivalry path to war and peace and a complex rivalry path to war and peace. Distinguishing between these two possible paths will greatly aid the examination of the sources of conflict and cooperation in the interstate system.

A complex rivalry is simply defined as a rivalry relationship between more than two actors whose relations and interactions are characterized by common issues of concern, alignments, or joiner dynamics. Further, a complex rivalry is not simply the aggregation of two separate dyadic rivalries. For example, although the rivalry between the United States and the USSR was arguably one of the most dangerous dyadic rivalries the world has even seen, this hostile bilateral relationship was itself deeply linked with China for part of the Cold War. The intensity and severity of the relationship between the three actors influenced the level of conflict and cooperation among all three (Goldstein and Freeman 1990). It seems clear that the rivalry between China, the United States, and the USSR is a rivalry of a different sort from the one between the United States and USSR due to the different issues and regions at stake.

In this article, we review the foundations of the rivalry research enterprise, examine potential flaws of the dyadic rivalry perspective, and suggest a new direction that includes complex groups. The goal of this article is to identify which groups of states make up a complex rivalry. Once the initial data set is described, we briefly examine the dynamics of conflict within complex rivals. Do they last longer than other types of rivalries? Are they more severe? Are they primarily composed of major or minor powers? Do they tend to fight in spatial or positional disputes? Not all rivals are strictly dyadic and the interactions of complex rivals may suggest that these types of rivals have significantly different foreign policy implications than dyadic rivalries. If so, this would suggest that there is a divergent path to conflict for complex rivals when compared to dyadic rivalries. A typology of complex rivalries allows for the investigation and analysis of a different type of international actor grouping that clearly has an impact on the course of world politics.

### **The Interstate Rivalry Research Program**

The rivalry research program represents an important field of study within the international conflict literature (see Diehl and Goertz 2000; Colaresi, Rasler, and Thompson 2008). The study of rivalry leads the researcher to look back at the history of interactions between a dyad to understand the underlying conflictual relations, the propensity for future conflict, and avenues of conflict resolution.

Two basic characteristics underlie the rivalry research program: (i) rivalries are the most conflict prone states in the interstate system, and (ii) the traits of rivals make the states involved a different set of actors in the international system. Thompson (2001) finds that 75% of strategic rivalries have experienced war at some point, and Diehl and Goertz (2000) show that more than 50% of enduring

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<sup>1</sup> Our focus upon the triadic level of analysis should not be meant to imply that we believe dyadic studies are necessarily flawed. We merely seek to demonstrate how some states act when in a complex situation.

rivals fought a war during the duration of their rivalries. Another idea critical to the rivalry research program is the expectation of future conflict between identified rivals. These actors are the most “at risk” in the international system in the sense that they are highly likely to resort to militarized force with one another.

In rivalry, the tendency is for the actor to seek to harm the other actor, regardless of the potential negative costs the first actor may incur (Zizzo and Oswald 2001). The goal is to deny a gain to that rival, no matter what the cost is to the initiating state. This leads to another characteristic of rivalry: issues can shift within the rivalry as long as the domestic leadership within the rival states decides to continue that rivalry (Colaresi 2002). Rivalry becomes a learned behavior that is difficult to terminate.

Early efforts to operationalize interstate rivalry have led to important data sets and findings. Wayman and Jones (1991), Diehl and Goertz (2000), Thompson (2001), and Hewitt (2005) have largely identified the dyadic rivals. We know that rivals largely consist of undemocratic dyads (Hensel, Goertz, and Diehl 2000), are newly independent states (Goertz and Diehl 1995), are prone to fight over territorial concerns (Vasquez and Leskiw 2001), escalate bargaining demands during repeated crises (Leng 1993; Hensel 1996), and respond to early challenges with militarized force (Hensel and Diehl 1994). Derouen and Bercovitch (2008) further extend the concept of rivalry to internal conflict, while Mitchell and Thies (2011) code issue-based rivals.

In operationalizing the concept of rivalry, Diehl and Goertz (2000) see rivalry as a predominately dyadic process. For instance, these authors note: “[O]ne should not assume, as with China, the Soviet Union, and the United States, that each leg of the triadic linkage is symmetrical in duration, processes, or relative importance. By looking at rivalries as a dyadic phenomenon, we are able to assess the extent of the inter-relationships present” (Diehl and Goertz 2000:20). We contend that the interactions within complex rivalries are different than those in dyadic rivalries and thus need to be analyzed in that context. Attempts to explain these interactions by looking at dyadic processes could largely fail to explain their onset, duration, and termination. We now discuss the importance of complex actor groupings in world politics and suggest how a data set of complex groups might be produced.

### **Complex Rivals in World Politics**

The study of rivalry involves the proposition that disputes, crises, and wars are not independent events, but are connected across time and space. However, most empirical studies of social interactions have largely neglected to investigate relationships between more than two participants. An exception might be Caplow’s (1968) study of triads, which he considers the main building blocks on which all social organizations are constructed. A triad is defined as “a social system containing three related members in a persistent situation” (Caplow 1968:1). Studies of extended deterrence also expand our purview beyond dyadic interactions in that they force us to consider how the involvement of a third state may affect whether a potential aggressor attacks a target state (Smith 1998). Maoz et al. (2007) have also produced some novel findings about the stability of enmity and friendship among multiparty actors using social network methodology. Further, work by Crescenzi (2007) shows that states use extra-dyadic behavior to help them deal with intra-dyadic relations, while Poast (2010) demonstrates the utility of using choice-based sampling to create and analyze  $k$ -adic data sets. Studies on war diffusion (Most et al. 1989:chapter 5; Gleditsch 2002; Vasquez et al. 2011) also involve the consideration of multiple states in that the researcher is forced to theorize the ways in which conflict in one locale spreads to areas previously devoid of conflict. Lastly, there has been some work

within traditional dyadic rivalry research that investigates how interactions in one dyadic rivalry influence interactions in other rivalries (Akcinaroglu, Radziszewski, and Diehl 2014).

In contrast to past scholarship, the study put forward here attempts to conceptualize and measure triadic conflict processes within all members of the interstate system while also utilizing an extensive temporal domain. While most rivalries occur in a dyadic setting, some can be influenced by a third party that, depending on the goals of this actor, may decrease or increase tensions. Leaving out those rivalries, we might consider “complex” could significantly impact the reliability of any rivalry study that seeks to explain conflict or peace. The continued use of dyadic research designs that investigate multilateral processes can bias empirical results and lead to incorrect inferences (Croco and Teo 2005; Corbetta 2012). We believe that the nature of the research question at hand should guide the researcher to the most appropriate research design.

Research by Vasquez and Valeriano (2010) illustrates this point. They argue that a typology of wars is needed to advance our understanding of the causes of war and stress that not all wars can be assumed to have the same causal sequences. A similar argument is likely relevant for rivalry relations. For instance, Thompson (2003) and Vasquez (1996a, 1998:chapter 8) both suggest that multiple rivalries or complex relationships are likely to lead to war, while Vasquez (1998) notes that looking at the dyadic process of the rivalries is of little use since it ignores the context of the regional system and how the mismanagement of rivalries can lead to the breakdown of order in a region. Distinguishing between a typology of dyadic and complex rivalries will aid theorists and researchers in the investigation of the causes and consequences of rivalry relations.

Any definition of rivalry must include both the factors of militarized competitiveness and relative positioning in elucidating what a rivalry truly encompasses. There should be an equal expectation that conflict can erupt between all parties at any time, otherwise the complex rivalry would be weighted toward a single dyadic pair. Each side in a complex rivalry should make policy choices based on the goals of the opposing sides. Denying a gain to a rival is a prime concern for actors engaged in rivalry, and the issues under contention should engage each rival member. A complex rivalry is defined as a group of at least three states whose interactions are linked by common issues, alignments, or dispute joiner dynamics in which there is an active threat of militarized conflict between all parties and includes persistent long-term interactions where there is collective animosity and an effort to deny benefits to a rival(s).<sup>2</sup> The general form of the relationship will be of two partners confronting an antagonist. We make no assumptions about stability of issues under contention for a complex rivalry; in fact, the issues will shift according to the actors’ perceptions since rivalry is so rooted in the foreign policy identity of states.

### **The Theoretical Impact of Complex Rivalry**

In a dyadic rivalry, the key concern is what one state will do to another. In a complex rivalry, the question is what impact one state’s actions have on two other actors or what impact the actions of two actors have on a third party. Another concern is how actions coordinated in concert impact a target state. Complexity requires the examination of systems of relationships rather than paired reaction analysis.

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<sup>2</sup> By joiner dynamics, we imply the desire for one party to join an ongoing dispute or rivalry to settle their own issues with one or both of parties. Joiner dynamics can also include one actor being dragged into the conflict due to the location of a rivalry.

This research seeks to move scholars beyond theories that characterize dyadic relationships and to look toward theories that explain multiple actor interactions. For example, the pure number of actors in a dispute alone should not make the propensity for war or conflict increase. However, the salience of disputes between multiparty actors has been shown to influence the likelihood of whether disputes are apt to escalate to war. In particular, multiparty disputes involving territory tend to escalate to war more frequently than multiparty disputes over policy concerns (Petersen, Vasquez, and Wang 2004:93). This suggests that the types of disputes complex rivals find themselves in will have an effect on their propensity to go to war. Yet, we do not yet know if this is the case because no one has sought to empirically define a population of complex rivals. For this reason, the types of disputes complex interstate rivals engage in are examined in our analysis of this genre of rivals.

Complex rivalries are also likely to be more conflict prone than dyadic rivalries because of the values and interests each individual actor brings into the dispute. The associations between complex rivals are likely to be complicated by the prior history of interactions between all of the rival participants. The rivalry between the UK and France (on one side) and Germany prior to WWII illustrates this point. Both the UK and France had long-standing rivalries with Germany before WWII. For instance, France had a territorial rivalry with Germany, while the UK's rivalry with Germany was over the leadership of the global system and the navigation of the seas. The rivalry did not result in WWII because of the number of actors involved, but because of the long-standing prior history of conflict.

In addition to identifying the history of interactions within complex rivals, it is also important to study the extent of their duration. Scholarship on dyadic rivalries has shown that the likelihood of rivalry termination tends to increase as the rivalry continues (Cioffi-Revilla 1998:chapter 3). Is this process also at work within complex rivalries? Caplow (1968) argues that the termination of complex actor groups is due to one actor leaving the group rather than the entire rivalry reaching a settlement agreeable to all parties. This suggests that complex rivalries will not endure as long as dyadic rivalries since there may be a tendency for one rival state to de-link itself and let the rivalry continue on in its dyadic form.

A number of scholars have examined the role that territorial disputes play in the dynamics of dyadic rivals. For example, studies show that a large number of enduring rivals arise from territorial disputes as opposed to other issues (Goertz and Diehl 1992; Vasquez and Leskiw 2001). Tir and Diehl (2002) report that 81% of enduring rivals engage in at least one territorial dispute during their existence. These findings probably do not apply to cases of complex rivals since territorial imbalances are less likely to be an issue to all three parties in a complex rivalry. In other words, territorial issues are unlikely to be at the core of complex rivalries since it is less probable that all three actors have a stake over a particular piece of territory. Even if two states within a complex rivalry have a dispute over territory, the third may be hesitant to participate in this affair unless the territory in question also affects its own interests. As a result, we should only rarely observe all three states in a complex rivalry becoming embroiled in hostilities over territory. The hypothesized difficulty complex rivals have in fostering multiple disputes over territorial issues leads us to believe that when these complex rivals do form, they will be over "positional issues" (Colaesi et al. 2008) in which policy concerns are preeminent.

In addition to questions of initiation and termination, we also need to think conceptually about basic complex rivalry dynamics. What regions are they likely to occur in? The locus of fighting might be dominated by non-European actors because policy disputes between major powers typically are fought in far-off locations rather than near the homeland. Further, what is the rate of war involvement for complex rivals? The rate will likely differ substantially when compared

to dyadic rivals because it is oftentimes hard to get three actors to show up to the same conflict, a finding reported in the work of Vasquez and Valeriano (2010). Answers to these questions not only tell us a lot about the dynamics of complex rivals, they can also help illuminate how conflict relationships evolve toward war.

### Who are the Complex Rivals?

As Goldstein and Freeman (1990:2) note, “the triangular system is considerably more difficult to analyze than a bilateral one.” We believe this task can be managed and that complex rivals can be coded by examining those states that have multiparty disputes in common over a certain period of time. This method helps ensure that the rivals we identify meet typical standards of competitiveness and long-term animosity. Like the majority of other empirical studies that document militarized rivalries, we rely on the Correlates of War Militarized Interstate Dispute data (v3.10) (Ghosn, Palmer, and Bremer 2004) to create our complex rivalry data set. The Correlates of War data provide information about conflicts in which one or more states threaten, display, or use force against one or more other states between 1816 and 2001.

The data set we derive from the militarized interstate dispute (MID) data has an event-count structure that uses the individual triad as the unit of analysis. In this analysis, we only code triadic complex rivalries to facilitate data collection and analysis. Our focus on three-state groupings is also due to the small number of complex rivals with four or more actors. Given that most MIDs do not have four or more actors, the population of complex rivals with more than three actors that meet traditional rivalry operationalization criteria is extremely small and rare.<sup>3</sup>

For every MID identified in the COW data set, we determine the total number of separate triads that are involved in the dispute. For instance, if a MID only had two participants, it was not included in our data set, and if it included three participants, the total individual triads amounted to one. Consider the conflict between Angola, the Democratic Republic of Congo, Namibia, Rwanda, Uganda, Chad, and Zimbabwe from 1998 to 2001 (MID number 4339). In this conflict, Rwanda and Uganda fought against Angola, the Democratic Republic of Congo, Namibia, Chad, and Zimbabwe. When organized into triads, this conflict produces 25 separate triadic state groupings. Or consider MID number 4273 that had fourteen states allied on one side (the United States, the UK, France, Germany, Italy, and nine others in the coalition against Iraq) and just one state on the other (Iraq). This dispute ends up producing 91 separate triadic disputes. After transforming every MID with three or more participants in this way, we then dropped all the cases that did not have valid temporal domains—that is, in some cases, not all participants in a MID entered the dispute at the same time, nor did they all exit the dispute at the same time. We deleted those cases in which two members of the triad took part in the dispute, but where the third member had not yet entered or had exited the dispute before the entrance of the other two participants.<sup>4</sup> This does not mean we excluded those countries that only joined a conflict after its initial onset. It simply means we did not count a particular conflict as contributing to the number of disputes in a triad if one

<sup>3</sup> For most disputes with more than two actors in the COW MID data set, there are usually only three parties. Of the 365 MIDs that involve more than two states, 52% of them are comprised of only three states. The next highest modal category (four-state MIDs) only makes up 22%. Of the total 2,332 MIDs that have occurred since 1816, only 171 involve four or more actors (7.3%). Given the small number of MIDs with more than three actors, our focus on triads seems appropriate.

<sup>4</sup> For instance, in dispute number 4273 explained above this deletion reduced the total number of valid cases from 91 to 64.

of the states entered and subsequently exited a dispute before the other two members entered. After making this modification, we had a total of 5,854 separate triadic disputes from 1816 to 2001 from which to base our data set on.<sup>5</sup>

After creating the master list of every triadic dispute, we then identified which of these disputes were part of a complex rivalry. Our first set of complex rivalries is what we call Complex Enduring Rivalries. We considered a triadic relationship to be of the complex enduring variety if the three states making up the triad engaged in at least four MIDs over a period of at least 10 years. The four-dispute minimum helps assure the triad has engaged in a significant level of military competition and is not merely confined to a handful of isolated encounters. Categorizing rivalries based on the number of MIDs they experience is referred to within the literature as a “dispute-density” approach. This definitional component encompasses whether a triad meets a certain level of severity or seriousness. The 10-years minimum time span before a complex rival is considered “enduring” ensures that the conflicts between the three states are not merely a function of a short-term catalyzing event, but represent a series of hostile encounters that persist over a relatively long temporal domain.

Second, for MIDs to be counted toward contributing to a complex enduring rivalry, they must be temporally proximate to one another. To achieve this requirement we count only those military encounters that have 11 or fewer years pass after the first dispute, 12 years (or fewer) after the second, 13 after the third, 14 after the fourth, and 15 after the fifth and subsequent disputes. This maximum interval requirement is consistent with other empirically based definitions of dyadic enduring rivalries (Diehl and Goertz 2000; Ghosn et al. 2004) and ensures that MIDs separated by significant lengths of time are not included in the same rivalry relationship. In contrast to the dispute-density component mentioned above, this criterion is referred to as the “time-density” of the disputes within rivalries.

Finally, following Diehl and Goertz (2000), we identify the end of a complex enduring rivalry via the date of its last military dispute. Once 15 years pass after the termination of the last dispute, the current rivalry is no longer considered to be in existence. While it is hard to exactly pinpoint when a rivalry ends, the use of the last military encounter is convenient as it represents the last clear signal that the relationship is militarized. On a similar note, we code the beginning of the complex rivalry as occurring during the year of the first MID that the triad participated in.

After implementing all of these coding rules, the complete list of complex enduring rivals with four or more disputes taking place over 10 or more years has a total of 21 cases. In addition to complex enduring rivals, we also provide a list of the time-censored complex rivals. These rivals have engaged in enough disputes to meet our dispute criterion, but fail to pass our time criterion in that they have not yet existed for 10 years. This is due to limitations in the MID data since this database only records disputes up until 2001.<sup>6</sup> There are six complex rivals of the time-censored variety.

We also include a category of what we call Complex Strategic Rivals. Although a dispute-density approach is the most empirically sound method to investigate complex rivalries, it leaves out interesting historical cases. For this reason, we also rely on Thompson’s (2001) method of perceptive animosity to code complex strategic rivals not captured by the dispute-density approach. Thompson uti-

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<sup>5</sup> The data pertaining to the total population of triadic disputes are available from the authors and on the FPA replication webpage.

<sup>6</sup> We have eliminated all the censored rivals that include Serbia as an actor. As the last dispute to include Serbia ended in 2000, these triads are unlikely to reach the standards of duration required. This results in the deletion of 77 censored cases.

lizes the diplomatic histories of countries to detect rivalries based on the perceptions of leaders and decision makers. The most important coding criterion when employing this method is that the group of states identifies each other as rivals. As Colaresi et al. (2008:15) note, this “approach defines rivalry as a perceptual categorizing process in which actors identify which states are sufficiently threatening competitors to qualify as enemies.” The perceptive animosity technique allows for those cases to be captured that do not experience conflict in terms of frequent MIDs over a certain amount of time. If we were to rely solely on MIDs to code complex rivals, we might bias our findings to only include those states that engage in direct conflict and ignore those states that have serious tensions short of militarized hostilities.

The perception method allows us to identify additional rivals excluded from the dispute-density approach. In particular, we uncover 20 more complex rivals using this coding scheme. This permits us to be as exhaustive as possible in our list of complex rivals. It also helps us to be more historically sound in recognizing that not all rivalry interactions are based on threats to use force. Coding these rivals is difficult. We rely on historical sources, comments from other rivalry and history scholars during the development of this research, and Thompson’s (2001) own coding of strategic rivals. We focus mainly on the complex enduring rivalries and censored rivalries for our empirical analysis, but also include considerations for these perceptive-strategic rivals in our examination. The authors leave it up to future researchers to select the types of complex rivalries they feel are appropriate for their analysis, either combining or discarding categories.

### **Analysis of Complex Rivalries**

Table 1 lists the 47 complex rivalries identified by this project. The complex rivals are listed by type. Some of the variables we include are duration of the rivalry, number of disputes, war involvement, capability ratio, and start and end dates. Within each row of the table, the names of two states are in bold. This indicates that these states fought in a coalition against the other state in the triad.<sup>7</sup>

Table 2 summarizes some basic facts about the data set. Of interest first are the mean number of disputes during each rivalry and the total number of disputes for the entire triad’s history. The dispute measure notes that complex enduring rivals engage in an average of 6.3 disputes during their duration. By contrast, the triadic history variable counts the number of total MIDs engaged in by all three states regardless of time period. According to this variable, we can see that complex enduring rivals have an average of 8.9 disputes during their entire history. Similarly, when the entire range of complex rivalries is considered, we find that they experience an average of six disputes during the course of their lifespan.

In addition to the average number of disputes in complex rivalries, we also collect data on the number of wars they participate in. To examine this issue, we first look at the number of dyadic wars (wars between only two parties in the rivalry) within the complex rivalries. There are a total of 79 dyadic wars captured by the complex rivalry measure. In all, 83% (39 of 47) of the complex rivalries have experienced at least one dyadic war during their duration. Triads containing Israel experience the most wars with five total dyadic wars observed.

As far as triadic wars go, there are 41 wars where all three complex rivals participated. In total, 63.8% of the complex rivalries (30 of 47) have experienced a

<sup>7</sup> We were able to make this determination through the “sidea” variable in the Correlates of War MID data set. This is a dummy variable indicating whether each state involved in the MID is on “side a.”



TABLE 1. List of Complex Rivalries

<i>cr_id</i>	<i>statea</i>	<i>stateb</i>	<i>statec</i>	<i>starty</i>	<i>endy</i>	<i>dur</i>	<i>war_2</i>	<i>war_3</i>	<i>cap rat</i>	<i>locat</i>	<i>endure</i>	<i>censor</i>	<i>strateg</i>	<i>disp</i>	<i>triadhist</i>	<i>tol_rivis</i>
1	United States	UK	Russia	1948	1999	52	0	0	1.4570	3	1	0	0	11	14	1
2	United States	China	Thailand	1951	1971	20	2	1	2.2476	4	1	0	0	5	5	1
3	United States	N. Korea	S. Korea	1950	2000	51	1	1	27.8571	4	1	0	0	17	17	2
4	UK	France	Russia	1939	1961	23	2	1	0.6667	3	1	0	0	6	15	1
5	UK	France	Turkey	1897	1926	30	1	1	15.4615	3	1	0	0	7	10	2
6	UK	Italy	Turkey	1897	1922	26	1	1	11.8571	3	1	0	0	6	7	2
7	Belgium	France	Germany	1914	1940	27	2	2	0.6852	3	1	0	0	7	8	2
8	France	Italy	Turkey	1897	1922	26	1	1	7.3571	3	1	0	0	6	7	2
9	Egypt	Syria	Israel	1948	1973	25	3	3	7.0000	6	1	0	0	9	9	2
10	United States	UK	Iraq	1990	2001	11	1	1	23.7143	6	1	0	0	7	9	1
11	United States	France	Russia	1948	1961	14	0	0	1.7899	3	1	0	0	4	8	1
12	United States	France	Israel	1956	1973	17	0	0	1.2235	6	1	0	0	4	4	1
13	United States	Russia	China	1954	1965	11	0	0	1.1991	4	1	0	0	6	8	3*
14	United States	Iraq	Kuwait	1990	2001	11	1	0	20.5714	6	1	0	0	6	6	1
15	United States	China	Taiwan	1950	1962	12	0	0	2.5769	4	1	0	0	6	9	2
16	United States	China	Vietnam	1961	1971	10	1	0	1.9444	4	1	0	0	4	4	1
17	UK	France	Russia	1833	1856	14	1	1	3.1418	3	1	0	0	4	15	0
18	UK	Russia	Turkey	1897	1917	20	1	1	16.1875	3	1	0	0	4	10	3*
19	France	Russia	Turkey	1897	1917	20	1	1	12.0625	3	1	0	0	4	10	2
20	Italy	Russia	Turkey	1897	1917	20	1	1	9.3125	3	1	0	0	4	7	2
21	Syria	Jordan	Israel	1966	1981	14	2	2	1.0000	6	1	0	0	5	6	2
22	United States	France	Iraq	1990	1999	9	1	1	23.7143	6	0	1	0	6	6	0
23	UK	Iraq	Kuwait	1992	2001	8	0	0	4.3333	6	0	1	0	4	5	2
24	France	Iraq	Kuwait	1990	1999	9	1	0	3.7143	6	0	1	0	5	5	1
25	Russia	Afghanistan	Tajikistan	1993	2001	8	1	0	27.6500	4	0	1	0	4	4	1
26	Russia	Afghanistan	Uzbekistan	1993	2001	8	1	0	28.5000	4	0	1	0	5	5	1
27	Afghanistan	Tajikistan	Uzbekistan	1993	2001	8	0	0	1.2000	4	0	1	0	4	4	0
28	United States	Cuba	Russia	1959	1989	30	0	0	1.0361	1	0	0	1	3	3	2
29	United States	UK	Japan	1900	1945	45	2	2	8.2619	4	0	0	1	6	0	0
30	United States	Israel	Egypt	1948	1979	31	5	0	31.1429	6	0	0	1	2	1	1

(continued)

TABLE 1. (continued)

<i>cr_id</i>	<i>statea</i>	<i>stateb</i>	<i>statec</i>	<i>starty</i>	<i>endy</i>	<i>dur</i>	<i>war_2</i>	<i>war_3</i>	<i>cap rat</i>	<i>local</i>	<i>endure</i>	<i>ensor</i>	<i>strateg</i>	<i>disp</i>	<i>triadhist</i>	<i>tol_ris</i>
31	<b>United States</b>	China	<b>Japan</b>	1900	1945	45	3	2	2.3932	4	0	0	1		5	1
32	United States	India	Pakistan	1947	1978	31	3	0	NA	4	0	0	1		0	1
33	<b>United States</b>	<b>Cambodia</b>	N. Vietnam	1970	1975	5	2	1	27.1667	4	0	0	1		5	1
34	Guatemala	<b>Honduras</b>	<b>El Salvador</b>	1840	1930	90	4	1	1.2500	2	0	0	1		2	0
35	<b>Colombia</b>	<b>Ecuador</b>	Peru	1830	1935	105	1	0	0.7000	2	0	0	1		1	2
36	<b>Peru</b>	<b>Bolivia</b>	Chile	1836	1932	96	2	1	1.5000	2	0	0	1		2	1
37	<b>UK</b>	<b>France</b>	Germany	1904	1945	41	2	2	1.3782	3	0	0	1		9	2
38	Germany	Poland	Russia	1918	1939	21	2	1	NA	3	0	0	1		2	0
39	<b>Germany</b>	<b>Austria</b>	Italy	1848	1918	70	1	1	5.1667	3	0	0	1		4	0
40	<b>Germany</b>	<b>Austria</b>	Russia	1879	1914	35	1	1	1.6019	3	0	0	1		2	0
41	Austria	<b>Yugoslavia</b>	Russia	1903	1914	11	1	1	2.7556	3	0	0	1		0	0
42	<b>Russia</b>	China	<b>Vietnam</b>	1973	1989	16	2	0	1.5614	4	0	0	1		1	2
43	<b>Iraq</b>	<b>Syria</b>	Israel	1948	2003	55	4	2	2.6667	6	0	0	1		4	2
44	<b>Iraq</b>	<b>Jordan</b>	Israel	1948	1967	19	4	2	2.4000	6	0	0	1		4	2
45	<b>Egypt</b>	<b>Jordan</b>	Israel	1948	1967	19	5	3	6.4000	6	0	0	1		4	2
46	<b>Egypt</b>	Israel	<b>Saudi Arabia</b>	1948	1979	31	5	1	5.0000	6	0	0	1		2	2
47	<b>Syria</b>	<b>Lebanon</b>	Israel	1948	2004	56	4	1	1.1333	6	0	0	1		4	2

(Notes: Bolded country names are used to indicate which two states fought together against the third state in the complex rivalry. In two cases (*cr\_id* = 32 and 38), none of the state names are in bold. This indicates that all three states engaged in hostilities against each other and that a coalition of two states never formed.

\*The US-USSR-China and UK-Russia-Turkey complex rivalries are the only complex rivalries in which each dyad is a separate bilateral rivalry. However, when the US-USSR-China triad engaged in disputes, China and the USSR always sided together against the United States; for the UK-Russia-Turkey triad, the UK and Russia sided together against Turkey.)

TABLE 2. Dynamics of Complex Rivals

	<i>Enduring Rivals</i> (21 Cases)	<i>Censored Rivals</i> (6 Cases)	<i>Strategic Rivals</i> (20 Cases)	<i>Combined</i> (47 Cases)
War with at least two parties	16 (76.2)	4 (66.7)	19 (95.0)	39 (83.0)
War with all three parties	14 (66.7)	1 (16.7)	15 (75.0)	30 (63.8)
Duration mean	21.6 years	8.33 years	42.6 years	28.9 years
Rivalry disputes mean	6.3	4.6	N/A	N/A
Triadic historical dispute mean	8.9	4.8	3.1	6

triadic war with every member of the complex rivalry engaging in serious combat. The censored cases experience the least amount of triadic war, partly because the current version of the MID data set excludes the Afghan and Iraq wars that occurred in 2000.

We also compare our dispute- and war-involvement results of complex rivals to the findings generated by a dyadic rivalry measure. In the Klein, Goertz, and Diehl (2006) data, their dyadic enduring rivals have an average of 16.5 disputes during their lifespan. An independent group t-test confirms that the mean number of disputes in dyadic rivals (16.5) is significantly higher than the mean number of disputes in complex rivalries (6.3) ( $t = -4.58$ ,  $p < .0001$ ). Overall, complex rivalries have fewer disputes during their lifetime than dyadic rivals.

We next move on to the issue of war. Forty-seven of the 85 (55.3%) enduring rivalries experience at least one war, while 39 of the 47 complex rivals have at least one war (83%). This suggests that complex rivalries may experience more warfare than dyadic rivals. To see whether this is case from a statistical perspective, we utilize a two-sample test of proportions. This determines whether the probability of experiencing a war for complex rivals is significantly different from the probability found in dyadic rivals. This test shows that the proportion of complex rivalries that experience at least one war is significantly greater than the proportion of dyadic rivalries that experience at least one war ( $z = 3.20$ ,  $p < .001$ ). This finding is especially noteworthy given that the average number of disputes within a triadic rivalry is lower than the number of disputes during a dyadic rivalry, thus providing triadic rivalries fewer opportunities to experience a war.

The second question of importance is determining the average duration of complex rivalries and seeing if it differs from the duration of dyadic rivals. In the 85 enduring rivals identified in the Klein et al. (2006) data, the average duration of these rivals is 43.8 years. On the other hand, the average duration for the 47 complex rivalries is 28.9 years. If we drop the censored cases since they are of unsure duration, we are left with 41 cases and a mean duration of 31.9 years. To determine whether the mean duration of complex rivalries is significantly different than the duration of dyadic rivals, we again conduct an independent group t-test. The results show that the difference of means in rivalry duration between complex and dyadic rivals is significantly less than zero ( $t = -3.6$  and  $p < .001$ ). It therefore seems that dyadic enduring rivals last a bit longer than complex rivals. Given that complex rivalries can disintegrate with the absence of any one of the three members, the shorter duration we observe for these types of rivals is consistent with what we expect theoretically.

The complex rivals are also coded by region. This coding was at times difficult since some of the complex rivals are spread throughout the world. For instance, the United States, USSR, and China complex rivalry is partially based in Europe, North America, and Asia. Since the focus of action in this rivalry is primarily based in Asia, it is coded as an Asian regional rivalry. This coding decision was made empirically by basing the rivalry's location in the area where the modal

TABLE 3. Complex Rivals by Region

<i>Region (Code)</i>	<i>No. of Complex Rivals</i>	<i>%</i>
North America (1)	1	2.1
Latin & South America (2)	3	6.4
Europe (3)	16	34.0
Asia (4)	13	27.7
Africa (5)	0	0
Middle East (6)	14	29.8

disputes took place. Therefore, if a rivalry has two disputes in Europe, one in North America, and five in the Middle East, this rival's location would be coded as occurring in the Middle East.

Table 3 lists the complex rivalries by region. There is only one complex rivalry based in North America/Central America (United States-Cuba-USSR). Latin and South America have a total of three complex rivalries. Europe has the highest amount of complex rivalries with 34% of the total. There are no complex rivalries at this point in Africa, but we expect this will change as conflicts build in the region, especially in the Great Lakes region. Finally, the Asian region has a total of 13 complex rivalries, while the Middle East has 14 complex rivalries or 29.8% of the total.

In addition to these general characteristics of complex rivals, it is also interesting to note how they vary in terms of their internal makeup. One way to get at this issue is to see how many dyadic rivalries are contained within individual complex rivalries. Such a categorization has been included in Table 1. Complex rivalries could have anywhere from zero to three dyadic rivalries. However, it appears that the distribution is approximately bimodal with 16 complex rivalries having one dyadic rivalry and 20 having two dyadic rivalries. Only nine complex rivalries have no dyadic rivalries, and a mere two have three dyadic rivalries. Thus, while having a dyadic rivalry is not a necessary condition of complex rivalry, most complex rivals have at least one pair of states with a large amount of bilateral hostility. Further, although three dyadic rivalries are possible in a complex rivalry, the crosscutting hostilities between the three states seems to preclude that a pair of states in the triad is able to overlook past tensions to team up against the third.

### **The Complex Rivalry Path to War**

After having noted some of the general characteristics of complex rivals, it may be useful to conclude with an examination of the dyadic rivalry path to war as compared to the complex rivalry path to war. Vasquez's (1996b) initial theoretical breakthrough was to point out there was a territorial path to war among dyadic rivals and a nonterritorial path to war among noncontiguous dyads. Colaresi et al. (2008) expand on this notion and provide evidence of a spatial path to war for dyadic rivals and a positional path to war mainly made of noncontiguous rivals. Evidence of different paths to war would confirm our initial speculation that dyadic rivals are substantively different than complex rivals.

It is our theoretical expectation that complex rivals will include major powers, skewed power distributions, positional concerns, and high participation rates in complex wars. Based on their global influence and position in the system, major powers are more likely to engage in complex rivalries than minor powers because of the global reach of these actors (Bremer 1992; Colaresi et al. 2008). We also expect that complex rivals will be more likely to be involved in positional rivalries than spatial rivalries. This should be the case as it is unlikely that

the three states in the triad will have a dispute over the same territorial issue. Finally, we contend that complex actor groups will experience a large number of complex wars due to the inter-tangled nature of complex rivalry dynamics. As Vasquez (1996b:539) suggests, noncontiguous rivals might only go to war if said wars are multilateral or complex.

Using data garnered from EUGene, Version 3.204 (Bennett and Stam 2000), we find that complex rivals are indeed more likely to be composed of major powers than minor powers. However, it is relatively rare for complex rivals to be exclusively comprised of major powers. On the one hand, 90.5% of complex enduring rivals have at least one major power, while 81% of complex enduring rivals have at least two major powers. On the other hand, only 23.8% of complex enduring rivals are solely populated with major powers. Taken together, this shows that the majority of complex enduring rivalries have two major powers and a single minor power. These findings raise the question as to whether the two major powers gang up on the minor power or whether one of the major powers aligns itself with the minor power. Given that a single minor power is unlikely to withstand multiple militarized encounters with two superior states, we expect the latter scenario to be more likely. This, however, is not the case. Of the 13 instances in which there are two major powers and a single minor power, eight are cases in which two major powers align themselves against a minor state. It is also worth noting that only six of the 27 (22%) complex enduring and censored rivals have one major power and two minor powers. When this does happen, it does not seem to be the case that the two smaller states try to team up to overtake a major power. In all six of these cases, the major power is aligned with one of the minor powers, showing evidence of bandwagoning.

It is also very rare for a complex rivalry to be composed of only minor powers. Only two complex enduring rivalries are solely made up of minor powers, and each of them is comprised of states that are in the same geographical region. The relatively limited military capabilities and global reach of these minor states (when not bolstered with support from a major power) seem to preclude them from engaging in repeated military operations against other minor states (Rasler and Thompson 2000:506).

How do these empirical patterns regarding the major power status of the states in complex rivals compare to the major power status of states in dyadic rivalries? To determine this, we merged the major power data with data from Klein et al. (2006). We find that of the 85 total enduring rivalries, five are composed of two major powers (5.88%), 23 of one major and one minor power (27.06%), and 57 of two minor powers (67.06%). When comparing complex rivals to dyadic rivals on this dimension, some general patterns emerge. For one, complex rivals are more likely to be made up of exclusively major powers than dyadic rivals. Further, dyadic enduring rivals are more amenable to participation by minor powers. There are only two complex enduring rivals that are solely composed of minor powers and only another two that are made up of one major and two

TABLE 4. Major Versus Minor Power Status of Complex Rivals

	<i>Enduring</i> (21 Cases)	<i>Censored Rivals</i> (6 Cases)	<i>Strategic Rivals</i> (20 Cases)	<i>Combined</i> (47 Cases)
Two major powers one minor power	12 (57.1)	1 (16.7)	5 (25.0)	18 (38.3)
One major power two minor powers	2 (9.5)	4 (66.7)	3 (15.0)	9 (19.1)
All minor powers	2 (9.5)	1 (16.7)	8 (40.0)	11 (23.4)
All major powers	5 (23.8)	0 (0.0)	4 (20.0)	9 (19.1)
At least one major power	19 (90.5)	5 (83.3)	12 (60.0)	36 (76.6)
At least two major powers	17 (81.0)	1 (16.7)	9 (45.0)	27 (57.4)

minor powers. Within dyadic enduring rivals, however, there are 57 cases in which the rivalry is populated exclusively by minor powers (67.06%). In all, this suggests that while membership in complex rivals is not exclusively the domain of major powers, it becomes much harder for minor powers to muster the capabilities to participate in these rivalries.

Related to the major power configuration of states in complex rivalries is the relative power dynamics that exist within these triads. To examine this issue, we draw upon data from the Correlates of War National Capabilities data set (Singer 1987). This data set contains a commonly used measure of a state's overall power that is a composite index of its iron and steel production, military expenditures, military personnel, energy consumption, and population—dubbed its Composite Index of National Capability (CINC) score.<sup>8</sup> Rather than list the CINC scores for each state within a complex rivalry, we instead include a measure that gives the *capability ratio* within each complex rivalry (see Table 1). To calculate this value, we add the CINC scores of the two states who teamed up together and then divide this value by the CINC score of the third state. Capability ratios larger than one indicate that the national capabilities of the coalition pair are greater than that possessed by the third state, while those less than one show that the third state has greater capabilities than the other two states combined.

What initially becomes apparent is that there are only three complex rivalries where the combined national capability scores of the two aligned states are less than the third state's capabilities. In all of the other cases, the aligned states exceed the capabilities of the third. However, is the combined power of the two states drastically larger than what the third state possesses, or does the third state have national capabilities that approach those of the coalition? To answer this question, we consider the third state to be moderately overpowered if the capability ratio of the complex rivalry is greater than 4 (that is, the capabilities of the aligned states are four times greater than those of the third). According to this criterion, 14 of the 27 complex enduring and censored rivals (51.9%) have skewed power distributions. If we look at those complex enduring and censored rivalries with capability ratios greater than 10, we see that 10 triads (37.0%) have power distributions of this nature. In sum, this suggests that most complex rivalries are composed of two states that try to overwhelm a third through superior material capabilities.

How do the power dynamics within dyadic enduring rivalries differ from the patterns we note above? Complex rivalries should have a larger number of severe power imbalances than dyadic rivalries because the alignment of two states on one side allows this coalition a greater opportunity to amass greater capabilities than the individual states in a dyadic rivalry. Our results support this contention. In particular, dyadic rivalries have fewer drastic power imbalances than complex rivalries. The number of enduring dyadic rivalries with capability ratios is greater than four amounts to 38 cases, or 44.7% of the total. The number of dyadic enduring rivalries with capability ratios great than 10, however, is only found in 18 cases (21.2%). A test of proportions regarding whether the number of severe capability imbalances is statistically greater in complex rivalries than in dyadic rivalries proves significant at the 0.05 level ( $z = 1.66$ ). The greater number of complex rivalry cases with severe power differentials may also help explain why complex rivals tend to disintegrate sooner than dyadic rivals.

We also examine complex rivals according to the number of spatial and positional disputes in which they participate. Colaresi et al. (2008:79) define territorial rivalries as “rivals [that] contest the exclusive control of territory” and

<sup>8</sup> In the National Capabilities data set, the CINC score is recorded for each state in the international system on an annual basis. Since complex rivalries span a range of years, the CINC scores we record are an average of each state's CINC scores over the course of the rivalry.

strategic rivalries as “rivals [that] contest relative shares of influence over activities and prestige...” According to Rasler and Thompson (2000), a dispute is considered spatial in nature if it encompasses a territorial issue and positional if it encompasses issues regarding relative status, ranking, or pecking order.<sup>9</sup> After coding each dispute in a complex rivalry as either spatial or positional, we next determine whether the rivalry as a whole should be considered spatial, positional, or mixed. First, we code complex rivals as “purely spatial” or “purely positional” if all of the disputes within the rivalry solely concern spatial issues or solely concern positional issues, respectively. Next, we consider each complex rivalry “primarily spatial” or “primarily positional” if two-thirds of the disputes encompass spatial or positional issues. The complex rivals that do not meet any of the above criteria are coded as “mixed.”

According to the above coding rules, we find that 11 of the total 27 (40.7%) complex enduring and censored rivals are “purely positional.” However, none of the complex rivals fight exclusively in spatial disputes. This dearth of “purely spatial” rivals also extends to “primarily spatial” rivals. Only three of the 27 (11.1%) complex rivals are “primarily spatial,” while six are “primarily positional” (22.2%). In all, 62.9% (17 of 27) of our population of complex rivals is either purely or primarily positional, while a mere 11.1% are either purely or primarily spatial. The number of purely and primarily spatial complex rivals is even smaller than the number of “mixed” rivals. Mixed rivals make up a total of 25.9% of our population of complex rivals. As these findings attest, complex rivals are much more likely to engage in positional disputes than spatial disputes.

The empirical patterns regarding complex rivals’ propensity to be positional rivals—when taken in conjunction with the finding that complex rivals experience more warfare than dyadic rivalries—raise an interesting conceptual question. Namely, given that territorial issues lead to war more often than other issues, and given that this type of issue often dominates dyadic rivalries but not complex rivals, why are the nonterritorial, positional complex rivalries beset with more war on proportion than dyadic rivals? As Vasquez (1996b) has shown, contiguous dyadic rivals are those most likely to experience a territorial path to war, while noncontiguous rivals generally have a nonterritorial path to war. Given that the three states within complex rivals are rarely jointly contiguous, this shows that the opportunity for a territorial concern to be salient to each party is relatively uncommon. However, these findings only demonstrate why complex rivals should more often follow the positional path to war; it does not explain why they engage in more warfare on average than dyadic rivals. It could be the case that war is likely largely due to the skewed power differentials that exist within complex rivalries. Such skewed power distributions are often lacking in dyadic rivalries. This could also arise given that the existence of multiple issues and groups in a complex rivalry makes them significantly more difficult to settle these issues short of war. More research must be done on this issue, as well as the nature of multiple issues at stake in rivalries (Dreyer 2010).

Our results also indicate that participants in multiparty wars are often embroiled in complex rivalries.<sup>10</sup> Table 5 lists all of the complex wars and indicates which type(s) of complex rivalries fight in these encounters. Of the 28 complex wars identified by Valeriano and Vasquez (2010), 13 of them have at least one complex rival making up the participants. It may also be telling to

<sup>9</sup> To make the distinction between positional and spatial disputes, we utilize the RevType1 variable in the MID data. If the RevType1 variable is coded as a territorial dispute, we classify it under the spatial category. If it is coded as a policy dispute, a regime dispute, or an “other” dispute, we classify it as a positional dispute.

<sup>10</sup> A complex war is defined as a war that includes three or more states (Valeriano and Vasquez 2010:563). These types of war are generally more complicated than bilateral wars in that it is often necessary to look at the various originators that start the war as well as those that join later.

TABLE 5. Complex Rival Involvement in Complex Wars

War No.	Name	Start	End	Enduring Complex Rio Number(s)	Censored Complex Rio Number(s)	Strategic Complex Rio Number(s)	War Deaths
10	Austro-Sardinian	1848	1848	0	0	0	7,527
16	Roman Republic	1849	1849	0	0	0	2,600
22	Crimean	1853	1856	17	0	0	264,200
28	Italian Unification	1859	1859	0	0	0	22,500
46	Second Schleswig-Holstein	1864	1864	0	0	0	4,500
49	Lopez	1864	1870	0	0	0	310,000
52	Spanish-Chilean	1865	1866	0	0	0	1,000
55	Seven Weeks	1866	1866	0	0	39	44,100
58	Franco-Prussian	1870	1871	0	0	0	204,313
64	Pacific	1879	1883	0	0	36	14,000
82	Boxer Rebellion	1900	1900	0	0	29, 31	3,003
88	Third Central American	1906	1906	0	0	34	1,000
91	Fourth Central American	1907	1907	0	0	0	1,000
100	First Balkan	1912	1913	0	0	0	82,000
103	Second Balkan	1913	1913	0	0	0	60,500
106	World War I	1914	1918	5, 6, 7, 8, 18, 19, 20	0	29, 37, 39, 40, 41	8,578,031
112	Hungarian	1919	1919	0	0	0	11,000
136	Nomonhan	1939	1939	0	0	0	28,000
139	World War II	1939	1945	4, 7	0	29, 31, 37, 38	16,600,000
148	Palestine	1948	1948	9, 21	0	43, 44, 45, 47	8,000
151	Korean	1950	1953	2, 3	0	0	909,833
157	Sinai	1956	1956	0	0	0	3,221
163	Vietnamese	1965	1975	0	0	33	1,021,442
169	Six Day	1967	1967	9, 21	0	45	19,600
181	Yom Kippur	1973	1973	9, 21	0	43, 46	16,401
189	Ethiopian-Somalian	1977	1978	0	0	0	6,000
190	Ugandan-Tanzanian	1978	1979	0	0	0	3,000
211	Gulf War	1990	1991	10, 14	22, 23, 24	0	26,343



examine the types of complex wars that complex rivals become involved in. Although all complex wars have at least three participants, some become more deadly than others. Of the four complex wars with the most fatalities (that is, WWI, WWII, Korean War, and Vietnam War), complex rivalries were involved in each. Similarly, of the four least deadly complex wars (that is, Spanish-Chilean War, Fourth Central American War, Third Central American War, and Roman Republic War), none contained a complex rivalry. Thus, although not all or even most complex wars are populated with complex rivals, complex rivals seem especially likely to fight in the bloodiest of these encounters.

### **Policy Ramifications and Future Directions**

The goal of this article is to demonstrate that the study of rivalry should not remain a purely dyadic process, but needs to consider complex actor groupings. Events generally occur with the interest and interaction of multiple actors at once. Leaving out an important actor in a study could bias the findings and conclusions. It is hoped that this analysis has identified why complex rivalries are important and which states have engaged in these hostile relationships. Vasquez and Valeriano (2010) argue in their study of war typologies that theories of conflict onset must adjust theoretically to account for the impact of complexity. In a similar manner, theories of rivalry onset, persistence, and termination might require that the researcher look at complex rivalries with a different theoretical lens than those required in the examination of dyadic rivalries.

Initial evidence confirms our contention that complex rivals are rivals of a different sort. We find some striking differences between dyadic rival data sets and our own complex rivalry data set. Complex rivals are more likely to include major powers, more likely to fight in positional rivalries, and are more likely to fight in large complex wars. Complex rivals are also more likely to participate in both dyadic and triadic wars in general and to have greater power differentials than that found in rivalries composed of two states. The data set we present here will aid future theorists and researchers in the investigation of the causes and consequences of rivalry relations and conflict in general.

Our findings are also likely important from a policy perspective. Given the sheer number of wars these groups engage in as well as the number of fatalities that often ensue from them, the results draw attention to those cases that are in acute need of conflict mediation measures. On a positive note, given that most of the disputes these types of rivals participate in revolve around positional issues as opposed to territorial concerns, it may be somewhat easier for the international community to resolve the tensions that exist within these triads than it is to mediate the territorial concerns that are often at the core of dyadic rivalries. Further, if one state within a complex rivalry can be induced to sever itself from the rivalry relationship, the rivalry may not be able to continue in its dyadic form if this absence dramatically alters the power dynamics within the remaining two states.

Future research should focus on how multiparty events occur empirically. For instance, who does what to whom? Directionality and capability balancing in complex rivals are interesting questions yet explored. Our goal was to operationalize the term “complex rivalry” and demonstrate its empirical utility. Scholars should now seek to predict the onset, duration, and consequences of these complex rivals.

### **References**

- ARKINAROGLU, SEDEN, ELIZABETH RADZISZEWSKI, AND PAUL DIEHL. (2014) The Effects of Rivalry on Rivalry: Accommodation and the Management of Threats. *Foreign Policy Analysis* 10: 81–100.

- BENNETT, SCOTT, AND ALLEN STAM. (2000) EUGene: A Conceptual Manual. *International Interactions* 26: 179–204.
- BREMER, STUART. (1992) Dangerous Dyads: Conditions Affecting the Likelihood of Interstate War. *Journal of Conflict Resolution* 36: 178–197.
- CAPLOW, THEODORE. (1968) *Two Against One; Coalitions in Triads*. Englewood Cliffs: Prentice-Hall.
- CIOFFI-REVILLA, CLAUDIO. (1998) Struggles for Power: A Punctuated Equilibrium Model of Interstate Rivalries. In *The Dynamics of Enduring Rivalries*, edited by Paul Diehl. Urbana: University of Illinois Press.
- COLARESI, MICHAEL. (2002) The Effect of Dynamic Two-level Pressures on Rivalry Escalation and De-escalation. Doctoral Dissertation, Bloomington: Indiana University.
- COLARESI, MICHAEL, KAREN RASLER, AND WILLIAM THOMPSON. (2008) *Strategic Rivalries in World Politics: Position, Space, and Conflict Escalation*. Cambridge: Cambridge University Press.
- CORBETTA, RENATO. (2012) Cooperative and Antagonistic Networks: Multidimensional Affinity and Intervention in Ongoing Conflicts, 1946–2001. *International Studies Quarterly* 57: 370–384.
- CORBETTA, RENATO, AND KEITH GRANT. (2012) Intervention in Conflicts from a Network Perspective. *Conflict Management and Peace Science* 29: 314–340.
- CRESCENZI, MARK. (2007) Reputation and Interstate Conflict. *American Journal of Political Science* 51: 382–396.
- CROCO, SARAH, AND TZE TEO. (2005) Assessing the Dyadic Approach to Interstate Conflict Processes: a.k.a. ‘Dangerous’ Dyad-Years. *Conflict Management and Peace Science* 22: 5–18.
- DANILOVIC, VESNA. (2001) The sources of threat credibility in extended deterrence. *Journal of Conflict Resolution* 45: 341–369.
- DEROUEN, KARL JR, AND JACOB BERCOVITCH. (2008) Enduring Internal Rivalries: A New Framework for the Study of Civil War. *Journal of Peace Research* 45: 55–74.
- DIEHL, PAUL, AND GARY GOERTZ. (2000) *War and Peace in International Rivalry*. Ann Arbor: University of Michigan Press.
- DREYER, DAVID. (2010) Issue Conflict Accumulation and the Dynamics of Strategic Rivalry. *International Studies Quarterly* 54: 779–795.
- GHOSN, FATEN, GLENN PALMER, AND STUART BREMER. (2004) The MID3 Data Set, 1993–2001: Procedures, Coding Rules, and Description. *Conflict Management and Peace Science* 21: 133–154.
- GLEDITSCH, KRISTIAN. (2002) *All International Politics is Local: The Diffusion of Conflict, Integration, and Democratization*. Ann Arbor: University of Michigan Press.
- GOERTZ, GARY, AND PAUL DIEHL. (1992) The Empirical Importance of Enduring Rivalries. *International Interactions* 18: 151–163.
- GOERTZ, GARY, AND PAUL DIEHL. (1995) The Initiation and Termination of Enduring Rivalries: The Impact of Political Shocks. *American Journal of Political Science* 39: 30–52.
- GOLDSTEIN, JOSHUA, AND JOHN FREEMAN. (1990) *Three-Way Street: Strategic Reciprocity and World Politics*. Chicago: Chicago University Press.
- HENSEL, PAUL. (1996) The Evolution of Interstate Rivalry. Doctoral Dissertation, Urbana: University of Illinois at Urbana-Champaign.
- HENSEL, PAUL, AND PAUL DIEHL. (1994) It Takes Two to Tango: Nonmilitarized Response in International Disputes. *Journal of Conflict Resolution* 38: 479–506.
- HENSEL, PAUL, GARY GOERTZ, AND PAUL DIEHL. (2000) The Democratic Peace and Rivalries. *Journal of Politics* 62: 1173–1188.
- HEWITT, J. JOSEPH. (2005) A Crisis-Density Formulation for Identifying Rivalries. *Journal of Peace Research* 42: 183–200.
- KLEIN, JAMES, GARY GOERTZ, AND PAUL DIEHL. (2006) The New Rivalry Dataset: Procedures and Patterns. *Journal of Peace Research* 43: 331–348.
- LENG, RUSSELL. (1993) *Interstate Crisis Behavior, 1816–1980: Realism Versus Reciprocity*. Cambridge: Cambridge University Press.
- MAOZ, ZEEV, LESLEY TERRIS, RANAN KUPERMAN, AND ILAN TALMUD. (2007) What is the Enemy of My Enemy? Causes and Consequences of Imbalanced International Relations, 1816–2001. *Journal of Politics* 69: 100–115.
- MITCHELL, SARA, AND CAMERON THIES. (2011) Issue Rivalries. *Conflict Management and Peace Science* 28: 230–260.
- MOST, BENJAMIN, HARVEY STARR, AND RANDOLPH SIVERTSON. (1989) The Logic and Study of the Diffusion of International Conflict. In *Handbook of War Studies*, edited by Manus Midlarsky. Ann Arbor: University of Michigan Press.
- PETERSEN, KAREN, JOHN VASQUEZ, AND YIJIA WANG. (2004) Multiparty Disputes and the Probability of War: 1816–1992. *Conflict Management and Peace Science* 21: 85–100.

- POAST, PAUL. (2010) (Mis)Using Dyadic Data to Understand Multilateral Events. *Political Analysis* 18: 403–424.
- RASLER, KAREN, AND WILLIAM THOMPSON. (2000) Explaining Rivalry Escalation to War: Space, Position, and Contiguity in the Major Power Subsystem. *International Studies Quarterly* 44: 503–530.
- RAY, JAMES. (1995) *Democracy and International Conflict: An Evaluation of the Democratic Peace Proposition*. Columbia: University of South Carolina Press.
- SINGER, J. DAVID. (1987) Reconstructing the Correlates of War Dataset on Material Capabilities of States, 1816–1985. *International Interactions* 14: 115–132.
- SMITH, ALASTAIR. (1998) Extended Deterrence and Alliance Formation. *International Interactions* 24: 315–343.
- THOMPSON, WILLIAM. (2001) Identifying Rivals and Rivalries in World Politics. *International Studies Quarterly* 45: 557–586.
- THOMPSON, WILLIAM. (2003) A Streetcar Named Sarajevo: Catalysts, Multiple Causation Chains, and Rivalry Structures. *International Studies Quarterly* 47: 453–474.
- TIR, JAROSLAV, AND PAUL DIEHL. (2002) Geographical Dimensions of Enduring Rivalries. *Political Geography* 21: 263–286.
- VALERIANO, BRANDON, AND JOHN VASQUEZ. (2010) Identifying and Classifying Complex Wars. *International Studies Quarterly* 54: 561–582.
- VASQUEZ, JOHN. (1993) *The War Puzzle*. Cambridge: Cambridge University Press.
- VASQUEZ, JOHN. (1996a) The Causes of the Second World War in Europe: A New Scientific Explanation. *International Political Science Review* 17: 161–178.
- VASQUEZ, JOHN. (1996b) Distinguishing Rivals That Go to War From Those That Do Not: A Quantitative Comparison of Two Paths to War. *International Studies Quarterly* 40: 531–558.
- VASQUEZ, JOHN. (1998) The Evolution of Multiple Rivalries Prior to the Second World War in the Pacific. In *The Dynamics of Enduring Rivalries*, edited by Paul Diehl. Urbana: University of Illinois Press.
- VASQUEZ, JOHN, PAUL DIEHL, COLIN FLINT, JURGEN SCHEFFRAN, SANG-HYUN CHI, AND TOBY RIDER. (2011) The Conflict Space of Cataclysm: The International System and the Spread of War, 1914–1917. *Foreign Policy Analysis* 7: 143–168.
- VASQUEZ, JOHN, AND CHRISTOPHER LESKIW. (2001) The Origins and War-Proneness of International Rivalries. *Annual Review of Political Science* 4: 295–316.
- VASQUEZ, JOHN, AND BRANDON VALERIANO. (2010) Classification of Interstate War. *Journal of Politics* 72: 292–309.
- WAYMAN, FRANK, AND DANIEL JONES. (1991) *Evolution of Conflict in Enduring Rivalries*. Paper presented at the annual meeting of the International Studies Association, Vancouver, BC.
- ZIZZO, DANIEL, AND ANDREW OSWALD. (2001) Are People Willing to Pay to Reduce Other's Incomes? *Annales d'Economie et de Statistique* 63–64: 39–65.

### Supporting Information

Additional Supporting Information may be found in the online version of this article:

**Data S1.**

**Data S2.**

**Data S3.**