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Contested Territory, Strategic Rivalries, and Conflict Escalation

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After bringing together independent information on contested territory, rivalries, and conflict escalation (militarized interstate disputes (MIDs) and war), we examine the timing of the temporal ordering of these three processes. Contrary to conventional expectations, we find the contested territory-militarized dispute-rivalry ordering to be rare. Rivalries and contested territory often begin at the same time. Next, after setting up a unified model, we find the triadic combination of contested territory, contiguity, and strategic rivalry to be a strong explanatory combination for MIDs and war over time (1919–1992). We also control for other explanatory factors such as mixed regime type and major power status. These findings provide strong support for arguments such as Vasquez's steps-to-war theory that specify these sources of conflict escalation.

> Enlil, king of the lands, father of the gods, upon his firm command drew the border between [Lagash and Umma]. Mesalim, king of Kish, at the command of Ishtaran, measured the field and placed a stele. Ush, ruler of Umma, acted arrogantly. He ripped out the stele and marched unto the plain of Lagash. Ningirsu, the hero of Enlil, at the latter's command did battle with Umma. Upon Enlil's command he cast the great battle-net upon it. Its great burial mound was set up for him in the plain . . ...(taken from Van de Mieroop 2004:46).

This passage is an excerpt from a modern account of a Sumerian border conflict between Lagash and Umma that persisted roughly between 2500 and 2350 BCE. After this war, the winners redrew the boundaries only to see them repeatedly contested by Umma. Undoubtedly, the Lagash–Umma conflict was not the first territorial squabble between states but it is the first one on which we have some documentation. Since then, states have multiplied, as have their borders, and so have their consequent disagreements about where those boundaries should be. Some 4,350 years after the Lugash–Umma conflict, we have learned much about how the role of contested territory increases interstate conflict.[1] For instance, there is little controversy that contested territory plays a central role in stepping up the use of force and hastening the onset of war (see Gochman and Leng 1983; Vasquez 1993, 1995, 1996, 2001; Hensel 1994, 1996, 2000; Kocs 1995; Ben Yehuda 1997; Vasquez and Henehan 2001; Senese and Vasquez 2003). We also know that territorial disagreements recur (Goertz and Diehl 1992; Hensel 1994; Vasquez 2001), that contested territory correlates with dyads that experience more militarized disputes (Tir and Diehl 2002), and that recurring disputes have a marked

[1] For those curious about the ultimate outcome of the conflict, Mesopotamia was taken over by Akkad around 2350 BCE, thereby presumably rendering the dispute moot for some time.

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inclination to escalate to war (Leng 1983; Colaresi and Thompson 2002, 2003). When states rely on coercive strategies to resolve territorial disputes, other states respond similarly (Hensel and Diehl 1994; Hensel 1996; Mitchell and Prins 1999) and this behavior results in combat deaths (Senese 1996, 1997; Hensel 2000). Therefore, it is not surprising that many analysts name territorially based conflicts as the most significant source of interstate warfare (Hill 1945; Luard 1986; Vasquez 1993; Hensel 2000).

Contested territory may well prove to be a central clue in unraveling the causes of war. Yet, we argue that territorial disagreements are not the only important factor in escalation processes. Nor are territorial antagonisms the only events that recur, generate reciprocal coercive behavior or produce combat deaths. Rivalries, for example, have these same tendencies. We argue that sometimes contested territory produces rivalries, while at other times, rivalries lead to territorial claims. In still other cases, rivalries and contested territory emerge simultaneously. Presumably, all three types of causes in which rivalry and territorial disputes become fused have a strong potential for escalation.

Our main question, therefore, is how contested territory and interstate rivalries interact to make uses of force and war more probable? We argue the prevailing idea that contested territorial claims emerge, lead to militarized uses of force when states assert contending claims, and then produce interstate rivalries that occasionally lead to war escalation is not in fact the norm. More commonly, we find that some territorial disagreements are embedded within rivalry contexts and that these are the ones that are most likely to develop into armed clashes. We use the term ''embedded'' consciously to suggest that something more is stake than simply the additive effects of two processes that have escalatory potential. Territorial disputes between rivals act as lightning rods for all the psychological baggage and mistrust associated with protracted antagonisms. However genuine and intense the conflict over territorial possession, such disputes become convenient vehicles for combating the external enemy. It works the other way around as well. Without something concrete as a territorial dispute, rivalries may seem too abstract to large portions of the publics involved. Territorial disputes act much like an endless sporting event in which both sides can readily tell who is winning or losing, and by how much—keeping both the dispute and the rivalry in play. Therefore, we hypothesize that contested territory combined with rivalry work together interactively to produce greater chances of militarized conflict than is the case in their absence.

The Conflict Potential of Contested Territory in the Context of Strategic Rivalry

There should be little mystery about why territorial disagreements have important conflict potential.[2] Most territory has some intrinsic value that people perceive to be worth fighting for. For instance, citizens and states want territory because it means control over important resources, populations or markets even if these commodities are only imagined or have potential. If these commodities have enough value, states may become involved in extended militarized disputes as the 1932–1935 Chaco War shows. Another way that territory can be contentious is when it promotes access to some other place that is useful for attacking and defending a homeland area or trade route. The Beagle Islands dispute between Argentina and Chile over Chilean access to the Atlantic, and Antarctic, claims that ended only in 1984, is such an example. Israel and Syria, on the other hand, view the control of the Golan Heights as a critical national security issue.

[2] See Vasquez (1993), Hensel (2000), and Huth (2000) for good overviews of the conflict potential in territorial disputes.

Territory can also overlap with nationalism. When people see themselves as belonging to some greater political collectivity that overlaps with territorial boundaries, they are likely to equate defense of the collectivity with the precise location and defense of those boundaries. As new states inherit boundaries decided by other governments, citizens and leaders are likely to contest these boundaries for a long time. These issues, however, can be even more difficult to resolve if the boundaries divide groups of people with common ethnic, linguistic, cultural or religious identities. Irredentist sentiments for integrating scattered peoples linger in the political discourse for lengthy periods. The Somali case, involving conflicts with several adjacent states over the extent of Greater Somalia and as well as the 1976 Ogaden War, is a prime example. More recent examples are the greater Serbian efforts of the 1980s and 1990s.

Scholars often note that territorial issues are also distinct because of their coercive displays of force. The seizure and defense of specified pieces of real estate are what armies do. Unlike more abstract issues, states know exactly what to do about territorial claims so long as they have the relative means to get and keep control over them. If states do not have enough coercive power, then they may be able to develop the necessary firepower. Although there might be domestic resistance to such a strategy, leaders find the defense or expansion of the national homeland is an issue that is less likely to provoke serious criticism than other nonnationalistic issues. Such issues become emotional tests of patriotism as opposed to questions of dispassionate logic or rationality.

On the other hand, leaders will find it more difficult to compromise on homeland issues without incurring large domestic costs. Thus, questions over who controls a given territory may never have full resolution. What may seem a decisive conquest at one time can still be the center of a challenge generations later should the issue hold some convenient nationalistic and political appeal. For instance, the Falklands/Malvinas dispute lay dormant for over a century until a military junta resurrected it for political purposes a few years before it escalated to war in 1982. Sino-Soviet fighting in the late 1960s over adjacent territory occurred over boundary disputes going back three centuries. Bolivians still seek access to the Pacific. And, the question of Gibraltar never goes away, even though the intensity of Spanish pressures shifts from decade to decade.

In sum, territorial issues can be difficult to paper over or ignore. They can also be tempting for politicians who seek messages that are likely to have strong domestic political payoffs. Yet, once adopted as part of a state's foreign policy agenda, territorial issues can prove difficult to manage. The territory in question may have little intrinsic value but its symbolic value can easily become inflated. In other cases, though, territorial issues can become infused with life-or-death urgency if leaders portray them as critical to national military or economic security.

For these reasons, scholars expect that contested territory has some significant likelihood of leading to militarized disputes and, if they persist long enough, such disputes will lead to interstate rivalry and war.

There are two questions implicit to this statement. One is the likelihood question. Does contested territory increase the likelihood of militarized disputes, rivalry, and war? A second question, however, is whether we have the sequence of conflict processes correct. Is the sequence: contested territory → militarized disputes → rivalry → war? There are, of course, several different ways to reorder this chain. But, this sequence reflects the widespread view that rivalry should be defined by the density of militarized disputes (see, for instance, Huth 1996a, 2000; Diehl and Goertz 2000; Tir and Diehl 2002). If one accepts that assumption, this particular pattern is redundant because it suggests the following: contested territory → militarized disputes → militarized disputes → war. This assumption also sacrifices the explanatory power of interstate rivalry in discriminating among territorial issues that may escalate to militarized clashes and warfare.

To the contrary, we suspect interstate rivalry is an important predictor of territorial disagreement escalation. Yet, we do not see rivalry to be the result of clashes over real estate. Rather, we believe that rivalry defines the broader context in which clashes over the control of land (and other issues) occur. Rivals, in comparison with non-rivals, are more likely to fight over territory not only because of any intrinsic territorial value but also because they mistrust, fear, and dislike their enemies. Rivalry injects a psychological flavor to a dispute that magnifies the value seen of the territory and the real domestic costs of making concessions to a rival. Thus, we expect the most dangerous territorial contests intertwine with rivalry. Territorial issues between non-rivals should be less difficult to manage short of warfare.

Our expectation depends on a specific definition of strategic rivalry that focuses on the perceptions that leaders have about their competitors and their enemies. Many state leaders compete with other states without identifying them as threatening or hostile enemies. There are even cases where leaders will see other states as threatening but not competitive. This view of rivalry will influence how states will interact over territorial contests. For instance, Spain and Great Britain were once competitive rivals until Britain definitively proved its military primacy vis-à-vis Spain in an eighteenth century war that resulted over a territorial dispute involving Gibraltar. As the rivalry between Great Britain and Spain waned, Spanish attempts to retake Gibraltar by force became less likely in the nineteenth and twentieth centuries. This territorial issue has persisted but without a strategic rivalry (among other causes), the potential for military escalation has decreased.

Other examples come to mind. Would the Sino-Soviet fighting in the late 1960s over their common boundaries have occurred during the brief 1950s interlude in their long-lived rivalry? Or did it become more probable as their strategic rivalry over various issues intensified in the 1960s? Yemeni-Saudi border clashes, similarly, have been more evident in the early 1930s and the 1990s and less so in the intervening years. The land's location in question has not changed over the last eight decades, but Yemeni-Saudi perceptions of their neighbor's hostility have fluctuated. Are repetitive clashes between India and Pakistan over Kashmir understandable only by the intrinsic value of Kashmiri real estate? Or, is control of Kashmir a stalking-horse for various symbolic and material interests? In other words, might the perceptions of threat and hostility be more important than the territorial claims?

Nonetheless, the effect of rivalry on conflict escalation is not a one-way street. The escalatory potential of the Egyptian–Israeli conflict, for instance, became even greater once Israel controlled Egyptian territory after 1967. Before 1967, the Egyptians had more choice in whether they intensified their conflict with Israel. After 1967, the loss of the Sinai left them much less maneuvering room. Likewise, Bolivian–Paraguayan warfare became more probable when the realized value of the Chaco area increased with beliefs that oil might be available in the desert. Besides, Bolivia's loss of a Pacific access in the late nineteenth century also meant that control of rivers flowing to the east would become more desirable as alternative trade outlets.

Interstate rivalries also become intertwined with territorial disputes that involve protecting ethnic enclaves in bordering states. Rivalry perceptions can hinge on the geographical location of key groups who have some claim to cross-national ties and just happen to occupy adjacent territory that is under the control of another state or rival. For example, the Kashmir example combines territorial, ethnic, religious, strategic, and ideological issues although not necessarily equally (see Ganguly 1997). To what extent then or in what sense can we trace the roots of the Indo-Pakistani conflict to a territorial issue? It seems more accurate to say that in this case, and others, territorial issues intersect many issues that have led to the emergence and maintenance of the Indo-Pakistani rivalry, in this case from the outset of independence.

We do not argue, however, that contested territory is unlikely to intensify conflict levels without a strategic rivalry. Contested territory, presumably, can be important enough in its own right to lead to shooting matches. We suggest only that they are much more likely to do so within the context of strategic rivalry. Our expectation and main hypothesis, therefore, is that contested territory, especially if a sense of strategic rivalry exists, leads to militarized disputes, and, sometimes, to war.

Hypothesis1: *Contested territory, within the context of rivalry, is more prone to militarized disputes and warfare than is contested territory that takes place outside the context of rivalry.*

Interpretation of this hypothesis depends in part on how we define rivalry. If we take the dispute density approach to defining rivalry, the proposition essentially says that territorial issues that occur within the context of several militarized disputes and over a restricted time frame are more prone to militarized disputes and war. We can avoid this tautology by viewing rivalry as a relationship between adversaries who identify each other as threatening competitors and enemies. Once these perceptions emerge, later interactions between these states are likely to result in suspicion and hostility that can lead to misperceptions, expectations of bad faith behavior, and exaggerations of hostility underlying an adversary's actions. Whether this psychological baggage leads to physical conflict in any specific rivalry relationship remains an open question. In general, we believe that physical conflict is more probable within a rivalry context than outside it but all strategic rivalries do not by definition engage in militarized disputes.

We argue that identifying rivalry as sets of densely timed militarized disputes has led to the expectation that rivalry is an outcome of heightened conflict relations. In other words, one starts with a disagreement of some sort, the disputants clash repeatedly, and then their actions escalate to a series of militarized disputes and rivalry which may or may not develop to war. We suggest that such a sequence is not implausible, but we believe that it may not be the only or the more probable sequence. For example, we note that many territorially oriented conflicts have begun at the beginning of independence of one or more of the disputants. So, too, have many rivalries. The combinations of India and Pakistan, Algeria and Morocco, the United States and Mexico in the early nineteenth century, Israel and Jordan, Belize and Guatemala come readily to mind.

Our point here is the timing of the developing rivalry context should be an empirical question.[3] Some rivalries begin at the onset of independence and external disputes. Others take time to emerge. Although it may not make much difference whether the timing of the rivalry affects the likelihood of conflict escalation, we do wish to check the apparent sequencing of contested territory, rivalry, and militarized conflict as an auxiliary question.

A third consideration is that territorial disagreements are not always conflicts over adjoining space, especially when rivals are not proximate to one another. Contiguous territorial disputes, however, should be more dangerous than ones separated by some distance. Adjacency makes it much easier to move troops to the contested area. Such "backyard" conflicts are also more difficult to ignore politically. More distant territorial disputes create large logistical problems for armed forces to overcome and only some armed forces are able to project force afar. "Backyard" conflicts are also more difficult to ignore politically while public and governmental awareness of distant conflicts will wax and wane depending on

[3] This orientation has some linkage to the debate (Goertz and Diehl 1998, 2000) over punctuated equilibrium versus evolutionary models of rivalry which is basically about whether the effects of rivalry begin abruptly and stay fairly level thereafter or whether tensions are more gradually developed. However, both sides of this particular debate assume dispute density which means, in turn, that a sufficient number of militarized disputes must precede the abrupt or gradual onset of rivalry.

whether closer-to-home considerations loom larger. Thus, we think the most potent lethal combination should be contiguous territorial disputes that occur within strategic rivalries.[4] On this basis, we hypothesize the following:

Hypothesis 2: *The triadic combination of contiguous contested territory between strategic rivals have significantly more escalatory potential for militarized disputes and warfare than the total absence of these factors or the presence of only one or two of them.*

Our final concern relates to the temporal stability of the territorial conflict complex involving disputes, rivalries, contiguity, and regime type. There is reason to think the influence of territorial disputes as a source of interstate conflict may be on the wane. Huth and Allee (2002:27), for instance, examine 348 territorial conflicts that occurred during the 1919–1995 period in what is the most comprehensive collection of contested territory cases assembled so far. Regionally, the frequency of such disputes varies. The number of ongoing contests in Europe and the Americas is declining: 95 in 1919–1945 and 51 in 1946–1995. The number in the Middle and Near East (36 to 53), Africa (17 to 31), and Asia (14 to 51) is increasing but not at equal rates in all three regions. Yet there is a problem in interpreting these numbers. There were far fewer states in the 1919–1945 period than there have been in the post-1945 era. Let us assume that each conflict involved a different pair of states and there were 157 territorial disputes in 1919–1945 and, say, an average of 60 states in that period and 191 disputes in 1946–1995 and an average of roughly 125 states in the more recent period. Then the normalized ratio of 1919–1945: 1946–1995 disputes would be 2.6: 1.5—a drop of about 43%.[5] But even this correction understates the decline in the relative number of disputes. Sixty states create 1,770 dyads while 125 states translate into 7,750 dyads. If we divide the number of conflicts by the number of dyads that could be in conflict, the ratio is 0.089: 0.025, or about a 72% fall in the relative prevalence of contested territorial cases.

Without becoming too concerned at this point about the exact decline in the prevalence of contested territory, we infer that a decreased prevalence might alter the way in which contiguity, territorial issues, rivalry, and regime type interact. In addition, there are also regional shifts in the localities of territorial contests. In 1919–1945, more than half (57%) of the cases took place in Europe and the Americas. In 1946–1995, less than a third (about 29%) occurred in the same regions. So, contested territory is becoming less likely but more Afro-Eurasian in location. These changes might suggest over-time behavioral differences but, if so, it is not clear what we should expect, other than perhaps a weaker role for regime type differences. Yet even that may not be the case. Without a clear theoretical clue, we will check the temporal stability of our findings as a potential threat to the validity of our findings.[6]

Data and Variable Measurements

Our two hypotheses require data on the timing and location of territorial disputes and rivalry, the proximity of the adversaries, militarized disputes, and war. We also need to examine several standard control variables (major power status, alliances, and peace years). In addition, we add a control for dyads pitting democracies versus autocracies. Gledtisch, Petter, and Hegre (1997) argue and empirically

[4] This assertion is strongly emphasized in the territorial dispute literature and, in particular, is a core argument in Vasquez's steps-to-war theory. Tir and Diehl (2002) also find support for the combination of territorial dispute and contiguity.

[5] The assumption that each dispute involves a different pair of states is not accurate but it is a reasonable short cut for the sake of the illustration that is being advanced.

[6] We will point out a potential problem along the way that involves the large number of cases associated with World War II. However, this is a problem for which we can develop appropriate controls.

support the notion that this dyad is conflict prone. Rasler and Thompson (2003), have also found close linkages between conflictual strategic rivalries and dyads of mixed regime type.

Our contested territory data depend on Huth and Allee (2002:305–424), case list from 1919 to 1995.[7] Huth and Allee (2002:300), define their cases as:

> disagreements between governments over (a) the location of existing international boundaries in particular sectors or along the lengths of their common borders, (b) the refusal of one government to recognize another's claim of sovereign rights over islands, claiming sovereignty for itself instead, or (c) the refusal of one government to recognize another state as a sovereign political-territorial unit, laying claim to the territory of that state.

We convert their case material into dyadic records of the existence of any territorial disputes between two states on a year-by-year basis. We treat multiple disputes between the same parties that continue in the same year the same way as single disputes.

We rely on the 1816–1999 strategic rivalry data set (Thompson 2001) that defines rivalries as relationships among actors who mutually perceive their adversary to be a competitor (with roughly equal capabilities subject to some qualifications for special cases). In addition, both actors view each other as a significant political-military threat and therefore, an enemy.[8] As the span of the territorial dispute data dictate the time span of this analysis, we ignore all information on rivalries and territorial disputes that began before 1919.[9] We use data on contiguity (common land border or within 150 miles by sea), major power status (following Correlates of War conventions), alliances (the members of a dyad are either allied or not), and relative capabilities within dyads from EuGene (Bennett and Stam 2000).[10] We also use the Polity III (Jaggars and Gurr 1995) regime type data (democratic dyads are those in which both parties possess $a + 6$ score after subtracting the 1–10 autocracy score from its 1–10 democracy score; mixed dyads are those in which one party qualifies as a democracy and the other does not).[11]

Lastly, we take militarized disputes from the MID data set (version 2.1 as adjusted by Zeev Maoz to create dyadic data). In this case, militarized disputes are overt military confrontations that entail either clear threats to use military force, mobilization, deployment, or display of military force, or a use of military force (Jones, Bremer, and Singer 1996).[12] Some of these militarized disputes escalate to war. Table 1 provides statistics on the frequency of dyad years for contested territory, rivalry, and their combinations in the presence and absence of MIDs and war. Note that in this table and the other examinations to follow, we restrict our examination to relationships between the presence or absence of territorial grievance, rivalry, and

[7] We are particularly indebted to Paul Huth and Todd Allee for providing the case material prior to its actual publication.

[8] Strategic rivalries are measured dichotomously as either present or absent. Yet all strategic rivalry relationships are not equally hostile or intense. By treating all rivalries as equivalent, therefore, we should be working against the likelihood of finding a significant relationship between strategic rivalry and conflict escalation. Some analysts might prefer an index of fluctuations in rivalry intensity but we would argue that this invokes a different and more intractable question. That is, is conflict escalation, with or without territorial grievances, more likely when rivalries are running hot than when they are running cold. The problem would be that conflict escalation is probably the best indicator of hot versus cold rivalry relationships. Accordingly, we simply ask whether a rivalry is present or absent.

[9] The absence of some data past 1992 establishes that year as the last year in the data analysis. Information on contested territory and rivalries after 1992 is also eliminated from the analysis.

[10] Keep in mind that contiguity measures the proximity of the dyad members and not whether any territorial disputes involve adjacent territory. Relative capabilities is measured as the log of the ratio of the weaker power's capabilities divided by the stronger power's capabilities.

[11] The regime type dummies are coded 1 if they satisfy the joint democracy or mixed dyad criteria and 0 if the dyads are autocracies.

[12] The data are found at http://www.spirit.tau.ac.il/~zeev maoz

TABLE 1. Frequency of Dyad Years, 1919–1992 (Excluding Pre-1919 Territorial Disputes and Rivalries)

Variable	*Militarized Interstate Disputes Are Present*	*Militarized Interstate Disputes Are Absent*	*Total*	*War Is Present*	*War Is Absent*	*Total*
Territorial disputes	256	2,123	2,379	78	2,301	2,379
Territorial disputes with rivalries	145	621	766	58	708	766
Territorial disputes without rivalries	111	1,502	1,613	20	1,593	1,613
Rivalry	246	1,535	1,781	79	1,702	1,781
Rivalry without territorial disputes	101	914	1,015	21	994	1,015

Note. Frequency of dyad years for only militarized interstate disputes and war is 735 and 398, respectively.

conflict escalation. We do not trace on a case-by-case basis, whether territorial grievances are critical to interstate rivalry or whether conflict escalation correlates closely to territorial grievances per se. Such specific tracing is no doubt worth doing but would require a much different and more complicated undertaking than the more crude one aimed for in this paper.[13] At this point, we must be content to know whether and to what extent certain dyadic qualities (territorial grievances, rivalry) link systematically to later conflict escalation. That is something different from knowing precisely when and how often these linkages appear in the historical record.

Methodology

Our methodological strategy combines two approaches. We have two principal interests: one applies to assessing likelihood's of conflict escalation and the other to examining the sequencing of conflict processes. For the latter interest, we examine the timing of disputes and strategic rivalries to find out the various sequential combinations. We then discover which combinations are most likely to lead to conflict escalation in terms of militarized disputes and wars. The outcome will help us in assessing Hypothesis H2. As this is not a sufficiently sophisticated test to gauge the likelihoods of conflict escalation, we also rely on a "unified model" that examines the escalation of MIDs and war.

Reed (2000), Huth and Allee (2002), and Senese and Vasquez (2003) say that conflict theorists must be alert to the possibilities of selection bias in studying the causes of militarized interstate disputes and war onsets among dyads.[14] Selection bias is likely to occur when researchers fail to consider the variables that influence dispute onsets also influence war escalation. As similar covariates are likely to decide both of these processes, we cannot neglect the indirect effects that certain variables have on war through their direct effects on dispute onsets. By focusing on wars alone, scholars make the mistake of relying on a biased sample that neglects to include cases in which disputes failed to result in war escalation. One solution to this problem is to estimate a unified model or the joint likelihood of dyads becoming involved in a dispute and the escalation of the dispute to war via a censored probit model (Reed 2000:87). Specifically, we estimate two equations (one for dispute

[13] This type of process tracing would require a detailed analysis of the purported causes of each militarized dispute and war. As the factors thought to be involved would in many cases be either absent or controversial, one would end up writing a history of conflict escalation over the past two centuries that would encompass a great deal of missing "data." An alternative approach would be to focus on a select number of cases for process tracing but, this too constitutes another type of analysis than the one undertaken in this paper.

[14] Other scholars have discussed this selection problem. See, among others, Levy (1989), Morrow (1989), Bueno de Mesquita (1996), Gartner and Siverson (1996), and Huth (1996b).

initiation and the second for war) simultaneously with a seemingly unrelated probit analysis. The seemingly unrelated probit analysis produces a nonzero correlation between the residuals of the two equations for each of our dependent variables. If we fail to estimate this residual correlation, the residuals could be confounded with the estimates of the independent variables. Therefore, biased estimates are likely to occur. To avoid this problem, seemingly unrelated probit analysis assumes the residuals of our two equations are distributed as a standard bivariate normal distribution, and the coefficients are estimated with a maximum likelihood estimation approach (Green 1996). As well as allowing a nonzero correlation in our probit models, we control for the temporal dependence among dyads across years in the first model of dispute initiation by using the cubic spline technique developed by Beck, Katz, and Tucker (1998). We examine the over-time stability of the results by redoing our 1919–1992 analysis for the more recent 1946–1992 period.

Data Analysis

We begin with our less complicated examination of the interest in lethality and the distribution of timing sequences. We suspect the prevailing notion that contested territory leads to militarized disputes which, in turn, lead to rivalries is not likely to find much empirical support. We think rivalry is likely to come much earlier in the sequencing.

Table 2 displays eight visible sequences when the Huth-Allee territorial conflict 1919–1995 database is compared with the timing of strategic rivalry and militarized interstate disputes.[15] The most common sequence is contested territory to militarized dispute (nearly 52%). The next most common sequence is the contested territory/rivalry to militarized disputes sequence (not quite 31%). This outcome might suggest that our expectation that the more dangerous territorial conflicts overlap with strategic rivalry has no support. There is a strong difference, however, in the number of militarized disputes that occur in the first two rows. The contested territory → militarized disputes sequence appears with an average of 1.79 militarized disputes per dyad. The contested territory/rivalry → militarized disputes sequence leads to an average of 5.3 militarized disputes per dyad. Clearly, militarized disputes are possible without rivalry but they are also much more likely in its presence.

If we contrast sequences that involve rivalry and militarized disputes with those that do not involve either one, we find a more balanced distribution. The 56 cases of contested territory and militarized disputes without rivalry still outnumber the 49 cases in which both types of conflict and rivalry occur, but the gap is much less (roughly 6%). Yet, two thirds of the militarized disputes linked to contested territory appear with the cases in which rivalry is present.[16] This imbalanced proportion translates into a 2.16 average number of militarized disputes for the cases in which interstate rivalry is absent and a 4.98 average for cases in which rivalry is present. Again, we can only infer that contested territory and rivalry are a more lethal combination than contested territory alone.

Two other features of Table 2 also deserve emphasis. One is that what we have described as the strongest conflict sequence (contested territory → militarized dis-

[15] The timing of territorial conflicts and strategic rivalries is based strictly on the years in which these issues and relationships are believed to have begun.

[16] Tir and Diehl (2002) single out MIDs that have a territorial issue in their analysis of territorial disputes. We do not primarily because we have some uneasiness about the extent to which militarized disputes can be attributed to a single conflict issue. States in conflict are likely to have multiple issues at stake. Choosing to use or threaten force ostensibly over a boundary dispute may conceal other motivations. As a consequence, we prefer to link contested territory to militarized disputes in general, as opposed to specified types of militarized disputes. There is also the related awkwardness of defining conflict, contested territory, and rivalry in terms of the same militarized dispute data. We prefer ostensibly independent measures of these concepts when offered a choice.

TABLE 2. The Sequencing of Contested Territory, Militarized Disputes, and Strategic Rivalries

Dispute–Rivalry Sequence	*Number*	*Percent*
Contested territory → militarized disputes	56	51.8
Contested territory and rivalry → militarized disputes	33	30.6
Rivalry → contested territory → militarized disputes	4	3.7
Rivalry → militarized disputes → contested territory	4	3.7
Contested territory → rivalry → militarized disputes	4	3.7
Contested territory → militarized disputes → rivalry	3	2.8
Contested territory	3	2.8
Contested territory → rivalry	1	0.9
Total	108	100.0

putes → rivalry) is rare. Only three cases matched this pattern. Equally rare are contested territory cases in the Huth-Allee data set that do not link in some fashion to later (none of the eight sequences begin with MIDs) militarized disputes. This last fact hints that the Huth-Allee data favor states that have some tendency to clash with one another. An even more comprehensive collection of territorial dispute cases might then show a weaker relationship between contested territory and conflict. Nonetheless, this speculation does not mean the Huth-Allee data are too biased to use. It only means that we need to continue developing more information on the distribution of territorial disagreements before we will be able to assess decisively the linkages among rivalry and various types of disputes.

Meanwhile, even stronger evidence for the lethality of combining contested territory with rivalry is forthcoming if we switch the focus to the onset of wars, as opposed to militarized disputes. In Table 3, each war participating dyad was coded for the presence/absence of an ongoing territorial conflict and interstate rivalry at the time of the outbreak of war. The numbers that best correspond to the MIDs examination above involve the two combinations in which a territorial disagreement was ongoing at the outset of warfare. One-fifth of the cases involved both an ongoing territorial conflict and interstate rivalry. About 4% have only an ongoing territorial conflict. But these numbers depend heavily on the large number of dyads associated with the coalitional warfare of the past 65 years.[17] Nearly 60% of the total number of dyads connect to World War II. If we exclude all the World War II dyads, the ratio of contested territory + rivalry cases to contested territory alone is an even more impressive 41.2%: 5.2% (or 8 to 1).

Thus, there is large support for the notion that contested territory is more deadly when it coincides with interstate or strategic rivalry. Militarized disputes more often link to the former situation by a factor of 2.3 to 1. Wars coincide with contested territory/rivalry settings, in comparison with contested territory alone settings, by a factor of either 5:1 or 8:1, depending on which cases we examine. Besides, we have enough added evidence that territorial conflicts have some significant link to militarized disputes and wars. Most of the Huth-Allee cases of territorial conflict occur before militarized disputes (92.6%) according to Table 2. One-fourth to roughly one-half of the war dyads since 1919, depending on which columns we examine, took part in a territorial conflict when they increased their antagonisms to full-scale warfare.

Even if these numbers eventually deflate once more extensive territorial conflict databases become available, they are impressive. Contested territory, rivalries, and

[17] Specifically, we are referring to World War II, Korea, Vietnam, and the first Persian Gulf War that involved states as combatants that would most certainly have not been involved in warfare at the time if they had not been encouraged to join relatively large coalitions of states with highly variable contributions to the respective war efforts.

TABLE 3. Contested Territory, Strategic Rivalry, and Interstate War

Contested Territory Present	*Strategic Rivalry Present*	*All War Participant Dyads*	*Percentage*	*Non-World War II War Participant Dyads*	*Percentage*
Yes	Yes	49	20.3	40	41.2
Yes	No	10	4.1	5	5.2
No	Yes	16	6.6	6	6.2
No	No	166	68.9	46	47.4
		241	99.9	97	100.0

TABLE 4. Interaction of Rivalry and Territorial Disputes on Militarized Interstate Disputes and War, 1919–1992 (Excluding Pre-1919 Territorial Disputes and Rivalries)

	Militarized Interstate Disputes		*War Onset*	
Variable	*Coefficient*	*z-Statistic*	*Coefficient*	*z-Statistic*
Territorial disputes with rivalry	**1.39**	21.07	**1.46**	14.91
Territorial disputes without rivalry	**1.23**	22.23	**0.76**	7.63
Rivalry without territorial disputes	**1.22**	18.19	**0.90**	8.30
Contiguity	**0.87**	19.89	**0.31**	3.90
Allies	− 0.01	− 0.20	− **0.41**	− 5.17
Major power status	**0.90**	9.12	**1.19**	12.30
Relative capabilities	− **0.20**	− 2.60	**0.18**	2.53
Democracies versus autocracies	**0.09**	3.05	**0.10**	3.10
Peace years*	− **0.11**	− 12.23	–	–
Constant	− **2.77**	− 77.78	− **3.27**	− 122.07
$\rho\varepsilon_1\varepsilon_2$†	0.10			
	(0.06)			
Log likelihood	− **6,621.36**			
No. of observations	443,257			

Note. Bold coefficients are statistically significant at .05 or lower; two-tailed tests. *Z*-statistics are based on robust standard errors.

*Spline coefficients are not reported.

†Robust standard error is reported below the ρ coefficient.

militarized conflicts at various levels obviously come with some frequency. Still, neither Table 2 or 3 can tell us fully about the likelihood of contested territory leading to militarized disputes and war, within and outside the context of strategic rivalry. We need a different and more rigorous research design.

Hypothesis H1 predicts that territorial conflicts that take place within ongoing strategic rivalries will be more prone to escalation than disputes that do not link to rivalries. Table 4 shows the effects of contested territory in a rivalry context (in comparison with contested territory without rivalry) on dispute initiation and war escalation for 1919–1992. Considering dispute initiation first, we find the interaction between contested territory and rivalry has a significant positive effect as does contested territory without rivalry while controlling for contiguity, alliances, major power status, relative capabilities and mixed dyads (democratic vs. autocratic regimes). This relationship also holds for rivalry without contested territory. All of these results are the same for war onset as well. Lastly, allied dyads have little association with dispute initiation but a strong negative one with war onset. Mixed dyads (democracies vs. autocracies) are more likely to appear with both dispute initiation and war onset.

We can discover which variables or combination of variables are more likely to result in dispute initiation and war onset by calculating the marginal probabilities from our bivariate probit model in Table 4. Table 5 lists the probability of a dispute

TABLE 5. Impact of Dyadic Variables on MIDS and War, 1919–1992

	Probability of Militarized Interstate Dispute			*Probability of War Onset*		
Change in Independent Variable from 0 to 1	*(a) Probability After Change (%)*	*(b) Change in Probability (%)*	*(c) Percent Change in Probability*	*(d) Probability After Change (%)*	*(e) Change in Probability (%)*	*(f) Percent Change in Probability*
Territorial disputes with rivalry	18.30 (0.10)	+ 18.1	+ 90.5	7.90 (0.08)	+ 7.80	+ 78.0
Territorial disputes without rivalry	7.60 (0.09)	+ 7.4	+ 37.0	1.50 (0.02)	+ 1.40	+ 14.0
Rivalry without territorial disputes	10.70 (0.07)	+ 10.5	+ 52.5	2.30 (0.03)	+ 2.20	+ 22.0
Contiguity	5.20 (0.08)	+ 5.0	+ 25.0	1.20 (0.04)	+ 1.10	+ 11.0
Democracies versus autocracies	0.23 (0.02)	+ 0.03	+ 0.2	0.12 (0.01)	+ 0.02	+ 0.2

Note. The probabilities represent the marginal probability of MIDS and war onset from the bivariate probit model in Table 4, while holding each of the values of the independent variables constant and changing only the values of the variables above. Dems versus auts refers to democracies versus autocracies. The initial probability can be calculated by subtracting column (b) from column (a) and column (e) from column (d). Percent change in probability is obtained by dividing columns (b) and (e) by their initial probabilities. Standard deviations associated with the mean probabilities are listed below the probability change values in column (a).

TABLE 6. Interaction Effects of Territorial Disputes, Rivalry and Contiguity on Militarized Interstate Disputes and War, 1919–1992 (Excluding Pre-1919 Territorial Disputes and Rivalries)

	Militarized Interstate Disputes		*War Onset*	
Variable	*Coefficient*	*z-Statistic*	*Coefficient*	*z-Statistic*
Territorial dispute, contiguity, and rivalry	**2.25**	35.02	**1.83**	23.43
Territorial dispute, contiguity without rivalry	**1.64**	18.73	**1.10**	7.85
Rivalry, contiguity without territorial dispute	**1.99**	25.40	**1.02**	6.08
Contiguity without territorial dispute and rivalry	**1.15**	25.59	**0.27**	2.43
Territorial dispute, rivalry without contiguity	**2.04**	13.65	**1.14**	5.77
Territorial dispute without contiguity and rivalry	**1.69**	26.36	**0.74**	5.89
Rivalry without territorial dispute and contiguity	**1.71**	16.93	**1.02**	7.63
Allies	− 0.05	− 1.09	− **0.40**	− 4.98
Major power status	**0.51**	4.40	**1.22**	11.94
Relative capabilities	− **0.18**	− 2.41	**0.18**	2.49
Democracies versus autocracies	**0.08**	2.53	**0.10**	3.15
Peace years*	− **0.11**	− 12.03	—	—
Constant	− **2.80**	− 76.94	− **3.27**	− 121.88
$\rho\varepsilon_1\varepsilon_2$ †	0.10 (0.06)			
Log likelihood	− **6,541.58**			
No. of observations	443,257			

Note. Bold coefficients are statistically significant at .05 or lower; two-tailed tests. *Z*-statistics are based on robust standard errors.

*Spline coefficients are not reported.

†Robust standard error is reported below the ρ coefficient.

initiation and war onset when changing the value of one or more independent variables from zero to one, while holding the rest of the variables at zero. For militarized interstate disputes, contested territory in combination with rivalry has a significantly higher percent change in probability (90.5%) than contested territory that occurs without rivalry (37%; see column "c") and rivalry without contested territory (52.5%). Contiguity, alone, has a significant impact on dispute initiation (25%), while mixed dyads have little to no effect.

However, the probabilities associated with war onset yield different results. First, territorial conflicts within the context of rivalry have a much stronger association with war, a 78% change, in comparison with territorial conflicts that occur without rivalry, a 14% change (see column "f" in Table 5). In addition, this 78% change is significantly greater than rivalry without territorial conflicts which has a 22% probability change. Contiguity, on the other hand, has an 11% change, while mixed dyads alone have a less than 1% change in the probability of war onset.

Hypothesis H1 predicts that contested territory that takes place within ongoing strategic rivalries will be more prone to escalation than territorial conflicts that do not intersect rivalries. Tables 4 and 5 show evidence that supports this hypothesis for both war onsets and dispute initiation. This pattern is also the same for mixed dyads that engage in territorial conflicts and strategic rivalries. Finally, these results are stable in different time periods: 1919–1945 and 1946–1992 (see Tables A1–A4).[18]

The next question is whether the triadic combination of contiguous territorial disputes between strategic rivals have significantly more escalatory potential for militarized disputes and warfare than the presence of only contiguous territorial

[18] We do not include some of the categorical variables of lesser interest (in Tables 4–6) in the estimation results in the appendix because of estimation problems associated with losing degrees of freedom when smaller time frames are employed.

TABLE 7. Impact of Interactive Effects of Rivalry, Territorial Disputes, and Contiguity on MIDS and War, 1919–1992

	Probability of Militarized Interstate Dispute			*Probability of War Onset*		
Change in Independent Variable from 0 to 1	*(a) Probability After Change (%)*	*(b) Change in Probability (%)*	*(c) Percent Change in Probability*	*(d) Probability After Change (%)*	*(e) Change in Probability (%)*	*(f) Percent Change in Probability*
Territorial dispute, contiguity, and rivalry	17.80 (0.07)	+ 17.6	+ 88	8.40 (0.08)	+ 8.3	+ 83
Territorial dispute, contiguity without rivalry	5.80 (0.03)	+ 5.6	+ 28	1.60 (0.02)	+ 1.5	+ 15
Rivalry, contiguity without territorial dispute	10.20 (0.04)	+ 10.0	+ 50	0.90 (0.01)	+ 0.8	+ 8
Contiguity without territorial dispute and rivalry	1.50 (0.01)	+ 1.3	+ 7	0.00	0.0	0
Territorial dispute, rivalry without contiguity	17.40 (0.09)	+ 17.2	+ 86	6.40 (0.08)	+ 6.3	+ 63
Territorial dispute without contiguity and rivalry	7.10 (0.04)	+ 6.9	+ 35	1.40 (0.03)	+ 1.3	+ 13
Rivalry without territorial dispute and contiguity	9.00 (0.07)	+ 8.8	+ 44	4.90 (0.07)	+ 4.8	+ 48
Territorial dispute, rivalry, contiguity, and dems versus auts	21.00 (0.07)	+ 20.8	+ 104	9.60 (0.07)	+ 9.5	+ 95
Territorial dispute, contiguity, dems versus auts without rivalry	6.70 (0.03)	+ 6.5	+ 33	1.90 (0.02)	+ 1.8	+ 18

Note. The probabilities represent the marginal probability of MIDS and War Onset from the bivariate probit model in Table 6, while holding each of the values of the independent variables constant and changing only the values of the variables above. Dems versus auts refers to democracies versus autocracies. The initial probability can be calculated by subtracting column (b) from column (a) and column (e) from column (d). Percent change in probability is obtained by dividing columns (b) and (e) by their initial probabilities. Standard deviations associated with the mean probabilities are listed below the probability change values in column (a).

disputes (H2). Table 6 shows the intersection of territorial disputes, contiguity and rivalry has a significant positive influence on both dispute initiation and war onset, as does the intersection of territorial disputes and contiguity without rivalry, and other various combinations. Table 7, which displays the probability estimates, shows the triadic combination of contiguity, territorial dispute and rivalry produces an 88 percent probability increase in dispute initiation. Territorial dispute and contiguity, on the other hand, form a lower 28% probability increase (see column "c"). The pattern is the same when mixed dyads combine with territorial disputes, contiguity and rivalry as opposed to just territorial disputes, and contiguity (104% vs. 33% probability increase; see column "c"). These results are even more dramatic for war onsets. Table 7 tells us the triadic combination (territorial disputes, contiguity, and rivalry) produces an 83% probability increase in war onset, relative to the 15% probability increase for just contiguous territorial (see column "f"). When mixed dyads appear in the triadic combination, the probability increase in war onsets is 95%, relative to the 18% probability increase for mixed dyads that appear in contiguous territorial disputes without rivalry.

The results for other combinations of rivalry, territorial conflict, and contiguity in Table 7 show that although the triadic combination has the greatest impact on dispute initiation and war onset, the next potent grouping involves territorial disputes that occur with rivalry and without contiguity. In this case, the mixture of territorial disputes with rivalry produces an 86% probability increase in dispute initiation and a 63% increase in war onset.

These results support the proposition that contiguous territorial disputes that coincide with rivalry have a greater escalatory potential for both dispute initiation and war than the absence of rivalry. In addition, the evidence supports the idea that mixed dyads as well as contiguity, territorial disputes and rivalry present a dangerous state of affairs. The findings are the same for the post-World War II era (see Tables A5–A6).

Summary and Conclusion

The focus of this examination has been on two questions: (1) how critical is rivalry to escalating contested territorial issues and (2) where in the conflict sequence, does rivalry fit? Our empirical evidence is unambiguous on the first question. Rivalry is critical to conflict escalation. Conflict escalation can occur in its absence but combining contested territory, contiguity, and strategic rivalry results in an impressive recipe for conflict escalation. The empirical answer to the second question is less clear, because we found eight different sequential paths in which rivalry could enter the picture at various points. We did find, however, the notion that contested territory leads to militarized disputes and then to rivalry deserves more consideration. While the prevailing imagery does hinge largely on how one defines rivalry, we find that strategic rivalries are more often linked to the onset of territorial conflicts than to later iterations of the conflict sequence. That is one reason that rivalry is such an important contributor to the escalation process. When rivals engage each other, their suspicions (about aims) and hostilities easily heighten from the outset. Thus, we are not simply adding two indicators with conflict potential. Rather, we are suggesting that their interaction is what is most dangerous.

Is this all we need to know about conflict escalation? The answer is obviously no. But it does seem a concrete step forward toward a more comprehensive understanding of the dynamics of conflict escalation. This is not to say that other scholars have not speculated on, written about, or analyzed empirically how contested territory and rivalry interact. After all, these are two of the principal ingredients of Vasquez's (1993) influential steps-to-war theory. Yet, to our knowledge, this is the first empirical examination combining newly available territorial conflict

data with strategic rivalry information.[19] The results are robust and they encourage us to continue along this line of inquiry into the causes of conflict escalation. Future examinations, we hope, can build on the contested territory–contiguity–rivalry triad as more variables such as arms races and crises appear in the mix. Similarly, we need to find out whether rivalry acts as a multiplier effect with other asserted causes of conflict. We also need to see, eventually, whether we can do as well in explaining conflicts that do not involve contested territory.[20]

Appendix A

Tables A1–A6

TABLE A1. Interaction of Rivalry and Territorial Disputes on Militarized Interstate Disputes and War, 1919–1945 (excluding pre-1919 territorial disputes and rivalries)

	Militarized Interstate Disputes		*War Onset*	
Variable	*Coefficient*	*z-Statistic*	*Coefficient*	*z-Statistic*
Territorial disputes with rivalry	**1.42**	6.52	**1.23**	5.77
Territorial disputes without rivalry	**1.28**	9.80	**0.92**	6.91
Contiguity	**0.57**	4.76	0.15	1.21
Allies	− 0.04	− 0.34	− **0.30**	− 2.21
Major power status	**1.09**	6.84	**1.34**	12.49
Relative capabilities	− **1.73**	− 3.16	− 0.25	− 1.53
Democracies versus autocracies	− 0.05	− 0.81	**0.20**	3.69
Peace years*	− **0.12**	− 4.52	—	—
Constant	− **2.46**	− 30.65	− **2.84**	− 63.36
$\rho\varepsilon_1\varepsilon_2$†	− 0.08 (0.09)			
Log likelihood	− **1,933.64**			
No. of observations	49,113			

Note. Bold coefficients are statistically significant at .05 or lower; two-tailed tests. *Z*-statistics are based on robust standard errors.

*Spline coefficients are not reported.

†Robust standard error is reported below the ρ coefficient.

[19] At the same time, our findings on militarized disputes are fairly compatible with those of Tir and Diehl (2002) who adopt a much different approach to conceptualizing rivalry and a different source of territorial conflict information.

[20] On this question, compare Vasquez's (1996) emphasis on territorial conflicts and Rasler and Thompson (2000) and Colaresi and Thompson's (2002) attempts to examine both spatial and positional rivalries.

TABLE A2. Impact of Dyadic Variables on MIDS and War, 1919–1945

	Probability of Militarized Interstate Dispute			*Probability of War Onset*		
Change in Independent Variable from 0 to 1:	*(a) Probability After Change (%)*	*(b) Change in Probability (%)*	*(c) Percent Change in Probability*	*(d) Probability After Change (%)*	*(e) Change in Probability (%)*	*(f) Percent Change in Probability*
Territorial disputes with rivalry	11.20 (0.10)	+ 11.0	+ 55.0	5.0	+ 4.8	+ 24.0
Territorial disputes without rivalry	7.70 (0.08)	+ 7.5	+ 37.5	2.6	+ 2.4	+ 12.0
Contiguity	2.80 (0.06)	+ 2.6	+ 13.0	0.3	+ 0.1	+ 0.6
Democracies versus autocracies	0.00	0.0	0.0	0.4	+ 2.0	+ 1.0

Note. The probabilities represent the marginal probability of MIDS and War Onset from the bivariate probit model in Table A1, while holding each of the values of the independent variables constant and changing only the values of the variables above. Dems versus auts refers to democracies versus autocracies. The initial probability can be calculated by subtracting column (b) from column (a) and column (e) from column (d). Percent change in probability is obtained by dividing columns (b) and (e) by their initial probabilities. Standard deviations associated with the mean probabilities are listed below the probability change values in column (a).

TABLE A3. Interaction of Rivalry and Territorial Disputes on Militarized Interstate Disputes and War, 1946–1992 (excluding pre-1919 territorial disputes and rivalries)

	Militarized Interstate Disputes		*War Onset*	
Variable	*Coefficient*	*z-Statistic*	*Coefficient*	*z-Statistic*
Territorial disputes with rivalry	**1.06**	14.84	**1.39**	13.48
Territorial disputes without rivalry	**1.03**	13.53	**0.33**	2.27
Contiguity	**1.18**	22.99	**0.77**	6.92
Allies	0.03	0.62	**– 0.40**	– 3.96
Major power status	**1.39**	11.12	**0.69**	2.83
Democracies versus autocracies	**0.15**	4.39	0.06	1.38
Peace years*	**– 0.09**	– 8.22	—	—
Constant	**– 2.84**	– 74.63	**– 3.37**	– 106.19
$\rho\varepsilon_1\varepsilon_2$†	**0.18** (0.08)			
Log likelihood	**– 4,556.23**			
No. of observations	395,228			

Note. Bold coefficients are statistically significant at .05 or lower; two-tailed tests. *Z*-statistics are based on robust standard errors.
*Spline coefficients are not reported.
†Robust standard error is reported below the ρ coefficient.

TABLE A4. Impact of Dyadic Variables on MIDS and War, 1946–1992

Change in Independent Variable from 0 to 1:	*Probability of Militarized Interstate Dispute*			*Probability of War Onset*		
	(a) Probability After Change (%)	*(b) Change in Probability (%)*	*(c) Percent Change in Probability*	*(d) Probability After Change (%)*	*(e) Change in Probability (%)*	*(f) Percent Change in Probability*
Territorial disputes with rivalry	19.00 (0.13)	+ 18.8	+ 94	6.90 (0.07)	+ 6.8	+ 68
Territorial disputes without rivalry	8.00 (0.09)	+ 7.8	+ 39	0.30 (0.00)	+ 0.2	+ 2
Contiguity	5.00 (0.09)	+ 4.8	+ 24	1.00 (0.03)	+ 0.9	+ 9
Democracies versus autocracies	0.20 (0.02)	+ 0.2	0	0.10	+ 0.1	0

Note. The probabilities represent the marginal probability of MIDS and War Onset from the bivariate probit model in Table A3, while holding each of the values of the independent variables constant and changing only the values of the variables above. Dems versus auts refers to democracies versus autocracies. The initial probability can be calculated by subtracting column (b) from column (a) and column (e) from column (d). Percent change in probability is obtained by dividing columns (b) and (e) by their initial probabilities. Standard deviations associated with the mean probabilities are listed below the probability change values in column (a).

TABLE A5. Interaction Effects of Territorial Disputes, Rivalry and Contiguity on Militarized Interstate Disputes and War, 1946–1992 (excluding pre-1919 territorial disputes and rivalries)

	Militarized Interstate Disputes		*War Onset*	
Variable	*Coefficient*	*z-Statistic*	*Coefficient*	*z-Statistic*
Territorial dispute, contiguity, and rivalry	**1.89**	30.06	**1.92**	22.79
Territorial dispute, contiguity without rivalry	**1.31**	12.74	**0.55***	1.72
Allies	**0.39**	9.11	**– 0.33**	– 3.05
Major power status	**1.47**	13.72	**1.00**	4.48
Democracies versus autocracies	0.13	4.50	**0.07***	1.80
Relative capabilities	**0.22**	3.69	**0.43**	5.96
Peace years†	**– 0.09**	– 9.88	—	—
Constant	**– 2.67**	– 77.39	**– 3.42**	– 110.29
$\rho\varepsilon_1\varepsilon_2$‡	**0.23** (0.08)			
Log likelihood	**– 5,016.52**			
No. of observations	394,144			

Note. Bold coefficients are statistically significant at .05 or lower; two-tailed tests. *Z*-statistics are based on robust standard errors.
*Coefficient is significant at .10 level.
†Spline coefficients are not reported.
‡Robust standard error is reported below the ρ coefficient.

TABLE A6. Impact of Interactive Effects of Rivalry, Territorial Disputes, and Contiguity on MIDS and War, 1946–1992

	Probability of Militarized Interstate Dispute			*Probability of War Onset*		
Change in Independent Variable from 0 to 1:	*(a) Probability After Change (%)*	*(b) Change in Probability (%)*	*(c) Percent Change in Probability*	*(d) Probability After Change (%)*	*(e) Change in Probability (%)*	*(f) Percent Change in Probability*
Territorial dispute, contiguity, and rivalry	20.50 (0.13)	+ 20.3	+ 101.5	8.60 (0.07)	+ 8.50	+ 85
Territorial dispute, contiguity without rivalry	6.30 (0.07)	+ 6.1	+ 30.5	0.30 (0.01)	+ 0.20	+ 1
Territorial dispute, rivalry, contiguity, and dems versus auts	23.50 (0.13)	+ 23.3	+ 116.5	9.30 (0.06)	+ 9.20	+ 92
Territorial dispute, contiguity, dems versus auts without rivalry	7.20 (0.07)	+ 7.0	+ 35.0	0.30 (0.01)	+ 0.20	+ 2

Note. The probabilities represent the marginal probability of MIDS and war onset from the bivariate probit model in Table A5, while holding each of the values of the independent variables constant and changing only the values of the variables above. Dems versus auts refers to democracies versus autocracies. The initial probability can be calculated by subtracting column (b) from column (a) and column (e) from column (d). Percent change in probability is obtained by dividing columns (b) and (e) by their initial probabilities. Standard deviations associated with the mean probabilities are listed below the probability change values in column (a).

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