# ALLIANCES, TERRITORIAL DISPUTES, AND THE PROBABILITY OF WAR

## Testing for Interactions

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### SINGER AND THE STUDY OF ALLIANCES AND WAR

For centuries international relations thinkers have mused on the role of alliance in peace and war. Thucydides, in the Melian dialogue, relates how the Athenians counsel the Melians not to rely on the Spartans to save them. Similarly, ancient China saw alliances play an important role (Chi 1968; Cioffi-Revilla and Lai 1995). This is not surprising since coalition building has deep, if not primordial, roots within humans going back at least to our primate cousins (see de Waal 1989). Despite this history, it was not until the work of J. David Singer and Melvin Small that systematic scientifically replicable data on interstate alliances were collected (Singer and Small 1966a; Small and Singer 1969). Those data and their initial statistical analysis of them remains the single most important watershed in our collective attempt to understand the role of alliances in international politics.

Prior to their work there was much theorizing and speculation on alliances, but little evidence. Some of this work, particularly in diplomatic history, was very important (see Langer 1935, 1950), but much of it that tried to generalize about patterns relied on anecdotal evidence and followed a method David Singer characterized as an attempt to "ransack history for those cases that seem to support our hypotheses" (2000, 4; see also 1969b, 79) without regard, and sometimes with disregard, for those examples that did not.

Singer and Small (1966b) provided the first systematic evidence on the relationship between alliance making and war involvement. They

found, for the 1816–1945 period, that states that had many alliances also had many war involvements (both in terms of the number of wars and the number of years at war). They also found that a high rank in alliances was associated with a high rank in battle deaths. At the system level, they found that states in the central system had more alliances than those in the total system, and that war was more prevalent in the central system. They also found that the longer a state was a member of the system the more apt it was to have had an alliance, and that some of the relationship between alliance and war was a function of length of system membership, but that not all of it was.

These findings were important at the time because they were among the first the field had that moved us "beyond conjecture" (Singer and Jones 1972) to identifying and documenting patterns of behavior. Some saw this movement as too inductive, and Waltz (1979, 12) was to later disparage it as "correlational labors." These criticisms miss the point, as well as mischaracterizing induction and its importance. Induction is rarely theory-free, and Singer had plenty of theory from which to choose in his attempt to find the correlates of war. Often this theory had realist components to it, and the attempt to see if alliances were associated with war was the subject of a long philosophical and political debate between realism and idealism (see Walker 2000). Before, during, and after Singer collected data, he always addressed questions of theory. Frequently, this involved examining and/or testing contradictory hypotheses within the literature, as in Singer, Bremer, and Stuckey (1972). More important, it involved Singer using some of the insights of social psychology to undermine traditional realist analyses based on power and to come up with alternate explanations of war (e.g., Singer 1958, 1970a, 1982). Many of these early theoretical pieces are collected in Singer (1979a), and an examination of them will show that not only was Singer guided by theory in his collection of data and his testing, but that he frequently compared various and often contradictory realist hypotheses with those that could be derived from a different perspective—that provided by social psychology and the emerging field of peace research.

Even though Singer's work was far from theory-free, his main defense of induction was that first one had to delineate patterns before they could be adequately explained (1979b, xviii–xix). There were just too many contradictory claims being made by scholars with no real way of empirically assessing which were historically accurate. One must remember that in international relations, most work at the time was conducted in what was a "data-free" environment. Much of the discourse of the 1950s and early 1960s assessed hypotheses by evaluating their

logic in terms of how well a hypothesis did in comparison to the dominant realist assumptions of the time—namely, that power is the key to all politics. For example, Claude (1962) and Organski (1958) looked at balance-of-power explanations and criticized them for being inconsistent with what one would expect about the effects of power on behavior. Similarly, Morgenthau (1960) criticized various peace proposals (like world government or the balance of power) because they were inconsistent with his realist assumptions about states acting in terms of the national interest defined in terms of power. He also saw these peace proposals as being contradicted by empirical examples drawn (not very systematically) from the historical record. What was missing, however, was the systematic examination of the historical record. For Singer, this could be best done by applying the most appropriate avenue of inquiry available, the scientific method (see Singer 1969b). He was concerned with how the mass of the historical record could be converted to replicable evidence that could then be made into *data* (see Singer 1965). Once the data were collected, then the path to truth lay with establishing the correlates of war; in other words, which factors are associated with war and which factors thought to be associated with it are actually statistically insignificant. Once these were known, then explanation would be easier.

This strategy of inquiry is a sound one. It uses existing theory to collect data and empirically probe hypotheses, then it reformulates the explanation in light of tests. It then retests and collects new data, reformulates or develops new theory in light of new patterns, and so forth. True induction always goes hand in hand with theorizing. In many ways, it is a strategy for building theory and plays an important part in the logic of discovery. A potential problem with deduction is that the familiarity of certain theoretical assumptions can lead it to become a doctrine, where claims are rejected by comparing them to the theory's assumptions or its logic rather than some body of empirical evidence, a danger exhibited in the 1950s and 1960s first with classical realism and then with nuclear deterrence. This danger is especially the case when some of the assumptions embody empirical patterns that have never been established. Then theorists can end up explaining a "law" that never existed, something Kenneth Waltz probably ended up doing in *Theory of International Politics* (1979) (see Vasquez 1997; Vasquez and Elman 2003, esp. chaps. 8, 9, 11, 12, 17 ).

It is essential that part of the field always be devoted to establishing empirical patterns, even if the theory used to get at these may not be as explicit or as formal as some would like. Empiricism, "with and without shoes," is important for understanding and for constructing better

theory. Without it we are awash in a sea of speculation without any anchor (Wallace 1985, 109). One of Singer's most important legacies is understanding this lesson. He created data in international relations when little existed and had a strategy of inquiry that made sense then and does now. The alternative is armchair philosophizing, or worse—sophistry that assumes empirical patterns to make political points. A reasonable blend of inductive and deductive theory building, always guided by the scientific method, is certainly a road map worth utilizing.

The other contribution to theory that Singer and his early associates made that is often neglected by criticizing induction is that in trying to follow the scientific method, Singer, as well as other early behavioralists, had to reformulate and systematize existing hypotheses. Thus, in the study of alliances and war, one of the first things done was to review the literature for propositions as a prelude to testing them (Bueno de Mesquita and Singer 1973; see also Ward 1982). The attempt to operationalize concepts and derive testable hypotheses led scholars to often find several hypotheses where traditional scholars only saw one (see Siverson and Sullivan 1983). Nowhere was this more evident than in Singer's attempt to test the various claims associated with power, polarization, and war (cf. Singer and Small 1968a; Singer, Bremer, and Stuckey 1972).

This brief overview should make it clear that the Correlates of War Project was a highly ambitious one that attempted to bring the scientific method to bear upon the most central questions in international relations—why war occurs and how peace can be built. The secrecy that shrouded foreign policy decision making naturally made Singer turn toward the historical record as a source of evidence. His collaboration with Melvin Small, a diplomatic historian, was no accident. Together they assembled data on the main dependent variable (war) (Singer and Small 1972) and independent variable (alliances) in the field. The selection of the latter along with capability as the two main independent variables is quite consistent with what one would expect of a field being guided by the realist paradigm, as international relations was at the time (see Vasquez 1998b, chap. 5).

Data were never an end in themselves for Singer or the project. As soon as data were collected they began to be analyzed, and the reason this was possible was that the data were collected with certain analyses in mind. Thus, as soon as Singer and Small (1966a) had collected alliance data for a reasonable time period (1816–1945), they tested hypotheses. They did not wait for more data. As they completed their data collection to 1965 (Small and Singer 1969), they shifted to studying how alliances affect polarization and polarity and how that in turn affects

war (Singer and Small 1968a). This study focused on the polarity debate, examining key differences between Deutsch and Singer (1964) on the one hand and Waltz (1964) on the other. A more explicit incorporation of capability was the focus of Singer, Bremer, and Stuckey (1972), another classic study in the field. In this study they uncovered their famous intercentury difference, which finds that the concentration of power (in the system) has one effect in the post-1815 nineteenth century and another in the twentieth century.

## RECENT LITERATURE ON ALLIANCES AND WAR

What is important about Singer's work, generally and not only with regard to the study of alliances, is that it was a research program that brought in a number of people, especially graduate students, who then went on to do their own studies and collect more data. Some of these, like the extensive refining of the alliance data by Sabrosky (1976), were done under Singer's direction. Others, like Levy's (1981, 1983) extension of the alliance data back to 1495, were done separately and without his knowledge. Data collection on alliances in recent years has seen another spurt. Gibler has collected data on new alliance variables that he has used to create new typologies of alliances (1997b; see also 1996), as well as refining the data by using the new treaty series published by Parry (1978) and extending the data back in time (Gibler 1999). Leeds, Long, and Mitchell (2000) have collected new data on alliances by identifying the precise conditions under which a state is committed to defending its ally. Finally, Gibler and Sarkees (2002) have led the effort to update the official Correlates of War data on alliances to the end of the twentieth century.

The early work of Singer and Small on alliances and war gave rise to a host of interesting studies. Sabrosky (1980) examined the reliability of alliances and found that many alliances are unreliable in that allies do not go to war against those that attack their ally, and in many cases actually go to war against their allies. Smith (1995, 1996) used the idea of alliance reliability to try to explain why some alliances are followed by war and others by peace. The former, he argued, is the result, in part, of potential attackers believing that the ally is unreliable (i.e., it is not credible that the ally will intervene in an ongoing war), whereas the former is a function of the ally being seen as not reliable. Part of the supposition of this explanation is undercut, however, by Leeds, Long, and Mitchell (2000), who found that if the actual *casus belli* of alliance treaties are examined, Sabrosky's (1980) unreliability finding is overturned. They found that approximately 75 percent of alliances from

1816 through 1944 are in fact reliable (Leeds, Long, and Mitchell 2000, table 5).

Levy (1981) provided further evidence on the war proneness of alliances involving major states. He found, with the important exception of the nineteenth century, that most alliances involving major states tend to be followed by at least one war involving a signatory within five years. Vasquez (1993, chap. 5) used Levy's findings and Singer and Small (1966b) to argue that alliances are a form of power politics that increase threat perception and therefore increase the probability of war. He maintained that alliances rarely prevent war the way some balance-of-power explanations expect. Wayman (1990), however, provided findings that cast doubt on the propensity of alliances to be followed by war.

Gibler (1996, 2000) and Maoz (2000b) took a different tack. They tried to explain why some alliances are followed by war and others are not by taking a more empirical approach. Gibler delineated the characteristics that he thinks make certain types of alliances war prone and others associated with peace. He found that a certain class of alliances are not associated with attempts to balance power but rather are the outcome of settling a host of territorial disagreements and then sealing those with an alliance. He argued, on the basis of the territorial explanation of war, that these territorial settlement treaties, since they resolve territorial disputes, will be followed by peaceful relations. Although there are only a few such alliances, he found that they are overwhelmingly followed by peace (Gibler 1996; see also 1997a). Conversely, he found that alliances composed of major states that are dissatisfied with the status quo and have been successful in their last major war have a much higher probability of going to war than those that lack these attributes. Maoz (2000b) also maintained that different types of alliances have different effects. He agreed with Gibler that if major states are in an alliance this has an impact, but for him what made the major difference is whether the alliance is composed of democratic or nondemocratic states. Depending on the politically relevant environment of states, alliances consisting of democratic states have patterns of behavior different from those consisting of nondemocratic states.

A number of empirical and theoretical studies have been conducted that look at how alliances expand war. Siverson and King (1979) documented, early on, the tendency of alliances to expand war, and they have investigated the type of attributes in an alliance associated with expansion (1980). Siverson and Starr (1991) replicated and extended this finding. Bueno de Mesquita (1978) found that when alliances tighten, this is associated with the subsequent expansion of war. Sabrosky (1985) also used the alliance data to do important studies on polarization and the

expansion of war. A number of other studies also looked at how polarity affects the expansion of war (e.g., Wayman 1984; Levy 1985).

Several studies have suggested that alliances and military buildups are foreign policy practices that are substitutable for one another. Most and Starr (1984) were among the first to suggest this, although elements can be found in Waltz (1979) who referred to this as external and internal balancing. Most and Siverson (1987) provided an early test of the claim, while Morrow (1993) looked at the dynamic in more detail. Palmer, Wohlander, and Morgan (2002), as well as Morgan and Palmer (n.d.), developed a "two-good" model of foreign policy that assesses the general trade-off between change and maintenance-seeking behavior. One of the specific policies examined through this substitution approach is the decision to enter into alliances, compared to other substitutable policy options, as a means of achieving foreign policy goals (see also Morrow 1991, 2000).

In the remainder of this chapter, we continue to build upon the initial work of Singer and Small (1966b) that has been so influential over the past thirty-eight years. We do this by examining some of the specific conditions under which alliances are associated with the outbreak of war, with our main focus directed at the contingent role of territorial disputes. Very little research has been conducted on how alliances might play a role in the escalation of territorial disputes. We argue on the basis of the steps-to-war explanation (Vasquez 1993; Senese and Vasquez 2003) that alliances are most apt to be associated with war when states that are contending over territorial questions have militarized disputes and have outside allies that presumably can be relied on to support them in these disputes. We specify and test a hypothesis that maintains that outside alliances among states that are disputing territory increase the probability of war. We are particularly interested in determining whether there is a statistical interaction between territorial disputes and the presence of outside allies that produces an increased probability of war.

## THEORETICAL ANALYSIS

The territorial explanation of conflict and war outlined in Vasquez (1993, chap. 4) and Senese and Vasquez (2003) maintains that territorial disputes typically have a higher probability of escalating to war than expected by chance and in comparison to other types of disputes, such as disputes over general foreign policy or regime questions. Several pieces of evidence have been adduced to document this pattern (Hensel 1996, 2000; Huth 1996a, 1996b, 2000; Senese 1996, 2002; Senese and Vasquez 2003; Vasquez 1993; Vasquez and Henehan 2001). The reason

territorial disputes are more war prone undoubtedly has something to do with human inheritance of a sense of territoriality, which in vertebrates generally involves the use of aggressive displays to keep and gain territory (see Valzelli 1981). Such biological factors are treated as exogenous by the explanation; rather the emphasis is on the political implications of territoriality (Vasquez 1993, chap. 4). These include a division of the world into territorial units, the tendency of neighbors to fight over borders, and the greater willingness to incur fatalities over territorial disputes than other disputes—which in turn may be related to the creation of hard-line domestic constituencies that keep territorial issues at the forefront of a state's political agenda, especially if these involve territorial ethnic questions (see Huth 1996b; Roy 1997). Since this explanation has been detailed elsewhere (Vasquez 1993, chap. 4), suffice it to say here that territoriality and its political consequences are seen as making territorial issues more prone to war, if they are handled in a certain fashion. The explanation does not maintain as some determinists do (e.g., Ardrey 1966) that territory always gives rise to war. Instead, it maintains that these issues give rise to war only if they are handled in a particular fashion; indeed, many territorial disagreements are resolved without states going to war (Kacowicz 1994; Kocs 1995; Hensel 2001a; Zacher 2001; see also Simmons 1999).

The territorial explanation of war maintains that if territorial disputes are handled in a power politics fashion the probability of escalation to war will increase. Realist diplomatic culture, which has dominated international relations in the West since 1648, provides a variety of foreign policy practices for decision makers. Key within this discourse is the idea that as security issues arise, states should increase their power by making alliances and/or building up their military (Vasquez 1993, chap. 5). The steps-to-war model maintains that such actions often increase the probability of war because they produce a security dilemma that leads each state to feel more threatened and more hostile toward the other side. Adopting one or more of these practices leads to a repetition of disputes and an increased level of escalation across disputes (see Leng 1983; Brecher and Wilkenfeld 1997, 826–28, 837–38, for some evidence on this proposition).

This analysis will examine the impact of alliance formation on the probability of war breaking out among states that have territorial disputes with one another. It is posited that states that dispute territory have a higher probability of going to war with each other than states that have other kinds of disputes. It is further posited that if a state with a territorial dispute makes an alliance with an outside party that can be used to aid it in its territorial dispute, this will increase the probability

of war. In this sense, having a territorial dispute can be considered a first step to war, because it increases the probability of war, and making or having an alliance relevant to the dispute can be considered a second step to war, because it further increases the probability of war. This analysis will test the proposition that dyads with territorial disputes where one or both sides have an outside alliance partner will experience an increased probability of going to war compared to (1) dyads that contend over territorial disputes but do not have an outside alliance or (2) dyads that contend over policy or regime disputes and have an outside alliance (or have no alliance). This proposition assumes that certain types of alliances do not have any "deterrent" effect; instead, they increase the probability of war.[1] The alliances that are most dangerous are those that increase threat perception and thereby often provoke a hostile response (Gibler and Vasquez 1998; Gibler 1997b, 2000; Walker 2000).

We approach the testing of our core proposition through the use of both additive and multiplicative modeling techniques. Before specifying how these propositions will be tested, however, it is important to elaborate the various ways in which alliances might affect the probability of war between two states that are contending with each other by resorting to the threat or use of force. Generally, it is believed that states that are allied to each other should have a lower probability of fighting each other, even if they have a dispute, than states that are not allied to each other (see Bremer 1992, 2000). The reasons given for this expectation may vary, but one logic is that states within the same alliance may want to mute their dispute because of a fear of a third party that is seen as more threatening to both parties than they are to each other. If this were not the case, then they might not make the alliance in the first place. Huth (1996b, 119–22) provides some evidence to indicate that the rise of a dispute with a third party can reduce the probability of escalation and war between parties that have an ongoing disagreement over territory. Such a logic, however, assumes that these states are in a bilateral alliance where they have actually chosen to ally with each other even in the presence of a territorial dispute. It might be the case that the dispute arises after the alliance forms or that they are rivals who find themselves in a large multilateral alliance (e.g., Greece and Turkey in NATO). In such a case, a different logic might be operating. Rather than an external threat reducing the probability of war, the multilateral alliance itself may have a muting effect on conflict by providing an incentive to other allies to mediate or otherwise limit the conflict potential of the dispute in order to keep the alliance together. From these two logics, it is plausible to expect that states allied to each other (that also have a dispute

with one another) should have a lower probability of war than states that have disputes with one another, but are not allied to each other.

This expectation is contrary to the finding that allies often fight each other—the so-called friends-as-foes hypothesis (Bueno de Mesquita 1981, 73–83, 159–64). Bueno de Mesquita, on the basis of an expected utility argument, predicts that states that are allied to each other have a greater probability of fighting one another. Ray (1990) raises questions about these findings, but while his research design reduces the strength of the findings, he too finds a statistically significant relationship. Others, however, have rejected this finding, seeing it as a function of the contiguity of states; namely, that contiguous states have a comparatively greater propensity to both fight and ally with each other (see Ray 2000, 300; see also Maoz and Russett 1992; Bremer 1992).

While contiguity may have an impact on the friends-as-foes hypothesis, to dismiss this finding merely as spurious and therefore theoretically uninteresting may be too quick. Schroeder (1976) points out that states frequently use the practice of alliance making to try to control their rivals (such alliances are called *pacta de contrahendo*). These alliances might very well break down and lead to war, compared to the more straightforward defense pacts that are the exemplar alliance in realist thinking. Similarly, nonaggression pacts deviate from the theoretical expectation that allies will not fight each other. Since these partners are often rivals, if not enemies, they may be engaged in a pact of expediency, which can break down at any moment, as witnessed by the Hitler-Stalin Pact. Of the various alliance types in Correlates of War data, Sabrosky (1980) finds that nonaggression pacts are most apt to have "unreliable" allies, that is, those who end up in war with one another or not aiding their ally if it is attacked.[2]

These two contradictory theoretical streams raise a problem of how alliance pacts should be ranked in terms of their propensity for war, as well as posing an empirical puzzle. The steps-to-war explanation maintains that alliance formation that follows a realist logic of trying to aggregate power (thereby preventing an attack by building peace through strength) will in fact fail, even if it succeeds in "balancing power." Alliances that pose threats are seen as increasing the probability of war by giving rise to a cycle of increasingly hostile interactions. Conversely, alliances that do not pose threats and do not follow a realist logic of trying to balance power may not have such consequences. Alliances that seek to manage relations or create a security regime or system of governance among major states are alliances of a different sort (see Schroeder 1976; Kegley and Raymond 1986; Vasquez 1993, 170–71). The alliance system growing up around the Congress of Vienna is an example of such

an alliance. A related example is the territorial settlement treaty, identified by Gibler (1996) as an alliance that does not seek to balance power and counter threat but instead to resolve territorial disagreements among two states. Gibler finds that such alliances are rarely followed by a politically relevant war. In this analysis it will be posited, theoretically, that alliances that do not pose threats will not be prone to war, but those that do pose such threats will be prone to war. Therefore, only certain types of alliances are expected to increase the probability of war, a conclusion that is consistent with what is known about the relationship between alliance formation and the onset of war; namely, that certain types of alliances are followed by war but that others are not (Gibler 1997b, 2000; Maoz 2000b, 2003).

A second conceptual problem with specifying the relationship between alliance formation and the onset of war is that not every alliance is relevant to every dispute or war an ally might be involved in. If a state has an alliance with a state that only commits it to fight in a circumscribed set of conditions these conditions may not be relevant to a situation that arises in another region or issue area. Leeds, Long, and Mitchell (2000) begin to address this problem in their data collection, but the problem may be more severe than they suggest. For example, Britain and Portugal signed an alliance in the nineteenth century dealing with the colonial situation in Africa. Such an alliance is not relevant to British actions outside Africa. It does not help Britain in Asia or in Latin America, nor would any of the principal states at the time expect it to. Yet a typical analysis of dyadic militarized disputes might simply ask if Britain had a formal ally while it was involved in a dispute. Active countries, like Britain and the United States, would be classified as having an ally for many of the years between 1816 and 1992, but many of these alliance commitments would not be relevant to the dispute at hand.

The research design that we propose and carry out here is designed, in part, to separate out the impacts of various types of alliance scenarios by focusing on their relevance to the dispute at hand. The causal logic of realism purports that states make alliances in order to increase their power and help balance the power of opponents, which under some versions of realism should lead to a reduction in the probability of war by increasing the risk that an attacker will lose the war. Such a logic could only be assumed to be at work *if* the alliance was politically relevant to the dispute at hand and seen that way by the participants. To test the relationship between alliance formation and war properly, it is necessary to have some idea of whether the alliances are relevant.

One solution is that provided by Leeds, Long, and Mitchell (2000). They confine relevant alliances to the legal commitments made by states

in their formal treaty. Their analysis has been pathbreaking in making data collection more closely attuned to diplomatic documents. Their data collection and analysis are very appropriate (indeed long overdue) for the question they are addressing—the reliability of alliances. For the kind of question we are addressing, however, such an operational rule can be overly legalistic; it ignores the more behavioral expectation that allied states usually have shared diplomatic concerns and a relationship that should not be constrained by a resort to legalistic nitpicking. True allies or friends will not resort to the legal conditions of their alliance when one is in danger but will allow the underlying political relationship to govern their decision. From a realist perspective they will do what is in their interest, which may or may not be what they are legally bound to do. From a nonrealist point of view (e.g., cognitive psychology or constructivism) their "interests" or preference ordering will be determined by a variety of factors and not just the distribution of capability.

This suggests that the underlying political relationship can often outweigh the legal technicalities when it comes to deciding whether to intervene in a war. To confine oneself to those technicalities may be to miss an important part of the historical record. This conclusion points out the need to develop a more behavioral measure of politically relevant alliances that could supplement the treaty-based measure of Leeds, Long, and Mitchell (2000); but that is no mean feat. The analysis herein will attempt to examine whether the presence of a politically relevant alliance increases the probability of war among states that have territorial disputes. More formally, the following hypothesis will be tested.

> HYPOTHESIS: **Dyadic disputes over territorial questions where one or both sides have outside politically relevant alliances have a greater probability of going to war than dyadic disputes over other questions (ceteris paribus) or territorial disputes in the absence of outside politically relevant alliances.**

The research design will outline how each of these concepts is operationalized and present a test design that will permit inferences to be made about the accuracy of the hypothesis.

### *Research Design*

To test the claim that alliances increase the probability of war among states that are contending over territorial disputes, it is necessary to compare the probability of war for states that are contending over ter-

ritorial disputes and have alliances with those that do not. Thus, one test is simply to see if states that dispute territory in the presence of outside alliances have a higher probability of going to war than states that do not have an alliance. Such an analysis tests an important aspect of the explanation, but not all of it, since the steps-to-war model also maintains that while territorial disputes are more apt to go to war than other types of disputes when they are handled by the practices of power politics, that power politics itself, regardless of the issue under question, can increase the probability of war. In principle, the steps-to-war model maintains that there are two separate roads to war—one beginning with territory and one beginning with power politics.

This raises the question of which has a greater impact on the probability of war—the presence of territorial disputes or the use of power politics. The theory assumes that once territorial issues are handled by the threat or use of force (i.e., once there is a militarized dispute), they will have a greater probability of going to war than other disputes handled by the threat or use of force. Likewise, additional resorts to the foreign policy practices of power politics will have this differential effect. This means that the increasing use of power politics raises the likelihood of all types of disputes going to war, but it has more of an impact on territorial disputes. It is also assumed that territorial disputes by their very nature will give rise to a greater use of power politics. Put another way, the explanation assumes an interaction effect between territorial disputes and the use of power politics. Not all these intricacies can be tested here, so the focus will be on comparing the relative impact of having an outside alliance on the probability of war in territorial disputes, on the one hand, and policy and regime disputes, on the other.

The clearest way to test this aspect of the explanation is to begin by examining the probability of war for territorial disputes compared to policy and regime disputes. Two recent studies have done this, and both have found, using various controls (Vasquez and Henehan 2001), as well as testing for selection effects (Senese and Vasquez 2003), that, in general, territorial disputes have a higher probability of going to war than policy or regime disputes. The question in this analysis is whether the probability of war for states engaged in territorial disputes will increase with the presence of certain types of politically relevant alliances. Two related questions are whether the same effect will be present for policy and regime disputes and, if so, whether territorial disputes will still have a higher probability of going to war than policy or regime disputes.

The sample for the analysis will be all dyadic militarized interstate disputes (MID 2.1 data) from 1816 through 1992. This sample is derived by taking the 2,034 MIDs in the data and breaking them down

into each pair of states in the dispute. This increases the number of cases to 3,045 disputes.[3] The most pronounced effect of this procedure is to place more weight on multiparty disputes, particularly those related to the two world wars. This procedure, however, probably increases the validity of the data because otherwise the onset of each of these wars would have the same weight as a simple tuna boat chase.

### *The Dependent and Independent Variables*

The dependent variable in the analysis will be whether any given MID involving two or more states escalates to war. This approach presents a rather severe test because it sees the outbreak of war as a process with the probability of war increasing as disputes recur, and the dependent variable we employ looks only at whether the current MID escalates. Specifically from the theory's perspective, it is unlikely that the first dispute over territory will go to war, especially for major states, which tend to have a long fuse. This supposition is consistent with what is known about crisis escalation (see Leng 1983). Because this is often the case, early territorial disputes between the same pairs of states that do not go to war will count as evidence against the hypothesis, even if the two states eventually go to war within a reasonable time frame. The current test, therefore, may very well underestimate the strength of the explanation. In other analyses (Senese and Vasquez 2001), our dependent variable has been whether the current MID *and any within five years* go to war. This dependent variable produces results similar to those here for the entire period, but (as would be expected) with much higher probabilities of war.

The two major independent variables in our tests will be the type of dispute and the type of politically relevant alliance. For the first variable, we will employ the revision type variable in the MID 2.1 data of the Correlates of War Project. This variable classifies actors involved in militarized disputes from 1816 through 1992 in terms of revisionist and nonrevisionist states. The revision the former is trying to bring about by its resort to force is then classified in terms of whether it is over territory, a general foreign policy question, the regime of its opponent, or some "other" miscellaneous question (Jones, Bremer, and Singer 1996, 178). We will report the findings on "other" disputes, but not place great emphasis on them because they tend to mirror territorial disputes. This is not an accident: a previous analysis of these disputes reveals that although they are coded correctly, 3 of the 4 "other" disputes that go to war (out of the 32 disputes for which there are complete data) have an underlying territorial element (for a detailed analysis and discussion

of these cases, see Vasquez and Henehan 2001, 127–33, esp. footnotes 9, 15).

For the second variable, we are generating a new measure based on the Correlates of War alliance data that determines for any given case whether the alliance ties of each disputant are politically relevant to any dispute that might occur between them. Simply put, an alliance with a major state is always relevant because it is assumed that a major state is able to project its capability beyond its own region.[4] An alliance with a minor state, however, is only seen as relevant if the alliance partner is in the same region as the target in the dyad, because it is assumed that an ally that is a minor state cannot easily project its capability beyond the region in which it is located and/or that it may not be inclined to do so. A hypothetical example may make this rule clearer: if the United States and Brazil are in a dispute and the United States has an alliance with Argentina then that alliance is relevant, since Brazil (the target in the dyad) is in the same region as the United States' ally. If Brazil has an alliance with Portugal this is not relevant, because Portugal is a minor state and is not in the same region as either Brazil or the United States. However, if Brazil had an alliance with the USSR, the latter would be relevant because the USSR is a major state. In order to make this determination, first side B is treated as the target and the relevant alliances for it are computed, and then side A is treated as the target and its relevant alliances are computed. Regions are determined by the state membership list of the Correlates of War Project with a couple of emendations to include some states in more than one region.[5]

More formally, an alliance is classified as politically relevant to a specific dispute if any of the following conditions are met.

1. If the state in question is a minor state, then any alliance it has with a major state is relevant.
2. If the state in question is a minor state, then any alliance it has with another minor state is relevant, if that minor state is in the same region as the target in the dyad. This has the effect of dropping those minor states as politically relevant allies if they are not in the region of the target of the dyad, which might happen in a large multilateral alliance.
3. If the state in question is a major state, then any alliance it has with a major state is relevant.
4. If the state in question is a major state, then any alliance it has with a minor state is only relevant if that minor state is in the same region as the target in the dyad.

Once the data on the politically relevant alliance measure were collected, then each dyadic MID was coded on the basis of:

0. Both states in the dyad are allied to each other and have no allies outside the alliance of which they are joint members
1. No [politically relevant] alliance in the dyad
2. One side has an outside alliance
3. Both sides have an outside alliance
4. Any combination of 0 and (2 or 3).

Except for category 4, this ranking is also a theoretically informed ranking of the probability of war. Given the theoretical discussion in the previous section, it was predicted that states that are allied to each other, but have no outside alliances, should not pose a threat to each other, all other factors being equal, and therefore should have the lowest probability of war. Conversely, states that are not allied to each other should have a higher probability of war, all other factors being equal. On the basis of this assumption, dyads without a politically relevant alliance would be ranked second. For all the reasons outlined earlier, a considerably higher probability of war is assumed to occur if one side has an outside alliance. Lastly, if both sides have an outside politically relevant alliance, this is assumed to have the highest probability of going to war, because each side is threatened by the other.

Category four was originally included to make the classification mutually exclusive, in a manner that would identify states that were allied with each other and that also had an outside alliance. It was felt that states that fell into this category might be of a different sort than those that were only allied to each other. States that also had an outside alliance might be states that were not really friends but foes that were using the practice of alliance making to control their rival. Having an outside alliance while being allied to a state might be seen as hedging one's bet, and also as a possible indicator of this complex phenomenon without having to make a judgment that the alliance was a *pacta de contrahendo*. Having developed this indicator, however, it was unclear on the basis of the theory where such dyads might rank in their probability of war. Obviously, it would be above 1, but how much above could not be logically derived.

In this analysis we have used the newly released Correlates of War alliance data (version 3) (Gibler and Sarkees 2002) in calculating all our alliance measures. In order to capture the correct theoretical sequence posited by the explanation, a politically relevant alliance must precede the territorial dispute; otherwise it could not be seen as in-

creasing the probability of war. Therefore, any alliances that came into effect after the first day or after a dispute concluded are dropped from the analysis of the given MID.

### *Measuring Interaction Effects*

Since the analysis is concerned with examining the effects of the specific values on the revision type and politically relevant alliance variables, each category of the two variables was broken down into dummy variables. Table 1 lists the frequencies across the groupings of the two categorical indicators. It can be seen from table 1 that the most frequent MIDs in the 1816–1992 period are policy disputes (1,310), followed by territorial disputes (964), and then after a very sharp drop, regime disputes (253). "Other" disputes, as a miscellaneous category, has just under 50 cases. What is of more theoretical interest is that only 212 of 964 cases that dispute territory do so in the absence of any alliance. Most territorial disputes (410) have one outside relevant alliance partner, and a good number, but fewer (187), face a situation where both sides have an outside relevant ally.

The main thrust of this analysis, however, is to see if there is an interaction effect between the presence of territorial MIDs and politically relevant alliances. The steps-to-war explanation maintains that these are separate steps to war and that taking one in the presence of the other increases significantly the probability of a militarized interstate dispute escalating to war. The combined effect could be of two types—additive or multiplicative. An additive model posits that each independently adds to the probability of a militarized interstate dispute escalating to war. A multiplicative model posits that only when both are present is there a great increase in the probability of war. The latter model sees the increase in the probability of war as contingent on the presence of both

**TABLE 1. Frequency Distribution for Revision Type and Politically Relevant Alliance Variables (COW alliance v3 data)**

| | Revision Type | | | | |
|---|---|---|---|---|---|
| Alliance Configuration | Territory | Policy | Regime | Other | Total |
| Only allied to each other | 59 | 15 | 9 | 5 | 88 |
| No alliances | 212 | 166 | 51 | 18 | 447 |
| One side has outside alliance | 410 | 605 | 82 | 12 | 1,109 |
| Both sides have outside alliances | 187 | 374 | 73 | 4 | 638 |
| Allied to each and one outside | 96 | 150 | 38 | 10 | 294 |
| Total | 964 | 1,310 | 253 | 49 | 2,576 |

variables. The peculiar combination of territorial disputes and the presence of outside alliances in a multiplicative model is seen as having a much more explosive effect than the independent effects of territorial MIDs and politically relevant alliances, and it therefore predicts that there would be a statistical interaction between the two variables. While the explanation suggests that there is an interaction effect between the two variables, a simpler additive model would still be consistent with the logic of the explanation, although it requires a slight reformulation of the explanation.

We will test for several different types of statistical interaction. The explanation itself posits that when one or both sides have outside allies there will be a greater probability of war, because an outside alliance increases threat perception and hostility between the contending parties. The effect of both sides having an outside alliance is seen as more dangerous because it is assumed that the situation is a result of one side making an alliance and the other responding with a counteralliance. The presence of a counteralliance, rather than reducing the probability of war through balancing, is seen as increasing threat perception, hostility, and insecurity, and thereby being an additional step to war. The explanation then would posit a possible statistical interaction with territorial MIDs and *two* of the dummy alliance variables—"one side having an outside ally" and "both sides having an outside ally" with the latter having a higher probability of escalating to war than the former.[6]

To test for statistical interaction, first a base model without any interaction terms will be examined. Then interactive models will be tested, inclusive of interaction terms between territory and one side or both sides having an outside alliance. Inclusion of these interaction variables allows us to assess the contingent nature of the alliance impact; namely, whether alliance configuration effects are stronger or weaker in the presence of a territorial dispute.

Logistic regression will be used to test the hypothesis, since the dependent variable is binary (no war, war) and the analysis wants to determine the relative effects of territory (etc.) while controlling for type of alliance. To determine the relative probability of war, simulated probabilities are calculated on the basis of the logit analysis. Given the theoretical model, using this maximum likelihood technique is more appropriate than a conventional correlation analysis, especially since the independent variables being examined are posited as only increasing the probability of war and not posing a sufficient condition for war (Vasquez 1993, 9, 155, 195–96; Senese and Vasquez 2003; Vasquez and Henehan 2001).

### *Controls*

In addition to the two independent variables of primary interest and the interaction terms, a control for historical period will be included in the logistic regression models. To see if the post-1945 (Cold War) era is fundamentally different from others, as several explanations of international politics suggest, we explicitly consider our expectations across the pre-1946 and post-1945 historical eras. Among the most prominent of these suggestions pointing to a need for care in generalizing across eras are those focusing on the role of nuclear weapons, the alliance structure and dynamics of the Cold War struggle, and the impact of the democratic peace. It behooves us, therefore, to examine whether the impact of territorial disputes and various alliance configurations differ for the 1816–1945 and 1946–92 periods. This approach allows us to assess any differences between the two subperiods and to compare them to findings derived from the full time span.

This research design is complicated enough so we have not tested for possible counterhypotheses by introducing further controls. One such counterhypothesis, based on a selection effect argument, maintains that the inference we make from the presence of outside alliances and the increased probability of territorial disputes going to war may be invalid because studying solely MIDs is a potentially biased sample. According to this criticism, the sample is biased because the cases in it are in there for a reason (i.e., they are not randomly selected). It is possible that the factors that make dyads have MIDs in the first place may also be the variables that increase the probability of war, and not those in the model that is being tested.[7] From this perspective some other factor(s) might be seen as producing both alliances and territorial MIDs that escalate to war, and therefore controlling for that factor(s) would wipe out the relationship we test. The most likely factor that might do this is the presence of a territorial claim (or disagreement) that has not yet given rise to a militarized interstate dispute. This explanation, which is embodied in Huth (1996b), would posit that territorial claims would create alliances and MIDs and war.

While such a hypothesis is logically possible, it is not the same as the steps-to-war explanation, which sees the actions that states take *after* they have territorial claims as crucial for their involvement in war. The steps-to-war explanation clearly states that it is not territorial issues that lead to war, but how they are handled (Vasquez 1993, 124). From our theoretical perspective it only makes sense to test for counterhypotheses, such as those based on possible selection effects or spurious inference, once the hypothesized relationship has been established.

This is especially the case if there are data availability problems for testing the counterhypothesis, and earlier empirical tests of parts of the selection effect counterhypothesis have shown that selection effects do not have an impact on the results. In terms of data availability, territorial claims are available only back to 1919 (see Huth and Allee 2002). Elsewhere, we (Senese and Vasquez 2003) have use these data to test whether territorial claims both give rise to MIDs and make territorial MIDs more likely to go to war, or whether (as posited by our theory) it is territorial MIDs (not claims per se) that increase the probability of war. We do this by conducting a Heckman two-stage analysis that controls for the effect of the first stage (the onset of a militarized interstate dispute) on the second stage (the escalation of MIDs to war). We find that the variables at the first stage do not substantively affect the results of the second stage (i.e., the signs and significance remain the same). Generally, the error terms are also not correlated (rho is not significant), and the one instance where it is can be attributed to omitted variables and not to the impact of territorial claims on the escalation of a militarized interstate dispute. These results mean that territorial MIDs have a higher probability of going to war than policy or regime disputes. They imply that the increased probability of going to war is a result of how territorial claims are handled once they become militarized and not a result of their mere presence between states. Further, they suggest that while comparing MIDs that escalate to war with those that do not might logically be prone to selection effects, empirically this is not the case with regard to territory and war. Given these previous results, we confine our tests here to the behavior of states once they have militarized disputes.

## THE FINDINGS

We begin our discussion by considering the additive influences of revision type and alliance relevance over the full time span. Table 2 presents logit analyses of the base model and permits a determination of whether each of the revision type and alliance dummy variables has a statistically significant impact on the probability of a dyadic MID involving a war, without looking at any possible interaction effects. The standard technique for estimating the impact of categorical independent variables is to select one grouping of the variable as a reference (or comparison) category. The other categories of that variable are then represented by dummy indicators. Policy MIDs (the modal category) and "no alliance" have been selected as the reference categories.

As the signs and significance levels of the coefficients show, territo-

rial, regime, and "other" disputes significantly increase the probability of a militarized interstate dispute going to war when compared to policy MIDs for the entire 1816–1992 period. These findings provide support for the steps-to-war model's expectation that territorial revision attempts will be significantly more war prone than revision attempts centered around policy disputes. A separate analysis (not reported in the table) shows that territorial disputes are also more likely to escalate to war than regime disputes.[8]

Table 2, column one, also presents the results for the impact of the various types of politically relevant alliances, compared to dyadic disputes where there are "no politically relevant alliances." We find, for the entire period, that only having "both sides with an outside politically relevant alliance" has a positive significant impact on the probability of the current MID escalating to war. For the other two outside alliance variables, there is no significant difference between the no alliance reference grouping and disputants that have either "one side with an outside alliance" or that are "allied to each other and at least one side has an outside alliance," during the full time period. The only alliance condition showing a clear pacifying effect on disputing states' tendency to wage war is when the two are formally allied to each other (and neither has an outside alliance), which is a perfect predictor of no war.

Taken together, these findings for the 1816–1992 span are partially

**TABLE 2. Logistic Regression Results: Territorial Disputes, Politically Relevant Alliances, and Escalation of a Current MID to War (reference category = policy revision, no alliance)**

| **Base Model** | | | |
|---|---|---|---|
| Variable | 1816–1992 | 1816–1945 | 1946–92 |
| Territorial revision | 1.781 (.123)*** | 1.745 (.158)*** | 2.537 (.294)*** |
| Regime/government revision | .471 (.219)** | −.045 (.401) | 1.928 (.358)*** |
| Other revision | 1.411 (.368)*** | 1.242 (.420)** | 1.418 (1.069) |
| Only allied to each other | Perfect predictor[a] | Perfect predictor | Perfect predictor |
| One side has outside alliance | .212 (.156) | .716 (.196)*** | .118 (.301) |
| Both sides have outside alliances | .440 (.173)**+ | 1.336 (.228)*** | −.309 (.345) |
| Allied to each and one outside | .012 (.209) | .555 (.271)** | .035 (.370) |
| Constant | −2.615 (.170)*** | −2.377 (.211)*** | −3.906 (.361)*** |
| Wald $\chi^2$ (df = 6) | 231.43*** | 134.98*** | 82.26*** |
| Pseudo-$R^2$ | .1038 | .1258 | .1439 |
| No. of observations | 2,488 | 1,115 | 1,373 |

*Note:* Entries are unstandardized parameter estimates; robust standard errors are in parentheses.
(COW alliance v3 data)
[a]Only allied to each other is a perfect predictor of no war.
*$p \leq .10$; **$p \leq .05$; **+$p = .011$; ***$p \leq .001$

in line with the expectations derived from the steps-to-war explanation. Territorial disputes are significantly related to conflict escalation, compared to policy disputes (the reference category); so too are regime disputes. In terms of the impact of the alliance variables, dyadic disputes where both sides have an outside alliance have a significant impact on the occurrence of war, which is a key prediction in the steps-to-war explanation. However, the other two conditions where outside alliances are present are not significantly related.

Lastly, being allied only to each other reduces the probability of war. This finding is tangential to the main hypothesis being tested in the analysis, but it does show that the friends-as-foes hypothesis does not apply to dyads that are allied only to each other. Hedging one's bet about the loyalty of a state one is allied with by making an alliance with another state can and does result in war in the right circumstances. If there are no hedges, however, then states that are truly allied only to each other can be expected to avoid war. From 1816 to 1992, this variable is a perfect predictor of no war,[9] which supports the more common notion in the literature that being allied to each other helps reduces the likelihood that a militarized interstate dispute between the two states will escalate to war (see Bremer 1992, 2000).

The tests in columns two and three control for historical era to see if there is a difference between the classic international politics 1816–1945 period and the nuclear Cold War post-1945 period. Across the two time periods there are some similarities, as well as some dissimilarities. As expected, territorial disputes are significantly more likely than policy disputes to escalate to war in each of the two historical eras. This is the most consistent finding. The same is true for "other" disputes during the full and pre–Cold War spans, which mirror territorial disputes. Interestingly, regime disputes are more likely to go to war than policy disputes only in the Cold War period. This certainly fits into a portrayal of this later period as one characterized by extreme ideological divides.

The next four rows in table 2, columns two and three, compare the various alliance classes to the reference category of no alliance. Here we see stark differences. In the 1816–1945 period, the alliance variables generally work as anticipated and are fully consistent with our theoretical expectations, unlike the findings for the full period. Having any outside ally has a significant impact on the likelihood that a given dyadic dispute will go to war compared to those dyadic disputes that do not have any politically relevant alliances. For the 1816–1945 span "only allied to each other" again reduces the chance of war. These findings support our hypothesis in that the two main independent variables,

"one side having an outside alliance" and "both sides having an outside alliance," are positively and significantly related to a given MID escalating to war.

When we turn to the post-1945 period things are quite different. Here, all the alliance variables except "allied only to each other" (which is a perfect predictor of no war) are statistically insignificant. These results reveal important deviations from our expectations about the role of alliance. They suggest that in terms of alliance behavior the steps-to-war explanation best fits the classic international politics period of 1816–1945, and the nuclear Cold War period is an anomaly. Territorial disputes, however, remain more war prone than policy disputes. As a whole, the results in table 2 support the territorial explanation of war and show that in the earlier period there is at least an additive effect for the combination of territorial disputes and having any outside alliance. Before reaching any final conclusions, however, we turn to an examination of potential statistical interactions between states that have territorial disputes and an outside politically relevant alliance.

Table 3 presents the main results on the tests for statistical interaction for each of the three time periods. We have tested several different

**TABLE 3. Logistic Regression Results: Interaction Test for Territorial Disputes, Politically Relevant Alliances and Escalation of a Current MID to War (reference category = policy revision, no alliance)**

| **Interaction Model** | | | |
|---|---|---|---|
| Variable | 1816–1992 | 1816–1945 | 1946–92 |
| Territorial revision | 1.573 (.163)*** | 1.182 (.196)*** | 2.814 (.386)*** |
| Regime/government revision | .437 (.222)** | −.192 (.402) | 1.968 (.362)*** |
| Other revision | 1.356 (.367)*** | 1.098 (.406)** | 1.510 (1.079) |
| Only allied to each other | Perfect predictor[a] | Perfect predictor | Perfect predictor |
| One side has outside alliance | −.093 (.225) | −.073 (.272) | .475 (.411) |
| Both sides have outside alliances | .397 (.171)** | 1.160 (.211)*** | −.289 (.347) |
| Allied to each and one outside | −.015 (.207) | .498 (.260)*+ | .061 (.373) |
| One side has outside alliance × Territorial revision | .457 (.232)** | 1.310 (.306)*** | −.493 (.421) |
| Constant | −2.465 (.184)*** | −1.972 (.212)*** | −4.113 (.404)*** |
| Wald $\chi^2$ (df = 7) | 232.32*** | 155.85*** | 78.89*** |
| Pseudo-$R^2$ | .1055 | .1397 | .1455 |
| No. of observations | 2,488 | 1,115 | 1,373 |

*Note:* Entries are unstandardized parameter estimates; robust standard errors are in parentheses.
(COW alliance v3 data)
[a]Only allied to each other is a perfect predictor of no war.
*$p \leq .10$; *+$p = .056$; **$p \leq .05$; ***$p \leq .001$

interaction models and find the most consistent to be that which includes the single interaction term of territorial MID and "one outside alliance," and only this model is reported in table 3. This model shows that there is a statistical interaction between disputing territory and having one side with an outside alliance and the likelihood that the MID will go to war. This holds for the 1816–1992 period as a whole and for 1816–1945, where the findings are particularly robust. They do not hold, however, for the post-1945 Cold War period.

These findings show that when states contend over territory and one side has an outside alliance this increases the probability of the current MID escalating to war. This interaction effect is peculiar to the presence of territorial disputes and having one side with an outside alliance. This can be seen by the interaction term wiping out the significant relationship between one side having an outside alliance and escalation to war (which was significant in table 2 for 1816–1945 at $p < .001$, but is not in table 3).

Table 3 also shows that when both sides have an outside alliance in the presence of any dispute or when they are allied to each other and also have an outside alliance there is a significant likelihood of war for only the 1816–1945 period. As will be seen later, the effect of both sides having an outside alliance when the parties are contending over territory has a probability of going to war as much as when one side has an outside alliance, but the effect for "both sides" is better seen as additive rather than multiplicative.[10]

These findings provide support for the steps-to-war explanation and show that the effects of having outside allies while contending on territorial disputes significantly increase the likelihood of war during the 1816–1945 period. While this relationship is generally additive, there is a multiplicative effect between contending on territory and one side having an outside ally. The latter findings show that it is not just territorial MIDs and "one or both sides having an outside alliance" that independently increase the likelihood of war, but it is also the peculiar combination of territorial MIDs and "one side having an outside alliance." On the basis of the second column in table 3, we can tentatively conclude that there is a statistical interaction between contending on territorial questions and the escalation to war when one side has outside allies during the 1816–1945 period. This means that for the 1816–1945 period dyads that dispute territory while one side has an outside politically relevant alliance can expect to see an explosive (multiplicative) effect on the probability of war. This evidence is consistent with our expectations and the steps-to-war explanation.

Table 3 tells a different story for the post-1945 period. Here, none

of the alliance variables, including the interaction term of territorial disputes and "one side having an outside alliance" is statistically significant. In terms of the impact of "outside allies" on escalation to war, the Cold War period deviates from the theoretical expectations of the steps-to-war explanation. Despite these alliance deviations for the Cold War period, it is important to point out that the territorial effect is still quite significant during this span. Compared to policy disputes, territorial disputes (as well as regime and other disputes) are more likely to escalate to war. Likewise, dyads where the states are allied only to each other never have a war in any of the periods under study.

The findings in table 3 for outside alliances are quite clear; they appear to be very meaningful predictors of war for the 1816–1945 period, while imparting no meaningful effect after World War II. In the earlier period, when dyads have an outside alliance this significantly increases the likelihood of war when states are contending over territory. The exact nature of these effects is more appropriately discussed later through presentation of simulated probabilities of war under the varying conditions. It will suffice to say for now, however, that a dyad's alliances while contending on territorial questions do provide purposeful clues to its propensities to engage in more intense conflict from 1816 through 1945. After that they do not.

While these logit analyses reported in tables 2 and 3 reveal the general direction and statistical significance attached to the relationships of interest, they do not provide a measure of the strength of the relationship, nor what is of central interest—a substantive idea of how the probability of war might vary for the 1816–1945 and 1946–92 eras. To address these questions, it is necessary to estimate simulated probabilities for each of the combinations of categories associated with the revision type and alliance indicators across each of the temporal subperiods. This is done in table 4, which lays out the simulated probabilities of MIDs escalating to war depending on whether they are disputing territorial, policy, regime, or "other" questions in either the 1816–1992, 1816–1945, or 1946–1992 periods. The simulated probabilities are derived from the interaction models reported in table 3.[11] Table 4 examines the entire 1816–1992 period, with breakdowns for the 1816–1945 period and the post–1945 era. Column one in tables 4A, 4B, and 4C provides information about how likely war is when states dispute territory under varying conditions of alliance formation. The second row in each table can be used as a benchmark for comparison. It shows the probability for war occurring when there are no politically relevant alliances present in the dyad. The overall base probability of war for each sample is shown at the top of the table.[12] For dyads that are involved

**TABLE 4. Simulated Probabilities of the Current Dyadic MID Escalating to War with One Interaction Term Included: Territory and One Side with an Outside Ally and All Other Dummy Variables**

| Alliance Configuration | Revision Type: Territory | Policy | Regime/Government | Other |
|---|---|---|---|---|
| **A.** Interaction Territory—One Side Outside Ally and Dummy Variables, 1816–1992; Base Probability = 464/2,488 = .186 | | | | |
| Only allied to each other | PERFECT—NO WAR | PERFECT—NO WAR | PERFECT—NO WAR | PERFECT—NO WAR |
| No alliances | .292 | .079 | .119 | .257 |
| One side has outside alliance | .371 | .072 | .109 | .239 |
| Both sides have outside alliances | .379 | .113 | .166 | .337 |
| Allied to each and one outside | .288 | .079 | .117 | .254 |
| **B.** Interaction Territory—One Side Outside Ally and Dummy Variables, 1816–1945; Base Probability = 335/1,115 = .300 | | | | |
| Only allied to each other | PERFECT—NO WAR | PERFECT—NO WAR | PERFECT—NO WAR | PERFECT—NO WAR |
| No alliances | .312 | .124 | .109 | .299 |
| One side has outside alliance | .609 | .115 | .102 | .284 |
| Both sides have outside alliances | .593 | .311 | .276 | .569 |
| Allied to each and one outside | .427 | .188 | .166 | .409 |
| **C.** Interaction Territory—One Side Outside Ally and Dummy Variables, 1946–92; Base Probability = 129/1,373 = .094 | | | | |
| Only allied to each other | PERFECT—NO WAR | PERFECT—NO WAR | PERFECT—NO WAR | PERFECT—NO WAR |
| No alliances | .220 | .017 | .109 | .099 |
| One side has outside alliance | .212 | .027 | .162 | .142 |
| Both sides have outside alliances | .170 | .013 | .082 | .077 |
| Allied to each and one outside | .230 | .019 | .115 | .106 |

*Note:* These simulated probabilities are derived from the interaction model estimates provided in table 3; alliances must be in effect on the first day of the dispute to be counted (COW alliance v3 data).

in territorial disputes (from 1816 to 1992) but have no politically relevant alliance, the simulated probability of going to war is .292 (table 4A, column 1, row 2). If they have a politically relevant alliance of any kind, the probability of war breaking out increases substantially—to .371 if one side has an outside alliance and to .379 if both sides have an outside alliance. These are the highest probabilities of war occurring for the entire period, which is consistent with the predictions of the steps-to-war explanation in that having one or both sides with an outside alliance has a significantly higher probability of going to war than disputing territory in the absence of alliances.[13]

Two other findings relevant to the hypothesis being tested can be gleaned from table 4A. First, for policy and regime disputes, the presence of any outside alliance does not significantly increase the probability of war over disputing these issues in the absence of alliances, even though when states have both sides with outside alliances there is, technically, a higher probability of war. This suggests, contrary to our hypothesis, that the use of power politics (at least in terms of having an outside ally that presumably supports or aids a state) has no or little effect on the probability of a nonterritorial dispute escalating to war. This conclusion is not contradicted by the findings on the few "other" MIDs, since these, as noted earlier, have a territorial component.

Second, it is clear from the simulated probabilities that territorial disputes are consistently more likely to escalate to war than nonterritorial disputes. As our hypothesis predicted, territorial disputes always have higher probabilities of going to war than policy or regime disputes. Further evidence that territorial disputes are more war prone can be derived by comparing the probabilities for territorial disputes in column A with the overall base probability of war for the sample—.186—listed at the top of the table. Here, we see that even where two states dispute territory without alliances the probability of escalation to war is .292, which is higher than the base probability. Also noteworthy is that the probability of policy or regime MIDs going to war in the absence of alliances is below the base probability (.079 and .119, respectively).

Table 4B presents the findings for the 1816–1945 period. The breakdown of the sample into two periods results in the simulated probabilities for the first period going way up. This is especially the case for territorial disputes in the presence of outside politically relevant alliances. In table 4A (for the entire period) dyads that dispute territory and have one outside alliance have a probability of going to war of .371, but in the 1816–1945 period this increases to .609. Similarly, dyads that dispute territory when both sides have an outside alliance have a probability of going to war for the entire period of .379, but in the 1816–1945

period this increases to .593. This appears to be a function of the combined effect between territorial disputes and having outside allies. Note that the probability of war without any alliances does not substantially increase between the entire period and the 1816–1945 period, .292 and .312, respectively.

The evidence in columns two and three in table 4B also provides considerable support for the claim that territorial disputes are more war prone than policy or regime disputes. The probabilities in both these columns are much lower than those in the territory column. For instance, dyads contending over policy or regime disputes where both sides possess an outside politically relevant alliance have a simulated probability of escalating to war of .311 and .276, respectively; but dyads that contend over territorial disputes in which both sides have an outside alliance have a probability of .593. A comparison with the overall base probability of war for the 1816–1945 period—.300—shows that territorial MIDs have a significantly higher probability of war when any of the three outside alliance types are present (.609, .593, .427, respectively). In addition, policy and regime disputes generally have a probability of war lower than the overall base probability with the exception of "both sides having an outside alliance" (which is in the same range as the base probability).

The probabilities in table 4B on the use of power politics, in terms of having a politically relevant alliance while contending on policy or regime questions, are more complicated than those in table 4A. When both sides have outside alliances there is an increase in the probability of war compared to when policy or regime questions are disputed in the absence of alliances (.311 vs. .124 for policy disputes and .276 vs. 109 for regime disputes). When only one side has an outside alliance there is no significant effect of having an outside alliance. This pattern is partially consistent with what is predicted by the steps-to-war explanation in that both sides having an outside alliance is more war prone than just having one side with an outside alliance.[14] The findings on policy and regime disputes suggest that the use of certain alliance configurations does increase the probability of war. However, it is clear, given the lower simulated probabilities for policy and regime disputes, that the presence of outside alliances on both sides is not as dangerous as when used with territorial disputes.[15]

The evidence in tables 4A and 4B provides considerable support for both the territorial explanation of war and the steps-to-war model. The evidence is very consistent with the hypothesis that territorial disputes are more war prone than policy or regime disputes and that their probability of going to war will increase if one or both sides have an outside

politically relevant alliance. Anywhere from 37 to 61 percent of these cases can be expected to go to war. The evidence also shows that the use of power politics practices, at least in terms of the presence of outside alliances, increases the probability of war when territorial disputes are under contention; when policy or regime disputes are under contention the use of power politics has this effect only when both sides have outside alliances. All of these findings are stronger for the 1816–1945 period than for the entire period, which means that they can be expected to be weaker for the post-1945 period.

Table 4C presents the findings for the post-1945 Cold War period (1946–92). The most obvious difference between this period and the rest of the sample is that the probability of war is much lower. The highest probabilities for this period are .230 (territorial disputes in the presence of being allied to each other and also having an outside alliance) compared to .609 in table 4B.[16] This finding is consistent with the absence of a major world war in the post-1945 span compared to two world wars in the earlier period. Nevertheless, for a period of intense conflict and the Korean and Vietnam Wars, the shift in the probability of war across all types of disputes is stark and underlines the comparative reduction in the amount of war.

The major difference from the 1816–1945 period in terms of our expectations is that in the post-1945 period having one side or both sides with outside alliances while contending on territorial disputes has comparatively the same probability of going to war as having no alliances while contending on territorial disputes (.212 and .170 vs. .220, respectively),[17] which is in line with the nonsignificant logit coefficients in table 3, column three. A similar pattern holds when policy and regime disputes are examined and *both* sides have an outside alliance. However, having *one* side with an outside alliance does have a slightly higher probability of war, although these probabilities are not quite significant in that they fall within the upper 90 percent confidence interval (the upper limit of no alliance: .031 and .172 for policy and regime disputes respectively).

Lastly, while there are differences between the two periods, there are certain fundamental patterns that remain despite the sharp decline in the probability of war. One of the most persistent patterns, of course, which is revealed in table 4C, is that territorial disputes always have a much higher probability of going to war than policy or regime disputes. This is true comparing the probabilities within table 4C, as well as comparing these probabilities with the overall .094 base probability for the sample. A key pattern to note when examining the overall base probability is that, overall, regime disputes are comparatively more war

prone in the relatively "peaceful" Cold War period (compared to territorial and policy disputes) than regime disputes in the more war-prone 1816–1945 period. For example, the probability of regime disputes where one side has an outside ally going to war is .162 in a period with an overall base probability of war of only .094.

Nevertheless, the generally lower probabilities of war suggest that the post-1945 period is different. Whether this is a result of the presence of nuclear weapons, the complicated structure of Cold War alliances and informal alignments, the spread of joint democratic pairs, the decline of territorial disputes, or some other variable will need further study. What seems likely, however, is that changes in the effects of some of the alliance variables may be unique to the Cold War period, a period in which the strongest states avoid war despite intense rivalry and elaborate polarizing alliances.

Separating by historical era makes it clear that the overall findings for 1816–1992 in table 3 are being driven by the earlier 1816–1945 period. The simulated probabilities make it clear that the post-1945 period is quite different from the long post-Napoleonic span that precedes it, in terms of the probability of war and the role played by politically relevant alliances, but not that played by territorial disputes. In the classic international politics period of 1816 through 1945, the effects of territorial disputes and politically relevant alliances follow the pattern predicted by the steps-to-war theoretical explanation (Vasquez 1993; Senese and Vasquez 2003). This pattern changes somewhat after 1945, especially for dyads where only one side has an outside alliance. Various theories have offered explanations as to why this period is different. Suffice it to say here that this analysis has established that it is different.

Still, it is important to remember that at least one fundamental pattern remains unchanged in the 1946–92 period and remains consistent with the steps-to-war explanation. The war proneness of territorial disputes is not affected by this system shift; only the interaction between territory and the "one outside alliance" variable is greatly affected, going from a significant positive relationship with escalation to war to a random relationship.

## CONCLUSION

The findings in the preceding analysis provide theoretically significant information on the change in the probability of war breaking out depending on whether a dyadic dispute is over territory, policy, or regime questions and whether the contenders involved have an outside alliance. For instance, in the 1816–1945 period when states contending

over territory have a militarized dispute and do *not* have any politically relevant alliance, the simulated probability of their going to war is .312. If one side in the dyad has an outside politically relevant alliance, the simulated probability shoots up to .609 and if both sides in the dyad have an outside alliance, the simulated probability of war is .593.

These findings provide significant support for both the territorial explanation of war and the steps-to-war model. The analysis shows that territorial disputes have a significant impact on the probability of war and that the probability of war increases if one or both sides have outside politically relevant alliances when contending over territory. There is a statistical interaction indicating a multiplicative effect between contending over territory and having one side with an outside alliance. When both sides have an outside alliance this still increases the probability of war, but the effect is additive. The classic 1816–1945 period can be seen as the natural domain for the steps-to-war explanation, and all aspects of our hypothesis fail to be falsified by our tests.

For the post-1945 period the overall probability of war goes down, and only some of the preceding patterns hold. Territorial disputes are still the most likely to result in war, even though their absolute probability of escalating is lower. In this sense, the territorial explanation of war fits this period and the previous one, and this part of our hypothesis is consistently supported by the evidence. The theoretical expectation derived from the steps-to-war explanation that having outside alliances while contending over territory would further increase the probability of war does not hold after 1945. The alliance predictions of our hypothesis have to be rejected for this period. This means that the steps-to-war explanation is less applicable to this era. More research is necessary to see if the presence of nuclear weapons (see Sample 2000) or the Cold War alliance system may be responsible for this change in the impact of alliances and whether dyads without nuclear weapons or the Cold War alliance structure behave more like dyads in the pre-nuclear era.

Overall, the findings reported in this chapter are quite promising for the theoretical approach outlined in Vasquez (1993) and Senese and Vasquez (2003). They fit the classic international politics period (1816–1945) quite strongly. The post-1945 period is more anomalous with regard to alliances, although the results show that even in this period the territorial explanation of war holds. The differences in the two periods make it clear that historical era is potentially important, even though some of the fundamentals in terms of territory will remain. This underlines the importance of controlling for time in studies of conflict dynamics, as aspects of the Cold War period appear to be truly different

from the 1816 to 1945 era. This has a host of implications for data analysis: One should never fail to control for the post-1945 period, and one should never look just at the post-1945 period if one wants to generalize about the fundamentals of world politics.

## NOTES

*Authors' Note:* The research reported in this article has been supported by NSF Grant #SES-9818557. Our thanks to Chris Leskiw for research assistance, especially in compiling the data on politically relevant alliances. Our thanks also to Paul Diehl, Marie T. Henehan, T. Clifton Morgan, Richard Tucker, and William Thompson for valuable comments on earlier analyses that helped us refine the one presented here. The responsibility for the analysis remains our own

1. This differs from Smith (1995, 1996) and much work in the realist tradition.

2. Sabrosky's (1980) finding has been criticized recently for ignoring the actual terms of alliance agreements and simply operationalizing "alliance reliability" as entering a war on the side of an ally (see Leeds, Long, and Mitchell 2000).

3. Of these there are 469 MIDs that are coded as "nonapplicable," meaning that neither member of the dyad is making a revisionist claim (typically joiners to the dispute). These are dropped from the analysis, leaving 2,576 cases.

4. Major and minor states are classified according to the conventional listing of major states by the Correlates of War Project (see Small and Singer 1982, table 2.1, 47–50; Ray 1998b, 197–200).

5. For example, the Ottoman Empire and Turkey are included in both Europe and the Middle East. Russia is included in both Europe and Asia.

6. Some realists would hold that "both sides having an outside ally" would have a lower probability of escalating to war if this resulted in a balance of power than the situation of "one side having an outside ally." The steps-to-war explanation would see "both sides having an outside ally" as having a higher probability of going to war than the case of "one side having an outside ally" but would still posit the latter as having a higher probability of war than the case where no alliances were present. In a sense, the difference between some realist explanations and the steps-to-war explanation is not over the prediction of the effect of "one side having an outside ally" but whether "both sides having an outside ally" increases or decreases the probability of war in the presence of territorial MIDs.

7. On selection effects see Fearon (1994), Morrow (1989), and the special issue of *International Interactions* edited by Reed (2002).

8. The coefficient for regime disputes with territorial disputes as the reference category for the base model in table 2 is $-1.3095$, $p = .000$. This finding also holds for both the 1816–1945 and 1946–92 periods, as well as for all the

models in table 3. The highest $p$ value is .022 for the post-1946 period for the base model.

9. Because "allied only to each other" is a perfect predictor it is dropped from the logit analysis.

10. The closest the interaction term for territorial dispute and "both sides having an outside alliance" (new2out) comes to significance is for 1816–1945 ($p = .133$) when it is the sole interaction term in the model. When two interaction terms (new1xTerr and new2out) are included, territory with "one outside alliance" is a better predictor than territory with "both have outside alliances"; hence the model with just the "one outside" interaction term is reported as the best model.

11. Simulated probabilities are calculated through use of the CLARIFY software developed by Tomz, Wittenberg, and King (2001). These estimates represent the likelihood of a given militarized dispute escalating to war.

12. The base probability is calculated by looking only at the cases in the sample, which do not include observations that have missing data: (MIDs that escalate to war)/(Total MIDs in the sample).

13. This is demonstrated by the fact that both .371 and .379 do not overlap with the upper limit of the .292 probability at the 90 percent confidence interval (which ranges from .247 to .337). However, there is no significant difference between the .371 and .379, which means that having both sides with outside alliances does not produce a higher probability of war than having one side with an outside alliance as posited by the steps-to-war explanation.

14. It is not fully consistent in that having one side with an alliance does not increase the probability of war. It should also be noted that this alliance configuration does not significantly reduce the probability of war either; it simply has no impact over having no alliances. In that sense it is similar to the findings for all alliance configurations for the full period for policy and regime disputes (table 4A).

15. The results for the miscellaneous "other" category are higher than for those of policy or regime. In this they mirror somewhat those for territorial disputes, especially for "both sides having outside alliances" and "allied to each and having one outside alliance."

16. Some have suggested that as states become more mature or pairs of democratic states spread, territorial disputes will decline, which may account for the lower probability of war in the post-1945 period. In fact, the percentage of territorial disputes (territorial MIDs/total) after 1945 does decline slightly: 34.8 percent (503/1,445) vs. 40.7 percent (461/1,131) for 1816–1945 (see Henehan and Vasquez forthcoming, table 1). Most of the decline is between major-minor and minor-minor dyads.

17. These probabilities overlap at the 90 percent confidence interval. The lower and upper limits for "no alliances" are .149 to .306.