PARITY, DISPUTED ISSUES, AND THE EVOLUTION
OF INTERSTATE RIVALRY

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Abstract: Recent scholarship has generated two general conceptions of the development of interstate rivalry. Goertz and Diehl's "basic rivalry level" (or BRL) approach postulates that adversaries "lock in" to rivalries quickly and subsequently see little variation in conflict levels. The alternative, Hensel's "evolutionary" approach, argues that rivalries develop more gradually over time as two adversaries accumulate hostility and grievances from past confrontations. Some evidence has been found to support each of these conceptions, although it appears that neither approach is more useful than the other in every situation. This paper attempts to identify situations in which each approach might be most useful, focusing on the impact of rough parity in national capabilities and the types of disputed issues separating states. We develop and test hypotheses on the relationship between parity, issues, and rivalry behavior. Empirical analyses reveal that both parity and issues play a large role in conflict behavior and rivalry between states, increasing the duration and intensity of rivalries and increasing the severity of confrontations within rivalry. Additionally, the evidence suggests that both the BRL and evolutionary approaches help to account for rivalry behavior.

Two theoretical perspectives have been proposed to account for the development of militarized interstate rivalries. Goertz and Diehl's "Basic Rivalry Level" (BRL) approach is an essentially static approach that treats an enduring rivalry as an enduring rivalry from the first conflictual interaction between two eventual rival states.   In contrast, Hensel's evolutionary approach treats rivalries as evolving and moving through stages, with events in earlier phases of a rivalry affecting the later development of the rivalry. A reasonable case can be made for each approach. In some cases, rival states appear to behave as advanced or enduring rivals from the beginning of their relationship, while other rivalries appear to evolve and come into being over time. This raises the question of why different rivalries exhibit different patterns of development. Two possible answers to this question are the existence of relative military parity between two adversaries and the types of disputed issues at stake between them.

This paper examines the possible contributions of military parity and disputed issues for the study of interstate rivalry. Our primary focus is the

impact that parity and disputed issues have on the intensity and the duration of rivalries. Additionally, we attempt to determine whether parity or disputed issues affect the processes of evolution in conflict behavior within rivalries, including both dispute severity and the continuation or termination of rivalry. We conclude our paper by discussing the implications of our results for future research on rivalry.

Previous Research

This section has two objectives. The first is to establish the two different manners of conceptualizing an enduring rivalry. This will focus on the differences and similarities of the Basic Rivalry Level approach (Goertz and Diehl 1997). The second objective is to examine the role that parity has played in rivalry literature. This will highlight the need to include the concept in analysis focusing on how rivalries develop.

Interstate Rivalries

One of the principle reasons for studying the concept of rivalries is the fact that a disproportionate amount of conflict occurs within the framework of rivalries (Goertz and Diehl 1992, Hensel 1997). Much of the work to date has been establishing the importance of the rivalry concept. This work has illustrated that the existing context is very important in how disputes are resolved. Hensel (1997) identifies three different alternatives for the use of the rivalry concept. The first is the use of rivalries as a case selection mechanism to assist in studying a topic outside of the realm of rivalry, as in past studies of arms races, power transition theory, and deterrence (e.g., Wayman 1996). The second approach is to use rivalries as an independent variable. Goertz and Diehl (1992) offer an example of rivalry as an independent variable, demonstrating that the majority of interstate conflict occurs within proto-rivalries and enduring rivalries. The final approach employs the rivalry concept as a dependent variable. An example of this is the evolutionary approach, which examines the development of rivalries themselves (Hensel 1996). The primary focus of this paper is on the latter two applications of the enduring rivalry concept.

There are two basic schools of thought on how rivalries should be conceptualized in studies that are interested in rivalries rather than utilizing the concept as a selection mechanism. The first is what Goertz and Diehl

(1997) term the Basic Rivalry Level (BRL) approach. Goertz and Diehl develop a three category classification for conflict (1992, 152). The first category is isolated conflict, in which only one militarized confrontation occurs within the dyad. The second category of proto-rivalries includes those rivalries that have between two and four militarized interstate disputes. Finally, there are enduring rivalries, which have more than five militarized interstate disputes. Goertz and Diehl (1992) further argue that to qualify as an enduring rivalry, a rivalry's conflict must have a common link that establishes the rivalry, such as protracted contention over a particular contentious issue. Rivalries also must occur over a long period of time and finally will be limited to the dyadic level. The principle drawback to this approach is that it does not provide a framework for change within the dyads. A proto-rivalry will always exhibit the traits of a proto-rivalry. There is no framework for dyads to progress from isolated conflict to enduring rivalry. Additionally, the Goertz and Diehl operational definition does not include the concept of parity. Rivalries are not distinguished by the power distribution within the dyad.

Goertz and Diehl's BRL approach can be described as a static model. The authors argue that the BRL is an average level of hostility around which the relations between the two states should be expected to vary. Essentially, conflict within a dyad is a random variable that should be expected to be equally distributed around the BRL. This means that the only pattern that should be expected over time is a fluctuation around the average. Each rivalry has a different average of conflict that is explained by factors specific to that dyad. They argue that the only impact of previous conflict is captured by the BRL average. How previous disputes are resolved is unimportant because all conflicts are randomly distributed along the BRL average. The independence of disputes is a major assumption of the BRL approach.

The evolutionary approach, on the other hand, does not assume that all the conflicts within the rivalry are independent of one another. The evolutionary approach produces a similar categorization of rivalries. Hensel (1994) divides rivalries into early, intermediate and advanced phases. The principle difference between this approach and the Goertz and Diehl approach is that it focuses on the evolution and change of the rivalry. The evolutionary approach asserts that a dyad's behavior during the early phase of rivalry would be different than a dyad's behavior at an advanced stage of

rivalry regardless of whether or not the dyad ever becomes an enduring rival. This perspective allows for a better explanation of the escalation of conflicts within dyads. Simply because at some point in the future the dyad reaches a threshold set for enduring rivalry does not mean that the dyad should necessarily be expected to exhibit the behavioral patterns of an enduring rivalry from the first conflict. This means that rather than disputes being randomly distributed around an average over the entire length of the conflict, there is a pattern of development of conflict over time as the rivalry evolves through the different phases.

One of the sources that Hensel identifies (1994, 1996) that influences the evolution of rivalries is the outcome of militarized disputes. How a dispute is resolved influences the probability of future conflict. This would not be addressed in the BRL approach because of the assumption made about conflict varying around the average level of conflict in the rivalry. The evolution approach on the other hand believes that how a dispute is resolved will influence the probability of future conflict. Hensel (1997, 1996) examines the likelihood of various dispute outcomes, such as compromises or stalemates ending a rivalry. In most cases, as the dyads progressed through the phases of rivalries, the greater the likelihood of recurring conflict regardless of the dispute outcome. Hensel (1996) also focuses on the importance of issues, particularly territorial disputes, in the evolution of rivalries. These are examples of attempting to use issues and dispute outcomes to explain the evolution of rivalries.

The two perspectives presented above have much in common. Both divide rivalries into three different categories with Goertz and Diehl using proto-rivalries and enduring rivalries, while Hensel uses intermediate and advanced phases of rivalry. Both also share assumptions about rivalries influencing conflictual behavior between states. Neither perspective includes the idea of parity within the model, although Goertz and Diehl do offer that the idea may be one of the "structural" influences on rivalries (Goertz and Diehl 1997, 11). The primary difference is the way in which the two perspectives view rivalries. The BRL approach views the rivalry as a constant over the time of its existence. The evolutionary approach on the other hand tends to see the rivalry as changing over time.

Parity & Interstate Rivalry

As Goertz and Diehl (1997) suggest, considering structural factors is important in studying rivalries. One of these factors is parity. An interesting hypothesis for the evolution of rivalries is that differing levels of symmetry or parity between the states in the dyad will influence whether or not a rivalry develops. This can be seen as an unstated underlying assumption of power transition theory (Organski and Kugler 1980). In the theory, as the challenger approaches the dominant power in capability levels, conflict is expected to occur. Lemke and Kugler (1992) argue that, in addition to a power transition, dissatisfaction with the international system is necessary for militarized conflict to occur. This serves to explain the peaceful power transitions that have occurred in the past. If one applies this idea to rivalries, the expectation would be that rivalries are most likely to occur within dyads that have parity. In addition, the likelihood of a militarized dispute evolving into an enduring rivalry would seem to increase by a continued presence of parity within the dyad. Thompson argues that "dyads characterized by capability asymmetry are unlikely to be spatial rivals for very long" (Thompson 1995, 218).

In one of the few examples of parity being considered important in rivalries, Wayman (1996) identifies four general characteristics to be used in defining enduring rivalry. First, the states must be competing over some stakes. Second, the states have approximate parity. Third, the states are likely to become involved in non-militarized competition such as arms races or economic conflict. Finally, there is repeated militarized conflict between the states. Wayman's definition of rivalry requires that for a rivalry to exist the states should be relative equals. The fact that Wayman includes parity in his definition of an enduring rivalry is more attributable to his focus on power transition theory than from literature on enduring rivalries. The argument for power transition theory is that conflict is most likely when parity is present. It therefore makes sense that from this perspective an enduring rivalry also requires parity. In addition, since the study only focuses on conflict between major powers, that requirement for parity will not limit cases if parity is defined as two major powers.

Vasquez (1993) also sees equality as an important aspect of rivalry. Vasquez classifies wars into two types: wars of rivalries and wars of inequality. He argues that in wars of rivalries the two states are relatively

equal and are proceeded by long term conflictual behavior. The relative parity of the dyad results in mutual frustration of the two states. Inflicting damage on the other state becomes an objective in and of itself in war of rivalries. In war of inequality, the states are more likely to pursue a basic cost benefit approach to decision making. Wars of inequality are therefore more likely to be characterized by rational decision making, while wars of rivalries are more likely to display emotional decision making designed only to inflict damage on the rival state. Vasquez's definition of rivalry requires more than most empirical definitions. He argues that rivalries are characterized by not only the individual state's gains, but also by the losses suffered by the other state.

Another example of parity in the rivalry literature is Geller's (1993) article on power differential and the development of rivalries. Geller uses an index of the COW measures of capabilities to determine power distribution within the dyad. Geller finds that when parity is present for the entire length of the rivalries, a war is more than twice as likely than when a preponderance of power is present over the entire length of the rivalry. Geller also finds that power shifts toward parity have a greater impact on the probability of war than actual power transitions do.

Bennett (1996) also includes the idea of parity in his model explaining the end of rivalries. He includes a measure of the relative power of the dyad ranging from .5 to 1 with .5 being parity and 1 being one state controlling all the resources. Bennett finds that the power distribution of the dyad does not impact the probability of the ending of the rivalry. This may be caused by the fact that dyads that do not have parity do not often make it to the enduring rivalry stage. Of Bennett's 34 rivalries, only 7 were between a major and minor power while 9 were between two major powers and 18 were between two minor powers. This means that by Wayman's conceptualization of parity, parity was present in 27 out of 34 of Bennett's cases. The true impact of parity cannot be gauged in a study that only focuses on enduring rivalries. A study must focus on parity at all phases of rivalry, including dyads that never reach the more advanced phases of rivalry.

This section has focused on some of the uses of parity in previous rivalry literature. While the majority of the rivalry literature omits or ignores the idea that parity is important in the development of rivalries, for Wayman parity is a necessary criterion for a rivalry. Bennett, on the other

hand, argues that the power distribution of the dyad is insignificant for the duration of an enduring rivalry. This paper will establish the impact of parity on rivalries, which will determine whether previous scholars have omitted an important aspect in their definitions of rivalries or whether relative parity is only one of many factors that drive the development of interstate rivalries.

Contentious Issues and Interstate Rivalries

Another structural factor that Goertz and Diehl (1997) suggest is a focus on "issues under dispute." Like parity, the issue or issues driving the disputes between states would also be expected to impact the development of interstate rivalries. The intensity of the rivalry will be dictated by the salience of an issue to the states within the dyad. An issue that has been demonstrated to have a strong impact on conflict is disputes over territory. In addition to territory, the entrance of new states into the international system can also be seen as a salient issue that may influence the development of interstate rivalries. This section will provide a brief review of the literature relating issues to the development of interstate rivalries.

Vasquez (1993) examines territorial contiguity as a source of conflict between states. Vasquez focuses on literature that demonstrates that war is more likely to occur between contiguous states. He cites Singer and Small (1982) to demonstrate that the majority of wars in the international system occur between contiguous states. In addition, Vasquez uses the Gochman (1990) study to show that neighboring states are responsible for the majority of uses of force in the international system. Beyond the basic idea of contiguity there is also evidence that territory is important as an issue. Vasquez argues that how a territorial dispute is settled will impact the likelihood of future conflict. Europe is used as an example where states were relatively equal and therefore could not gain a decisive victory regarding territorial claims. These disputes resulted in long term conflict over territorial issues. From this argument it is obvious that when territorial issues are not resolved, the likelihood of a rivalry developing would increase. These rivalries would also be expected to be more intense than rivalries between noncontiguous states.

Further evidence of the importance of contiguity on the severity of conflict between rivals can be found in another Vasquez (1996b) study. In "Distinguishing Rivals That Go to War from Those That Do Not," Vasquez studies the occurrence of wars between rivals that are contiguous versus

rivals that are not contiguous. He demonstrates that wars seldom occur between non-contiguous rivals. In addition, there are also few cases in which rivals are contiguous in which war does not occur. Contiguity can therefore be argued to be very important in the severity of the disputes between rivals.

New states entering into the international system can also be a source of conflict. Maoz (1989) argued that states that are created out of revolutionary conflict are more likely to be involved in interstate conflict than states that are created out of what Maoz called an evolutionary process. Maoz also found that revolutionary change of regimes within existing states also had a similar impact. These revolutionary states establish their territorial borders through violence. The violent origins of these states result in a higher level of conflict than states that enter the system through an evolutionary process.

Diehl and Goertz (1991) also examined how states enter the international system. They found that the characteristics of the international system, including norms regarding imperialism, impacts the likelihood that states will develop through revolutionary means. They found that when there was a norm against colonialism new states tended to evolve peacefully. This argument illustrates that how states enter the international system is not solely determined by the states involved, but also the characteristics of the international system when the new state is created.

The issue of newly emerging states is important in the study of rivalries for two principle reasons. First, the states that are created through revolution are more likely to be involved in interstate conflict. Obviously, states that are created through revolution would have some animosity toward the former imperial power. Secondly, these states may make territorial claims within the region that triggers disputes between the new states and its neighbors. These disputes could in turn lead to the development of rivalries.

Theoretical Development

The existence of parity in a dyad could have two possible effects. First, if indeed the power transition school is correct, then we should expect that the existence of parity within a dyad should make that dyad more dangerous. The theory argues that as states become equal in the international hierarchy,

conflict is likely to occur. Lemke and Kugler (1992) argue that a combination of parity and dissatisfaction with the international system results in conflict. Overall, it is a combination of power distributions and how the state views the international system that determines the likelihood of conflict. If the balance of power school is correct, then parity would have the opposite impact by making the rivalry less conflictual. Morgenthau (1967) and scholars that have followed his theoretical tradition of the balance of power have argued that balancing behavior leads to stability in the international system. The basic belief of the balance of power school is that when states are relatively equal, they do not fight one another. Originally argued as a system level theory, Gochman (1990) argues that the same logic can be applied to the dyadic level, with states attempting to match power with the other state within the dyad. It is disparity within the international system that actually sparks conflict. If this were the case, then rivalries would be very rare when there was parity within the dyad. This paper believes that parity will make dyads more conflictual. Therefore, when parity is present at the beginning of conflict between two states, it is expected that it will be more likely for that dyad to develop into an enduring rivalry.

An alternative to the parity argument would be to divide dyads into major/major, major/minor, and minor/minor power categories. This can be viewed as an alternative conceptualization of parity with the major/major and the minor/minor dyads being considered to be in parity while the major/minor would be in disparity. Some have argued that rivalries will be more likely to occur between major powers (Thompson 1995, 202). In addition, Thompson argues that rivalries between minor powers should be expected to be less frequent and less intense. If this is the case, then it may not be parity that drives conflict but an interaction between parity and capabilities. The fact that two minor powers are relatively equivalent may not result in the same level of conflict as when two major powers reach parity simply because the minor powers do not have the same level of capabilities and therefore cannot sustain a long period of conflict and hostilities. Some of the early COW work pointed to the idea that major powers were involved in more conflicts because they had a higher level of capabilities (Bremer 1980; Gochman 1980).

The following set of hypotheses take into account both sets of arguments. First, the simple parity hypotheses are presented. These

hypotheses look at whether the dyads are in parity regardless of the states level of capabilities. The second set of hypotheses look at the dyads that include two major powers. These hypotheses can be seen as testing the idea that both parity (major powers can be viewed as roughly equivalent) and a high level of capabilities are necessary for the development of a rivalry.

Hypothesis 1: *Rivalries are more likely to develop between adversaries characterized by rough parity than between less evenly matched adversaries.*

Hypothesis 1a: *Rivalries are more likely to develop between two major powers than between two minor powers or a major and a minor power.*

In addition to parity influencing the behavior and evolution of rivalries, it will also be argued that the presence of parity will serve to lengthen the duration of the rivalry. States that are of relatively equal size would be expected to continue conflict longer simply because one side would seem less likely to have the ability to gain a decisive win. Likewise, when parity is not present, a weaker state may desire to end conflictual behavior simply because of the costs. When there is asymmetry, one would expect the weaker state to eventually give in or seek an end to the conflict. This leads to the following hypothesis. Once again the case of major power dyads will be considered separately.

Hypothesis 2: *Rivalries characterized by rough military parity will exhibit a greater intensity and a longer duration than rivalries characterized by greater preponderance in relative capabilities.*

Hypothesis 2a: *Rivalries between major powers will have greater intensity and a longer duration than other rivalries.*

If parity is indeed an important aspect of the development of rivalries, then it should follow that as parity declines in a dyad so should the level of conflict within the dyad. Therefore, the end of parity in dyads should also be associated with the end of rivalries or, at the very least, the decline in the intensity of the rivalry. In this case when a major power's level of capability

declines to the point of no longer being considered a major power then rivalries including that major power would also be expected to decline.

Hypothesis 3: *When the parity in a rivalry declines, the likelihood of continuing conflict also declines.*

Hypothesis 3a: *When a rivalry no longer consists of two major powers, the likelihood of further conflict declines.*

From the above discussion the different perspectives on rivalries can be seen. First, the school of thought is the BRL approach to rivalries. The dyad would be expected to behave according to the most advanced stage of rivalry reached throughout the duration of the conflict, i.e. enduring rivalries will tend to exhibit the traits of an enduring rivalry from the beginning of conflictual behavior between the two states. The evolutionary approach, on the other hand, would expect the intensity of the conflict between the two states to change as the conflict between the states endured over time. The dyad would progress through the stages of rivalry. Both of these arguments can be supported by some rivalries in the international system. Some rivalries begin with the intensity of an enduring rivalry while others evolve. The basic question of this paper is whether parity can be used to determine which path a rivalry will take. The overall equality of the two states would logically seem to influence how states interact. The power transition literature provides an illustration of when parity can be expected to influence conflict (e.g., Lemke and Kugler 1996; Vasquez 1996). Since enduring rivalries require an extended period of conflict, states that are of relative equality in power would be best suited to sustain conflict over time. With the presence of asymmetry, one would expect the conflict to be resolved more quickly and therefore not have the opportunity to evolve into a rivalry.

The argument presented in this paper is that when parity is present in a rivalry, the dyad will follow the evolutionary approach of development. The presence of parity at the beginning of a rivalry would seem to limit the possibility of a decisive outcome that resolves the issue of contention. The relatively even power distribution between the rivals should allows states to continue their rivalry over a long period of time, and should allow them to change their conflict levels in response to past actions and outcomes as the

rivalry persists. Thus, dyads characterized by parity should be more likely to exhibit changing conflict levels during their periods of rivalry, with past confrontations producing substantial changes in conflict behavior even after controlling for the structural factors that would be most important to the BRL approach.

In contrast, when parity is not present among the states, the dyad will presumably fit better with the Goertz and Diehl approach. It would appear to be irrational for a weaker state to desire to continue fighting a clearly superior state. In order for a substantially weaker state to desire to continue a conflict with a clearly stronger adversary over an extended period of time, some structural factor would seem likely to be important in starting and continuing the rivalry. For example, the rivalry may involve an issue that is of great salience for the weaker side, such as an important piece of territory. In such cases of asymmetric capabilities, conflict should be expected to remain relatively constant around the level of conflict that existed at the beginning of the militarized relationship. The costs of conflict for the weaker state would seem to limit the rivalry potential of the dyad, but to the extent that such rivalries occur we expect that structural factors that existed before the rivalry should drive most of the rivals' conflict behavior, while interactions during the rivalry (which are central to the evolutionary approach) should play a relatively lesser role.

Hypothesis 4: *Rivalries characterized by rough military parity will tend to fit with the evolutionary approach to rivalries, exhibiting changing conflict levels as they move through rivalry. Rivalries characterized by greater preponderance will be more likely to follow the BRL pattern, showing little change in conflict level during the rivalry.*

Hypothesis 4a: *Rivalries between two major powers will tend to fit the evolutionary approach to rivalries, while all others will follow the BRL pattern of development.*

The four hypotheses presented above are designed to test the importance of the concept of parity for rivalry research. These hypotheses illustrate how power distributions within dyads may play a critical role in the

development of rivalry. Also, these hypotheses show how the concept of parity can be integrated into the existing literature on rivalries.

In addition to the four hypotheses on rivalry, a second set of hypotheses based on salient issues has also been generated. From the work of Vasquez (1993, 1996b) the importance of territorial disputes can be seen. Since the presence of these disputes make conflict more likely, it should also be expected that territorial disputes should make the development of rivalry more likely. New emerging states that come into existence through revolution should also be expected to increase the likelihood of a rivalry developing. Maoz demonstrated that states that come into existence through violent conflict are more likely to be involved in future interstate conflict. This higher level of conflict would seem to increase the probability of the development of interstate rivalries.

Hypothesis 5: *Rivalries are more likely to develop between states which have disputed territorial claims.*

Hypothesis 5a: *Rivalries are more likely to develop within dyads that include newly independent states.*

When territorial issues are present in a rivalry, it is expected that the rivalry will have greater intensity and a longer duration. Vasquez (1993) argues that how territorial disputes are settled is very important. Vasquez argues that anything less than an "overwhelming victory" will result in the territorial dispute creating a "long-term hostile relationship'' (1993, 147). These long term hostile relationships can easily be seen as potential rivalries that include a greater level of conflict and a longer duration than rivalries that do not include territorial issues.

Since new created revolutionary states have a higher level of international conflict, it is expected that rivalries that include these states will have a higher level of intensity since these states are more likely to be involved in conflicts. This higher level of intensity can also be expected to increase the duration of the rivalries that include these new independent states.

Hypothesis 6: *Rivalries that include disputes over territorial issues will exhibit a greater intensity and a longer duration than rivalries that do not include territorial disputes.*

Hypothesis 6a: *Rivalries that include a newly independent state will have greater intensity and a longer duration than other rivalries.*

When territorial issues are resolved in a decisive manner, the likelihood of the rivalry continuing will decline. Territorial issues play such a central role in many disputes that once these issues are resolved the number of future conflicts within the dyad should decline. Likewise, when addressing new states in the international system, once the state is accepted into the international system with its borders established, the amount of conflict should be expected to decline. This would result in the subsequent decline in the rivalries involving these states.

Hypothesis 7: *When a territorial dispute is resolved in a rivalry, the likelihood of continuing conflict also declines.*

Hypothesis 7a: *When initial disputes involving newly independent states are resolved, the likelihood of a rivalry continuing will decline.*

When issues such as territory or a newly independent state is present in a rivalry, it should be expected that the rivalries will fit best with a BRL pattern of development. The states will be involved in a level of conflict that is consistent across time until the issue is resolved. For example, when territory is involved, disputes should be expected to start out at a relatively high level of intensity. This level of intensity should then persist over the course of the rivalry until the territorial dispute is resolved. This fits the BRL definition of rivalry which argues for a basically consistent level of conflict across time. The same would be expected in the case of newly independent states.

Hypothesis 8: *Rivalries that include territorial issues will tend to fit with the BRL approach to rivalries, exhibiting changing conflict levels as they move*

through rivalry.   Likewise, when no territorial issue is present, the rivalry will more likely follow the evolutionary pattern of rivalry.

Hypothesis 8a: *Rivalries including a newly independent state will tend to fit the BRL pattern of development , while all others will follow the evolutionary approach to rivalry.*

Research Design

Spatial-Temporal Domain

The spatial-temporal domain is the set of all conflictual dyads in the international system from 1816-1992, as defined by the Correlates of War (COW) project. Consistent with Hensel (1996, 1997), we begin studying a given dyad from the outbreak of their first militarized dispute (Jones, Bremer, and Singer, 1997). This allows us to study the impact of our independent variables on the evolution of rivalry, beginning with all potential rivals that have engaged in at least one militarized confrontation.

Dependent Variables

Rivalry

Rivalries will be measured following Hensel's (1996, 1997) evolutionary approach, which identifies three distinct phases of rivalry that must be experienced before two adversaries can reach what most scholars would consider "enduring rivalry." The early phase, reflecting a period when adversaries are only beginning to confront each other and have not yet begun to view each other as fundamental, long-term rivals, includes the first two disputes between two adversaries. The intermediate phase reflects a time when the adversaries have begun to see each other as potentially serious long-term threats, analogous to Goertz and Diehl's "proto-rivalry" category, and includes the third through fifth disputes in a given relationship. Finally, all disputes that occur after the fifth dispute are considered to occur in the advanced phase of rivalry, at which point Goertz and Diehl would consider the adversaries to be full-fledged enduring rivals. If there is a fifteen-year gap with no militarized disputes during any of the phases, the rivalry is considered to have ended.

We examine four dimensions of rivalry, beginning with the most advanced phase of rivalry reached by two adversaries (as described above). It is important to recognize that not all rivalries will reach the intermediate or advanced phase of rivalry; many conflictual relationships stop after one or two disputes. We also consider the number of militarized interstate disputes featured in the rivalry as an indicator of rivalry intensity, along with a dummy variable reflecting whether or not the rivals ever engaged in a full-scale interstate war at any point during their rivalry. Finally, we examine the duration of each rivalry, measured as the number of years between the outbreak and termination of the rivalry.

Conflict Behavior within Rivalry

Beyond the aggregated rivalry-level analyses described above, we also examine the effects of parity and disputed issues on conflict behavior within ongoing rivalries. When two adversaries engage in a militarized dispute, we examine two indicators of dispute severity, based on whether or not the dispute led to any fatalities among combatants and whether or not the dispute escalated to full-scale war. Additionally, we consider the probability that two adversaries who have engaged in at least one recent dispute will become involved in another dispute within fifteen years, in order to examine the impact of our independent variables on the recurrence or avoidance of future militarized conflict.

Independent Variables

Parity

This paper measures parity using capability data from the COW National Material Capabilities data set. We construct a continuous index of two adversaries' military capabilities, based on the average of their military personnel and military expenditures.[1] This results in a variable ranging from .5 to 1.0, with .5 representing perfect equality between the two sides and 1.0 representing total preponderance. We then transform this measure into a dichotomous indicator of parity following the standard Organski and Kugler (1980) measure, where two states are said to be in parity when the weaker side

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[1] Previous research (e.g., Hensel 1996) has found no meaningful difference between using the two COW military indicators and a full composite based on all six military, industrial, and demographic indicators in the data set.

has at least 80% of the capabilities of the stronger side. Our analyses of conflict behavior within rivalry measure military parity for the specific dyad-year or militarized dispute being studied, while the aggregated rivalry-level analyses measure whether or not the two rivals reached the point of parity at any point during their rivalry.

Territorial Issues

The territorial issue variable is a dummy variable based on the COW dispute data set's coding of desired status quo revisions. Our territorial issue indicator is assigned a value of one when there is contention over some type of territorial issue(s) in a given militarized dispute, and zero when there is no explicit contention over territory. For the dyad-year level analyses of dispute recurrence, we treat each dyad-year as involving territorial contention if the most recent dispute between two adversaries involved territorial issues. For the aggregated rivalry-level analyses, we measure whether or not a given rivalry ever involved territorial issues in at least one dispute during the rivalry.

Other Structural Factors

Beyond territory, we consider several other structural or contextual factors that might be thought to lead to or exacerbate interstate rivalry. Major power classification is taken from the COW project's list of major powers in the international system since 1816. For our present purposes, we treat a given dyad's major power status dichotomously, based on whether or not both members of the dyad are major powers. Some scholars have used joint major power status as a measure of dyadic parity (see, e.g., Wayman 1996), arguing that the gap between any two major powers is smaller than the gap between any given major power and any given minor power. Additionally, other scholars have argued that major powers' interactions are qualitatively different from interactions between major and minor powers, or interactions between minor powers (e.g., Thompson 1995).

A second structural or contextual factor that we consider involves the recent independence of one or both states in a dyad, which Goertz and Diehl (1995) consider to be an important political shock affecting the outbreak of rivalry. This variable indicates whether one or both of two dyadic adversaries became independent shortly before the beginning of the rivalry, as revealed

in the COW interstate system membership list. This is a dichotomous variable, with a value of one indicating that one or both members of the dyad became independent during the ten years before the start of the rivalry.

Finally, we consider the impact of contiguity, which is seen as an extremely important structural factor leading to (or at least facilitating) militarized conflict (e.g., Bremer 1992). Contiguity measures whether the two states border one another, as determined by the COW contiguity data set. Contiguity is scaled as a dichotomous variable, with a value of one indicating dyads that share a common land or river border and a value of zero representing non-contiguous dyads

Evolutionary Variables

In order to compare the evolutionary approach to the BRL approach in accounting for conflict behavior within rivalry, we examine several types of variables based on the notion of evolution in conflict behavior during a rivalry. The first group of evolutionary variables includes the outcomes and escalation levels of recent confrontations within a given rivalry, which are thought to produce change in subsequent relations between the adversaries in their aftermath (for more details see Hensel 1996). Dispute outcomes are taken from the COW militarized dispute data, and are included herein as two dummy variables indicating whether or not the past dispute ended in a compromise outcome or a "decisive" outcome (which merges the COW categories of "victory" and "yield"). Dispute severity is measured using three different elements taken from the COW dispute data: the two rivals' respective levels of hostility, the duration of the dyadic dispute, and the two rivals' fatality levels. Z-scores are taken to standardize the impact of each of these three elements, with the three z-scores for each dispute being added together for the overall dispute severity index.

Beyond the specific characteristics of past militarized disputes, the evolutionary approach suggests that there should be more general effects from the accumulation of disputes over time. Each confrontation between two adversaries is likely to lead to a general deterioration in relations as the result of increased feelings of hostility, distrust, or enmity, as well as any death or losses that may have resulted. These general effects of the accumulation of rivalry over time are captured here by the evolutionary rivalry phase between two adversaries at the start of a given dyad-year, as

described above. Rivalry phases are indicated in our analyses by dummy variables reflecting the intermediate and advanced phases, leaving out the early phase as a reference group for the analyses.

Joint Democracy

Finally, given the rapid accumulation of recent evidence on the pacifying effects of democracy (Ray 1995), we control for the effect of joint democracy between two adversaries. The presence of dyadic joint democracy is measured using the Polity III data set's index of institutionalized democracy. This index can range in value from zero to ten, depending on the level of democracy in a state's political system; we follow Dixon (1993) by considering values of six or greater on this scale to be democratic. Joint democracy in a dyad is measured by a dummy variable, indicating whether or not both states in the dyad meet Dixon's democracy threshold.

Empirical Analyses

The empirical results in this section were obtained through a series of OLS regression and logistic regression analyses. In general, the tests support our proposition that parity influences the development of rivalries. Parity appears to increase the probability that a conflictual relationship will reach a more advanced phase, as well as increasing the duration and intensity of rivalry relationships. The evidence on the impact that parity has on conflict behavior within rivalries, though, is less conclusive.

[Table 1 about here]

Parity, Issues, and Rivalry

Hypothesis 1 suggests that the conflictual dyads with parity should be more likely than highly unequal conflictual dyads to reach the level of full-fledged enduring rivalry. The evidence supports this proposition. Of the 341 dyads in our study with parity that engaged in at least one militarized dispute, 15.5 percent reach the advanced rivalry phase, as compared to only 5.7 percent of the 841 dyads with a disparity of power. These differences become even greater when both parity and territorial issues are considered. Fully 32.8 percent of the 131 dyads with both parity and contention over territorial issues reached the advanced rivalry phase, as compared to 14.0 percent of the 222 unequal territorial dispute dyads, 4.8 percent of the 210 equal non-

territorial-dispute dyads, and only 2.8 percent of the 619 dyads with neither parity nor any disputes over territorial issues.

Table 1 presents the result of a multivariate logistic regression analysis of the probability of reaching the advanced phase of rivalry. The model produces a statistically significant improvement over the null model (p < .001), and illustrates that both parity and numerous types of disputed issues significantly increase the probability of reaching the advanced phase of rivalry.[2] Both measures of parity are statistically significant (P < .005). As expected, the presence of two major powers in the dyad also increases the likelihood of reaching the advanced phase of rivalry. Territorial issues, contiguity and the presence of recent independence also are all statistically significant and the presence of these factors increases the likelihood of the development of an advanced rivalry.

[Table 2 about here]

In addition to parity influencing how far the rivalry evolves, our hypotheses suggest that the presence of parity should increase the intensity of the rivalry. This proposition is tested by looking at the number of disputes in the rivalry, the probability of at least one war in the rivalry, and the duration of the rivalry. Rivalries with parity average 3.67 disputes while rivalries with disparity average only 2.13 disputes over the length of the rivalry.[3] As before, the differences are even greater when both parity and territorial issues are considered. Dyads with both parity and territorial disputes average 6.58 disputes per rivalry, those with territorial disputes but not parity average 3.42, parity dyads with no territorial disputes average 1.85, and dyads with neither parity nor territorial issues average 1.66 disputes.

Table 2 presents an OLS regression focused on the number of militarized disputes in a given conflictual relationship. The regression is statistically significant (F = 38.50, p < .001, R^2 = .14). The presence of parity has a positive and statistically significant impact on the number of disputes in the

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[2] When a continuous measure of distribution of capabilities is used, the model produces similar results, with a more uneven ratio of military capabilities significantly increasing the probability of reaching the advanced phase.

[3] It should be noted that this result does not depend on the observation from Table 1 that dyads in parity are more likely to reach the advanced phase of rivalry, and thus more likely to become involved in numerous militarized disputes. Separate analyses for each level of rivalry (rivalries that end in the earlier, intermediate, and advanced phases) indicate that rivals in rough parity consistently average more disputes in their rivalries than rivals marked by greater preponderance.

rivalry (t = 5.29, p < .001). Contention over territorial issues in the rivalry produces an even greater increase in the expected number of disputes (t = 8.26, p < .001), and each of the other variables produces a similarly significant increase.

[Table 3 about here]

Beyond the number of militarized disputes that occur in a given rivalry, it is important to examine some indicators of the severity of the disputes that occur. It may be that certain dyads engage in numerous low-level disputes, while other types of dyads engage in less frequent but much more severe confrontations. Studying the probability of at least one war in a given dyadic rivalry, we find that both parity and territorial issues produce substantial increases in the probability of war. Over half of all dyads with both parity and territorial issues (53.4 percent) engage in war at least once, relative to one-third of all unequal dyads with territorial issues (34.7 percent), 29.1 percent of all parity dyads without territorial issues, and only 13.9 percent of all other dyads.[4] Table 3 reveals that both parity and contention over territorial issues produce highly significant increases in the probability of war during a rivalry relationship. Major power dyads are also significantly more likely to engage in war, although recent independence and contiguity do not have any systematic impact.

[Table 4 about here]

When the duration of the rivalry is considered, similar results are found. When parity is present, the mean duration of rivalry was 9.76 years, while when there was disparity, the mean was only 4.86 years (a statistically significant difference, p < .001). These results also held in separate analyses of dyads that reach the three different phases of rivalry, with parity resulting in a longer average rivalry duration in each. Table 4 represents an OLS regression with rivalry duration as the independent variable. The overall model is statistically significant (F = 55.05, p < .001, R^2 = .19). Once again, the effects of both parity and contention over territorial issues are statistically significant (p < .001). The presence of two major powers, recent independence and contiguity all have similarly positive and significant effects on the duration of the rivalry.

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[4] It should be noted that these figures for wars are based on dyadic breakdowns of multilateral wars, which accounts for the high number of dyads with war experience (294) when the COW project has identified fewer than one hundred interstate wars in the modern interstate system.

Taken together, the results of the first four tables offer a great deal of support for our hypotheses on parity, disputed issues, and rivalry. Parity consistently increases the intensity and duration of rivalry in all four tables. It should be noted that this impact of relative capabilities is not an artifact of our measure of parity; re-running these tables with a continuous indicator of the rivals' relative military capabilities produces results that are nearly as strong, with more unequal dyads producing less intense rivalries. Contention over territorial issues -- whether in some or all of a dyad's disputes -- significantly increases the intensity and duration of rivalry in all four tables. Additionally, the other three factors examined -- major power rivalries, recent independence, and contiguity -- all contribute significantly and positively to rivalry intensity and duration, with the sole exception of the likelihood of at least one war in a rivalry.

Beyond supporting our hypotheses, the results from our first tables suggest a great deal of support for the BRL explanation of rivalry. That is, strong results are obtained by focusing simply on attributes that pre-date the rivalry itself, such as parity, territorial issues,[5] contiguity, major power status, or recent independence in a dyad. If such pre-existing attributes exert such a strong influence on rivalry behavior without even considering interactions during the rivalry, we might conclude that these factors help to establish a dyad's basic rivalry level, setting the stage for the conflict behavior that is likely to result. A fair test, though, requires that the evolutionary model be allowed to contribute its own independent variables, which require a disaggregated analysis of conflict behavior within rivalry. Tables 5 through 7 examine individual militarized disputes and individual rivalry-years, in order to compare the effect of BRL and evolutionary variables on conflict escalation and recurrence.

[Table 5 about here]

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[5] We must admit that this study's measure of territorial issues is not perfect. This measure indicates whether or not there is a dispute in the rivalry that involves territorial issues, but it is possible that the territorial issue arose or changed during an ongoing rivalry rather than pre-dating the rivalry. It is also virtually certain that many cases of territorial claims between states never lead to militarized conflict over the territorial question, so this measure probably underestimates the frequency of territorial issues. Such objections may be overcome by systematic collection of data on territorial claims between states independent of data on conflict, which is one of the goals of the Issue Correlates of War (ICOW) project (see Hensel and Tures 1997), which is currently in the process of collecting such data.

Parity, Issues, and Conflict Behavior within Rivalry

We examine two separate indicators of dispute severity within rivalry relationships. When the probability of dispute fatalities is considered, as seen in Table 5, the effect of parity is slightly negative and statistically insignificant. Major power rivalries and recent independence dyads fail to produce significant results, as do the two dummy variables reflecting more advanced evolutionary rivalry phases. Indeed, only five of the eleven variables in Table 5 produce significant effects on the probability of fatalities. Contention over one or more territorial issues seems to have the greatest impact on the probability of fatalities, with an odds ratio of 2.53 indicating that the presence of territorial issues in a dispute more than doubles the statistical odds of dispute fatalities ($X^2 = 66.30$, $p < .001$). Contiguity and the escalation level of the most recent dispute in the rivalry also serve to positively increase the probability of escalation to fatalities. A decisive outcome and the presence of joint democracy both decrease the probability of escalation to fatalities.

[Table 6 about here]

The presence of parity is expected to increase the probability of a dispute escalating to war. Table 6 presents the results of an empirical test using logistic regression analysis. The dichotomous measure of parity was insignificant, indicating that parity alone has little systematic impact on the probability of war in a given dispute.[6] The presence of two major powers in the dyad and contention over territorial issues also significantly increase the probability of a dispute escalating to war ($p < .001$), while contiguity significantly decreases the probability of escalation to war. Past dispute outcomes appear to have little systematic impact on the probability of war, but higher past escalation levels appear to increase the probability of escalation, while a longer history of conflict appears to decrease this probability.[7]

[Table 7 about here]

Table 7 examines the probability that militarized conflict will recur in a rivalry during a given rivalry-year, and by extension, the probability that a

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[6] Re-running this model with our continuous measure of parity indicates a statistically significant effect of relative capabilities ($p < .01$). As the dyad approaches a preponderance of power by one of the states, the probability of a dispute escalating to war decreases.

[7] This result is consistent with Hensel and McLaughlin (1996), who find that escalation levels are generally highest in the early phase of rivalry and decline in later phases of rivalry. Hensel and McLaughlin suggest that this could be evidence of learning or adaptation, with rivalries becoming "mature" over time in response to past war or near-war experiences; they also suggest several possible methodological and data-related explanations.

rivalry will end under certain conditions. The overall model is statistically significant (p < .001). Parity serves to increase the likelihood of a recurrence of a dispute in the dyad, indicating that parity makes rivalry less likely to end. This observation is consistent with our earlier findings on rivalry duration. Our dichotomous parity indicator reaches borderline statistical significance (p < .06), and a separate equation reveals that the continuous relative capabilities ratio is highly significant (p < .001). The effects of past disputes included in this model are all statistically significant, with past compromises, decisive outcomes, and escalation levels all decreasing the probability of recurrent conflict (and thus increasing the probability of the rivalry ending). Furthermore, both of the rivalry phase indicators are positive and highly statistically significant, indicating that a longer history of conflict makes future conflict even more likely (and decreases the probability of the rivalry terminating) -- which is consistent with past work on conflict recurrence (Hensel 1996).

Finally, our second hypothesis suggested that military parity should have an important impact on the process by which rivalry develops, with parity rivalries following a more evolutionary path and more unequal rivalries fitting the BRL model better. Surprisingly, most of our analyses reveal little difference between dyads characterized by parity and those characterized by greater preponderance by one side over the other. Each of our analyses was re-run separately for the cases of parity and the cases without parity, and very few coefficients changed strength or direction. One of the few differences concerns the impact of the continuous measure of relative capabilities, which was included in the split analyses. In general, cases of parity were less susceptible to the influence of relative capabilities, which did not approach conventional standards of statistical significance for rivalries characterized by parity. For the unequal dyads, though, a greater disparity in military capabilities generally produces a pacifying effect, with the military ratio significantly decreasing both rivalry intensity and dispute severity. This finding does tend to support our hypothesis, with dyads outside of parity being more heavily influenced by the structural conditions around them than more evenly matched dyads.

Most of the other differences involve factors that are significant for one set of cases, and while producing the same type of effect for the other cases, fail to reach similar significance levels. In short, these comparisons of rivalry

patterns across relatively equal and relatively unequal rivalries offer little support for the notion that parity between two adversaries is a prerequisite for rivalry. The unequal dyads in the present study follow virtually the same paths as the equal dyads, with few meaningful differences in conflict patterns.

Overall, the results from Tables 5 through 7 support both the evolutionary and BRL approaches. Several of the pre-existing structural factors that were examined in the earlier rivalry-level analyses continue to produce strong results in these disaggregated analyses of individual disputes or rivalry-years. Contiguity, in particular, produces significant results in all three tables, while major power dyads produce significant results in two of the three. Territorial issues consistently produce some of the strongest results in each table, but we should note that this may not be strong evidence for the BRL approach. In these disaggregated analyses, the territorial issues variable indicates that territorial issues are at stake in this particular dispute or rivalry-year -- but the same dyads typically include numerous disputes and dyad-years without territorial issues, so this is not a constant factor that was established before the outbreak of rivalry.

Tables 5 through 7 also indicate some support for variables drawn from the evolutionary approach. In each of these tables, at least several evolutionary variables produce significant effects. The general effects of rivalry phase produce no systematic effect on the probability of fatalities, a significant negative effect on the probability of dispute escalation to war, and a significant positive effect on the probability of recurrent conflict. The more specific effects of past dispute outcomes and escalation levels also have a significant impact in all three tables. As a result, even if pre-existing factors appear to have a strong influence on rivalry behavior -- particularly in Tables 1 through 4 -- evolutionary factors based on the history of past conflict also appear to produce strong and systematic effects.

Conclusions

As suggested by Goertz and Diehl (1997), this paper has endeavored to determine one of the structural factors that might influence rivalries. In particular, this paper has been interested in the impact that parity has on rivalries. This paper has shown that parity and issues are both critically important variables when considering the likelihood of the development of a rivalry.

The results from this paper's analyses generally support our expectations. The presence of parity and contention over territorial issues in rivalries seems to make them more intense. When parity is present, or territorial issues are at stake, there is a greater probability that a dyad will escalate to the advanced phases of rivalry. These rivalries generally seem to last longer, have a greater number of disputes and increase the likelihood of escalating to war. In addition, the greater the levels of preponderance in the dyad, the greater the likelihood that the rivalry will end. This suggests that the calculations of states may truly be influenced by the power distribution, as argued by Vasquez (1993: 65-66).

Despite the importance of the parity variable, though, rivalries among equals do not appear to follow very different paths than rivalries between unequals. The other variables generally produce highly consistent effects in separate analyses focusing on dyads characterized by parity and by preponderance. Finally, this study has not produced conclusive results on the differentiation of parity relative to the BRL and the evolutionary approaches. Both approaches receive some empirical support from our analyses, but neither is able to claim a decisive victory.

We conclude with a call for further research on these topics. This study should not be taken as the definitive final word on the contribution of parity to the study of rivalry or on the relative value of the BRL and evolutionary approaches. Further research could benefit from a closer examination of the structural or contextual factors that might lead to rivalry under the BRL approach, beyond the few examples we consider herein. Further research could also benefit from a more detailed conceptualization of the factors that are central to the evolutionary approach, and of the ways in which these factors might produce their expected effects. Nonetheless, we feel that this paper represents an important start in the right direction, and we hope that it assists future researchers in addressing this important issue.

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Table 1: Probability of Advanced Phase of Rivalry

Variable	Est. (S.E)	x^2 (p)	Odds Ratio
Intercept	− 4.68 (0.31)	231.74 (.001)	---
Military Parity	1.19 (0.24)	23.94 (.001)	3.30
Territorial Issues	1.52 (0.25)	36.08 (.001)	4.56
Major-Major Power Dyad	1.34 (0.28)	22.24 (.001)	3.82
Recent Independence	0.84 (0.24)	12.08 (.001)	2.33
Contiguity	0.98 (0.26)	14.60 (.001)	2.68

```
LL (null model):  690.00
LL (full model):  544.35
Improvement:           145.67
Significance:   p < .001 (5 d.f.)
N:                 1182
```

Table 2:   Accounting for Number of Disputes in Rivalry

Variable	Est. (S.E)	T (p)
Intercept	0.74 (0.19)	3.93 (.001)
Military Parity	1.37 (0.26)	5.29 (.001)
Territorial Issues	2.21 (0.27)	8.26 (.001)
Major-Major Power Dyad	1.24 (0.28)	4.47 (.001)
Recent Independence	0.63 (0.28)	2.29 (.03)
Contiguity	1.11 (0.27)	4.04 (.001)

    F = 38.50
    p < .001
    R^2 = .14
    N: 1182

Table 3: Probability of At Least One War in Rivalry

Variable	Est. (S.E)	x^2 (p)	Odds Ratio
Intercept	− 2.02 (0.14)	217.72 (.001)	---
Military Parity	1.14 (0.16)	51.69 (.001)	3.14
Territorial Issues	0.88 (0.17)	26.85 (.001)	2.41
Major-Major Power Dyad	1.24 (0.16)	59.77 (.001)	3.45
Recent Independence	− 0.26 (0.18)	2.17 (.15)	0.77
Contiguity	− 0.38 (0.18)	4.50 (.04)	0.68

```
LL (null model):  1326.05
LL (full model):  1175.97
Improvement:           150.09
Significance:    p < .001 (5 d.f.)
N:                    1182
```

Table 4:   Accounting for Duration of Rivalry

Variable	Est. (S.E)	T (p)
Intercept	0.73 (0.47)	1.57 (.12)
Military Parity	4.52 (0.64)	7.02 (.001)
Territorial Issues	6.31 (0.66)	9.50 (.001)
Major-Major Power Dyad	4.02 (0.69)	5.87 (.001)
Recent Independence	1.98 (0.68)	2.90 (.01)
Contiguity	3.07 (0.68)	4.50 (.001)

F = 55.05
p < .001
R^2 = .19
N: 1182

Table 5: Logistic Regression Analysis of Militarized Dispute Escalation to Fatalities

Variable	Est. (S.E)	x^2 (p)	Odds Ratio
Intercept	- 1.21 (0.12)	108.90 (.001)	---
Military Parity	- 0.16 (0.17)	0.91 (.34)	0.85
Territorial Issues	0.93 (0.11)	66.30 (.001)	2.53
Major-Major Power Dyad	0.04 (0.05)	0.69 (.41)	1.04
Recent Independence	0.22 (0.14)	2.54 (.12)	1.24
Contiguity	0.08 (0.12)	0.44 (.02)	1.08
Past Decisive MID Outcome	- 1.09 (0.25)	19.47 (.001)	0.34
Past Compromise MID Outcome	0.27 (0.24)	1.21 (.27)	1.31
Past MID Escalation Level	0.21 (0.03)	37.60 (.001)	1.23
Intermediate Rivalry Phase	- 0.09 (0.14)	0.40 (.53)	0.92
Advanced Rivalry Phase	0.02 (0.13)	0.03 (.87)	1.02
Joint Democracy	- 0.42 (0.21)	3.93 (.05)	0.66

```
LL (null model):  2539.60
LL (full model):  2387.92
Improvement:         151.68
Significance:   p < .001 (11 d.f.)
N:                  2158
```

Table 6:   Logistic Regression Analysis of Militarized Dispute Escalation to War

Variable	Est. (S.E)	x^2 (p)	Odds Ratio
Intercept	− 2.72 (0.18)	223.03 (.001)	---
Military Parity	0.19 (0.26)	0.50 (.48)	1.20
Territorial Issues	1.19 (0.17)	51.06 (.001)	3.28
Major-Major Power Dyad	0.29 (0.07)	16.38 (.001)	1.33
Recent Independence	0.06 (0.20)	0.08 (.78)	1.06
Contiguity	− 0.49 (0.20)	6.15 (.02)	0.61
Past Decisive MID Outcome	− 0.08 (0.34)	0.06 (.81)	0.92
Past Compromise MID Outcome	− 0.29 (0.39)	0.54 (.46)	1.34
Past MID Escalation Level	0.09 (0.05)	2.88 (.09)	1.09
Intermediate Rivalry Phase	− 0.58 (0.22)	6.97 (.01)	0.06
Advanced Rivalry Phase	− 0.60 (0.21)	8.00 (.01)	0.55
Joint Democracy	− 0.71 (0.38)	3.51 (.06)	0.49

```
    LL (null model):  1354.24
    LL (full model):  1256.84
    Improvement:            97.40
    Significance:   p < .001 (11 d.f.)
    N:                2353
```

Table 7:   Logistic Regression Analysis of Dispute Recurrence

Variable	Est. (S.E)	X^2 (p)	Odds Ratio
Intercept	- 2.94 (0.06)	2143.0 (.001)	---
Military Parity	0.19 (0.10)	3.65 (.06)	1.21
Territorial Issues	0.38 (0.08)	25.36 (.001)	1.46
Major-Major Power Dyad	- 0.27 (0.12)	5.29 (.02)	0.77
Recent Independence	0.81 (0.10)	60.96 (.001)	2.24
Contiguity	0.36 (0.07)	28.56 (.001)	1.44
Past Decisive MID Outcome	- 0.56 (0.11)	27.42 (.001)	0.57
Past Compromise MID Outcome	- 0.55 (0.13)	17.47 (.001)	0.58
Past MID Escalation Level	- 0.03 (0.02)	3.20 (.08)	0.97
Intermediate Rivalry Phase	0.76 (0.08)	89.93 (.001)	2.13
Advanced Rivalry Phase	1.55 (0.08)	387.61 (.001)	4.71
Joint Democracy	- 0.55 (0.13)	19.01 (.001)	0.58

```
LL (null model):  8831.89
LL (full model):  7538.02
Improvement:            793.86
Significance:   p < .001 (11 d.f.)
N:                14,105
```