

**POWER TRANSITIONS AND DISPUTE ESCALATION
IN EVOLVING INTERSTATE RIVALRIES**

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Abstract

In this paper we study the relationship between dynamic national capabilities, interstate rivalry, and militarized conflict. In particular, we seek to explain two states' decisions to escalate disputes when they are involved in a rivalry. Previous research has shown that interstate rivalries are highly conflictual relationships, accounting for a large proportion of the total number of militarized disputes and wars in the entire interstate system. Yet little is known about the processes of escalation within rivalries, particularly with regard to the impact of past events on escalation within ongoing or evolving rivalries. In order to study the processes of escalation within rivalry, we synthesize several important strands of the conflict literature: power transition theory, research on interstate rivalries, and research on contentious issues.

We test our hypotheses empirically using logistic regression analysis on a set of enduring rivalries from 1816-1992. We find that militarized disputes are more likely to escalate to interstate war or to the use of force if they involve territorial issues, if the rivals have previously engaged in warfare in the history of their rivalry, and if the dispute occurs earlier in the history of a rivalry. The interactive effects of previous dispute outcomes (compromise, decisive, stalemate) and escalation levels make the use of force in a dispute more likely, but escalation to war less likely. We conclude by discussing the meaning of our findings and their implications for further scholarly research.

Power Transitions and Dispute Escalation in Evolving Interstate Rivalries

The study of interstate rivalry has begun to offer substantial theoretical and empirical contributions to the empirical literature on interstate conflict. The present paper builds on research in this tradition by examining the relationship between dynamic relative capabilities, contentious issues, and the evolution of militarized conflict in interstate rivalry. In particular, we seek to explain two states' decisions to escalate disputes when they are involved in a rivalry. Previous research has shown that interstate rivalries are highly conflictual relationships, accounting for a large proportion of the total number of militarized disputes and wars in the entire interstate system. Yet little is known about the processes of escalation within rivalries, particularly with regard to the impact of past events on escalation within ongoing or evolving rivalries. Rather than identifying which dyads are "dangerous" or most war prone (Bremer, 1992), we seek to determine the conditions under which disputes between rivals are most likely to escalate to the use of force or to full-scale interstate war.

In order to account for escalation processes, we synthesize several important strands of the conflict literature: power transition theory, research on interstate rivalries, and research on contentious issues. Power transition theory and the evolutionary approach to rivalry are ideal for studying the timing of escalation between the same adversaries because they are both dynamic theories of war. The issues in dispute, on the other hand, provide information about the context of disputes within a rivalry. We test hypotheses on escalation to the use of force and interstate war between enduring rivals derived from each of these theoretical approaches, and we discuss the links between these perspectives.

We begin this paper by discussing power transition theory, covering both its foundations and its applications to the question of escalation between rivals. Next we present the evolutionary theoretical approach to rivalry, emphasizing the effects of conflict history and outcomes on escalation. This is followed by a discussion of the issue-based approach to understanding escalation in rivalry, focusing on the impact of territorial disputes. After our hypotheses, we present our research design and a series of empirical analyses on escalation processes within rivalries. We conclude by discussing the results of our empirical analyses, and by suggesting some implications of our findings for policy and for further scholarly research.

The Power Transition / Parity Perspective

The existence of power preponderance as a condition for peace in the international system has become increasingly accepted in the conflict literature. This can be attributed both to theoretical developments in this area and to empirical results supporting the peace through preponderance hypothesis. The most persuasive exposition of the notion of power preponderance is Organski and Kugler's (1980) power transition theory. We summarize their approach below and then show how power transition theory provides insight into the escalation of disputes to war between rivals.

Power Transition Theory and Major Power Wars

Organski and Kugler (1980) offer power transition theory as an explanation for major power war. Their analysis focuses on a small subset of wars where at least one major power fights on each side, the war produces more battle-deaths than in any previous war, and the losing side relinquishes some of its territory and/or population. They conceptualize the international system as hierarchical, with the dominant power at the top of the hierarchy and minor powers at the bottom. The key actors that can change the status quo in the system are the major powers below the dominant power, or the contenders. As long as the contenders are satisfied with the rules of the system enforced by the dominant power, they

have no incentive to alter them. It is those contenders who are dissatisfied with the rules that have incentives to initiate war, particularly when they are growing rapidly and approach or overtake the dominant state in relative power. According to Organski and Kugler (1980), the likelihood of major-power war is greatest when a dissatisfied contender is catching up with and overtaking the dominant power (i.e., when a power transition occurs). Also, the faster the challenger grows relative to the dominant power, the more likely war is to occur. Contrary to previous theories emphasizing the balance of power as a condition for peace, Organski and Kugler argue that parity between two sides could produce war and that power preponderance would maintain peace.¹

A lively debate between the balance of power and power preponderance schools of thought ensued after *The War Ledger* was published, producing a wide variety of refinements, extensions, and criticisms of power transition theory.² Critics of the approach emphasize the limited generalizability of the theory, the lack of a direct measure of dissatisfaction, power transitions as necessary versus sufficient conditions for war, criteria used for major power status, and the selection of only those cases where power transitions resulted in war (see, e.g., Vasquez 1996; Siverson and Miller 1996). More recent extensions of power transition theory have addressed these concerns. Lemke (1993, 1996), for example, developed a multiple hierarchy model that incorporates both major and minor powers. He demonstrates that parity and dissatisfaction, which Organski and Kugler had identified as the conditions for major power wars, also serve as conditions for minor power wars in regional settings.³ The impact of dissatisfaction has been measured more directly through alliance commitments (Kim and Morrow 1992), rivalries (Wayman 1996), and extraordinary military build-ups (Werner and Kugler 1996). Finally, power transition theory has been empirically tested on a set of cases that include violent and peaceful power transitions (e.g., Houweling & Siccama 1988, 1991). In short, most modern power parity / power transition theorists agree that the combination of parity and dissatisfaction offers a setting that is ripe for war between two states.

Power Transition Theory and the Escalation of Disputes to War in Rivalries

We are interested in determining when disputes between rivals are most likely to escalate to war, which we see as an important extension of power transition theory. Rivalry provides a useful context to examine the impact of relative capabilities on the likelihood of war.⁴ The definitions of the challenger and dominant power in the power transition literature are very similar to the way rivalries are defined. In power transition theory, hostility exists between the challenger and dominant nation because the challenger does not benefit from the status quo, i.e., the rules made and enforced by the dominant power. This creates a competition between the two sides for establishing a new status quo (for the challenger) or maintaining the existing status quo (for the dominant power). This

¹ The question of whether war is more likely to occur under power parity or preponderance has been the subject of many empirical studies (Houweling & Siccama 1988, 1991; Bremer 1992; Geller 1992, 1993). The consensus emerging from most of these studies is that power parity is more often associated with war than power preponderance.

² A recent book, *Parity and War* (Kugler and Lemke 1996), provides an excellent overview of the debate surrounding power transition theory.

³ Lemke (1993) finds empirical support for his theory in the South American region. He has recently applied the multiple hierarchy model to other regions including Africa, the Middle East, and the Far East.

⁴ See Goertz and Diehl (1995b: 294) for an alternative perspective on how rivalries can be used to test the propositions derived from power transition theory.

same type of competition is often described in the rivalry literature. For example, states embroiled in rivalry often compete for control over territory, where territory serves to establish the status quo. As Vasquez (1993:147) notes, if borders are imposed, this can create a context in which "shifts in capability can be expected to lead to a renewal of claims." In this case, we might also expect power parity and rapid shifts or transitions to increase the likelihood of war (where the war may be fought over the territory in dispute).

Rivalries also provide a useful set of cases to test power parity / power transition propositions because rivalry can be used to operationalize dissatisfaction, a key component of power transition theory (Wayman 1996). Extended rivalries often involve military build-ups, which is one measure of dissatisfaction employed by power parity theorists (e.g., Werner and Kugler 1996). Also, many enduring rivals are regional rivalries such as Egypt-Israel or India-Pakistan. These rivalries often become enmeshed in opposing alliances, which is another way of measuring dissatisfaction (Kim and Morrow 1992). Finally, rivalries -- at least in the militarized sense (e.g., Goertz and Diehl 1992b, 1993) -- typically involve frequent confrontations between the rivals. The rivals' willingness to threaten or use force more than once implies a dissatisfaction with the status quo on the part of one or both. Thus it is useful to examine escalation to war in rivalries, because they offer a situation in which one or both rivals are dissatisfied and have demonstrated their willingness to use militarized means to resolve their differences.

Wayman (1996) provides the most explicit link between power transition theory and war in the context of rivalry. He argues that power transitions and rapid shifts in power make war more likely, especially between rivals. Power shifts encourage both sides to escalate disputes to war for several reasons. First, shifts in relative power can result in "appetite in the gaining state and apprehension in the declining state" (1996:147). Increases in military power are especially dangerous, with arms buildups leading to a greater chance for war or recurrent crises. Second, shifts in relative power change each side's perception of the other side's costs for war. The rising state may overestimate its growth, while the declining state may underestimate its decline in power. This can create a situation where both sides believe they can win a war. Third, shifts in relative power often result in adjustments of loss of strength gradients, perhaps allowing the rising side to project its forces farther and more easily than before. This can change the salient issues of conflict between two sides.

Using the dyad-decade as the unit of analysis, Wayman (1996) suggests that war should be more likely in situations of relative parity, particularly in the aftermath of a power transition between the rivals. He finds that power shifts increase both the outbreak of disputes and the likelihood of war between rivals. Power shifts also seem to increase the likelihood of escalation to war more for enduring rivals than for non-rival adversaries. Similarly, Geller (1993) examines the relationship between relative power and conflict in enduring rivalries. His analyses suggest that conflict escalation between rivals is more likely under conditions of parity than under power preponderance, although conflict escalation seems to be more likely in cases of simple power shifts than in cases where there is an actual transition in relative power between the rivals.

Wayman (1996) and Geller (1993) illustrate the significance of power parity and power shifts or transitions between rivals as a predictor to war. Although there is some debate about whether transitions are necessary and/or sufficient conditions for war (Vasquez, 1996), most power transition theorists would argue that a transition is a necessary, but not sufficient condition for war (Lemke, 1996; Werner & Kugler, 1996). In other words, war is more likely to occur between a dissatisfied challenger and dominant power (globally or regionally) if the challenger overtakes the dominant nation in terms of power. To examine the impact of power parity and power transitions on the likelihood of dispute escalation in rivalry, we test the following hypotheses:

Hypothesis 1: The likelihood of dispute escalation to war in a rivalry is greater when the two rivals are relatively equal in terms of capabilities (parity).

Hypothesis 2: The likelihood of dispute escalation to war in a rivalry is greater if a power transition occurs between the two sides.

We also look at the interactive effect of parity and transitions, i.e., we compare cases of parity with transitions and cases of parity without transitions. This will help determine if parity alone can explain dispute escalation in enduring rivalries, or whether actual transitions have an important impact.⁵

The Rivalry / Evolution Perspective

As noted above, power transition theory would appear to be closely related to the concept of enduring rivalry. Several scholars have studied the impact of power parity or power transitions in the context of rivalry, but these studies have used rivalry primarily as a case selection mechanism (e.g., Geller 1993; Wayman 1996). That is, they have used the concept of rivalry to identify a population of cases with which to test propositions about power transitions or power parity, but they have made little attempt to incorporate any explicit effects of rivalry in their models. Their conclusions may thus be able to tell us about the role of power transitions or power parity in a certain set of cases, but they can tell us little about how this role changes within ongoing rivalries or about how the course of the rivalry itself affects relations between two rivals.

Hensel (1996a) has studied the impact of rivalry on the evolution of rivalry and the recurrence of militarized conflict between two former adversaries. The present study offers us the opportunity to make a similarly detailed study of the effects of rivalry on processes of dispute escalation. Like Hensel (1996a), we examine several types of effects that rivalry can have on conflict processes. The first type involves general effects, or the overall impact of two states' past history of militarized conflict on subsequent relations between the same states. The second type of rivalry effect in the present paper involves more specific effects, or the impact of specific episodes of past conflict on future relations between the former adversaries. Together, we expect that these general and specific effects of the context of rivalry between two states will be able to help increase our understanding of the effects of power transitions and power parity.

General Effects of the Rivalry Context

The general effects of the rivalry context between two states relate to Hensel's (1996a) evolutionary approach to interstate rivalry. This evolutionary approach suggests that relations between two adversaries change over time as the result of past interactions between them. Thus, we should expect to find that the conflict behavior of enduring rivals should differ from that of non-rival adversaries (as found by Goertz and Diehl 1992b), and also that relations between adversaries change over time within rivalries. Rivalry is commonly described conceptually in terms of a protracted, conflictual relationship between adversaries, in which there is substantial competition, suspicion, hostility, and threat perception between the rivals. Presumably, then, as two adversaries accumulate a longer history of conflict, their relations should be expected to become even more competitive,

⁵ We recognize that measuring dissatisfaction is also important in any empirical test based on the power transition / power parity approach. Some scholars measure dissatisfaction for the entire interstate system based on military buildups (Lemke and Werner 1996) or on alliance portfolios (Lemke and Reed 1996). Given the present manuscript's focus on militarized conflict and on interstate rivalry, we prefer to measure dissatisfaction based on the outcomes of militarized relationships between two rivals, and on the contentious issues at stake between them. Future research, though, is encouraged to explore alternative measures of dissatisfaction.

suspicious, and hostile, and each rival's perception of the threat posed by the other should increase. And if the escalatory effects of power transitions depend on dissatisfaction or rivalry between two states undergoing a potential transition, these effects should be expected to strengthen as adversaries build up a longer history of conflict and a more severe rivalry.

Hensel (1996a) studies the evolution of rivalry by distinguishing between early, intermediate, and advanced phases of rivalry, and by comparing changes in conflict behavior across these different phases. He identifies substantial changes over time in the likelihood of conflict recurrence between adversaries. That is, the longer the history of conflict between two adversaries (or the more advanced their rivalry phase), the more likely those adversaries are to become involved in renewed militarized conflict in the near future. In the present study we use similar methods to search for changing patterns in conflict escalation in evolving rivalries, using more sophisticated analyses than the preliminary escalation analyses of Hensel (1996a).

In general, we expect that dispute escalation will be greatest in more advanced phases of rivalry. That is, the longer the history of conflict between two particular adversaries at the time they begin a confrontation, the more likely those adversaries should be to escalate that confrontation to full-scale war. This should be particularly true with regard to the impact of power transitions and power parity, given the earlier suggestions that parity or transitions are unlikely to lead to war except in situations with substantial dissatisfaction (such as more advanced phases of rivalry):

Hypothesis 3: The likelihood of dispute escalation to war in a rivalry is greater in later phases of rivalry, when the rivals have a longer history of previous conflict.

Specific Effects of Rivalry and Evolution

Beyond the general effects of the rivalry context described above, an evolutionary approach to rivalry suggests that specific episodes of militarized conflict also exert important influences on subsequent relations between the adversaries. One such specific effect involves the outcomes of previous confrontations between two adversaries. Maoz (1984), Hensel (1994a), and Hensel (1996a) have all suggested that the outcome of a given confrontation sets the stage for future relations between the former adversaries, perhaps either laying the groundwork for future conflict or resolving the protagonists' differences in such a way as to prevent or postpone future conflict. Each of these studies has also examined the effects of past outcomes on the likelihood or timing of future conflict between the same adversaries, with all three finding evidence that past outcomes do indeed have a strong impact on the recurrence of militarized conflict. We now extend these past studies by examining the impact of previous conflict outcomes on the escalation levels of subsequent confrontations between the same adversaries.

Hensel (1994a, 1996a) distinguishes between three general types of dispute outcomes: decisive outcomes, compromises, and stalemates. In a decisive outcome, one side emerges from the dispute as a clear victor. As a consequence, the victor's opponent is presumably left dissatisfied with the outcome -- and given the importance of dissatisfaction as a condition for escalation under power transition theory, we expect a tendency for higher escalation in future confrontations occurring after a decisive outcome. In a compromise outcome, the two protagonists are able to reach some mutually agreeable negotiated solution to their differences. Although such a solution may not prove to be durable over the long run, it presumably decreases tension and hostility between the adversaries relative to the other types of dispute outcomes. As a result, we expect confrontations after a compromise outcome to be less escalatory than confrontations after the other outcome types. Finally, in a stalemate, neither side emerges from the dispute as a clear victor, and the two sides are unable to reach a mutually agreeable settlement. The fact that the

confrontation occurred, though, seems likely to increase hostility, grievances, and dissatisfaction between the adversaries, particularly if the dispute led to the loss of life on either side. We thus expect a higher likelihood of escalation in subsequent crises following a stalemate outcome.

Hypothesis 4: The likelihood of dispute escalation to war in a rivalry is greater when the rivals' previous confrontation ended in a stalemated or decisive outcome than when their previous confrontation ended in a compromise outcome.

The effects of dispute outcomes described above refer to the independent effects of each outcome type, as compared to the effects of the other types. It should be noted, though, that the effects of dispute outcomes may not be independent from other factors. In particular, we expect that the effects of past dispute outcomes may depend on the escalation level reached in the previous dispute, with future escalation being less likely after a previous dispute that reached high levels of escalation. Morgan and Levy (1990), among others, discuss the possibility of such a "war weariness effect," whereby a highly escalatory confrontation or war consumes substantial resources, increases leaders' perceptions of the expected costs of further confrontations in the future, and may generally dampen the incentives for subsequent escalation. Thus, a decisive outcome or a stalemate that reached high escalation levels is expected to reduce the likelihood of escalation in the next confrontation despite the dissatisfaction that most likely resulted from the outcome. Even a compromise outcome is expected to reduce escalation in the future when the compromise itself reached higher escalation levels, between the tendency to generate less dissatisfaction than other outcome types and the increase in leaders' expected costs from future escalatory behavior.

Hypothesis 5: The likelihood of dispute escalation to war in a rivalry is greater when the rivals' previous confrontation reached lower levels of escalation than when their previous confrontation reached high levels of escalation.

A final evolutionary effect that we examine involves the possibility of past interactions producing substantial changes in the relationship between two adversaries. Goertz and Diehl (1995b), for example, suggest that relationships between rivals typically revolve around some "basic rivalry level" that is unique to each rivalry and that largely determines how hostile or escalatory those rivals' relations will be. The rivals may not begin their rivalry at this basic rivalry level, but Goertz and Diehl (1995b) argue that their relations quickly become "locked in" around this level early in their rivalry. As discussed above, Hensel (1996a) suggests that rivals typically engage in numerous confrontations over a period of time before reaching their eventual rivalry status, with factors such as dispute outcomes and escalation levels affecting their path to eventual enduring rivalry. Goertz and Diehl suggest that this locking-in process typically occurs more rapidly, although they do not attempt to account for the conditions under which relations between two rivals become locked in around their basic rivalry level.

We suggest that the evolutionary approach of Hensel and the basic rivalry level approach of Goertz and Diehl may not be entirely incompatible. That is, the eventual escalation patterns of a given pair of rivals may "lock in" at different times for different rivalries, and this lock-in effect may result from interactions between the rivals. For the purposes of the present paper we draw from the arguments of Vasquez (1993: chapters 3, 5) regarding the effect of power politics as a foreign policy practice. To Vasquez, war results in large part from the dominance of power politics practices among foreign policymakers. When leaders perceive significant security threats, the power politics tradition suggests that they attempt to deal with these threats through realist measures like

increasing their military power, coercive diplomacy, and demonstration of resolve in crises -- which, in turn, can encourage the very crisis escalation and war that the policymakers meant to avoid. Particularly for enduring rivals, persistent confrontations between the same two adversaries can lead one or both to conclude that force is the only way to resolve their differences. This general argument is covered in our earlier hypotheses regarding evolutionary rivalry phases and escalation, but we expect this general pattern of repeated confrontations increasing the tendency for escalation and war to be even stronger when there has already been a war in the rivalry. That is, if a history of persistent confrontations help lead statesmen to conclude that war is the only way to resolve differences, a history of warfare should exacerbate this effect (essentially "locking in" the dyad to a pattern of highly escalatory relations):

Hypothesis 6: The likelihood of dispute escalation to war in a rivalry is greater when the adversaries have already engaged in at least one previous war.

The Contentious Issues / Territory Perspective

The impact of power parity, power transitions, rivalry, and conflict outcomes on escalation between rivals might depend on the issues in dispute. Several conflict scholars have argued that certain types of issues, such as territory, are more often associated with war than other issues.⁶ Examples of some of the contentious issues that may lead to conflict include state creation, commercial or economic interests, colonial competition, and territory (Holsti 1991:308). There is strong evidence that territorial issues are the most contentious of these different issue types, or the most likely to be associated with war. Holsti (1991) finds, for example, that territorial issues have resulted in more wars than any other issues from 1648-1989. Vasquez (1993:124) also argues that territorial disputes are more prone to escalation than other issues: "Territorial disputes, particularly those involving contiguity, are so much more war-prone than others that they are viewed in this analysis as one underlying cause of war... A dispute over territorial contiguity is of causal significance in that its presence makes war possible and its absence makes war highly unlikely." Further evidence is provided by Hensel's (1996b) analysis of the impact of the issues at stake in a dispute. Hensel finds that disputes involving territorial issues are three times more likely to escalate to war than disputes involving non-territorial issues. Furthermore, territorial issues are more likely than other issues to lead to recurrent disputes between two states. These studies demonstrate the significance of territorial issues on the potential for war between states. Why are disputes over territorial issues so much more war-prone?

As Hensel (1996b) notes, territory is extremely important to nation-states for many reasons. First, territory is valuable both in terms of its physical resources (such as oil) and its human resources (population). Second, territory often evokes psychological feelings of attachment and loyalty to the state (see also Murphy 1990; Diehl 1991; Vasquez 1993). In this sense, the public cares about territorial issues because territorial transfers can be associated with a loss of national identity or cohesion. Third, as suggested above, a state's reputation may be closely linked with the manner in which it handles disputes; this impact on reputation may be even greater for disputes involving territorial issues because of the importance of such stakes. For all of these reasons, territorial issues are seen by leaders as highly salient, and leaders are often willing to endure greater costs (such as war) to protect or advance their interests over territory.

The discussion of power transition theory above indicates that the impact of parity and power shifts on the likelihood of war may depend on whether the dispute involves

⁶ See, e.g., Hill 1945; Holsti 1991; Goertz and Diehl 1992a; Vasquez 1993; Hensel 1996b; Huth 1996.

territorial stakes. Vasquez (1993:113, 146) makes the point succinctly: "whether capability changes between two actors are important will depend on whether they have outstanding grievances, particularly those involving territorial questions, and whether their prior interaction has been hostile or friendly... changes in capability become dangerous only when there are territorial disputes." Furthermore, the issues at stake between two states may form an important element of the dissatisfaction described above as central to power transition theory. When two states disagree over highly salient issues such as territory, and particularly when they have engaged in numerous confrontations over such issues in the past or territory has changed hands between them, at least one of the rival states is likely to be extremely dissatisfied with the territorial status quo. To examine the impact of territorial issues on escalation to war in rivalry, we test the following proposition:

Hypothesis 7: The likelihood of dispute escalation to war in a rivalry is greater when the rivals are contending over territorial issues than when they are contending over other types of issues.

Research Design

Spatial-Temporal domain

The present study's hypotheses are tested on a population of enduring rivalries from 1816-1992. As discussed earlier, enduring rivalries include two adversaries that compete for control of the status quo, much like the setting described in power transition theory. Similarly, at least one of the rivals can be seen as dissatisfied with the prevailing status quo in the rivalry at any point in time, and both rivals are likely to watch the other's actions and military preparations with a wary eye. Enduring rivalries thus offer a useful set of cases for testing propositions about power transition theory.

Furthermore, we limit our study to "enduring" rivals (instead of "proto-rivals" or "isolated conflict" dyads) to limit the potential problems that could arise from comparing dyads with little or no dissatisfaction. For example, Goertz and Diehl's (1992, 1995) "isolated conflict" dyads only engage in one or two disputes, which seems unlikely to generate the level of competition and dissatisfaction that are essential to power transition theory. As described by Hensel (1996a), drawing from the definition of rivalry used by scholars such as Goertz and Diehl (1992b, 1995), enduring rivalry is defined by the frequency of Correlates of War (COW) Project militarized interstate disputes⁷ between two states. Specifically, an enduring rivalry is a dyadic relationship involving at least six militarized disputes between the same two states, separated by gaps of no greater than fifteen years.

Methodology

We test our hypotheses empirically with logistic regression analysis. Logistic regression uses a set of independent variables to study the probability of a discrete dependent variable, in this case the escalation of militarized disputes to war or to the point of fatalities. Traditional methods such as OLS regression analysis run into substantial problems in the analysis of discrete dependent variables, which are overcome through logistic regression analysis (Aldrich and Nelson, 1984; Liao, 1994).

Operationalization of variables

Escalation

⁷ Militarized disputes are defined as interactions involving the threat, display, or use of militarized force that is explicit, overt, nonaccidental, and government sanctioned (Gochman and Maoz 1984).

We examine two measures of the escalation of militarized disputes, both of which are dichotomous in nature. The first measure indicates whether or not the dispute escalated to the level of full-scale interstate war, defined as sustained combat between the regular armed forces of two or more states that results in at least one thousand battle deaths (Small and Singer 1982). The second measure is meant to capture a lower threshold in militarized dispute escalation and indicates whether or not the dispute reached the use of force level. Although the simple use of force in a dispute covers a wide range of cases, it still represents an important threshold in interstate conflict between the threat or display of force and full-scale interstate war.

Parity and Power Transitions

In order to measure two rivals' relative capabilities we employ the COW national capabilities data set (Singer, Bremer, and Stuckey 1972). Our measure of capabilities begins by taking each rival's average share of the six COW capability indicators (military personnel, military expenditures, iron and steel production, energy consumption, total population, and urban population) in a given year.⁸ Following Organski and Kugler (1980) and Lemke (1996), we define parity as a situation in which the weaker rival has at least 80 percent of the total capabilities of the stronger side.

We define power transitions as occurring when the weaker side in a dyad passes the stronger side in relative capabilities. Again following most power transition research, we distinguish between three situations: unequal states (i.e., no parity), parity with no transition, and relative parity with transition. Our logistic regression analysis includes two dichotomous variables to represent these situations: one that indicates whether there is parity in relative capabilities and whether a power transition either is occurring in the year in question or has occurred within the previous ten years (parity with transition), and one that indicates the presence of parity without such a transition (parity without transition).

Rivalry Phase

Our measure of the evolutionary rivalry phase in which a dispute occurs was presented and discussed by Hensel (1996a). The first two militarized disputes between the rivals are classified as occurring in the early phase of rivalry, the third through fifth disputes are classified as the intermediate phase of rivalry, and the sixth and subsequent disputes are classified as the advanced phase. Under this study's definition of enduring rivalry (as well as those of other scholars such as Goertz and Diehl) these three phases correspond to the number of disputes required for the three major types of rivalry employed in current research. That is, an isolated conflict dyad (which involves one or two disputes) never leaves the early phase of rivalry; a proto-rivalry (three to five disputes) begins the intermediate phase once the rivals begin their third dispute; and an enduring rivalry (six or more disputes) begins the advanced phase once the rivals begin their sixth dispute. The enduring rivalries included in the present study each involve two militarized disputes that occurred in the early phase, three militarized disputes that occurred in the intermediate phase, and at least one dispute that occurred in the advanced rivalry phase. Rivalry phase is included in our logistic regression analysis in the form of two dichotomous variables, indicating whether a given dispute occurred in the intermediate or advanced rivalry phase, respectively.

Past Dispute Outcomes

⁸ Organski and Kugler (1980: 38) note that this measure is highly correlated with GNP, another indicator that is used frequently in studies of power transition theory.

As with rivalry phases, previous dispute outcomes are indicated in the present study by several dichotomous variables indicating that the previous dispute between two rivals ended in a decisive or compromise outcome. A decisive outcome refers to a dispute that ended with a clear victor, and a compromise outcome refers to a dispute that ended with a mutually agreed settlement between the disputants.⁹

Past Dispute Escalation

The escalation level of the previous dispute between two adversaries is based on the COW dispute data set's measure of level of hostility. Each actor in a dispute is coded as reaching one of five levels of hostility: (1) no militarized action, (2) threat to use force, (3) display of force, (4) use of force, and (5) interstate war (as described earlier). Our escalation indicator is formed by adding the two sides' level of hostility scores together, producing a range from three (threat to use force vs. no militarized action) to ten (full-scale war). We also examine the possibility of interaction effects between past dispute outcomes and escalation levels, multiplying dummy variables for the three outcome types (decisive, compromise, and stalemate) by the escalation level in the previous dispute. The resulting interaction terms thus reflect the escalation level for disputes of each outcome type (i.e., the decisive outcome - escalation interaction term reflects the escalation level for all disputes that ended in decisive outcomes, and takes on a value of zero for all other disputes).

Past War in Rivalry

Our final rivalry-based variable measures the time elapsed since the previous war in a rivalry, in order to test the possibility that the occurrence of war in the recent past will transform a rivalry and "lock in" the rivals to more escalatory relations in its aftermath. This measure has a value of zero up to and including the first war in the rivalry. Once a war has occurred in a rivalry, this measure is coded as the inverse of the number of years elapsed since the war for all subsequent disputes in the rivalry. As a result, this indicator measures the effect of past war involvement on subsequent relations between the adversaries, with high values reflecting a recent war and low values reflecting a war in the more distant past.¹⁰

Contentious Issues

The effect of contentious issues on escalation is measured by a dichotomous variable indicating whether or not the militarized dispute in question involved explicit contention over territorial issues. As Vasquez (1993) and Hensel (1996b) suggested, territorial issues are considered by policymakers to be especially salient for both tangible and psychological reasons, and -- barring a complete data set covering all of the possible types of issues that could have been involved in militarized disputes -- explicit contention over such issues is a reasonable indicator of the presence of highly salient issues at stake in a dispute.

Empirical Analyses

We begin with a brief descriptive analysis of our data set. Our empirical definition of rivalry generates a total of 103 enduring rivalries during the period of study, which became involved in a total of 1247 militarized interstate disputes. These 1247 disputes

⁹ The alternative, a stalemate outcome, refers to the lack of either of these types of settlement and is left out of the equation as a referent group to prevent perfect collinearity among the three variables. For further details see Hensel (1994a, 1996a).

¹⁰ We also employ a dichotomous measure reflecting whether or not there has been a previous war in the rivalry, with very little impact on the results.

include 82 that escalated to full-scale interstate war (6.6 percent of the total), as well as 435 (35.9 percent) that reached the level of use of force.

Contrary to our expectations, neither relative parity in capabilities nor the evolutionary rivalry phase in which a dispute occurred seem to have influenced the likelihood of escalation to the level of fatalities or war in bivariate analyses. The probability of escalation to war increased slightly from 6.3 percent to 7.0 percent in situations of parity, but this result is not statistically significant ($p < .72$), while the probability of the use of force decreased from 35.9 percent to 28.0 percent in parity ($X^2 = 3.72$, 1 d.f., $p < .06$). The probability of escalation to war decreased slightly in situations of parity with a recent power transition ($p < .61$), and increased somewhat in parity situations without a recent power transition ($p < .42$). There was almost no change in probability of the use of force in parity situations shortly after a power transition, although this same probability decreased from 35.9 percent to 20.0 percent in parity without a recent power transition ($X^2 = 8.34$, 1 d.f., $p < .01$).

Similarly, the probability of the use of force increased from 30.2 percent in the early phase of rivalry and 30.0 percent in the intermediate phase to 38.1 percent in the advanced phase ($X^2 = 8.56$, 2 d.f., $p < .02$), but the probability of war varied from 9.4 percent in the early phase to 5.0 percent and 6.5 percent in the intermediate and advanced phases ($X^2 = 3.95$, 2 d.f., $p < .14$). Despite this lack of support for several key variables in bivariate analyses of escalation, though, multivariate analyses reveal a number of factors that do help account for dispute escalation. The next section of our analyses employs logistic regression analysis to study the probability of dispute escalation to full-scale war and the probability of fatalities in a dispute.

*****NOTE: Add in a brief discussion of the new results, breaking this down by time / major power status / contiguity (in order to introduce our major power and contiguity controls)**

Militarized Dispute Escalation to War

Table 1 presents a logistic regression model of militarized dispute escalation to war in enduring rivalries. The model as a whole performs well, producing a highly significant improvement over the null model (improvement = 107.12, 9 d.f., $p < .001$). The model as fitted also accounts for a fairly large proportion of the variance in dispute escalation, as indicated by the pseudo- R^2 value of .33 (based on Aldrich and Nelson's measure with Hagle and Mitchell's correction; see Hagle and Mitchell 1992).

Turning from the overall model to the individual elements of the model, we find that neither parity nor the evolutionary rivalry phase produce the hypothesized effect, although most of the remaining hypotheses are supported. Parity in relative capabilities between two states produces a positive coefficient when a power transition has not occurred in the dyad recently, consistent with our expectation that parity would increase the probability of escalation; this effect reaches borderline levels of statistical significance ($p < .09$). Parity with a recent power transition, though, produces a negative effect and does not reach conventional significance levels ($p < .26$). Dispute escalation to war is thus more likely in the presence of parity, but only when there has not yet been a power transition; once a transition occurs escalation seems to become somewhat less likely. Also contrary to our expectations, more advanced rivalry phases actually appear to lead to decreased escalation after controlling for the effects of the other factors in the model. Dispute escalation is significantly less likely in both the intermediate and advanced rivalry phases ($p < .001$), indicating that disputes occurring in later phases of a particular rivalry are much less likely to escalate to the level of full-scale interstate war than disputes occurring in the early phase.

Most of the other variables examined in our study, though, produced significant results in the expected direction. The model reported in Table 1 includes interaction terms

for previous dispute outcomes with previous dispute escalation. All three of these interaction terms produce negative effects, with both decisive outcomes and stalemates reaching statistical significance at the .01 level, and compromise outcomes reaching borderline significance ($p < .12$). These negative effects mean that after each of these outcome types, future escalation is less likely when the previous dispute reached higher levels of escalation. In an alternative analysis without these interaction terms, decisive and compromise outcomes produced positive effects (although not reaching conventional levels of statistical significance), while dispute escalation produced a significantly negative effect ($p < .01$). That is, each of these outcome types is followed by a somewhat greater likelihood of escalation overall, relative to stalemates (the reference category in these analyses, which has a negative but non-significant effect). But as shown by the negative effects of dispute escalation, both in the individual analysis and in the interaction terms reported in Table 1, these effects of previous dispute outcomes are mediated by the escalation levels reached in the past dispute. For all three outcome types, highly escalatory past disputes tend to decrease the likelihood of escalation in subsequent confrontations with the same adversary.

The final evolutionary effect in our analyses, a history of war in the rivalry, has perhaps the strongest effect in Table 1. When the two rivals in question have engaged in a previous interstate war earlier in their rivalry, their later disputes are significantly more war-prone in comparison to rivals without such a history ($p < .001$), even when controlling for such other factors as the outcome and escalation levels of their subsequent disputes and their relative capabilities. Similarly, contention over territorial issues also produces a positive and highly significant effect on the escalation of disputes to war ($p < .10$). Disputes in which territorial issues are at stake between the rivals are much more likely to escalate to full-scale war than disputes over other issues.

The results presented in Table 1 appear to be quite robust, undergoing little change in direction or significance under alternative indicators for our concepts or alternative model specifications. The parity variable remains insignificant under such widely used alternative indicators as a 3:1 threshold for relative parity between two states or a 10:1 threshold for overwhelming preponderance by the stronger state. The effects of previous dispute escalation, either alone or in interaction with previous dispute outcomes, remain relatively constant using an alternative, multidimensional indicator of escalation presented by Hensel (1996a). Removing each individual variable or set of variables (as with the sets of rivalry phase or outcome variables) also produces little change overall in the effects of the remaining model, increasing our confidence that the results of the model are not driven overwhelmingly by the effects of one particular variable.¹¹

Militarized Dispute Escalation to Use of Force

Table 2 presents the results of a logistic regression of dispute escalation to the use of force. The use of force in the COW militarized dispute data can range from a shooting incident across a border to a large-scale incursion into another state or a series of clashes that do not reach the threshold of full-scale war, as described earlier. The use of force is the highest level of hostility coded in the COW dispute data short of full-scale war, and studying this level of escalation along with full-scale war offers some important

¹¹ Since the number of disputes that escalate to war is small, we also analyzed the data with an alternative estimator, gompit, that is a better representation of the data generating process for rare events. (Gates & McLaughlin, 1996) Unlike logit and probit, the gompit does not assume an equal probability of zeros and ones for the dependent variable. Instead, the gompit link function is skewed such that the probability of the dependent variable equaling one is less than 0.5. Our results are identical in sign and statistical significance to those presented in Tables 1 and 2, increasing our confidence in the robustness of our results.

opportunities. The use of force is a lower level of escalation than war but is still considered to be more severe than other levels of hostility, such as the threat or display of force. Studying escalation to the use of force level thus offers the possibility of identifying patterns that hold for general escalatory processes, but that may not hold at such an extreme level as full-scale war (involving at least one thousand fatalities). Furthermore, the use of force is a much more common phenomenon in international relations, and studying it allows us to see whether the results for full-scale war are affected by the relative rarity of that dependent variable (accounting for approximately six percent of all militarized disputes in our set of cases, while approximately one-third of all disputes reached the use of force threshold).

The results in Table 2, like the results in Table 1, are highly statistically significant (improvement = 99.69, 9 d.f., $p < .001$), although the model as a whole performs less well in terms of the Aldrich and Nelson pseudo- R^2 measure ($R^2 = .16$). The effects of parity remain statistically insignificant, although the signs on the parity coefficients have reversed from the corresponding signs in Table 1. The intermediate and advanced phases of rivalry still produce negative coefficients, indicating that escalation is less likely in later rivalry phases, although both coefficients have dropped to the level of borderline significance ($p < .10$). The effects of a history of previous war involvement and of territorial issues remain the same in both Table 1 and Table 2, with both factors significantly increasing the likelihood of dispute escalation to war.

The primary difference between the two tables lies in the effects of past dispute outcomes and escalation levels. With regard to dispute escalation to war, as discussed earlier, all three outcome types produced insignificant effects alone -- but significant (or nearly significant) negative effects in interaction with past escalation levels. With regard to the lower escalation threshold of the use of force, these effects are generally reversed. Alone (i.e., in analyses not reported directly in Table 2), decisive outcomes significantly decreased escalation ($p < .02$), compromises decreased escalation at borderline significance levels ($p < .09$), stalemates significantly increased escalation ($p < .04$), and previous dispute escalation significantly increased escalation ($p < .001$). In interaction with previous escalation, all three outcome types produce positive effects on the likelihood of escalation to the use of force, with these effects being significant for decisive outcomes ($p < .03$) and for stalemates ($p < .001$). As with Table 1, compromise outcomes produced the weakest results in combination with previous dispute escalation, in this case not even reaching borderline levels of statistical significance ($p < .41$).

The observed difference in results from Table 1 to Table 2 suggests that the effects of previous dispute outcomes may be limited to certain thresholds of escalation. That is, previous dispute outcomes and escalation levels seem to have very different effects on the likelihood of escalation to the use of force and the likelihood of escalation to full-scale war. Higher past escalation levels (either alone or in interaction with past outcomes) typically increase the likelihood of escalation to the use of force threshold in the next dispute, but they also typically decrease the likelihood of escalation to war. Similarly, the effect of each individual outcome type changes between these two analyses. It seems that previous escalation levels, overall and within each individual outcome type, tend to increase escalation in subsequent disputes between the same adversaries -- but only up to a certain point. The likelihood of escalation to full-scale war seems to be decreased by a record of recent disputes with high escalation levels, indicating that a war-weariness type of effect seems to hold at the upper end of the escalation spectrum in spite of the reinforcement effect that we observe for lower levels of escalation.

Discussion

These analyses suggest a number of interesting points about our hypotheses and our three theoretical perspectives, as well as about the study of escalation and interstate

rivalry more generally. Our first two hypotheses are derived from power transition theory and predict that escalation in rivalry would be more likely in cases of parity and power transitions. These hypotheses are not supported in either the analysis of escalation to war or the use of force, although parity is in the hypothesized direction and significant (at the .10 level) in the first analysis. Even more curious is the negative sign on the interaction between power parity and power transitions, implying that situations characterized by parity and transitions between rivals are less escalatory than cases without transitions. Given the strong evidence for parity and transitions increasing the likelihood of war in other studies, what explains the negative or inconclusive results in our analysis?

One methodological reason that may help to account for the weakness of our power transition theory variables involves our measurement of power transitions. Most previous studies in this area have typically studied capability changes or power transitions in broad terms, focusing on changes within periods lasting one or two entire decades. Such studies typically identify whether the two states in question were unequal through the entire period, equal during the period but without a power transition, or equal with a transition. These conditions are then crosstabulated with the occurrence or nonoccurrence of war sometime during the period. In the present study, we code a transition in the decade after it occurs (including the transition year) between a pair of states, which offers the advantage of identifying the temporal relationships between a transition and a war that both occurred in the same decade. While we can tell when a transition preceded a war chronologically, though, our measure cannot account for any anticipated transitions that never occur. Our measure is meant to be consistent with an evolutionary approach to rivalry, which suggests that the future can not be known with certainty -- meaning that the effects of a power transition can not meaningfully be added to the model until an actual transition has already occurred (unless there were also some way to include potential future transitions that do not materialize, in order to avoid selecting cases for analysis on the basis of the independent variable of power transition). A war that occurred in the same decade as a power transition, but that occurred several years before the transition, is not considered to be a power transition war in our analyses (although it would be in most previous analyses based on power transition theory). Future research along these lines could do well to incorporate a forecasting component in an empirical model, allowing two rivals to forecast an imminent transition on the basis of recent trends in relative capabilities (but without identifying the effects of transitions by whether or not a transition actually does or does not occur at some later point).¹²

Another measurement difference between the present study and many previous studies of power transition theory involves the operationalization of dissatisfaction with the

¹² A future extension of our work is the development of a dynamic model of relative capabilities, that focuses on military buildups, a key measure of dissatisfaction found in other power transition studies (Werner & Kugler, 1996). Information about shifts in relative military strength would be used in a decision model of escalation to the use of force (including war). The decision to escalate would depend on both the information from previous disputes (evolutionary approach) and the best forecast of future relative capabilities. Assuming that relative capabilities reflect the probability of success in a war, leaders would be more likely to escalate a dispute when they anticipate a loss in relative advantage and be less likely to escalate when they forecast an increase in relative advantage. Testing this model with time series forecasting techniques would add crucial empirical evidence to the power transition/power shifts debate. Geller (1993), for example, argues that simple power shifts rather than transitions make conflict more likely. The key to determining this difference is to compare models that identify power transitions/shifts post hoc versus models that use only that information available to decision-makers at the time of the dispute as predictors of war. This approach would also be useful for testing Wayman's (1996) assertion that power shifts in rivalry are more dangerous in the context of military buildups or arms races.

status quo. We use rivalry and a number of rivalry and issue-related variables to incorporate this concept, whereas previous studies have used alternative measures such as the similarity in states' alliance patterns or the rapidity of growth in states' military capabilities. It may be that rivalry is not the best way to incorporate the notion of dissatisfaction, or that the rivalry and issue-related elements in the present study are tapping very different concepts from the dissatisfaction component of power transition theory. For example, enduring rivalry or contention over territorial issues may involve a different form of dissatisfaction than the status quo that is so important to the hegemon and potential contenders in traditional power transition theory.

It may also be that power transition theory is not as useful for explaining escalation in rivalry as it seems. It is fairly clear that the impact of parity is marginal at best and often in the wrong direction. This remains true for a variety of model specifications and measurements of parity. Vasquez (1993:102) may be correct when he questions the utility of power transition theory because "as a sufficient condition of war, power transition does not seem to lead to war on any regular basis. Sometimes it does and sometimes it does not." There may be something specific about the relationship between enduring rivals that renders parity a less powerful predictor of war. That is, certain dyads might be more predisposed to escalation in general than other types, regardless of whether or not there is parity between the rivals or whether they are undergoing a power transition. For example, Vasquez (1993: 113) suggests that "whether capability changes between two actors are important will depend on whether they have outstanding grievances, particularly those involving territorial questions, and whether their prior interaction has been hostile or friendly." Goertz and Diehl's (1995b) basic rivalry level approach would also suggest that -- for whatever reason -- certain pairs of adversaries are simply more conflictual or more war-prone than others.

Our second major theoretical approach, the rivalry / evolutionary perspective, also produced mixed results (Hypotheses 3 through 6). Perhaps the biggest surprise from this set of factors involves our finding of strong negative coefficients for the effects of the intermediate and advanced rivalry phases on dispute escalation. One possible explanation for this finding involves the nature of the data used. The enduring rivals studied in our analyses escalated relatively few militarized disputes to full-scale wars. This lack of escalation may result in part from the revised COW militarized dispute data set, which is much more thorough and detailed than previous efforts and includes many more disputes (roughly twice as many as the previous version of the same data set). Very few of the new disputes that have been added escalated to interstate wars, because most wars have been prominent enough in international history that they were identified in earlier versions of the data. Thus, many of the additions to the dispute data are fairly minor disputes, which were identified by intensive research in historical source material. This addition of minor disputes without much change in the number of highly escalatory disputes or wars reduces the apparent escalation propensity of rivals, compared to earlier versions of the data. Hensel (1994b), for example, found evidence with the old version of the dispute data that disputes between enduring rivals tend to become more escalatory in later phases of their rivalry, but Hensel (1996a) and the present paper find that this is no longer the case with the revised data.

Upon noticing the increased prevalence of minor disputes in the COW dispute data, some researchers might suggest that the study of rivalry should focus on the more severe disputes in the data set, rather than on fairly minor incidents between two states that quickly blow over. For example, some of the definitions of rivalry described by Goertz & Diehl (1993) include a severity threshold and focus on militarized disputes that involve militarized action (the threat, display, or use of force) by both sides and last a minimum of 30 days. We are hesitant to impose such limits on the cases that we use to study dispute escalation, though, because this involves selection on the dependent variable; it would not be

especially meaningful to compare the likelihood of dispute escalation if we were to focus exclusively on the most escalatory cases. Furthermore, consistent with an evolutionary approach to rivalry, we do not agree with the use of post hoc criteria (the eventual escalation level of a dispute) for including or excluding cases for analysis; we would prefer to identify theoretically based variables such as contentious issues, relative capabilities, and past histories of conflict that seem likely to account for the differences between disputes that escalate and disputes that do not.

Beyond the methodological or data-related points that we have already discussed, there are also theoretical reasons that may help to account for our results. Kuenne (1989), for example, suggests that rivalries may become more "mature" over time. To Kuenne, an environment of "mature rivalry" may develop as the result of the passage of time in an ongoing rivalry, the development of shared expectations about a rival's typical actions and reactions (based on numerous interactions and confrontations with the same rival), and the development of institutions or conditions favorable to cooperation. Such an environment of mature rivalry may help to temper the fears and ambitions of policy makers, allowing for the management of conflict and rivalry -- although perhaps not resolving or ending what could be an essentially permanent competitive relationship (Kuenne 1989: 562). In such an environment, two rivals could continue engaging in low-level militarized conflict, consistent with Hensel's (1996a) findings regarding the likelihood of continued conflict as adversaries accumulate a longer history of past conflict. Nonetheless, in a mature rivalry as Kuenne described it, the rivals may be able to manage or limit the escalation of any confrontations that may occur, consistent with this study's finding of a decreased tendency for disputes to reach high levels of escalation in later rivalry phases.

The hypotheses tested regarding the impact of dispute outcomes on escalation supported our expectations, although the results varied substantially between the analyses of escalation to war and the analyses of escalation to the use of force. As discussed above, previous dispute outcomes and escalation levels (together) tend to increase the chances for escalation to a use of force, but decrease the chances for war. These disparate effects of dispute outcomes and escalation may appear to be somewhat inconsistent because we include the outcomes and escalation levels of all disputes, rather than focusing on major events that might be expected to have the most important effects.

Several studies of crisis escalation and deterrence have focused on the impact of major crises, while ignoring or marginalizing the impact of previous lower level disputes on the likelihood of escalation to war. For example, Leng (1983) and Huth (1988) both focus on crises that involve militarized action by actors on both sides of the crisis, which is a narrower and more escalatory set of cases than the entire militarized dispute data set (which includes cases in which one state does not respond militarily). It may be that decision makers' actions are only affected by previous disputes that reached high levels of severity, rather than by all previous confrontations. Jervis (1976) suggests that the influence of past events depends heavily on their perceived importance -- i.e., major past events such as revolutions and wars seem to have a stronger influence on subsequent policy than less dramatic happenings. It may be that highly escalatory disputes or wars have substantial effects on later conflict behavior, while less escalatory past disputes may tend to fade away without much long-term impact.

To see if our results are significantly affected by the inclusion of all disputes, future research could ignore the effects of minor confrontations in the past, instead focusing on the outcomes and escalation levels of the most recent dispute between the same rivals that reached a high level of hostility. Yet there is some evidence that the effects of past dispute outcomes remain even in analyses involving all militarized disputes, rather than a subset of highly escalatory disputes. Maoz (1984) and Hensel (1994a, 1996a) find that even militarized disputes affect the likelihood of subsequent interstate conflict, despite the absence of any dispute severity criterion in their research designs. Similarly, in the present

paper's analyses, dispute outcomes (without any severity criterion) produced significant effects on the likelihood of escalation to the use of force, if not the likelihood of escalation to war. Future research could profitably investigate whether these effects are stronger or weaker when dispute severity criteria are added to the research design in order to identify the effects of past dispute outcomes or severity levels.

Extending the above discussion further, Jervis (1976) argues that a country's last war involvement will deeply influence future perceptions and actions of its citizens. This line of argument is addressed by our hypothesis that once two rivals had resorted to war to resolve a dispute, they might get locked into a pattern of highly escalatory relations. Our analysis shows that the occurrence of the first war in a rivalry has a very strong positive influence on escalation in subsequent disputes. Clearly, then, at least one type of major event has a substantial impact on subsequent escalation patterns in our analyses. We might also expect that the sooner a war occurs between two sides, the more likely they are to escalate future disputes to war. We could test this idea by comparing the overall hostility level of a rivalry (similar to a basic rivalry level of Goertz & Diehl, 1995) to the number of times both sides dispute before fighting an interstate war. It would be interesting to see if the occurrence of a war earlier on in a rivalry produces a higher overall hostility level for that rivalry.

Finally, our predictions about the impact of territorial issues in a dispute were supported strongly, demonstrating that nations are much more willing to use costly force to defend their territorial interests. These results are consistent with previous theoretical arguments and empirical research on contentious issues (e.g., Vasquez 1993; Hensel 1996b). The results from the present study offer a useful extension of such previous research, by indicating that the impact of territorial issues remains even after controlling for a number of other factors that might be expected to affect dispute escalation. Furthermore, our indicator of contention over territorial issues consistently produced some of the strongest results in our analyses, suggesting not only that issues remain important when controlling for other factors, but also that contentious issues are among the most important factors affecting dispute escalation.

Conclusions & Implications

In this paper, we examined the relationship between dynamic capabilities, interstate rivalry, and militarized conflict. In particular we developed a set of hypotheses on dispute escalation between enduring rivals, drawing from previous work on power transition theory, the evolutionary of rivalry, and contentious issues. We discovered that disputes are much more likely to escalate to war or the use of force if they involve territorial issues, if the rivals have engaged in warfare in the history of their rivalry, and if the dispute occurs earlier in the history of a rivalry. Our analysis of dispute outcomes (decisive, compromise, stalemate) and previous escalation levels was mixed. The interactive effect of dispute outcomes and escalation levels made the use of force more likely, but escalation to war less likely. Finally, we found that parity and power transitions had little or no effect on the likelihood of escalation to war or a use of force.

The present study offers potentially important contributions to all three general theoretical perspectives that were addressed. We have identified some potentially useful extensions of power transition theory, focusing more explicitly on the impact of rivalry-related factors that may help to account for the environment of dissatisfaction that is so central to power transition theory. We have begun to extend the enduring rivalry literature, and particularly the literature on the evolution of interstate rivalry, to account for the topic of dispute escalation. We have also examined the impact of territorial issues on dispute escalation while controlling for the impact of a number of other factors that may affect escalation.

As discussed above, in the present study we have also suggested numerous possible extensions of our research for each of these theoretical perspectives. These suggestions raise the prospect of extending our understanding of dispute escalation and of each theoretical perspective even further than we have been able to do in the present study. We plan to follow up with some of these suggestions in our future research, in terms of both more sophisticated empirical analyses and more formal theorizing on the sources and consequences of dispute escalation; it is to be hoped that other scholars will pursue similar endeavors in the future as well.

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Table 1: Logistic Regression Analysis of Dispute Escalation to War

Variable	Est. (S.E)	X ² (p)	Odds Ratio
Intercept	- 2.94 (0.39)	56.01 (.001)	---
Parity with Transition	- 0.88 (0.78)	1.27 (.26)	0.42
Parity - No Transition 2.34	0.85 (0.50)	2.83 (.09)	
Intermediate Phase 0.12	- 2.16 (0.61)	12.61 (.001)	
Advanced Phase 0.07	- 2.69 (0.54)	24.97 (.001)	
Decisive - Escalation	- 0.19 (0.07)	8.09 (.01)	0.82
Compromise - Escalation	- 0.20 (0.13)	2.40 (.12)	0.82
Stalemate - Escalation	- 0.23 (0.08)	9.15 (.01)	0.79
Past War? 83.84	4.43 (0.69)	41.47 (.001)	
Territorial Issues	0.86 (0.29)	8.61 (.01)	2.37
Log Likelihood (null model):		463.02	
Log Likelihood (full model):		356.23	
Improvement:		107.12	
Significance:		p < .001 (9 d.f.)	
N:		1029	
Pseudo-R ² :		.33	

Table 2: Logistic Regression Analysis of Dispute Escalation to Use of Force

Variable	Est. (S.E)	X ² (p)	Odds Ratio
Intercept	- 1.52 (0.21)	51.52 (.001)	---
Parity with Transition	0.05 (0.30)	0.03 (.87)	1.05
Parity - No Transition 0.64	- 0.44 (0.32)	1.95 (.16)	
Intermediate Phase	- 0.47 (0.25)	3.47 (.06)	0.62
Advanced Phase	- 0.38 (0.23)	2.66 (.10)	0.69
Decisive - Escalation	0.08 (0.03)	4.94 (.03)	1.08
Compromise - Escalation	0.05 (0.06)	0.69 (.41)	1.05
Stalemate - Escalation 1.15	0.14 (0.04)	15.67 (.001)	
Past War? 1.91	0.65 (0.16)	16.96 (.001)	
Territorial Issues 2.22	0.80 (0.14)	31.75 (.001)	
Log Likelihood (null model):		1346.52	
Log Likelihood (full model):		1246.83	
Improvement:		99.69	
Significance:		p < .001 (9 d.f.)	
N:		1029	
Pseudo-R ² :		.16	