A Certain Gamble: Preferences and Institutions in Rivalry Termination

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Abstract

In this article I introduce a new measure of rivalry termination and a new explanation of the link between domestic political change in one state and the termination of long standing rivalry between that state and others. I argue that changes in leadership, policy or winning coalitions within one rival represents political instability rather than fundamental change in the relationship. This instability places the leadership of the other state in a domain of gains, thus motivating risk-aversion and reducing the likelihood that they will accept the risky gamble of attempted dispute resolution with a rival. However, change in the fundamental institutions that govern leadership selection and policy formation in one rival provides a far higher degree of certainty to the opposing state that a fundamental change in their relationship is possible. This certainty of additional gains that could be had through resolution of conflicts with a rival overcomes risk aversion and promotes conflict resolution.

Introduction

Many scholars and practitioners in the realm of security and foreign policy have noted that the extreme suspicion and animosity that exists between geopolitical rivals makes for great difficulty in resolving outstanding disputes between those rivals. This is the case even when resolving these disputes would be beneficial to both parties (Rooney, 2018; Owsiak & Ryder, 2013; Dreyer, 2012; Morey, 2011; Prins & Daxecker, 2008; Hass, 2007; Colaresi, 2004; Cornwell & Colaresi, 2002; Bennett, 1997a; Bennett, 1997b; Goertz and Diehl, 1995). Maintaining a rivalry is costly for both states in terms of resources and currency (Colaresi 2005), and ending a rivalry and the significant defense spending that goes with it provides domestic benefits –a peace dividend (Mintz & Stevenson, 1995; Ward & Davis, 1992). However, a leader is likely to lose power if their attempts to improve relations with a rival are not reciprocated, or if they fail to respond with sufficient force to a rival's aggression (Colaresi, 2004). Thus, the leadership of both states will find it difficult to offer a figurative olive branch, despite the reality that maintaining the rivalry is a drain on both states' domestic resources.

I argue that the decisions of leaders to either maintain or seek resolution to the disputes that sustain a rivalry can be best understood in a framework based in Prospect Theory. Leaders face a unique risky gamble when they consider attempting to resolve disputes with a rival. Resolution of these disputes can provide significant benefits to the state and its leader, but attempts at dispute resolution also require the leader to accept significant personal risk. Prospect theory implies –contrary to much previous research (Rooney, 2018; Dreyer, 2012; Bennett, 1997a/b) – that events that benefit one state vis-a-vis the rival, such as political instability in one of the rival states, will place the leadership of the other rival into a domain of gains. In this situation, the leader will be less willing to take the risky gamble associated with attempted dispute settlement. Only a high degree of certainty regarding the outcome of a risky gamble can overcome this risk-aversion. Thus, only events that provide a high degree

of certainty that one leader's attempt at dispute resolution will be reciprocated should be associated with an increased likelihood of dispute resolution.

In the remainder of this paper, I test this argument in a dataset of rivalry termination for the period 1816-2010. I introduce a new measure of rivalry termination using the Thompson & Dreyer (2011) rivalry inventory, but that relies on the formal settlement of disputes between rivals as the primary criteria for measuring a rivalry's ending. This measure is meant to remedy the skepticism with which Thompson & Dreyer suggest their own, more subjectively coded end dates should be viewed (p.12). I find that the severity of changes to the domestic political structure is an important predictor of rivalry termination. Previously theorized predictors such as changes in the source of leader support, irregular leader transitions and increased democratic constraints have no effect on rivalry termination and sometimes appear to extend rivalries. Only the complete replacement of one ruling regime by another appears associated with rivalry termination.

Rivalry Termination

Previous research has identified a number of factors at the international level that appear to be associated with the ending of rivalries. Much of this research focuses on the loss, by one or both rivals, of the ability to continue militarized competition whether due to economic exhaustion, military defeat or outright conquest (Rasler et al., 2013; Thompson & Dreyer 2011). Perhaps unsurprisingly, decisive wars between rivals or military occupation of one rival by an outside power are highly likely to lead to rivalry termination (Morey, 2011). Such was the case for six long-running rivalries that ended with the allied victory in the First World War[1] and for a further ten rivalries that end by conquest or occupation during the Second World War[2]. Other system-level explanations of rivalry termination tend to

[1]Austria/Italy 1847-1918; Ottoman Empire/Yugoslavia 1878-1918; Germany/United States 1889-1918; Austria/France 1494-1918; Austria/Russia 1768-1918; Ottoman Empire/Russia 1668-1918

[2]Czechoslovakia/Hungary 1920-1938; Czechoslovakia/Poland 1920-1938; Czechoslovakia/Germany 1933-1938; France/Italy 1881-1940; France/Germany 1756-1940; Britain/Italy 1934-1943; Germany/Russia 1890-1945; Japan/United States 1889-1945; Britain/Japan 1932-1945; Germany/United States 1933-1945.

center around the occurrence of powerful shocks to the international system, these shocks include the world wars, but also include other major shifts in the distribution of power or territory among the great powers as well as the end of the Cold War (Diehl & Goertz, 2001; Goertz & Diehl, 1995). Finally, Owsiak and Rider (2013) note that the settlement of territorial disputes seems to be the key to resolving many rivalries, thus outside enforcement, repeated interaction and issue-linkages, all of which help resolve problems with states' ability to commit credibly to a territorial settlement, should also help end rivalries. Interestingly, while many system-level explanations focus on systemic changes that make one state unable to continue militarized competition, poor economic conditions and shifting relative power between rivals is often found to be unassociated with rivalry termination (Prins & Daxecker, 2008; Haas, 2007) and may actually prolong rivalry (Cornwell & Colaresi, 2002; Bennett & Nordstrom, 2000).

Unlike studies of rivalry onset where much of the focus continues to be on international factors, recent research on rivalry termination has largely turned toward an examination of the domestic politics of rivalry in an attempt to explain peacemaking activities between rivals. Much of this scholarship centers around what appears to be a nascent debate as to whether changing domestic institutions (Prins & Daxecker, 2008; Haas, 2007) or changing domestic political preferences and actors (Rooney, 2018; Dreyer, 2012) best explain the end of rivalry. Prins & Daxecker (2008) argue that increasingly democratic institutions allow rivals to resolve their disputes. Democratic polities are expected to punish leaders for reneging on international agreements, and opposition parties are thought to have little incentive to coordinate in a bluff against the rival (p.25). Thus democratic states should be expected to provide more credible information as to their intentions, and democratic leaders should have stronger incentives to honor the agreements that they make (p.25-26). Thus, increasingly democratic institutions in the dyad should allow rivals to more easily overcome information and commitment problems, allowing them to resolve their outstanding disputes. Haas (2007)

similarly emphasizes the importance of institutional change in ending rivalry. In examining the end of the Cold War, Haas argues that changes in Soviet foreign policy, domestic policy, and military power seem to have had little effect on the beliefs of U.S. policymakers as to the viability of dispute-resolution between the U.S. and U.S.S.R. (158-161). American policymakers withheld anything more than symbolic cooperation until after the Nineteenth Party Congress in which Soviet formal institutions were radically altered, providing U.S. policymakers a level of certainty that Soviet behavior had fundamentally changed, which allowed that meaningful attempts at cooperation would be reciprocated rather than used by the Soviets to gain geopolitical advantage (p. 165-170).

In contrast, Rooney (2018) and Dreyer (2012), emphasize changes in leadership and in domestic political preferences to explain the end of rivalry. Dreyer notes that irregular leadership turnover brings new political preferences and ideologies into power, and that this change in preferences will end some rivalries, but not all (p.475). Specifically, Dreyer shows that irregular leadership turnover has no effect on ending rivalries in which actors contend primarily over issues of power or territory, but does contribute to ending rivalries that result primarily from policy or ideological differences (482-484). Drawing on Bennett (1997), Bryan Rooney (2018) carries this line of thought further, examining the effects of changes in the societal groups that a leader draws support from. It is argued that when new leaders come to power who rely on a different coalition of supporters to maintain power, that new political preferences are brought into power that presage changes in foreign and domestic policy. This significant change in policy and preferences, it is argued, will bring actors into power who do not derive benefits from the continuation of rivalry, but who support compromise and reconciliation instead of continued competition (970-917).

Prospect Theory and Conflict Resolution

Applying Prospect Theory to the study of conflict resolution allows for a more thorough understanding that makes unique predictions about the conflict-termination behavior of ri-

vals and that also helps to explain some counter-intuitive findings regarding the effects of shifting power, and domestic political and economic troubles on dispute resolution. According to prospect theory, actors make choices in a process consisting of two phases. In the first *editing* phase, actors construct or identifying the options available to them to choose between as well as the possible outcomes and probabilities associated with each outcome. The goal of this phase of the decision-making process is to organize and simplify the available options for later evaluation. Framing effects, are thought to significantly affect the succeeding evaluation process. While Kahneman and Tversky discuss a number of specific framing effects that occur during the editing process, for purposes of this discussion, the most relevant aspect of the editing phase is coding of the location of an actor's reference point and whether changes from this reference are framed as gains or losses to the decision-maker.

Once the available options have been edited, an evaluation phase begins in which the decision-maker selects the option with the highest value as determined by the product of a *value function* and a *probability weighting function*. The value function has three important characteristics. First, decision-makers define the value of outcomes in terms of gains or losses from a reference point (for our purposes, the ongoing rivalry is the reference point) rather than in terms of the absolute value of the outcome. Second, the value function is concave for gains from the status quo and convex for losses. This reflects an observed tendency for actors to be risk-seeking in a domain of losses and risk averse in a domain of gains (Tversky & Kahneman 1991).

The probability-weighting function explains how the probability of an outcome influences its desirability to the actor[3]. A typical probability weighting function as derived from experimental evidence (Kahneman & Tversky 1979) overweights small probabilities and underweights moderate and large probabilities. However, important to the argument put forward

[3]Decision weights, however, are not probabilities themselves and can be influenced by other factors such as uncertainty over risk levels (Kahneman & Tversky 1979).

in this paper, this pattern of risk tolerance in a domain of losses and risk seeking preferences in a domain of gains breaks down when the probability of an outcome reaches near certainty. The probability-weighting function and value function combine to provide the familiar expectation that in a domain of losses and when probabilities are moderate, actors will be risk-seeking, while in a domain of gains actors will be risk averse. However, this tendency reverses itself when probabilities approach certainty. When a decision-maker is near certain of an additional payoff, that actor will take that certain payoff over risky gambles that present a higher expected payoff even while in a domain of gains. Similarly, when the probability of additional losses nears certainty, a decision maker will avoid the certain loss in favor of a risky gamble even when it presents a lower expected payout. Important for purposes of this paper, this certainty effect implies that, in a domain of gains, leaders will be risk averse to a potentially beneficial gamble up to the point that the leader feels certain of additional gains.[4] Thus, events that place on leader in a domain of gains vis-a-vis a rival state should motivate the leader to avoid risk where the rival is concerned. However, when a leader becomes certain of additional gains, the leader will undertake an activity even if it is of lower expected payoff than an higher-value but risky alternate course of action.

As discussed in the introduction, a leader's decision to cooperate with a rival in resolving disputes represents a risky gamble. A leader who resolves a rivalry successfully can benefit from reducing defense spending and thus providing more resources to fuel domestic economic growth, or alternately to provide increased private goods to maintain the loyalty of key supporters (Mintz & Stevenson, 1995; Ward & Davis, 1992). Further, a leader who is seen to resolve rivalry during an enemy's moment of weakness will likely be seen domestically as the victorious party, and should derive benefits from this show of competence. However, attempted reconciliation with a rival brings significant downside risk for a leader. Leaders who offer concessions to a rival that are not reciprocated are significantly more likely to

[4]Tversky & Kahneman, 1986

lose office than are leaders who make no such concessions. Similarly, leaders who are seen to respond to rival aggression with less than sufficient force are also likely to lose office (Colaresi, 2004). Thus, attempting to reconcile with a rival is a risky gamble to leaders that offers political rewards if successful, but can result in removal from power if failed.

Thus, when examining rivalry termination, we should expect that anything that benefits one rival at the cost of the other puts the leadership of the benefiting state into a domain of gains. As such, this leader is likely to pursue the less-risky option of maintaining the rivalry and perhaps gaining personal benefits for being seen domestically as in an ascending position vis-a-vie the rival. Only if this leader can be made nearly certain that deescalation or attempts at reconciliation will not be rebuffed or used for advantage by the rival will he or she attempt to resolve disputes and reap the additional gains that ending a rivalry should provide. Given that dispute resolution requires both parties' participation, this means that even if the relatively disadvantaged rival would like to end the ongoing conflict, we will only see the rivalry end if the advantaged party also agrees to cooperate, which will occur only if he or she is near certain the rival is not bluffing.

Domestic Political Change and Dispute Resolution Between Rivals

Whether explicitly acknowledge or implicitly assumed, the concept of certainty is central to many of the arguments discussed above regarding factors associated with rivalry termination. Decisive war outcomes, such as the allied occupation of Germany during the Second World War, or the collapse of the Ottoman Empire after the First World War end rivalries because they provide both sides with certainty that militarized competition cannot continue. Similarly, the collapse of the Soviet Union greatly contributed to the end of a number of other rivalries that had taken on an East/West ideological dimension. The loss of the primary benefactor of Eastern Bloc while the Western Bloc retained its super power provided certainty to many of their allies –locked in their own struggles –that competition between the Eastern and Western Blocs was at an end.

So to do arguments that emphasize the importance of changing domestic politics –regime change, leader turnover, change in the winning coalition –rely on the concept of certainty to explain rivalry termination. In these cases, however, it is the certainty –or lack thereof –of the actor *not* undergoing domestic political change as to its rival's intentions that is key to most explanations. The arguments discussed above regarding leadership turnover, changes in the source of leader's support, and institutional change all note that, while these domestic changes certainly bring new preferences to power in Rival A, they also provide a measure of certainty to Rival B that attempts at reconciliation will be reciprocated. However, I argue that it is unlikely that irregular leadership turnover, change of winning coalitions and changes to the fundamental institutions governing the use of power in a state should all signal the same level of certainty to this Rival B, regarding Rival A's expected willingness to engage in a cooperative dialogue, following this domestic political change.

It is important to note that I use regime change, irregular leader turnover, and change in a state's winning coalition as conceptually distinct from one another in important ways. Regime change is defined primarily by change in the norms and institutions by which a state chooses leaders and determines policy.[5] Conceptually, irregular turnover and change of winning coalition are both attempts at measuring a change in the preferences of a state's leaders and are unconcerned with the change in the formal institutions of the state (Leeds & Mattes, 2015 p. 3-4). Both irregular turnover[6] and change in the winning coalition[7] can but need not occur as part of a regime change. Conversely, regime change can occur when neither irregular turnover nor change in the winning coalition occurs. Empirically, regime change generally occurs in the absence of a change in the winning coalition when a state

[5]Here I use Geddes, Wright, and Frantz (2014) definition of regime as a set of formal and/or informal rules for choosing leaders and policies.

[6]Defined as change of leadership in a manner not prescribed by the governing institutions (Goemans, Gleditsch, & Chiozza, 2009).

[7]Defined as change in the set of societal interests whose support allows the leader to gain and maintain power (Mattes, Leeds, & Matsumura 2016)

voluntarily reforms its institutions rather than being forced to do so by revolt or overthrow. This occurs occasionally when a former junta or single party allows competitive elections but then goes on to win those elections. Such was the case of Albania when the Communist Party allowed elections in 1991. This also occurs when a leader comes to power through a normal process but then centralizes government power under him or herself, leading to an eventual regime transition. This occurred in 1979 Iraq due to Hussein's purge of the Ba'ath party and also in Russia due to Vladimir Putin's consolidation of power. Additionally, this occurs often when an illiberal regime transitions between a pure and hybrid type, such as when a monarch or strongman allows elections for local-level self governance, or when an autocrat establishes a legislative body –or alternately, when these institutions are abolished.

I argue that irregular leadership turnover and change in a state's winning coalition, within an ongoing institutional regime, represent political instability within the regime, but do not signal any level of certainty to external rivals that the basic policy outlook of the government has changed. Within many ongoing regimes, irregular leadership transitions can occur due to a leader's assassination or death in office, neither of which signal any great change in policy, assuming the leader's succession proceeds according to normal rules. Further, a number of states experience one or more "status-quo coups" that replace one leader with another without fundamentally altering the institutions of the state.This can occur when the government is a junta in which coup is the primary mechanism of leader replacement, or because the military returns to the barracks once a new leader is elected or installed according to the institutions of the state. Examples can be found in the Turkish coups of 1960 and 1971, the Brazilian coup of 1964, or in the forced resignation of elected leaders in a military-dominated hybrid regime such as occurred to Ecuador's Jaun Martínez in 1932 and Velasco Ibarra in 1934 and 1947. Similarly, a state's winning coalition can change significantly within a stable institutional regime. This occurs commonly in electoral democracies when one party hands off power to another that is backed by a significantly different group of supporters. But also

occurs in many autocratic states where different factions within a ruling elite contend to govern the country. This sort of within-regime turnover in the winning coalition can occur due to the previously mentioned status-quo coup, but also occurs due to dynastic change in a monarchy –such as in 1920 Greece – or when division of a ruling party brings a new faction to power –as in Argentina in both 1928 and 1932.

In contrast, because regime change brings with it major changes in the institutions that govern both leader selection and the process of policy formation, regime change signals a clear break with past leadership and past policy. Further, the institutional framework governing a state is more difficult to change than are the political goals of a given leader or even the name of the leader in office. Once accomplished, major changes to a states governing institutions are harder to reverse than are changes in leadership or preferences. That reversing institutional changes is relatively more difficult than reversing leadership and preference changes is important to note for studying rivalry termination. In dealings between rivals, the sucker's payoff to be had if one is overly cooperative with a disingenuous rival is dangerous. Allowing a mortal enemy to take advantage of one's cooperative efforts places the state in peril and is likely to be catastrophic for a leader's continued political survival.[8] This means that a thaw in relations between rivals resulting from changes in a rival's policy stance – such as the thaws in the Cold War associated with Kruschev's de-Stalinization or Gorbachev's Glasnost –are unlikely to end rivalry. Such a thaw in relations is beneficial to the leadership of both states, placing them into a domain of gains. However, this motivates risk-averse attitudes on both sides of the rivalry. Resolving the rivalry would provide significant additional gains for a leader seen to end the hostility on favorable terms, but policy is easy to reverse. The opposing rival, behaving according to an averse risk-attitude, will not gamble on being taken advantage of and losing office because of a change of heart in their opponent's

[8]Colaresi (2004) provides strong evidence that leaders who allow themselves to be "suckered" by offering unreciprocated cooperation to a rival are highly likely to lose office.

leadership or because a succeeding ruler reverses course in policy. Major changes in a rival's foreign or domestic policy will only lead to dispute resolution if the leader of the opposing state can be made highly certain that the thaw in relations heralds a permanent change in the rival's threatening stance. I argue that fundamental changes to the institutions governing leader selection and policy making, because they are difficult to reverse, provide the degree of certainty that is necessary for a leader to overcome an averse risk attitude and seek to resolve outstanding disputes.

This dynamic was at play during the mid-1980's as members of the Reagan administration reacted to the reform process occurring in Gorbachev's Soviet Union. Haas (2007)[9] shows that from the beginning of Gorbachev's reforms in 1985 to the institutionalization of the reformist ideology of the New Thinkers at the 1989 Nineteenth Party Congress, American decision-makers were unwilling to accept the risky gamble of reducing arms or otherwise extending an olive branch to the Soviets. Haas uses primary documents from the time to show that key policy-makers in the Reagan administration were highly suspicious that Soviet policy-change represented an actual reorientation of the Soviet position in regard to its rivalry with the United States (1997, 161-163). Rather, it was argued that Gorbachev's policies were, at best, likely to be reversed quickly by Soviet hard-liners after Gorbachev lost power (,165) and at worst, meant to buy breathing space for the Soviet Union to reorganize so as to be more competitive with the United States in the long run (,168). Thus, we see that, in a domain of gains with regard to the Soviet Union, American policymakers were unwilling to take risks to expand upon those gains.

However, this pattern changed in 1989 with the Nineteenth Party Congress in which broad changes to the structure of government and selection of leaders were adopted by the Soviet leadership that served to institutionalize Gorbachev's reform efforts. According to Haas's

[9]I note, while the case study presented by Haas is very useful in illustrating my argument, that Haas does not base his own argument in Prospect Theory as I do.

examination of primary sources, these institutional changes were critical to American leaders' willingness to embrace more cooperative relations with the Soviets because they convinced the American leadership that the underlying process of Soviet policy-making had changed (,167). In essence, the institutional changes enshrined at the Nineteenth People Conference caused American leaders to reevaluate their probability-weighting regarding the likelihood of successfully making gains by attempting to resolve their disputes with the U.S.S.R. As this subjective assessment of probability neared certainty, American leaders became risk-tolerant while remaining in a domain of gains, and thus these decision-makers changed their response to Soviet policy changes from a cautious wait-and-see policy to a more risky policy of active cooperation with the Soviet Union.

A prospect theory approach to conflict resolution explains the persistence of long-standing hostile relationships –such as rivalry –despite changes in leadership and policy outlooks as well as large fluctuations over time in the salience of the basic issues under dispute. When changes in policy or leadership in one state serve to benefit the rival, that rival enters a domain of gains, and thus becomes averse to accepting the risk of betrayal inherent in seeking a cooperative resolution of the underlying disputes. Prospect theory also explains the conditions under which long-standing hostile relationships can be resolved cooperatively –specifically, when changes in the institutional structure or makeup of one state's government serve to provide near certainty to the leadership of the rival that taking a gamble in cooperating to resolve the underlying disputes will result in additional gains.

These insights imply three novel empirical predictions. First, absent fundamental change in the institutional regime of Rival A, changes in the base of support for the leader represent political instability, and hence weakness within one rival. Importantly, because this political instability occurs within an ongoing institutional regime, it provides no signal that the state's foreign or domestic policy will change in meaningful ways. This places the other rival in a domain of gains without providing certainty that a gamble on dispute resolution will succeed.

Thus, changes in leaders and preferences should be associated with prolonged rivalry in the absence of institutional change. Second, major institutional changes signal a clear break with the past policy-formation process. This provides a degree of certainty that future foreign and domestic policy will diverge from the past policies that have maintained rivalry thus far. Like Haas (2007), even in the absence of change in the underlying preferences or base of support for a government, I expect that significant institutional change should be associated with dispute resolution between rivals. Third, when institutional change and change in preferences coincide, this signals both a break with the foreign policy that maintained the rivalry as well as a break with the prior regime's preference for pursuing the rivalry. When regime and preference change coincide, Rival B's certainty regarding the possibility of dispute resolution should be heightened, thus I expect a further increase in the likelihood of dispute resolution when institutional change is accompanied by changes in leader preferences.

I offer the following three formal hypotheses:

Preferences: *Large changes in state preferences should have no effect on the hazard of rivalry termination when not accompanied by institutional change.*

Institutions: *Large changes in state institutions should increase the hazard of rivalry termination when not accompanied by change in state preferences.*

Interaction: *When changes to both institutions and preferences occur simultaneously, there should be an additional increase in the hazard of rivalry termination.*

Operationalizing Rivalry Termination

Bennet (1997b) offers an operationalization of rivalry termination that takes into account both the formal resolution of disputes between rivalries as well as subsequent respect for the agreed-to resolution. This operationalization relies on four coding rules. First, for a rivalry to be considered ended, the rivals must sign an agreement or several agreements recognizing a mutually accepted settlement of the issues at stake. Acceptance of this settlement must then

be followed by a 10 year period without a militarized dispute related to the substantive issues. In such a case, the rivalry is coded as ending in the year that the settlement is finalized. Second, if both rivals have renounced claims against the status quo, also followed by 10 years without a militarized dispute related to the issues at stake, the end of the rivalry is dated to the year in which the final claim against the status quo is renounced. Third, if a dispute does occur within 10 years of settlement or renunciation of claims, two possibilities are allowed in the coding. First, if the militarized dispute is resolved through a clarification of the original settlement and that dispute is followed by 10 years without an additional dispute, then end date of the rivalry is "moved" to the date of the resolution of the dispute.(Bennet 1997b). If, however, a dispute occurs that represents a clear abrogation or repudiation of the agreement or represents a new claim against the status quo, the rivalry is coded as continuing until such a time that further agreements are signed to settle outstanding disputes.

While I agree with Bennet's operationalization of rivalry termination, I disagree with the inventory of rivalries that he works with. Bennet's operationalization of rivalry, and thus the universe of cases he studies, relies on the MID-density approach employed by Goertz and Diehl (1995) in which a rivalry is said to occur in the event that at least five reciprocated militarized disputes occur between two states, each of which must last at least 30 days, within a period of 25 years (Bennet 1997b, 381). I believe this operationalization of rivalry misidentifies a number of cases, omitting some clear rivalries and including others that do not fit the definition of long-standing hostility and suspicion between states. Thus, rather than simply using Bennet's measure of rivalry termination, I instead use the coding rules discussed above, but apply them to the inventory of rivalries identified by Thompson and Dreyer (2011). Thompson and Dreyer note their own skepticism of the end dates that they give for many rivalries (2011, p.12). Their more subjective approach to identifying rivalry by using primary documents to identify cases of mutual mistrust and militarized threat is said to be significantly less useful in pinning down end-dates for rivalries than it is for start

dates. It is relatively common for the salience of a rivalry to die down at times, meaning few statements are made regarding the rival, despite the reality that suspicions linger on before flaring up anew later. Thus, coding the end date according to statements of mutual suspicion and hostility in primary documents is imprecise. I would argue that Bennet's approach to identifying rivalry end-dates through evidence of agreements and dispute settlements likely provides more precision and additionally, indicates an explicit choice on the part of leaders to seek resolution, which is more in line conceptually with the idea of rivalry termination that I seek to explain.

This operationalization provides a universe of 152 cases of rivalry during the years 1919-2010, upon which will be fit a series of survival models. 36 of these cases are right-censored at 2010 and 33 are left-truncated, beginning prior to 1919. Left truncated cases enter into the model at time equal to the age of the rivalry in 1919. This is in keeping with common practices in dealing with left-truncated rivalries (see Cornwell & Colaresi, 2002; Prins & Daxecker, 2008; Dreyer, 2012).[10] Unlike Bennett, who aggregates rivalries into 5-year periods, I use a yearly dataset that results in 7,051 years at risk. In a survival model, the dependent variable is time until failure. Given that there is no reason to think that rivalries would be more likely to fail in every fifth year than at any other time in a given five-year period, aggregating time into 5-year periods only introduces uncertainty over the exact point of failure within that time period. I fit a series of Cox proportion hazards models on these data to test the hypotheses presented above. Because there exist many time-varying variables in these data, I use the count process devised by Anderson and Gill (1982). 37 rivalries begin prior to 1919. Standard errors are clustered on the rivalry. In these cases, the start date for the rivalry is set to the observed start date. In keeping with common procedure for using Cox models (Keel, 2010; Box-Steffensmeier, 2004; Box-Steffensmeier & Zorn, 2001),

[10] I also include in the appendix a replication of the main table presented below, but in which I drop all rivalries from the sample that begin prior to 1919. The results of this robustness check are very similar to those present in the main analysis.

test the proportional hazard assumption and find it violated for some variables. I apply a method suggested by Allison (1995) in which each co-variate is tested for violations of the non-proportionality assumption. For the offending variables, an interaction between that variable and the natural log of the time variable is included in the model.[11]

Operationalization

Leader, Preference, and Institutional Change

Previous analyses of rivalry termination (Rooney, 2018; Bennett, 1997) rely on the use of polity data to measure regime change. Wright and Bak (2016) demonstrate that this is an inappropriate measure of the concept that under-counts many important institutional changes. As such, I proxy for institutional change using a measure of regime change developed by Geddes, Wright and Frantz (2014).[12] This is an appropriate proxy because Geddes, Wright and Frantz define regimes according to the formal and informal rules that govern selection of leaders and the policy-formation process and define regime change as significant changes to these institutions (2014 p. 314-315). *Regime Change* variable takes the value "1" in any rivalry-year in which one or both rivals undergoes regime change and "0" otherwise. Regime change occurs in approximately 9% of rival-years.

I also employ several measures that have been used in previous works on domestic political change and rivalry termination. Irregular changes in leadership (Dreyer 2011) and changes in the political coalition from which a leader draws support (Rooney, 2018) have previously been used in studies of rivalry termination to proxy for changes in policy and governing preferences. I follow these studies in constructing variables *Irregular Transition* and *SOLS*

[11]However, I also use Schoenfield residuals to test the proportional hazards assumption and find little evidence to reject the proportional hazards assumption ($Chi^2 = 13.8$ on 9 degrees of freedom. $p < Chi^2 = 0.13$) and a test of Schoenfield residuals for each covariant reveals no additional evidence of non-proportional hazards. Given that this test's results conflict with the results of the test proposed by Allison, I include simple Cox proportional hazards models in the appendix to demonstrate that my findings are not sensitive to the choice of proportional or non-proportional hazards.

[12]I use a version of this measure that was published in the CHISOLS dataset because it covers a significantly longer time frame.

Change. For irregular leader transitions, I follow Dreyer's example in using ARCHIGOS (Goemans et al., 2009) to construct a variable that takes the value "1" in any year in which either rival experiences an irregular leader entry into office. To measure changes in the source of leader support, I follow Rooney in using the CHISOLS dataset (Mattes et al., 2016) to construct a variable that takes the value "1" in any year in which either of the rivals experiences a SOLS change as defined by CHISOLS.

The GWF regimes dataset and CHISOLS both use the list of leader transitions contained in ARCHIGOS as a starting point from which they then apply their separate coding rules. As such, using the three datasets in conjunction ensures that the findings presented below do not result simply from systematic differences in coding the effective date of leader, support coalition and regime transitions. All transition dates are those appearing in ARCHIGOS. Neither regime change nor SOLS change are a subset of the other variable. Many cases exist in which regime change and SOLS change coincide, however, both regime change and SOLS change often occur in isolation from one another as well.[13] Table 1 displays the distribution of SOLS change and regime change.

War and Exogenous Regime Change: As does Bennett, I employ dummy variables to capture the effect on rivalry termination due to war between the rivals and exogenously enforced regime change. Victory of one rival over another in war or a forced regime change in one of the rival states should be expected to influence both the end of a rivalry as well as changes in the domestic policy of the losing state. Thus, these occurrences must be controlled for the ensure that I do not conflate the effect of one rival's victory over another with the effect of endogenously driven changes in policy within one rival. I create the variable *Decisive War* using the Correlates of War (COW) Interstate wars dataset (Sarkees et al. 2010). This variable takes the value "1" in the year in which a war between the rivals ends in a victory for either side and "0' otherwise. The second variable *Foreign Imposition* is constructed using

[13]See above for a brief discussion of these off diagonal cases.

the ARCHIGOS dataset. The variable *Foreign Imposition* takes the value "1" for any year in which ARCHIGOS codes that for either rival, there was the entry of a foreign imposed leader into office or in which a leader was removed from office by foreign intervention.

Joint Democracy: Previous research (Bennet 1997) has Demonstrated that joint democracy in a dyad reduces the length of rivalry. Thus, the level of democracy in a rival dyad must be controlled for the ensure that findings regarding the effect of policy change on rivalry termination are not actually due to changes in level of democracy. To assess the level of democracy I use polity scores from the PolityIV dataset (Marshall & Jaggers 2007). The variable *Joint Democracy* equals the minimum polity score among the rivals. This operationalization provides a measure of the overall level of jointly democratic institutions in the dyad.

Civil War: Civil wars and other forms of violent domestic turmoil are associated with rivalry termination (Diehl and Goertz, 2001; Goertz and Diehl, 1995). Further, civil war is a major contributor to regime and leadership changes. I control for ongoing civil war using the Correlates of War Intrastate Wars (v4.1) dataset (Sarkees & Wayman, 2010) to construct a variable that takes the value "1" in any year in which either rival experiences civil war and "0" otherwise.

Military Capabilities: Loss of military competitiveness is cited as a major explanation of rivalry termination (Rasler et al., 2013; Thompson & Dreyer 2011). As such, I include a measure of the balance of power between rivals in my model that captures the disparity in rivals' Composite Index of National Capability (CINC) scores (Singer, Bremer & Stuckey, 1972). This variable is measured as the largest CINC score in the dyad divided by the sum of CINC scores in the dyad.

System Shocks: Previous research has shown that major disruptions of the world system such as due to World Wars, decolonization and the enc of the Cold War end some rivalries while beginning others (Owsiak & Rider, 2013; Diehl and Goertz, 2001; Goertz and Diehl,

1995). As such, I control for the occurrence of shocks to the international system using the measure developed by Goertz and Diehl (1995).[14]

Contiguity: Finally, states located physically closer to one another should be expected to have relatively more intense disputes and to have a relatively easier time maintaining military competition, *ceteres paribus*. I control for physical proximity using the Correlates of War Direct Contiguity (V3.2) dataset (Stinnett et al., 2002). This variable takes the value "1" for any observation in which the rivals inquest share a land or river border, or are separated by less than 400 nautical miles of water.

Results

Table 2 displays the result of a series of Cox models fit on the dataset described above. The table displays hazard ratios rather than raw coefficients. Hazard rations below 1 indicate variables that are associated with a decrease in the hazard of rivalry termination while hazard ratios above 1 indicate an increase in the hazard of rivalry termination as compared to the baseline hazard function. Models 1 and 2 compare the effect of regime change and preference change –measured by irregular leader turnover and SOLS change –on rivalry termination. Regime change has a large and statistically significant effect, increasing the hazard that rivalry will terminate by between 5.86 times the baseline in Model 1 and 6.6 times the baseline rate in Model 2. Both SOLS change and irregular leader turnover are associated with a reduction in the hazard of rivalry termination –though admittedly, these coefficients are not statistically significant at conventional levels of confidence. This seems to indicate that previous findings relating change in leaders and change in the sources of leader support to rivalry termination result largely from omitted variable bias due to the correlation between regime change and variables measuring changes of leadership and support coalition. These findings provide limited initial support for hypothesis 1 and significantly stronger support

[14]However, I use the version of this measure that appears in Owsiak and Rider's (2013) replication data due to its longer temporal domain.

for hypothesis 2. Table 8 in the online appendix lists the 38 rivalries during the 1919-2010 time period that end within 5 years of a regime change in one state of the pair. These 38 rivalries account for one third (32.8%) of rivalry terminations during this time period. 28 of these rivalries –just under one quarter of the total (24%) –terminate within 2 years of regime change in one state. While regime change may not be the only cause of rivalry termination, it seems to be one of the major causes.

Substantively, these findings suggest that, as was the case in the rivalry between the United States and Soviet Union, changes in leadership and leaders' preferences regarding policy seem to have little influence on the likelihood that rivals will settle their disputes. These preferences changes may lead to a temporary thaw in relations, as Khrushchev's policy of de-Stalinization lead to a short improvement in relations between East and West, but as in the Cold War, preference changes are not sufficient to end a rivalry. In contrast, changes to the institutional structure of a regime have a large substantive effect, making subsequent dispute settlement much more likely. This holds true not only for cases where rivals dispute primarily over matters of policy or ideology, but also for rivalries rooted in global or regional power competition and those that stem from lasting territorial disputes. Table 4, in the online appendix, displays the results of models fit on three subsets of rivlary including positional rivalries (those where disputes center around position in the global or regional ordering of power), spatial rivalries (those where disputes center around territory), and ideological rivalries (those where disputes center around policy disagreements or the incompatibility of governing ideologies).[15] Consistent with previous findings (Dreyer, 2012) regime change has the largest effect in ending ideological rivalries. However, where Dreyer found irregular leader turnover to end only ideological rivalries, regime change also plays a significant role in ending positional and spatial rivalries as well.

[15]For the ideological rivalry subset in Table 4, I combine Thompson and Dreyer's Ideological and Interventionary rivalries into one category representing rivals that dispute largely over policy stances.

Models 3 and 4 include interactions between regime change and the measures of leader and preference change, which are necessary to test hypothesis 3. Like the first two models, Model 3 and 4 show that SOLS change and irregular leader turnover have no discernible independent effect on rivalry termination. Regime change does have an independent effect on termination. As expected in hypothesis 3, the effect of regime change on rivalry termination increases significantly when occurring in conjunction with a change in leader preferences.

These findings suggest that previous research (Rooney, 2018; Bennett, 1997) have incorrectly conflated regime change with change in preferences and governing coalitions. These are distinct concepts. Governing coalitions can change quite rapidly within a stable institutional context and leader preferences can vary significantly over time, even within a single administration. This easy malleability means that a rival has little reason to believe that a leader's preferences toward conflict resolution will not disappear with the next administration or even with the next news cycle. Institutions, in general, are harder to change than are leaders and their opinions. Thus, when there is a major rewrite of a state's governing institutions, it provides the rival with a far higher degree of certainty that subsequent movements toward a conciliatory policy will not be reversed in the future. This makes conflict resolution possible in the face of risk-averse attitudes born from the fear that one's overtures at peace will be taken advantage of by a rival.

Figure 1 displays the substantive effects of regime change and preference change on the likelihood of rivalry survival based on the Cox regression in Model 3. SOLS/coalition changes alone do not appear to lead to rivalry termination at a greater rate than the baseline, and may in fact be associated with longer-lasting rivalries. Regime change, however, has a large independent effect, leading to a much higher likelihood of subsequent rivalry termination. The conjunction of both regime and SOLS change has an additional heightened effect in increasing the likelihood that a rivalry will end.

Taken together these findings indicate that irregular leader turnover and changes in the

preferences that are represented in government do not, on their own, contribute significantly to the likelihood that rivals will subsequently resolve their disputes. It is only when one rival undergoes a fundamental shift in the norms and institutions that govern leader selection and policy formation that we see rivals subsequently move to resolve their differences.

Previous research has shown that rivalry termination is associated with increases in democratic constraints upon leaders in a dyad (Prins & Daxecker, 2008). Given this previous finding, a detailed examination of whether the type of regime change –transition to democracy, democratic breakdown, or transition from one autocratic regime to another –leads to different dispute-resolution outcomes is warranted. Table 3 displays a model in which I segregated regime change into three separate dummy variables. The first represents cases in which one autocratic regime is replaced by another autocratic regime. The second dummy represents democratic backsliding, in which a nominally democratic government is consolidated into an autocratic regime. The final dummy represent transitions from autocracy to democracy. All three are associated with a statistically significant increase in the hazard of rivalry termination. As previous research would lead us to expect, transitions to democracy are associated with the largest effect, increasing the hazard that a rivalry terminates in the following period by an order of magnitude. However, in contrast to what previous research would lead us to expect, transitions from autocracy to democracy and from autocracy to autocracy are also both associated with a large increase in the hazard of rivalry termination of $\sim 500\%$ in each case. Table 8 displays a list of the 38 rivalries that end within 5 years after a regime change during the 1919-2010 time period. Examination of the pre and post change mix of regimes in the dyad also seems to reveal no clear pattern as to which direction of change or final regime mix should be thought to be primarily responsible for ending rivalry. Given this, we should conclude that it is regime change itself that ends rivalry, not only democratization, autocratization or changes to a shared regime type that matter.

Conclusion

Previous studies of the effect of domestic politics on rivalry termination consistently show that large changes in the domestic politics of one rival are associated with subsequent rivalry termination. Despite this, little work has been done to disentangle the effects of different forms of political change on rivalry. In this paper I demonstrate that changes in domestic politics have a differential effect on rivalry. Consistent with Prospect Theory, the effect of domestic political change on rivalry depends on the extent to which it provides other rivals with certainty that attempts at dispute resolution will be reciprocated. Changes in leaders and winning coalitions represent moments of political instability, but do not necessarily represent a major departure from previous policy stances and are easily reversed. This places rival leaders in a domain of gains, motivating risk averse behavior that leads them to avoid the risky gamble associated with dispute resolution. However, fundamental changes in the institutions governing leader selection and policy formation provide a high degree of certainty that a state's future policy stances will depart from past stances. This fundamental political shift eliminates the risk that other leaders face when contemplating attempts at conflict resolution, leaving only the benefits associated with making peace.

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Appendix A:

Table 1: Rivalry-Year Observations 1919-2010			
	No Regime Change	**Regime Change**	**Total**
No SOLS Change	3,409	124	3,533
SOLS Change	389	259	648
Total	3,798	383	4,181

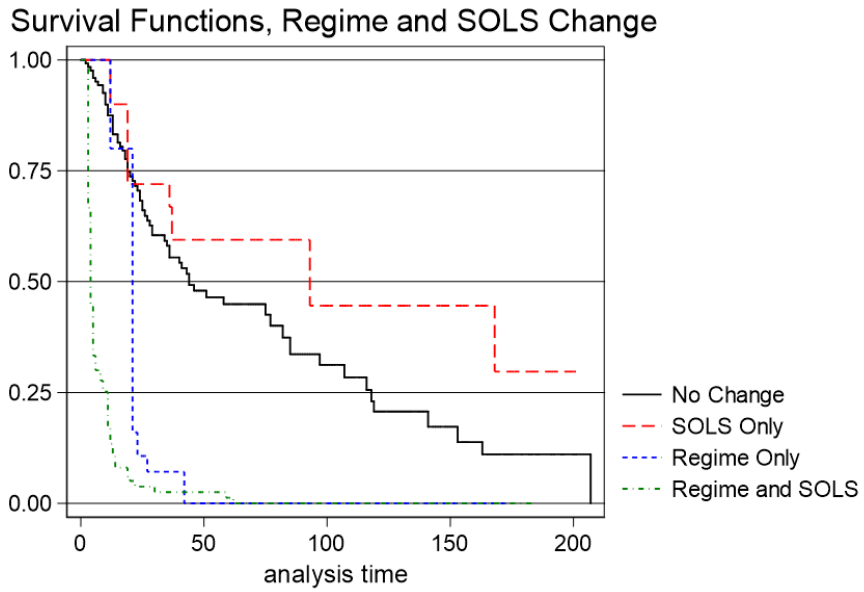

Figure 1: Kaplan-Meier Survival Functions

Table 2: Cox Regression with Non-Proportional Hazards: Rivalry Termination 1919-2010

	(1)	(2)	(3)	(4)
	Hazard Ratio	Hazard Ratio	Hazard Ratio	Hazard Ratio
	exp(se)	exp(se)	exp(se)	exp(se)
Regime Change	5.6226***	6.2301***	4.5231***	6.5310***
	1.7077	1.9306		2.0260
Regime Change × SOLS Change			5.8814***	
			1.7242	
Regime Change × Irregular Turnover				4.5542***
				1.5507
SOLS Change	0.9802		0.7578	
	0.2664		0.3279	
Irregular Turnover		0.7633		0.9669
		0.2660		0.6580
Civil War	1.4737+	1.4922+	1.4513	1.5024+
	0.3469	0.3534	0.3446	0.3526
Foreign Imposition	2.2333*	2.2145*	2.3307*	2.2034*
	0.7789	0.7629	0.8055	0.7586
Capability Disparity	1105.5295**	1025.0749**	1184.4827**	1064.6030**
	2488.4066	2311.6630	2663.9401	2411.5214
Cap. Ratio X Log(t)	0.1043***	0.1057***	0.1018***	0.1041***
	0.0655	0.0666	0.0642	0.0662
Decisive War	22.3549*	22.4777*	25.0249*	21.6472*
	29.0080	29.4769	32.8326	29.0571
Decisive War X Log(t)	0.4949*	0.4899*	0.4831*	0.4947+
	0.1754	0.1763	0.1730	0.1826
Contiguity	0.4426	0.4524	0.4310	0.4425
	0.6280	0.6422	0.6057	0.6331
Contiguity X Log(t)	1.3273	1.3165	1.3318	1.3268
	0.5112	0.5093	0.5113	0.5178
Systemic Shock	10.7506*	10.6142*	11.8240**	10.6363*
	10.3808	10.1011	11.2997	10.0976
Systemic Shock X Log(t)	0.4887**	0.4929**	0.4790**	0.4920**
	0.1345	0.1337	0.1301	0.1332
coldwar	0.1912+	0.2047+	0.2041+	0.2035+
	0.1736	0.1843	0.1836	0.1829
COld War X Log(t)	1.5293	1.5066	1.4932	1.5106
	0.4365	0.4264	0.4223	0.4278
Observations	3909	3909	3909	3909

Exponentiated coefficients

Rivalry-clustered standard errors

+=p<z0.10, *p<z0.05, **p<z0.01, ***p<z0.001 in two-tailed test

Table 3: Cox Regression: Regime-Change Type and Rivalry Termination 1919-2010

	Hazard Ratio exp(se)
Transition Autoc. to Autoc.	5.4785***
	2.4898
Transition to Autoc.	5.0132**
	2.6846
Transition to Democ.	12.6036***
	4.2457
Civil War	1.3847
	0.3199
Foreign Imposition	1.3624
	0.4887
Capability Disparity	865.8276**
	1927.0257
Cap. Ratio X Log(t)	0.1153***
	0.0710
Decisive War	14.3491*
	19.4976
Decisive War X Log(t)	0.5383+
	0.1980
Contiguity	0.5979
	0.8559
Contiguity X Log(t)	1.2505
	0.4786
Systemic Shock	10.2945*
	10.0040
Systemic Shock X Log(t)	0.4937*
	0.1370
coldwar	0.1995+
	0.1816
COld War X Log(t)	1.5593
	0.4495
Observations	3909

Exponentiated coefficients

Rivalry-clustered standard errors

+=p<z0.10, *p<z0.05, **p<z0.01, ***p<z0.001 in one-tailed test

Table 4: Cox Regression: Regime-Change and Rivalry Termination by Type 1919-2010

	(Positional Rivalry) Hazard Ratio exp(se)	(Spatial Rivalry) Hazard Ratio exp(se)	(Ideological Rivalry) Hazard Ratio exp(se)
Regime Change	4.1790**	3.9732***	9.9713***
	1.8566	1.2770	4.5754
Civil War	1.1424	1.0712	1.6260
	0.4709	0.3297	0.6864
Foreign Imposition	3.8855*	3.7087*	5.9062+
	2.3660	2.1212	5.9062
Capability Disparity	58288.0650**	257.7025+	66.5659
	224877.2918	790.5340	284.4107
Cap. Ratio X Log(t)	0.0361**	0.1634*	0.1759
	0.0401	0.1405	0.2643
Decisive War	0.8948	52.0343**	1799.8137*
	1.5206	75.5904	5890.9048
Decisive War X Log(t)	1.1841	0.4452*	0.0882+
	0.5639	0.1691	0.1173
Contiguity	0.0465+	83.7625	3.3751
	0.0817	304.6678	7.4620
Contiguity X Log(t)	2.4023+	0.3457	0.3568
	1.1999	0.3074	0.2662
Systemic Shock	28.9082+	6.6523+	9.3850+
	49.7122	7.3155	12.0075
Systemic Shock X Log(t)	0.4192+	0.5317*	0.7102
	0.1949	0.1626	0.3184
coldwar	0.2667	0.0309*	0.5388
	0.3955	0.0428	0.8814
COld War X Log(t)	1.6105	2.4538*	1.3100
	0.7423	0.9992	0.7701
Observations	2152	2726	1326

Exponentiated coefficients

Rivalry-clustered standard errors

+=p<z0.10, *p<z0.05, **p<z0.01, ***p<z0.001 in two-tailed test

Table 5: Testing the Proportional Hazards Assumption

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Regime Change	SOLS Change	Civil War	Foreign Imposition	**Capability Disparity**	**Decisive War**	**Contiguity**	**Systemic Shock**	**Cold War**
	b/p	b/p	b/p	b/p	b/p	b/p	b/p	b/p	b/p
Interaction X Log(t)	0.9911	0.7333	0.8526	1.2653	**0.0690**	**0.3716**	**0.5522**	**0.3700**	**1.9027**
	0.9725	0.1593	0.5076	0.6032	**0.0000**	**0.0001**	**0.0309**	**0.0000**	**0.0180**
Regime Change	7.3818	6.6835	7.1425	7.0360	5.6299	6.9219	6.4501	6.0740	7.4995
	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SOLS Change	0.8751	2.5141	0.8712	0.8985	0.9461	0.8775	0.9130	1.0215	0.8833
	0.6281	0.2524	0.6168	0.7126	0.8403	0.6358	0.7408	0.9348	0.6495
Civil War	1.6210	1.5888	2.7284	1.6381	1.5106	1.6710	1.5021	1.4132	1.6809*
	0.0553	0.0656	0.2029	0.0514	0.0901	0.0427	0.0969	0.1418	0.0391
Foreign Imposition	3.0765	2.9875	3.0236	1.4066	2.4498	2.6358	3.2521	3.1605	2.7417
	0.0007	0.0008	0.0007	0.8267	0.0067	0.0036	0.0004	0.0015	0.0023
Capability Disparity	1.6535	1.6054	1.6418	1.7107	4362.6404	1.5691	1.2246	0.9445	1.5703
	0.5307	0.5572	0.5359	0.5044	0.0000	0.5749	0.7994	0.9403	0.5711
Decisive War	1.9346	1.9241	1.9236	1.9637	2.1853	61.9042	1.9036	1.9198	2.0256
	0.0903	0.0911	0.0996	0.0894	0.0171	0.0000	0.0979	0.1083	0.0592
Contiguity	1.3775	1.3462	1.3712	1.3868	1.1031	1.3736	11.0189	1.4677	1.3971
	0.4264	0.4646	0.4399	0.4209	0.7947	0.3950	0.0292	0.3715	0.4085
Systemic Shock	0.7699	0.8054	0.7763	0.7670	0.9978	0.7544	0.9419	27.7347	0.7292
	0.3970	0.4858	0.4223	0.3947	0.9937	0.3480	0.8445	0.0001	0.2987
Cold War	0.7991	0.8004	0.7917	0.7922	0.6340	0.7769	0.7510	0.8841	0.1082
	0.4945	0.4930	0.4785	0.4846	0.1280	0.4264	0.3830	0.6946	0.0093
Observations	3909	3909	3909	3909	3909	3909	3909	3909	3909

Exponentiated coefficients

Rivalry clustered standard errors

Bold font indicates variables that violate the proportional hazards assumption.

Table 6: Cox Regression: Rivalry Termination 1919-2010 - Dropping all rivalries starting prior to 1919

	(1)	(2)	(3)	(4)
	Hazard Ratio	Hazard Ratio	Hazard Ratio	Hazard Ratio
	exp(se)	exp(se)	exp(se)	exp(se)
Regime Change	3.0897**	3.6863***	2.9318**	4.1627***
	1.1306	1.4298	1.191	1.6108
Regime Change × SOLS Chang			5.7999***	
			1.9720	
Regime Change × Irregular Turnover				5.7264***
				2.0998
SOLS Change	1.8541		1.7540	
	0.6600		0.9053	
Irregular Turnover		1.6794		2.7023
		0.7480		1.9791
Civil War	1.2392	1.1771	1.2339	1.2181
	0.3064	0.3065	0.3056	0.3171
Foreign Imposition	2.8225**	2.9199**	2.8401**	2.8099*
	1.0878	1.1876	1.0869	1.1353
Capability Disparity	64.5265	62.8905	64.1989	60.5523
	272.5486	270.9594	270.8095	259.8345
Cap. Ratio X Log(t)	0.1706	0.1729	0.1716	0.1742
	0.2579	0.2680	0.2585	0.2688
Decisive War	14008.4916***	12060.8280***	14038.0905***	12957.3195***
	35541.3250	29197.7962	35941.9158	31539.4111
Decisive War X Log(t)	0.0270**	0.0288***	0.0269**	0.0276***
	0.0299	0.0293	0.0302	0.0283
Contiguity	0.2795	0.3110	0.2785	0.2948
	0.3368	0.3662	0.3360	0.3465
Contiguity X Log(t)	1.6494	1.6033	1.6509	1.6264
	0.7469	0.7105	0.7485	0.7210
Systemic Shock	4.1796	4.3138	4.3230	4.1209
	5.5203	5.7342	5.9155	5.4831
Systemic Shock X Log(t)	0.6879	0.6728	0.6805	0.6821
	0.3376	0.3306	0.3455	0.3355
coldwar	0.6632	0.6158	0.6773	0.5973
	0.7009	0.6898	0.7292	0.6648
Cold War X Log(t)	0.7820	0.7828	0.7761	0.7903
	0.3141	0.3304	0.3182	0.3336
Observations	1461	1461	1461	1461

Exponentiated coefficients

Rivalry-clustered standard errors

*p<z0.05, **p<z0.01, ***p<z0.001 in two-tailed test

Table 7: Cox Proportional Hazards: Rivalry Termination 1919-2010

	(1) Hazard Ratio exp(se)	(2) Hazard Ratio exp(se)	(3) Hazard Ratio exp(se)	(4) Hazard Ratio exp(se)
Regime Change	7.1761***	8.1866***	6.6113***	8.4756***
	2.1524	2.3808	2.1955	2.4264
Regime Change × SOLS Change			6.4778***	
			1.9646	
Regime Change × Irregular Turnover				4.7198***
				1.7249
SOLS Change	0.8759		0.7847	
	0.2424		0.3540	
Irregular Turnover		0.5989		0.7177
		0.2085		0.5151
Irregular Turnover		0.5989		0.7177
		0.2085		0.5151
Civil War	1.6217+	1.6624*	1.6075+	1.6765*
	0.4095	0.4154	0.4088	0.4131
Foreign Imposition	3.0749***	3.1288***	3.1246***	3.1256***
	1.0206	1.0038	1.0286	1.0014
Capability Disparity	1.6538	1.5116	1.6445	1.5121
	1.3263	1.2126	1.3252	1.2128
Decisive War	1.9359+	1.8473	1.9386+	1.8488
	0.7605	0.7036	0.7677	0.7000
Contiguity	1.3780	1.3615	1.3633	1.3690
	0.5551	0.5344	0.5613	0.5354
Systemic Shock	0.7694	0.8009	0.7768	0.7963
	0.2388	0.2453	0.2436	0.2418
Coldwar	0.7991	0.8373	0.7954	0.8397
	0.2623	0.2692	0.2610	0.2719
Observations	3909	3909	3909	3909

Exponentiated coefficients

Rivalry-clustered standard errors

*p<z0.05, **p<z0.01, ***p<z0.001 in two-tailed test

Table 8: Rivalries Ending Within 5 Years of Regime Change: 1919-2010

Rivalry	State A	State B	End Year	Starting Regime Mix	Preceding Regime	Succeeding Regime	Change State	Ending Regime Mix
29	Russia	China	1949	WL/SP	Warlord	Single-Party	China	SP/SP
34	Brazil	Argentina	1980	D/Junt	Democracy	Junta	Argentina	Junt/Junt
37	Columbia	Peru	1934	D/Pers	Personalist	Military	Peru	D/Military
47	El Salvador	Honduras	1993	D/Hyb	Hybrid	Democracy	Honudras	D/D
48	Guatemala	Honduras	1933	D/Junt	Junta	Monarcy	Guatemala	D/Mon
52	Chile	Argentina	1984	Junt/Junt	Junta	Democracy	Argentina	D/Junt
63	Japan	Russia	1956	Junt/SP	Junta	Democracy	Japan	D/SP
64	Greece	Bulgaria	1974	Junt/SP	Junta	Democracy	Greece	D/SP
66	Bulgaria	Romania	1940	Mon/Mon	Monarchy	Junta	Romania	Mon/Junt
71	Ethiopia	Italy	1943	Mon/Pers	Personalist	Other	Italy	Mon/Junt
73	Bolivia	Paraguay	1938	Olig/Olig	Oligarchy	Junta	Bolivia	Olig/Junt
80	Albania	Greece	1996	D/D	Democracy	Democracy	Albania	D/D
82	Hungary	Romania	1947	Junta/SP	Junta	Single-Party	Romania	SP/SP
89	Costa Rica	Panama	1941	D/Pers	Personalist	Hybrid	Panama	D/Hyb
120	Thailand	Vietnam	1991	Pers/SP	Personalist	Junta	Thailand	Pers/Junt
126	Russia	China	1992	SP/SP	Single-Party	Personalist	Russia	SP/Pers
129	Mali	Burkina-Faso	1986	Pers/Junta	Junta	Personalist	Burkina-Faso	Pers/Pers
131	Ghana	Ivory Coast	1966	SP/SP	Single-Party	Junta	Ghana	Junt/SP
132	Ghana	Nigeria	1972	Junt/Hyb	Hybrid	Junta	Ghana	Junt/D
139	Burundi	Rwanda	1973	WL/SP	Single-Party	Junta	Rwanda	WL/Junta
140	Indonesia	Malaysia	1966	D/Pers	Personalist	Junta	Indonesia	D/Junta
142	Sudan	Uganda	1974	Per/Per	Personalist	Personalist	Uganda	Pers/Pers
143	Chad	Sudan	1975	Per/SP	Single-Party	Junta	Chad	Per/Junta
144	Malawi	Tanzania	1994	Pers/SP	Personalist	Democracy	Malawi	D/SP
149	Rhodesia	Zambia	1979	SP/D	Democracy	Single-Party	Rhodesia	SP/SP
150	South Africa	Zambia	1992	SP/Olig	Single-Party	Hybrid	Zambia	Hybrid/Olig
151	Chad	Libya	1994	Pers/Pers	Personalist	Personalist	Chad	Pers/Pers
160	Libya	Sudan	1985	Pers/Hybrid	Hybrid	Democracy	Sudan	Pers/D
161	Congo (DRC)	Angola	1997	SP/Hybrid	Hybrid	Personalist	Congo	SP/Pers
163	Cameroon	Nigeria	2002	Pers/Junta	Junta	Other	Nigeria	Pers/Other
164	Mozambique	Rhodesia	1979	SP/D	Democracy	Single-Party	Rhodesia	SP/SP
165	Cambodia	Vietnam	1979	SP/SP	Single-Party	Single-Party	Cambodia	SP/SP
166	Mozambique	South Africa	1993	SP/D	Democracy	Oligarchy	South Africa	SP/Olig
172	South Africa	Zimbabwe	1993	SP/D	Democracy	Oligarchy	South Africa	SP/Olig
173	Belize	Guatemala	2000	D/Junt	Junta	Democracy	Guatemala	D/D
177	Kenya	Sudan	1994	SP/D	Democracy	Personalist	Sudan	SP/Pers
192	Congo (DRC)	Rwanda	2009	SP/Pers	Personalist	Democracy	Congo (DRC)	SP/D
193	Congo (DRC)	Uganda	2009	Pers/Pers	Personalist	Democracy	Congo (DRC)	Pers/D

Hybrid regimes are defined as those that mix democratic and autocratic characteristics.