

REPUTATIONS, COMMITMENT PROBLEMS,  
AND PARTISAN THIRD PARTY INTERVENTIONS

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A thesis submitted to the faculty of the University of North Carolina at Chapel Hill  
in partial fulfillment of the requirements for the degree of Master of Arts in the  
Department of Political Science.

Chapel Hill  
2008

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ABSTRACT  
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Reputations, Commitment Problems, and Partisan Third Party Interventions  
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Various theories have explained why committing to peace may be difficult, but many questions still need to be addressed, especially in regards to how belligerents manage to cooperate when they are incapable of making credible commitments on their own accord. This study suggests that a better understanding of reputations and third party interventions may help fill this gap. A reputation for violating previous dispute settlements contaminates the bargaining environment by undermining trust and making one's commitment to peace less credible. Since military interventions affect the distribution of power in the post-settlement phase, on whose side the third party intervenes will have significant impact on the duration of war and durability of peace. A Cox model finds some evidence that crises influenced by reputations are more difficult to settle than those that are not, and that external military support may result in longer bargaining periods. A logit regression model yields mixed results in terms of how partisan third party interventions affect the durability of peace.

## ACKNOWLEDGEMENTS

I would like to acknowledge the people who guided me throughout the writing of this thesis. I thank Mark Crescenzi for introducing me to the world of reputations and for helping me launch the research question and embark on a journey of searching for a scientific explanation. I thank Timothy McKeown for helping me structure the main argument and providing me with insightful comments. Last but not least, I thank Navin Bapat for identifying the missing link in the original argument and suggesting that I expand my theoretical horizon.

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## **Introduction**

In international relations scholarship, numerous works on war and peace have emphasized the importance of preventing the next war; the focus today is on how to sustain the negotiated peace. With the number of interstate wars dwindling while the number of protracted intrastate conflicts is rapidly increasing in the post Cold War period, such theoretical transition is inevitable. Nonetheless, one area of research that transcends these changes and remains highly significant to conflict resolution is that of third party intervention.

Existing works on third party intervention in both interstate and intrastate conflicts highlight its informational role in reassuring the disputants with a guarantee of settlement enforcement (Walter 2002; Fortna 2004), while reporting conflicting findings in regards to its effectiveness. The outcomes vary depending on the biasness of the intervener, the timing of intervention, and the means adopted by the intervener (Kydd 2003; Regan 2002; Lindsay and Enterline 2002). Some formal models have even shown that the challenger's ability to manipulate the stakes of war can deter intervention (Werner 2000). What can be implied from the literature is that the effectiveness of intervention is a function of both an opportunity to cooperate as well as the willingness to

adhere to prior settlements. Third party interventions are important since it contributes to both areas by providing necessary information and making commitments credible.

Recognizing the importance of a state's determination to make and keep the peace as well as providing with opportunities to avoid conflict, this paper addresses the question of what factors affect the stability of peace. The focus of this study is on how states commit to peace in crises that recur despite a previous peace settlement and how third party intervention may help overcome the obstacles to peaceful communication and reduce commitment problems. The aim of this paper is to examine how a state's reputation and third party intervention interact in determining the stability of peace. Specifically, I ask whether reputation affects a state's willingness to end a crisis and if this has any spillover effects on the durability of a negotiated peace. This is broken down into two smaller questions on how reputation may create a bargaining environment where third parties are more likely to intervene and how partisan third party intervention generates costs by creating incentives to renegotiate previous settlements.

Using a Cox proportional hazard model, I find preliminary support for the argument that reputation creates a demand for external support to facilitate cooperation and that a guarantee of enforcement from third parties lead to longer bargaining periods. A logit regression model produces mixed results in regards to the effect of partisan third party intervention on the stability of post-settlement peace, providing with some important leads to future research.

This study aims to provide a theoretical linkage between past behavioral histories and commitment problems in bargaining for cooperation, while it re-examines the argument that anticipated change in the distribution of power creates incentives to



renegotiate the terms of a prior settlement (Werner 1999). Departing from studies that stress on the role of neutral third parties as enforcers of peace settlements, I make a counter-intuitive argument that partisan third party interventions favoring the stronger party may increase the probability of successful peace settlements.

The reputation concept used in this paper is substantively different from what is discussed in terms of traditional deterrence. In the deterrence literature, reputation is widely referred to as “a reputation for resolve or willingness to fight” (Schelling 1960), which suggests that a threat made by a state with a strong reputation would be more credible and is thus worth fighting for. My reputation term refers to the expectation of whether or not a state will follow through with its commitment to the current negotiated peace agreement based on its past record of compliance. This is rooted in the assumption that commitments to formal dispute settlements are interdependent.

The paper proceeds as follows. The second section offers a critical review of the literature on learning and reputation. The third section discusses the theoretical framework for third party interventions and commitment problems. The fourth section covers the research design and operationalization of relevant variables. The fifth section presents the empirical results and the last section concludes the paper with a discussion of how to take this project forward.

## **Learning and Reputation**

Research on learning in international relations is large and complex, partly due to its interdisciplinary nature and absence of consensus on who learns, what, and how (Levy

1994). On one hand, the rational choice framework claims that states reflect on the paths of play and update their beliefs with new information based on their prior beliefs and at least implicitly, experience (Filson and Werner 2002).<sup>1</sup> On the other hand, qualitative research on foreign policy decision making has produced comparable studies on why learning occurs so infrequently (Khong 1992; May 1992) or tend to occur in limited, tactical form (Etheredge 1985). A review of quasi-experimental surveys demonstrated that leaders' decisions are strongly influenced by their prior beliefs, and are thus more theory-driven than they are data-driven in assessing hypothetical crises (Koopman, Snyder and Jervis 1990).

Nevertheless, there is significant evidence that learning processes affect state bargaining behavior. Quantitative studies on enduring rivalries, alliance formation and duration, and war onset claim that states learn from behavioral histories of conflict and cooperation that have accumulated over time (Goertz and Diehl 1993; Crescenzi 2007; Reiter 1996). For instance, Crescenzi (2007) claims that reputational histories for initiating violence or aggression signal problems of credibility that may exacerbate crises and make war more likely. States not only learn from direct experiences, but also indirect, extra-dyadic experiences that are weighted according to their cooperative and conflicting relationships with proxy states.

The representative works of Jervis (1976) and Leng (1983, 2000) show a common understanding that policymakers learn from past experiences, particularly drawing on lessons from history using analogies. Leaders are concerned with presenting their policies as decisive or effective so they have a tendency to repeat successful policies

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<sup>1</sup> In game theoretic models, learning is aligned with deductive logic and is central to Bayesian games which have become extremely popular in bargaining literature. See Filson and Werner (2002, 2004) and Powell (2004).

and do away with failed instances (Jervis 1976). Hence, learning is contingent on policy outcomes and interdependence across time and between analogous events. Leng (1983, 2000) applies this to a coercive bargaining framework and maintains that such learning is more likely in recurring crises. Since political leaders are constantly pressured to demonstrate resolve, they associate foreign policy success and failures to the success and failures of their bargaining strategies where failure is perceived as a lack of resolve. Provided that states draw analogical lessons from previous dispute outcomes, especially policies perceived as failures, this tendency is strengthened in rivalry relationships where states fight with the same opponent multiple times. Therefore, leaders tend to repeat successful tactics in previous crises and discard unsuccessful tactics and turn to more coercive measures. While Leng (1983, 2000) offers a useful way to understand how states learn in recurring crises, there is a qualification that the coercive bargaining model does not go beyond the most recent crisis bargaining outcomes and falls short of addressing the enduring effects of past offensive behavior.

Another line of research that recognizes the importance of past interactions addresses how reputations affect state behaviors.<sup>2</sup> Classic theories of deterrence have maintained that demonstration of a strong reputation for resolve is critical for bargaining as it can coerce others to behave in desirable ways without actually having to use force (Schelling 1960). Although there is no binding rule that states should always implement the threats they make, they are inclined to do so because once a challenger backs down, its credibility will be undermined and effective communication of one's intentions would become increasingly difficult. The implication is that reputation for resolve is central to

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<sup>2</sup> A relatively thorough discussion on how to conduct research on reputations can be found in Mercer (1997), Copeland (1997) and Huth (1997).

effective diplomacy as it provides a foundation for sending costly signals and making credible commitments.

Thus far, however, the importance of reputations associated with keeping or breaking specific commitments to peace has not been adequately discussed. In the meantime, what can be borrowed from the reputation and deterrence literature is the question of whether or not commitments of the past and future are interdependent. As previously mentioned, Jervis (1976) argues that reputations for resolve take effect over time and are worth fighting for. In contrast, Press (2005) contends that the credibility of threats in crisis situations is not contingent on a state's past behavioral record but determined by immediate calculations of military power and interests. Incorporating insights from psychology, Mercer (1997) makes an overarching claim that a state's reputation is determined by the friend or foe relationship between the states involved in the interaction. That is, since adversaries are generally expected to challenge and allies are expected to extend support, attribution theory suggests that regardless of whether the opponent lives up to one's expectations or not, adversaries will gain reputations for being resolute and allies will gain reputations for being irresolute. The take-home-point is that the shadow of the past should apply within the boundaries of existing relationships, which implies that the situation rather than a state's disposition should determine one's reputation. In a given interstate relationship, unless the situation changes dramatically that either foes become friends or vice versa, no amount of threatening or appeasement can easily alter one's reputation. According to this approach, the notion of historical commitment interdependence exists but in a constrained form.

Mercer's (1997) argument is subject to two further qualifications. First, the relational conceptualization of reputation does not rule out the possibility that states may pursue or defend other types of reputations. Reputation for resolve has no doubt been central to research in international relations, especially during the Cold War. However, it is not the only type. Reputations for trustworthiness (Larson 1997; Gelpi 1997, 2003), honesty (Sartori 2002; Guisinger and Smith 2002) and reliability (Reiter 1996) have also made their debut as important concepts in international relations.<sup>3</sup>

Second, Mercer's argument offers a rather pessimistic view of the likelihood of cooperation when states share a direct history of conflict. When states fight, they confirm the existence of conflicting preferences and their desire to take advantage of each other. According to Mercer, a reputation for being resolute will be formed among the adversaries. If this is true, then cooperation among states amidst a history of conflict will be extremely difficult to realize unless there is a fundamental change in the relationship. That is, since there is so much distrust to begin with, any voluntary change in the relationship would be qualified and cooperation would be unlikely.

Furthermore, what remains lacking in existing frameworks on reputation is the notion of temporal interdependence between commitments to salient events, particularly legitimate peace settlements that signal credible commitments to peace. We have seen that works on crisis bargaining, war termination and the durability of peace emphasize the importance of uncertainty and risk in the immediate future. Yet, few have investigated the effects of learning that arise from reputations for not abiding by peace

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<sup>3</sup> For instance, Sartori (2002) makes the case that when a state has a reputation for bluffing, its communication capabilities are constrained and become less likely to achieve its goals. According to this logic, deterrence is more likely to succeed when a state is recognized for its honesty, a reputation that is gained by consistent diplomacy or successful bluffing.

agreements, which may affect how disputants bargain for peace when a crisis recurs within the same dyad.<sup>4</sup> It is one thing that a crisis recurs, and it is another when a crisis recurs despite a previous legitimate dispute settlement. In the latter case, the challenger will earn a reputation for defecting as well as be discredited for initiating the dispute. The defender would not only be affected by being targeted, but also by the undermining of trust that was formed through prior negotiation efforts that include meeting at the negotiating table, drafting an agreement, and signing onto it. Peace settlement violations are salient events, as Fortna's (2004) findings show that peace agreements are not mere "scraps of paper" but actually constrain states to adhere to their commitment. According to this logic, past violations of dispute settlements will create a reputation for not being trustworthy, which will trigger commitment problems in analogous situations in the future. If reputation matters, we should see rational states face commitment problems, which leads them to fight longer or renege on previous peace settlements despite unnecessary costs.

### **Commitment Problems, Bargaining, and Third Party Intervention: Theory and Hypotheses**

The recent literature on war and bargaining emphasizes the importance of credible commitments. The commitment problem explanation for war claims that conflict can result when actors are incapable of making credible promises not to renege on a

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<sup>4</sup> Reputation for resolve in civil wars has been discussed in Walter (2006).

negotiated peace settlement, which would be mutually preferred to fighting if it could be enforced (Fearon 1995; Powell 2006).

In the case of civil wars, Walter (2002) focuses on the requirement for warring parties to demobilize or disarm and submit to a joint political authority in the post-conflict phase. Unlike interstate wars, this phase is necessary in settling civil wars to make a transition from the bargaining to the implementation phase and establish peace. However, the fact that disputants must give up the very means to enforce the peace invokes a sense of vulnerability. In other words, the perceived risks to cooperation create problems of credible commitment. Because the government generally has the upper hand after a settlement is reached, the opposition party is reluctant to commit to disarmament. At the heart of Walter's argument is that third party interveners can help actors overcome the security dilemma by offering to closely monitor or punish defecting behavior and thus increase the costs of any violation. Early detection of cheating will give the opponent enough time to launch a countermeasure, while a clear indication of the severe consequences of reneging on the agreed terms would deter potential cheaters from trying to take advantage of its opponent. In this sense, the third party security guarantor reduces fears of commitment as an impartial information provider that facilitates cooperation and adherence to mutually agreed upon peace settlements.<sup>5</sup>

In respect to interstate wars, Werner (1999) links commitment problems with the issue of why some settlements last longer than others. Unlike Walter (2002) who focuses

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<sup>5</sup> Evidence can be found in both quantitative and qualitative studies that it is critical to overcome one's fears of being exploited in the post-settlement phase in order to establish a stable peace. The case has been made that third party interventions contribute to increasing the probability of wars ending in a negotiated settlement (Doyle and Sambanis 2000; Hampson 1996) and that they also increase the durability of the peace (Fortna 2004; Regan 2002; Hartzell, Hoddie and Rothchild 2001).

on the adversaries' incentive to remobilize and rearm, Werner (1999) concentrates on the incentive to renegotiate the terms of a prior agreement due to anticipated changes in the distribution of capabilities and expected costs of fighting. Simply put, if either party believes that a new conflict will result in more beneficial terms, they will be tempted to defect from the prior settlement and fight for a better deal. In her analysis, the author treats separately the effects of third party security guarantees and change in relative power on peace stability. However, this approach is problematic on two main fronts. First, this overlooks the different types of third party intervention and their impact. Third parties not only act as neutral security guarantors, but also as partisan military supporters due to previous alliance relationships or strategic considerations. Depending on whose side a third party may intervene, third parties may contribute to a change in the distribution of power, which would affect how states perceive a peace settlement to be worthy of commitment. Second, this complicates the measurement of a state's relative power. Werner (1999) uses the COW power index that includes demographic, industrial and military power to measure the difference in yearly growth rates to measure change in the relative power. However, a measure for balance of power is not complete unless external military assistance is included, especially since the very existence of a partisan intervener could increase the threat perception of the opponent.

Thinking in terms of dyads, if a third party extends military support to the stronger party, a "bandwagoning" effect will occur. Threatened by the strengthened opponent, the weaker party would be more likely to commit to the current peace settlement than risk another dispute and giving up more concessions. On the other hand, the strengthened party may become more optimistic and have an incentive to renegotiate



for a greater victory. If a third party offers military support to the weaker state, a “balancing” effect will arise. In this case, the opponent would fear that its military advantage may be jeopardized and have an incentive to renegotiate and secure itself a better deal while it can. The empowered (weaker) state may convince itself that a new war might be worth fighting for. Both scenarios lead to a more precarious peace. The implication is that when a third party takes sides, it will result in a shift in the power balance and cause states to respond accordingly, rather than have a neutral and reassuring effect. This is fundamentally different from Walter’s (2002) third party security guarantee argument or Fortna’s (2004) peace agreement strength argument that concentrates on the informational role of neutral third party intervention.<sup>6</sup>

The linkage between learning about reputation and third party intervention can be established by understanding the conditions where states cannot peacefully renegotiate the terms of a peace settlement and a third party intervenes with its own set of preferences. For the purpose of this paper, I assume that third parties intend to end a conflict rather than exacerbate the situation. According to classic bargaining literatures, there are two types of peaceful bargaining techniques, explicit and tacit bargaining. Often these two bargaining modes are adopted simultaneously; however, it is still important to review the differences.

States may decide to consider a compromise solution to the conflict through explicit bargaining which entails an explicit exchange of offers and counteroffers (Schelling 1960). The explicit communication method allows actors to discuss a broad range of multidimensional issues so that failure to reach a deal in one area could easily be

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<sup>6</sup> Non-neutral or biased interventions have been discussed as an effective form of conflict management such as mediation (Dixon 1996; Corbetta and Dixon 2005; Kydd 2003).

complemented with success in another, and also provides more room to make revisions to prior agreements without hindering the entire peace process. Explicit bargaining also enables state leaders to generate domestic audience costs to tie their hands and make their decisions seem more credible (Fearon 1994). The drawback is that formal negotiations take much time to prepare for and are less capable of responding to technological development in timely fashion and unable to reflect domestic political conditions such as recessions (Downs and Rocke 1990, pp. 10-13). In addition, explicit bargaining may suffer from the dual-edged sword of domestic audience costs. Formal negotiations will disclose information about the preferences, capabilities, and resolve of the government to a wider domestic audience. This will make leaders highly accountable for their political achievements and reputations, an aspect that is highly correlated with time pressure and thus will inhibit both the launch of timely negotiations and willingness to compromise their goals. Discussions on why some governments prefer to go private than to adopt public forms of communication provides support for the logic behind audience constraints.<sup>7</sup>

Thus, although explicit bargaining may reduce the probability of misinterpretation and permit a trial and error process, the method itself is less responsive to change and contains political restraints in that states will be reluctant to adopt it in situations where cooperation seems unlikely. Even if they do, it will be ineffective in fast-progressing situations such as crises since by the time that formal negotiations are set up, there is a

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<sup>7</sup> For instance, Kurizaki (2007) argues that private diplomacy shields state leaders from domestic political outcomes when they back down on a challenge to avoid risking an unwarranted war. Similarly, Baum (2004) emphasizes the dual role of domestic audiences in that public scrutiny can prohibit a leader's decision to use force as well as increase a leader's credibility. Going private may be more preferable as publicity not only increases the chance of backlash after a unsuccessful policy outcome but is also less attractive when there is no guarantee that the mass public will respond as expected.

high probability that the crisis will have escalated or moved on to the next phase. Given these constraints, the implication is that explicit bargaining will only be viable when there is relatively little time pressure and the leaders of the contending states are reassured that there is a mutual commitment to peace and bargaining is likely to yield positive outcomes.

Meanwhile, tacit bargaining is a way to influence the opponent's policies through its behavior rather than relying on policy statements and formal or informal diplomacy.<sup>8</sup> This was the case for arms control during the Cold War, which called for actions that sought to accomplish a goal that could only be realized by joint, voluntary behavior. Formal negotiations simply dragged on for too long while the arms buildup continued, and thus an alternative bargaining method was in desperate need to reach an agreement on arms control and maintain it. Some examples of tacit bargaining include issuing retaliatory tariffs in response to a trade barrier and holding back on using chemical weapons in mass bombings in hope for the opponent to reciprocate.

The strength of tacit bargaining lies in its adaptability and responsiveness. First, it allows for a quick response to technological developments and leadership changes. No official meetings and speeches need to be made prior to taking any action. Second, it provides room for gradual progress at low transaction costs, so that partial cooperation can lead to cooperation on a greater scale. This permits decision makers to cooperate in specific areas without having to agree on all fronts. Furthermore, since state actions are less directly interpretable than words, it somewhat separates the bargaining process from audiences at home and afar, which reduces the societal or political pressure to reach a successful deal. However, this is also accompanied by limitations. If there is a high level

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<sup>8</sup> Thomas Schelling was the first to stress the difference between tacit bargaining and negotiation, and link the former with the arms race between the US and the Soviet Union (Downs and Rocke 1990, p. 20).

of uncertainty, chances are that actions will be misinterpreted and bargaining will spiral into more contention. Since the true utility function of the opponent remains unknown, and since state actions are so much more diverse than either cooperating or defecting, the slightest increase in the perception of distrust between rival states will create excess noise that leads to grim results. This is not to mention that signaling for cooperation through actions as well as posing effective punishments against undesirable responses is very costly (Downs and Rocke 1990, pp. 14-15). Hence, although tacit communication complements some of the limitations of explicit bargaining, it may initiate or accelerate a spiral of defection when the levels of mistrust are high.<sup>9</sup>

What can be commonly inferred from the above is that unless there is some way to reassure the opponent of one's willingness to reciprocate cooperation and confirm the existence of a shared goal for conciliation, opportunities to peacefully renegotiate the terms of the peace settlement may be delayed or missed altogether despite a state's willingness to avoid costly clashes. In this context, reputation becomes highly relevant. Under the assumption that commitments are interdependent, a state's reputation for not

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<sup>9</sup> This becomes clearer when we consider the different strategies within tacit bargaining. The tit-for-tat strategy shows that cooperation can be established when a state makes a cooperative gesture and the other reciprocates the previous move (Axelrod 1984). The anticipation of retaliation would extend the shadow of the future and facilitate cooperation. Yet, once either player decides to defect, cooperation comes to an abrupt end and a lock-in situation arises. This generates a rather dismal view of world politics, as a single instance of defection would terminate cooperation and initiate endless rounds of retaliation. To improve the chances of stable cooperation, Osgood (1962) proposed the use of unilateral conciliatory gestures (GRIT, Graduated and Reciprocated Initiatives in Tension Reduction) as a way to signal "a break with the immediate past that ostensibly mitigates the problem of distrust created by early interchanges" (Boyle and Lawler 1991, p. 1199). The prescription was to make small but firm and symbolic signals that are substantial enough to build trust. However, unless there is a way to reassure the opponent that one is truly security-seeking, even unilateral gestures of cooperation cannot guarantee mutual cooperation. As Kydd (2005) argues, a sufficiently costly signal has to be exchanged to assure the opponent of one's type as security-seeking. However, if distrust levels are so high that the bargaining environment becomes contaminated, costly signaling is not feasible. That is, if there is too much noise within the bargaining environment that one cannot determine the opponent's true type, then mutual exchange of actions cannot facilitate cooperation.

abiding by dispute settlements will cast a long shadow of the past when states are bargaining for peace. Then, behavioral histories for not abiding by peace agreements should factor into making some disputes harder to settle than others since a state's commitment to peace will not be credible. Under these circumstances, the disputing states need a third party intervener to facilitate peaceful interactions.

When states are bargaining in the shadow of power, third party interventions will influence the expectations about the changes in relative capabilities, which will in turn affect a state's willingness to commit to peace. By favoring one side over another, third parties will create a contrasting sense of security and fear or satisfaction and dissatisfaction among the belligerents. Consequently, on whose behalf the third party intervenes will play a significant role in determining how warring states perceive the opportunities to renegotiate the terms of peace. The focus is on third party interventions that employ the use of force. Mediation, often referred to as a subset of intervention using peaceful means, is an effective way to prevent crisis escalation rather than affect expectations of post-settlement power distribution.

Based on these arguments, a series of testable hypotheses can be derived. Depending on whether the dispute issue was resolved during the crisis, the effect of reputation on its duration may vary. On one hand, if a settlement is imposed on the belligerents before the conflict issue is fully resolved, states may be reluctant to settle and be more determined to contend until they are fully satisfied.<sup>10</sup> Under the influence of reputation, the defender may wait for several iterations to make sure a settlement offer is

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<sup>10</sup> There are of course instances where states are not willing to bargain in any case and decide to fight to the end. This is a possibility but unlikely since a notable trend in international warfare is that states rarely fight each other until one side is completely destroyed or replete of the basic means of survival. Most wars end in some form of negotiated settlement rather than a complete destruction of either party (Pillar 1983).

made repeatedly to make sure it is sincere and credible. Also, states may take longer to process the opponent's settlement offer or make offers of their own as they are sensitive to bargaining outcomes and the associated domestic audience costs.<sup>11</sup> In the end, the more states exchange offers and counter-offers of settlement to strike a peaceful bargain, the longer the crisis will last.

H<sub>1</sub>: When a crisis ends in an imposed settlement, a crisis influenced by a reputation for defecting from previous dispute settlements will last longer than a crisis not affected by such reputation.

On the other hand, if the dispute issue was resolved and a voluntary settlement is reached, states influenced by reputation may not necessarily take longer to commit to peace. Such would be the case where the adversaries are satisfied with the terms of the agreement and believe that another dispute on the same issue is unlikely.

H<sub>2</sub>: When a crisis ends in a voluntary settlement, a crisis influenced by a reputation for defecting from previous dispute settlements will end earlier than a crisis not affected by such reputation.

External support from third parties may help create an incentive to settle. Cooperation theory suggests that a longer shadow of the future makes cooperation more likely and sustainable. In the case a third party intervenes, it would guarantee a longer shadow of the future which makes states care enough about the future payoffs. This will prove especially effective when states are experiencing much difficulty over resolving the dispute issue. Quantitative work on bargaining and third party interventions have found that major powers are more likely to intervene or mediate in tougher cases that involve

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<sup>11</sup> This call for prudence is supported by experimental evidence that domestic audience costs arise since citizens care about the international reputation of the state or leader and that leaders take seriously their disapproval ratings (Tomz 2007).

ethnic or religious rivalry and territorial claims (DeRouen and Goldfinch 2005; Dixon 1996).

H<sub>3a</sub>: When a crisis ends in an imposed settlement and a third party intervenes under the influence of a negative reputation, it is more likely that the crisis will be short.

Meanwhile, Fearon's (1998) distinction between bargaining, enforcement and the interactions in between gives rise to competing expectations in regard to crisis duration. In short, although a long shadow of the future may make enforcement easier and more likely, it can also give states an incentive to bargain harder, delaying a timely agreement to cooperate in anticipation of a better deal in the future. In this case, the likelihood of longer crisis duration may rather increase with third party intervention. So, in cases where the dispute issue is resolved, third parties will guarantee enforcement and lead to longer bargaining periods.

H<sub>3b</sub>: When a crisis ends in a voluntary settlement and a third party intervenes under the influence of reputation, it is more likely that the crisis will last longer.

Once we have confirmed that reputation creates a hard case for bargaining that needs external support, we need to consider how third party intervention affects the durability of peace in the subsequent post-settlement period. The commitment problem explanation for war recurrence gives rise to the expectation that when a third party intervenes in favor of the stronger state, the remaining weaker state will have little incentive to risk losing more than it already has and thus will be more likely to adhere to the current peace settlement. However, there is still the possibility that the stronger party

will become greedier and attempt to accomplish a complete and decisive victory. In this case, it is difficult to test a separate hypothesis.

In contrast, when a third party intervenes in favor of the weaker state, the remaining stronger party may anticipate a shift in the balance of power against its current advantage and be reluctant to commit to long term peace. The empowered weaker party may also be tempted to gamble and fight for a better deal. In this case, tensions will be more likely to escalate and the peace will be unstable.

H<sub>4</sub>: If the intervening third party favors the weaker state, the stronger side's commitment to peace will be weakened and tensions will be more likely to re-escalate after the crisis.

## **Data Analysis Methods**

The sample of crises under observation is a compilation of reinitiated crises during 1929-1979. This dyadic level dataset was constructed to provide a baseline distrust level among states that have a history of conflict as well as differentiate between dyads that are affected by reputations for dispute settlement violations and those that are not. There are a total of 115 international crises in the dataset, where 43 cases escalated into a full scale war, 43 cases included minor or serious clashes, and the remaining 29 cases involved no violence. The reinitiated crises were selected based on Gelpi's norms dataset (1997, 2003) and the key variables are based on a compilation of the actor level and dyadic level International Crisis Behavior (ICB) dataset, version 2.<sup>12</sup> A more

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<sup>12</sup> Gelpi's original dataset includes 122 international crises. Seven cases were inevitably dropped according to data availability in the ICB dataset. See <http://www.duke.edu/~gelpi/data.htm>



commonly used dataset is the Correlates of War (COW) Militarized International Dispute (MID) dataset, however, the ICB dataset was chosen as it contains more serious military interactions and provides with detailed case summaries which will be used to operationalize the relevant variables. Although the 50-year observation period is relatively short, it spans across the ending of World War II and the beginning of the Cold War period, which coincides with increased attention for reputations and institutions at the international level. Also, as the effect of reputations is the focus of this study, it seems most appropriate to follow Gelpi's record of dispute settlements which is based on review of documents and statements selected from the references of Brecher and Wilkenfeld (1997) and Brecher, Wilkenfeld, and Moser (1988).

Two separate models are constructed to test hypothesis 1-3 and hypotheses 4. The first is a Cox proportional hazard model that addresses "competing risks" to assess whether or not reputations for not being trustworthy lead to longer crises or periods of hostility. This is elaborated further in the following section. The second is a logit regression model that examines whether partisan third party intervention affects state decisions to renegotiate the mutually agreed upon status quo or terms of the previous settlement.

A test of the first set of hypotheses employs event history analysis, which is also referred to as survival or duration analysis. Event duration models estimate the effects of independent variables on the length of time something lasts and can incorporate the uncertainty about how long a phenomenon will continue into the future. The logic is that each unit of analysis runs a "risk" of experiencing a critical event, where this experience is noted as a "transition" (Box-Steffensmeier and Jones 2004). The dependent variable is

the duration of time that a unit spends before the transition occurs. Duration is referred to as either “failure time” or “survival time” since a unit survives from some starting point until they experience an event and ultimately fail. What is critical in interpretation is the “hazard rate” or the probability where an event terminates at time  $t$  given that it survived until that time. That is, the failure of an event is conditional on its survival, and thus conditional on its past history. Since duration is modeled explicitly as a stochastic process, the independent variables increase or decrease the probability of crisis termination but do not predict exactly when the crisis will end.

As an indicator of commitment problems, the duration of crises is evidently non-normally distributed (figure 2).<sup>13</sup> Given that one of the main assumptions of ordinary least squares (OLS) regression is violated at the outset, it is inappropriate in dealing with the question at hand. Fortunately, the unique features of duration data including non-normal distribution, truncation, censored data points, and time-varying predictors can be sufficiently addressed with event history analysis, which uses Maximum Likelihood Estimation (MLE). Unlike OLS estimators that are BLUE,<sup>14</sup> there is no guarantee that ML estimators are unbiased. However, the rationale for using MLE is that when the number of observations is sufficiently large, ML estimators will be almost identical to OLS estimators. ML estimators even have a few desirable characteristics of their own. First, MLE is a more general method of estimation, which makes it easy to maximize estimators by adding certain restrictions. Second, the variance of Maximum Likelihood

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<sup>13</sup> The mismatch between the normal density plot and histogram and the positive values of duration shows that duration is not normally distributed.

<sup>14</sup> In an ideal linear and unbiased world, OLS estimators are BLUE.

estimators is smallest when the sample size increases asymptotically, which makes ML estimators efficient.<sup>15</sup>

For the purpose of this study, I use a Cox proportional hazard model that does not specify the baseline hazard rate as there is no set theory that determines the baseline hazard function in international crises or wars.<sup>16</sup> The model addresses multiple failures in what is otherwise known as a “competing risk” model. The competing risks approach treats outcomes as a set of possible alternative crisis endings and models the relative probability for a particular outcome as competing risks (Box-Steffensmeier and Jones 2004). That is, international crises may end in the disputants voluntarily accepting a formal or informal agreement, or end in either side imposing a settlement on the other. This enables us to obtain a more refined effect of the covariates for different types of outcomes.

## **Operationalization**

### *Dependent variables*

Evidence of commitment problems can be found in crisis duration. If reputation matters, dyads that include states with a reputation for not being trustworthy should face

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<sup>15</sup> Since ML estimators are not always unbiased, it is not BLUE. However, in the case that there is an unbiased ML estimator, this will be most efficient. In an asymptotic world where normality and consistency co-exist, the variance of ML estimators are the smallest, making it the most efficient. The downside of MLE is that if the selected distribution of the density function is incorrect, the estimates are false. Also, in cases where the PDF monotonically increases, the parameter  $\theta$  that maximizes the Likelihood function may not exist within  $[-\infty, \infty]$ .

<sup>16</sup> Regan (2002) and Bennett and Stam (1996) use the Weibull specification assuming that the baseline hazard of intrastate and interstate conflict is monotonically increasing or decreasing. However, the volatility of international crises makes the monotonic assumption unlikely. DeRouen and Goldfinch (2005) use the Gompertz model, however the exponential growth or decay assumption is equally unlikely.

asymmetrical commitment problems, which lead to longer fighting periods. The dependent variable, *duration of crisis*, is the time elapsed between the perception of a triggered crisis and its termination, in days.

Escalation of tensions can be interpreted as forceful attempts to renegotiate the terms of prior settlements. If third party intervention influences how states anticipate post-settlement changes in the balance of power, the stability of peace may be contingent on whose behalf the third party intervenes. The stability or duration of peace is coded as a dichotomous variable that denotes *escalation of tension*. When post-settlement peace is short-lived and crisis escalated among the principal adversaries during the subsequent five-year period, it is denoted as 1. Otherwise, when a crisis did not recur during the subsequent five-year period and that peace was more stable, this is denoted as 0.

### *Key Explanatory Variables*

*Reputation* denotes whether or not there was a previous dispute settlement when the crisis recurred. This is to indicate that the effect of violating a legitimate peace agreement would carry onto the subsequent crisis through a learning process

Ideally, the measure for the influence of reputations should include a weighted roll-over effect in that if a challenger earns a reputation for violating a peace agreement at time  $t$ , then all dyads from  $t+1$ ,  $t+2$ ,  $t+3\ldots$  are coded as being influenced by reputation weighted by how close they are in terms of foreign policy and power (Crescenzi 2007) and also by discount rate for memory loss. Not only will this take time into account, but would also effectively incorporate extra-dyadic as well as dyadic learning, in other words, vicarious and experiential learning effects (Levy 1994; Leng 1983, 2000). However, the

small size of the dataset does not guarantee a robust measure using the Reputation Information (RI) model (Crescenzi 2007). An alternative way is to code the roll-over effect with a dichotomous variable. However, this would result in a disproportionate number of cases coded as affected by reputation since some states are significantly more likely to get involved in multiple crises over time and the dataset is rather small.

Thus, for the purpose of this paper, it is assumed that a reputation is gained when a war is reinitiated despite a previous settlement.<sup>17</sup> The measurement follows Gelpi's (1997) coding rules for previous dispute settlements using the "form of outcome" variable in the ICB dataset. Primarily, the existence of either explicit or tacit settlement is identified, and violations either through reinitiation of a crisis or at any time during a crisis is verified. The reinitiation of a crisis over the same issue itself generally constitutes a violation. A total of 66 crises recurred despite a previous peace settlement, so there is significant variation between dyads that are influenced by reputations for not abiding by peace agreements and those that are not. It is expected that crises that are influenced by negative reputations have a higher probability to last longer than others.

*Third party intervention* is measured as a whole and in partisan form. Primarily, a dichotomous variable indicating all types of third party intervention is created by coding as 1 when there was a great power intervention prior to World War II or a super power intervention in the post World War II period, and 0 otherwise. The ICB dataset identifies the US and the Soviet Union as superpowers in the post-1945, and Great Britain, France, Italy, Germany, Japan and both the US and the Soviet Union as great powers in pre-1945. It includes separate measurements for great power and super power intervention in a

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<sup>17</sup> The possibility that the war may be initiated by a third state is beyond the scope of this paper.

crisis, both according to a distinct 9-point categorical scale.<sup>18</sup> I make it a rule to only include interventions that include “high” levels of commitment, including covert, semi-military or direct military involvement of at least one great power or super power, excluding those cases where either a great power or super power is a primary crisis actor and not an intervener or joiner.

A dichotomous variable indicating partisan third party intervention, that is, *intervention in favor of the stronger state* and *intervention in favor of the weaker state* was constructed. First, I identified great power and super power interventions at the “high” level. Second, I read through the ICB case studies to determine whether or not the principal third party intervened in favor of the challenger or the defender. Multiple interveners and single interveners were treated equally, especially when all were aligned on the same side. When the super powers intervened on high levels on opposite sides, they were both coded as 1. Third, based on the *balance of power* measurement, I identified who was stronger between the defender and challenger. As a result, I was able to obtain a crude measure of whether the third party decided to “balance” by militarily supporting the weaker side or “bandwagon” by supporting the stronger.

### *Control Variables*

*Balance of power* indicates the balance of the sum of military capabilities which includes military expenditures, military personnel, and the ration of expenditures to

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<sup>18</sup> For example, state A not involved in crisis (0); non-intervention or neutrality (2); political involvement (3); economic involvement; (4) propaganda involvement (5); covert involvement (6); semi-military involvement (7) and direct military intervention (8).

personnel. The balance is measured by calculating the ratio of the defender and challenger's capabilities with the addition of the support they receive from external actors.<sup>19</sup> As a key structural factor that affects war duration (Bennett and Stam 1996), the expectation is that when contending states observe a balance of power, they will be more willing to resist in longer crises.

*Change in the balance of power* indicates the change in the challenger's share of capabilities within the dyad since the most recent crisis over the same issue. This is measured by subtracting the defender's capabilities from the previous dispute from its current capabilities. Thus, a positive value implies that the challenger has grown stronger since the previous crisis, while a negative value implies that the defender has grown stronger.

*History of conflict* denotes the number of times the challenger and defender were the primary disputants prior to the current one. Since this variable reflects extra-dyadic as well as dyadic learning processes, all earlier crises between 1929 and 1979 are included. This is based on the "centrality of violence" and "content of crisis outcome" variables of the ICB dataset. The expectation is that the more numerous previous disputes between states, the higher levels of distrust, so the more likely that a crisis will last longer. The *protracted conflict* variable of the ICB dataset is used for robustness checks. Colaresi and Thompson (2002) have pointed out that the rivalry and protracted conflict concepts

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<sup>19</sup> Gelpi (1997) measures the balance of capabilities as follows:

$$(\text{defender} + \text{supporting capabilities}) / [(\text{defender} + \text{supporting capabilities}) + (\text{challenger} + \text{supporting capabilities})]$$

overlap in terms of their focus on historical context, goal incompatibilities, and stakes that might be resolved coercively.

A separate dichotomous variable for *territorial threat* was created due to the empirical evidence that territorial disputes are often more difficult to resolve than others due to commitment problems.<sup>20</sup> For example, drawing from Starr's (1988) opportunity and willingness framework, Senese (2005) claims that territory is a more consistent cause of conflict than geographical proximity, especially at the war onset phase. Hensel (1996) finds that territorial disputes between states are more likely to escalate and are more conflictual than non-territorial contentions. Thus, the expectation is that territorial threats lead to longer contending periods.

*One democracy* indicates that there is at least one democracy in the dyad. The democratic peace literature claims that democratic states are more likely to settle disputes peacefully (Maoz and Russett 1993; Dixon 1994), where Rousseau et al. (1996, p. 526) emphasized that "the democratic peace is primarily a dyadic process when addressing the escalation of international crises." Since democracies prefer to use non-violent means for dispute resolution, they are expected to reduce the probability of crisis escalation and thus its duration. *Joint democracy* indicates a democratic dyad which is rare but also expected to facilitate shorter crises.

*Societal unrest* captures assassinations, terrorism, general strikes, demonstrations and riots. Theories of the diversionary use of force claim that when leaders face domestic problems, they are more willing to use violence abroad (Howell and Pevehouse 2005;

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<sup>20</sup> The ICB dataset includes the variable, "gravity of the value threatened" that uses a six-point ordinal scale. This includes economic threat (0), limited military threat (1), political threat (2), territorial threat (3), threat to influence in the international system or regional subsystem (4), threat of grave damage (5), and threat to existence (6).



DeRouen and Peake 2002). Similarly, one can reason that leaders who face internal problems may be more willing to remain involved in crises for longer periods (DeRouen and Goldfinch 2005). Using the ‘societal unrest’ variable of the ICB dataset, this variable is coded 1 when there is a significant increase in social unrest prior to the crisis and 0 otherwise. The expectation is that societal unrest will increase the likelihood of longer crises.

*Duration of crisis* is identical to the elapsed time between crisis trigger and termination, in days. *Stalemate* is a dichotomous variable that indicates indecisive war outcomes. Drawing from Werner’s (1999) analysis, these two variables serve as proxies for difficulties in issue resolution. That is, the longer the duration of a crisis, and when there is a stalemate, the more likely it is for tensions to re-escalate.

*Number of actors* denotes the number of states that were substantially involved in the crisis, including the crisis actors. Substantial involvement refers to cases that include any one of the follows: direct or semi-military; covert; economic, and political other than mere statements of approval or disapproval by officials. As the number of actors increases, the more likely it is for other states to join, and thus there is more incentive to renegotiate previous settlement terms.

*Pre-1945* is a dichotomous variable that denotes system polarity. Systemic, structural factors may influence the stability of peace after a settlement. The expectation is that the pre-1945 period be more unstable than the post-1945 period.

*Joint intervention* is a dichotomous variable that indicates whether or not both the US and the Soviet Union intervene on a “high” level, including covert, semi-military and direct military acts. This serves as a proxy for super power rivalry or opposing

intervention. Such controls are needed since there is empirical evidence that third party interventions or joining behavior are strategic (Gent 2007; Kim 1991) and are more likely to lead to crisis escalation (Colaresi and Thompson 2002). Table 1 presents a summary of the variables and expectations.

### **Preliminary Findings**

For the purpose of interpretation, it is important to examine the given data and know the general distributions of the key variables. In particular, we need to verify whether third parties are more likely to intervene when the disputants cannot move toward an agreement on their own accord due to high levels of distrust. I present a simple crosstab between dyads that are affected by reputations for not abiding by dispute settlements and third party intervention (figures 1, 2.1, 2.2, 2.3). It is shown that the given sample of crises does not support the fact that third parties are more likely to intervene when there is a crisis recurs despite a previous dispute settlement (figure 1). However, there is some evidence that partisan intervention in favor of the strong state does not increase the escalation of tensions (figure 2.2) and that when intervention occurs in favor of the weaker state, there is a slightly higher tendency for tensions to escalate than when intervention favors the stronger state (figure 2.3). An interesting finding is that when a third party intervenes in general, it increases the likelihood of tension escalation in the post-settlement period by approximately 20% (figure 2.1).

### *Reputation and its Effect on Crisis Duration*

A Cox proportional hazard model does not explicitly define a baseline hazard rate, however, it is still useful to graph the actual hazard rate. Figures 3.1, 3.2, 4 illustrate the baseline hazard of crisis duration with and without support from third parties. The estimated hazard rates are neither constant nor monotonous, which justifies the use of the Cox model. It implies that international crises experience diverse momentum. The proportional hazard assumption is also verified in figure 5.<sup>21</sup> Despite larger gaps in the earlier and later time periods, it is shown that when a dyad is influenced by reputation, the probability of a crisis lasting until a certain time is higher than when it is not influenced by reputation.

Table 2 presents the results of a Cox proportional hazard model. The coefficient estimates in the model measure the impact of covariates on the hazard of crisis duration. Positive coefficient estimates imply that the hazard is increasing with changes in the covariate. Substantively, positive coefficient estimates imply shorter survival times while negative coefficient estimates are associated with longer duration. A positive coefficient that is less than 1 indicates that the hazard is increasing at a decreasing rate.

The results from the competing risk model ending with an imposed settlement supports hypothesis 1. In model 1 under imposed settlement, the influence of reputation is shown to reduce the hazard rate (.18), that is, the probability of a crisis ending at time  $t$  given that the crisis continues until that time.<sup>22</sup> This implies that when the crisis ends before the dispute issue is resolved, reputation increases the probability of longer

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<sup>21</sup> Harrel's C = .8126 indicates that we can correctly order survival times (crisis duration) for dyads 81 percent of the time based on the measurements of the control variables.

<sup>22</sup> In other words, the hazard rate is increasing at a decreasing rate of .18.

contending periods. The *balance of power* also slightly reduces the hazard rate, which suggests that states with more equal powers tend to contend longer. The existence of a democracy in the dyad is shown to greatly increase the hazard rate (5.51), which increases the chances of shorter contention. In model 2 under imposed settlement, *social unrest* did not have any significant effect on crisis duration, and the covariates for *reputation* and *balance of power* were slightly smaller but still consistent with those of model 1.

Model 1 under voluntary agreement shows support for hypothesis 2. As long as the dispute issue is resolved and the situation is ripe for settlement, crises that are affected by reputation will not necessarily last longer.<sup>23</sup> It is shown that both *reputation* and *balance of power* of model 1 increase the hazard rate and thus reduce crisis duration.

In model 2 under voluntary agreement, there is moderate support for the argument that when a state experiences *societal unrest*, leaders attempt to divert the public's attention by engaging their military powers in crises. There is also some support for *territorial threats*, however, the findings are counter to expectation in that the hazard rate increases the probability of shorter crises instead of reducing it. Surprisingly, conflict

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<sup>23</sup> These contrasting findings from the previous imposed outcome model call for attention. A competing explanation lies in the nature of the outcome *per se*, regardless of whether or not the dispute issue was resolved. There is empirical evidence that crises that end in imposed settlements have a higher probability of longer peace duration than crises that end in negotiated settlements (i.e. voluntary agreements) as they represent unilateral deterrence and mutual deterrence situations, respectively (Senese and Quackenbush 2003). If this is true, the results are supported by Fearon's (1998) claim that a longer shadow of the future may give states an incentive to bargain harder and lead to delayed agreement. The expectation that reputation will create a shorter shadow of the future is aligned with the anticipated effects of a voluntary agreement. In such circumstances, it is possible that disputants may not expect much long term benefits from an agreement and are more intent on quickly ending the crisis.<sup>23</sup> This explanation receives some support from the hazard rate of balance of power, which denotes shorter crises despite military capabilities that are near parity. This is counter to the expectations of *realpolitik*, where a balance of power means that either side is likely to give up easily and thus lead to longer disputes (Bennett and Stam 1996).

history does not show any significant results, even when cross-examined with the *protracted conflict* variable.

### *Third Party Intervention and its Effect on Crisis Duration*

Table 3 shows the interaction effects of reputation and third party intervention, once again, depending on how the crisis ended. The imposed settlement model does not show any support for hypothesis 3<sub>a</sub>, however, the voluntary agreement model shows support for hypothesis 3<sub>b</sub>. In the latter case, when a third party intervenes in the presence of reputation effects, the hazard rate is positive and less than 1 (.23), and thus there is a higher probability of longer crisis duration. Fearon's (1998) explanation that a higher likelihood of enforcement may lead to longer bargaining periods supports this finding. The hazard rate for the balance of power variable is consistent with the findings from table 1. The remaining components of the multiplicative term do not contain substantial implications and are not separately interpreted (Braumoeller 2004).

### *Third Party Intervention and Post-Settlement Peace Stability*

The results of the logit regression are shown in Table 4. Model 7 is without third party intervention, models 1 to 4 estimate the effects of partisan third party intervention, and models 3 and 4 estimate the effects of all third party interventions.

The statistical results for partisan intervention do not show support for hypothesis 4. The logit coefficients are not statistically significant, and the coefficients for both types of partisan interventions are negative values that point towards higher probabilities of

peace stability. For hypothesis 4 to hold, the coefficients for third party intervention favoring the weaker state needs to be a positive value, meaning that tension escalation is more likely. Third party intervention as a whole does not show any significant effect on tension escalation.

The controls show consistent results across all models, including model 7. As expected, there is strongest support for the fact that post-settlement peace is less stable when the dispute issue was difficult to resolve and the crisis ended in a stalemate. The pre-1945 period was found to be significantly less stable than the post-1945 period. The duration of crisis was also one of the most significant factors, indicating that disputants that fought for long period of time are less likely to face another dispute in the post-settlement phase. However, since the coefficient is rather small, the effect of crisis duration can be expected to be minimal. Balance of power was found to be statistically significant in models 3 and 4, which implies that disputants with equal capabilities are more likely to have an incentive to renegotiate for a better deal after a settlement is reached.

What is interesting is the effect change in the balance of power has on peace stability, a measure that includes military assistance from third parties. The negative coefficient implies that an increase in the challengers' relative capabilities enhances the likelihood for a stable peace. That is, an increase in the change in the balance of power is approximately 4.3 times more likely to reduce tensions within a dyad, making peace less precarious. This means that when there is anticipation that the distribution of power favors the challenger, post-settlement peace is more likely to be stable. As realists argue that states only attempt to renegotiate the status quo when they believe they have a

military advantage and a good chance to win, this finding holds positive implications for the reasoning that if third party intervention results in making the stronger party stronger, the dissatisfied weaker party will be less likely to challenge the prior settlement . It is difficult to make any further inferences from this measure (change in the balance of power) since there is no knowing how much of the change is caused by the power growth of the disputant *per se* or by external support.<sup>24</sup>

## **Conclusion and Discussion**

This study sets out to examine whether a reputation for not abiding by dispute settlements affects state decisions to commit to peace and explain how third party intervention could facilitate cooperation between distrusting states. There is strong evidence that this type of reputation increases the perception that the opponent will renege on the agreement and thus leads to longer crisis duration, conditional on the fact that the crisis ends in an imposed outcome and the dispute issue was not fully resolved. The findings also show some evidence that when third parties join crises that recur despite previous dispute settlements, states may contend for longer periods of time since the very existence of third parties enhance the probability of enforcement and this creates an incentive to bargain harder for a better deal. This suggests that reputations based on state learning from behavioral histories can generate commitment problems and are thus crucial to the crisis bargaining process.

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<sup>24</sup> For reference, this change in the balance of power variable was minimally correlated with the third party intervention variables.

In regard to the argument on the role of partisan third party interventions, only indirect inferences could be made through a proxy for change in the distribution of power. Provided that the basic theory is well founded on previous literatures on commitment problems and incentives to renegotiate, two major improvements can be made in obtaining more accurate and fine-grained measurements of third party military interventions and their contributions to anticipated changes in relative capabilities. For one, I would need to compile a detailed dataset on third party interventions in interstate wars since I was unable to distinguish between states' intentions of joining in other crises with the current data set so that military interventions as a means of conflict management and those due to spatial diffusion were difficult to separate. The case summaries were also limited in that most details of interventions were accounts of the US and the Soviet Union, and not so much about other major powers including France, Great Britain, Germany, Italy, and Japan. Since third party interventions in the post-1945 period are most likely to be dominated by superpower rivalry, a more detailed account of the major powers in the pre-1945 period, much beyond what was observed in this study, is critical.

Next, in terms of anticipated changes in relative capabilities, three main issues need further consideration. On one hand, if I intend to limit my hypotheses to relative military capabilities and their effect on generating incentives to renegotiate prior settlements, I would need accurate measures of the balance of power at the point of crisis termination rather than when it is triggered. On the other hand, if I intend to be more realistic and consider the notion of resolve as well as power, I would need to develop a theoretical argument on whether the third party supported the challenger or the defender, rather than the stronger or the weaker party, as they do not necessarily match.



In conclusion, more research needs to be conducted in regards to how states can overcome fears and risks of commitment and cooperate for long term benefits amidst high levels of distrust. This study suggests that reputations for breaking legitimate promises may affect state behavior in crisis bargaining. It also suggests that although third parties can guarantee enforcement of dispute settlements, this may lead to longer bargaining periods and varying levels of peace stability depending on whose behalf the third party intervened. The preliminary findings of this study need to be further investigated with particular attention to the different sources of commitment problems and specific ways to resolve issues of distrust.

## Figures and Tables

Figure 1. When third parties are likely to intervene

	Third Party Intervention		
Previous Dispute Settlement	No	Yes	total
No	19	29	48
Yes	43	23	66
Total	62	52	114

Figure 2.1. Post-settlement outcomes after third party intervention

	Post-settlement Outcomes*		
All Third Party Intervention	Tension Reduction	Tension Escalation	total
No	26	37	63
Yes	21	31	52
total	47	68	115

\* The ICB dataset denotes post-settlement outcomes in regards to whether or not tensions recurred during the subsequent 5 year period. “Tension reduction” denotes cases where crisis did not recur among the principal adversaries during the subsequent 5 year period, and “tension escalation” denotes cases where crisis did recur among the principal disputants.

Figure 2.2. Post-settlement outcomes after third party intervention on stronger side

	Post-settlement Outcomes		
Third Party in favor of the Stronger state	Tension Reduction	Tension Escalation	total
No	36	57	93
Yes	11	11	22
total	47	68	115

Figure 2.3 Post-settlement outcomes after third party intervention on weaker side

	Post-settlement Outcomes		
Third Party in favor of the Weaker state	Tension Reduction	Tension Escalation	Total
No	42	64	106
Yes	5	4	9
total	47	68	115

Figure 3.1 Cox proportional baseline hazard function with third party intervention  
(crisis outcome: voluntary agreement)

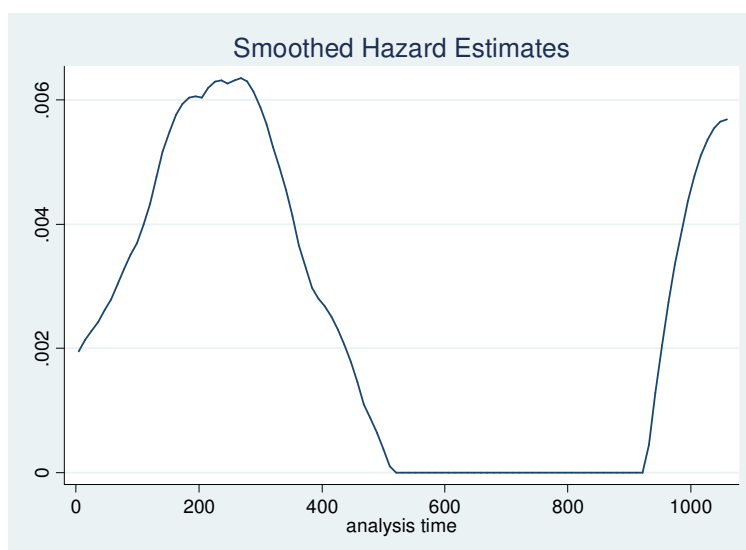


Figure 3.2 Cox proportional baseline hazard function without third party intervention  
(crisis outcome: imposed)

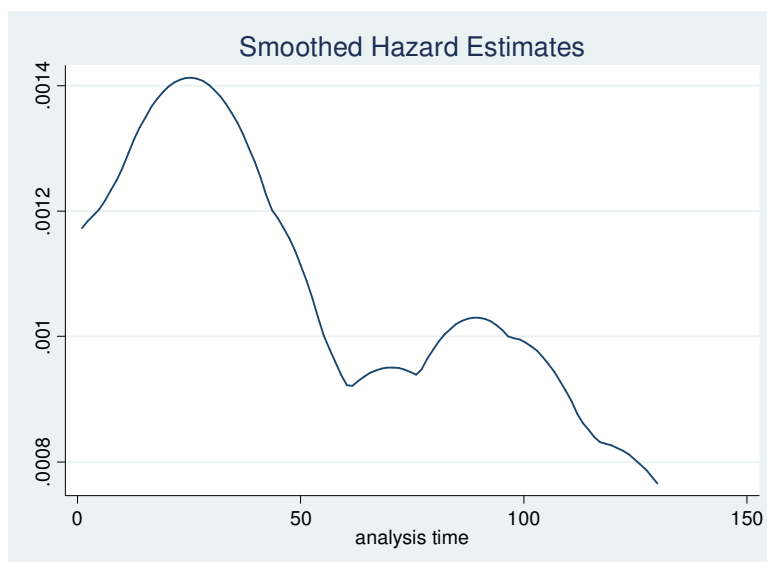


Figure 4. Smoothed hazard function under the influence of reputation

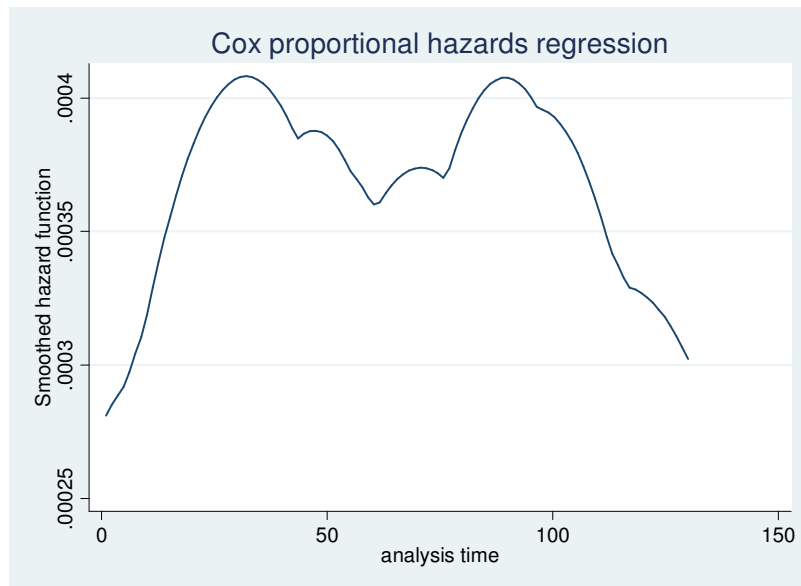


Figure 5. Assessment of proportional hazard assumption

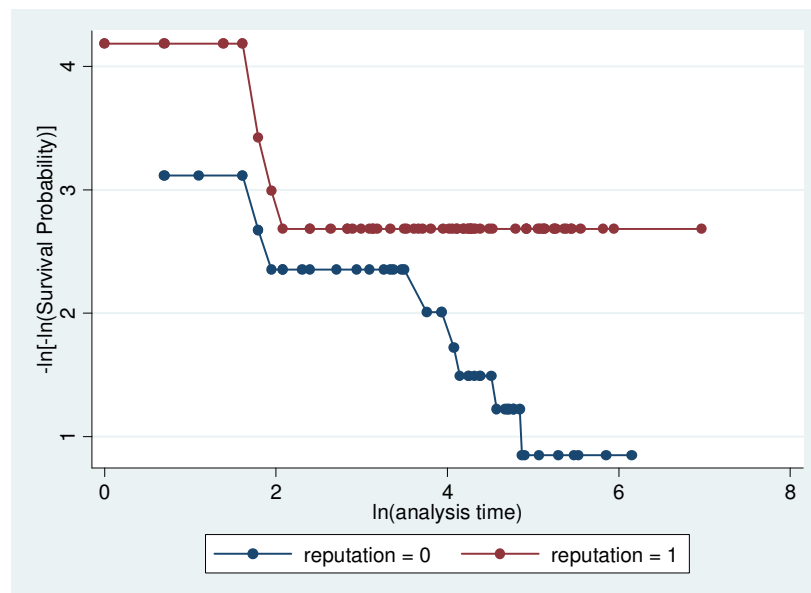


Table 1. Summary of variables

Variables	Expectation
1. The Cox Model	
<i>D.V. Crisis duration</i>	
<i>Reputation</i>	Dyads influenced by reputations for not abiding by dispute settlements have a higher probability of longer crisis duration, under the condition that the crisis ends in an imposed outcome. Under the condition that the crisis ends in a voluntary agreement, longer crisis duration is less likely.
<i>Balance of Power</i>	When there is a balance of power between disputants, there is a higher probability of longer crisis duration.
<i>History of Conflict</i>	The more numerous previous disputes between states, the more likely that a crisis will last longer.
<i>Territorial Threat</i>	Territorial threats increase the likelihood of longer crises.
<i>One Democracy</i>	When there is at least one democracy in the dyad, the likelihood of longer crises decreases.
<i>Societal Unrest</i>	Societal unrest will increase the likelihood of longer crises.
2. The Logit Model	
<i>D.V. Escalation of Tension</i>	
<i>Third Party Intervention</i>	The likelihood of escalation will decrease.
<i>Third Party Intervention in favor of Stronger State</i>	The likelihood of escalation will decrease.
<i>Third Party Intervention in favor of Weaker State</i>	The likelihood of escalation will increase.
<i>Duration of Crisis</i>	The longer the duration of crisis, the more likely that tensions will escalate.
<i>Stalemate</i>	When there is a stalemate, the more likely that tensions will escalate.
<i>Number of Actors</i>	As the number of actors increases, the more likely it is for tensions to escalate.
<i>Pre-1945</i>	It is more likely for tensions to escalate in the pre-1945 period.

Table 2. Cox proportional hazard model: reputation and crisis duration

	Voluntary Agreement				Imposed			
	Model 1		Model 2		Model 1		Model 2	
	Hazard Ratio	P-value	Hazard Ratio	P-value	Hazard Ratio	P-value	Hazard Ratio	P-value
Reputation	2.9 (1.00)	.002	2.47 (.9)	.013	.18 (.14)	.024	.16 (.14)	.036
Balance of Power	4.49 (3.55)	.058	2.32 (2.14)	.363	.01 (.01)	.000	.005 (.00)	.006
Conflict History	.86 (.11)	.237	.86 (.11)	.241	1.01 (.16)	.931	1.00 (.19)	.989
Territorial Threat	1.69 (.59)	.127	1.77 (.61)	.094	1.39 (.96)	.637	.95 (.64)	.934
One Democracy	.82 (.3)	.592	-	-	5.51 (3.44)	.006	-	-
Social Unrest	-	-	.47 (.21)	.085	-	-	.23 (.21)	.116
N	110		110		110		110	
Failures	38		38		13		13	
Log-likelihood	-120.58		-118.98		-44.46		-46.11	
Wald $\chi^2$ (df)	17.17(5)		27.68(5)		23.47(5)		14.05(5)	
Prob > $\chi^2$	.0042		.000		.000		.015	

Notes: Robust Standard Errors are in parentheses. Two-tailed tests were used.

Table 3. Cox proportional hazard model: the effect of third party intervention

	Voluntary Agreement		Imposed	
	Hazard Ratio	P-value	Hazard Ratio	P-value
Reputation	5.72 (4.1)	.015	.29 (.23)	.123
Balance of Power	4.84 (3.69)	.038	.02 (.03)	.002
Third Party Intervention	2.01 (1.49)	.347	.88 (.57)	.843
Reputation* Intervention	.23 (.19)	.078	.58 (.76)	.674
N	110		110	
Failures	38		13	
Log-likelihood	-121.86		-48.16	
Wald $\chi^2$ (df)	12.89(4)		17.43(4)	
Prob > $\chi^2$	.012		.002	

Notes: Robust Standard Errors are in parentheses. Two-tailed tests were used.

Table 4. Logit estimates of the effect of third party intervention on post-settlement peace<sup>a</sup>

Escalation	1	2	3	4
	Partisan Intervention			
Third Party favors stronger state	-.44 (.61)	-.35 (.61)	-	-
Third Party favors weaker state	-	-	-.86(.77)	-.78(.77)
All Interventions	-	-	-	-
Balance of Power	1.41 (.88)	1.49 (.92)	1.67(.91)*	1.7(.93)*
Change in Balance of Power	-4.27(2.54)*	-4.19 (2.58)	-4.4(2.6)*	-4.32(2.63)
Duration of Crisis	-.003(.001)**	-.003(.001)**	-.003(.001)**	-.003(.001)**
Stalemate	1.91 (.69)**	1.9(.69)**	1.93(.69)**	1.91(.68)**
Pre-1945	2.9(.68)**	2.85 (.68)**	2.86(.68)**	2.83(.68)**
Joint Intervention	-	-.28 (.74)	-	-.24(.73)
Number of Actors	-	-	-	-
Constant	-.75 (.59)	-.77 (.59)	-.89(.58)	-.88(.58)
Wald $\chi^2$ (df)	28.98(6)	28.92(7) –	29.02(6)	28.95(7)
Log pseudo-likelihood	-58.26	58.19	-58	-57.95

Escalation	5	6	7 base model
	All Interventions		No intervention
Third Party favors stronger state	-	-	-
Third Party favors weaker state	-	-	-
All Interventions	.04 (.46)	.03 (.47)	-
Balance of Power	1.45 (.89)	1.44 (.89)	1.4(.89)
Change in Balance of Power	-4.33 (2.55)*	-4.3(2.48)*	-4.31(2.54)*
Duration of Crisis	-.003 (.001)**	-.003 (.001)**	-.003(.001)**
Stalemate	2.01(.68)**	2.02(.69)**	2.0 (.68)**
Pre-1945	2.8(.67)**	2.8(.67)**	2.8 (.67)**
Joint Intervention	-	-	-
Number of Actors	-	.18 (.78)	-
Constant	-.87 (.63)	-1.03 (.9)	-.85(.58)
Wald $\chi^2$ (df)	29.66(6)	29.69(7)	29.69(5)
Log pseudo-likelihood	-58.51	-58.49	-58.51

a. Entries are logistic regression estimates; Robust standard errors are in parentheses. All estimates are performed over 115 international crises. \*p≤.01, \*\*p≤.05



Table 5. Interaction effects

Escalation	Model 5 of table 4	Interaction Model
Interaction <sup>b</sup>	-	-19.62(10.1)*
Reputation	-	-.83(.48)*
All Interventions	.04 (.46)	-.23(.5)
Change in Balance of Power	-4.33 (2.55)*	-3.67(2.58)
Duration of Crisis	-.003 (.001)**	-.003(.001)**
Stalemate	2.01(.68)**	1.93(.67)**
Pre-1945	2.8(.67)**	2.73(.63)**
Constant	-.87 (.63)	.57(.49)
Wald $\chi^2$ (df)	29.66(6)	40.43(7)
Log pseudo-likelihood	-58.51	-56.61

b. the interaction term denotes the joint effect of third party intervention, change in the balance of power, and influence of reputation. Entries are logistic regression estimates; Robust standard errors are in parentheses. All estimates are performed over 115 international crises.

\* $p \leq .01$ , \*\* $p \leq .05$

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