Conflict Management and the Duration of Interstate Disputes:
Modeling the Effects and Time and Timing on Conflict Resolution

Abstract:
This paper develops a theoretical argument linking time and the timing of conflict management efforts to dispute duration. We test competing hypotheses on conflict data drawn from disputes in the post-1945 period. Our analysis demonstrates that the effects of mediation vary substantially over the course of a dispute. Specifically, we note that mediation has a curvilinear relationship with time and the ending of disputes. Mediation efforts that occur soon after disputes begin have the best chance reducing expected future dispute duration. Following this initial period, subsequent mediation efforts lead to longer rather than shorter disputes. After a long period, mediation again leads to shorter rather than longer disputes. We also find that there should be consistency in the mediators used to manage a conflict rather than shifting personnel to interject new ideas.

Patrick M. Regan
Department of Political Science
Binghamton University (SUNY)
Binghamton, NY 19902-6000
Tel: 607-777-2167
Fax: 607-777-2675
Email: pregan@binghamton.edu

Allan C. Stam
Department of Political Science
Yale University
New haven, CT 06520-8301
Tel: 203-432-6220
Fax: 203-432-6196
Email: allan.stam@yale.edu
What is the effect of mediation on the duration of interstate disputes? Does the timing of a particular mediation attempt influence the overall duration of the dispute? These seemingly straightforward questions have proven remarkably resistant to systematic investigation. While all disputes between interstate actors eventually end, understanding how and when occupies a substantial part of the study of international relations. Most would agree that the likelihood of any single mediation attempt ending a dispute depends, in part, on the duration of the dispute and the timing of mediation. In order to be effective, mediation must take place at a propitious moment. Unfortunately, there is little agreement as to when that precise moment might actually occur.

Bercovitch has argued, for example, that mediation would have its greatest effect at some middle point in a conflict: “Mediation, it seems, is more effective when it follows, rather than proceeds, some ‘test of strength’ between parties. The point in time following either some minimum duration (here defined as 12-36 months), a stalemate, or mutual exhaustion seems to be the ideal phase in the dispute to initiate mediation. Protracted and intense international disputes are not particularly amenable to mediation or other forms of third party intervention” (Bercovitch, 1986, pp 161). Of course, this ignores the question of how, ex ante, one would identify the middle of a dispute. Nor does it explain how, if the mediation effort took place at the halfway point (knowing the full length by ex post observation), we could conclude that mediation had anything to do with the diminution of the dispute’s duration. Bercovitch further posits that “[e]mpirical research suggests that neither premature nor belated mediations are especially likely to be effective. The most propitious time to initiate mediation is roughly halfway through the life cycle of the conflict” (1997:145). Northedge and Donelan (1971, pp 309) counter Bercovitch’s claim, maintaining that early intervention is the key to mediation success. “The timing of a mediation intervention is of the highest importance…once violence begins, it is likely too late.” From this viewpoint, for mediation to prevent conflicts from escalating, it must occur at the very outset.

While many recognize that timing may play a crucial role in determining the effect of mediation on ending a conflict, most research designs executed to date have not been able to account for the dynamic effects of mediation on dispute duration. Our view of timing reflects closely that of Kriesberg's (1991:4) definition involving sequential actions. Interstate conflicts are not static events, but rather events that evolve over time. Evidence suggests that the sequencing and timing of state interactions determines, at least in part, the escalation patterns of interstate conflicts (Leng, 1983; Goertz and Diehl, 1995). At this point, however, no studies explicitly link the timing and sequence of conflict resolution efforts to the ending of international conflict. In this article,
we articulate and test a model linking time – and the timing of conflict management efforts – to the resolution of a conflict.

We should make clear at the outset that understanding the role of time and timing presents difficult issues of research design that must be confronted. We make this clear up front to not obscure what we have accomplished, but also to facilitate the interpretation of our results. For example, work that finds a relationship between dispute duration and mediation may suffer from a selection bias in that mediation efforts are not randomly assigned to conflicts. In other words conflicts that are more intense, enduring, or over seemingly intractable issues may generate more mediation attempts. These might also be the difficult conflicts for mediation to resolve. Research designs that in effect select on the dependent variable – treating the mediated dispute as the observation – are particularly vulnerable to this problem (Reed, 1998). Selection bias certainly does exist to some extent – it is similar to the problem of selection bias identified in the work on war initiation that uses a crisis as a starting point (Huth, 1997; Smith, 1998; Signorino, 1998). In order to control completely for this sort of bias, we would need a model of the crisis initiation and a model of the application of mediation (Reed, 1998). A combined model of this sort is well beyond the scope of a single paper. The results presented here are able to account for some, but not all, of the potential selection bias associated with mediation and dispute outcomes. As a result, this is obviously an initial step as a part of a larger research question.

To mitigate the impact of a potential selection bias in this work, our sample is drawn from the population of disputes, not the population of mediation attempts. Therefore, we have observations where no management takes place, observations where forms of management other than mediation have been attempted, and observations of mediation. In our sample, there are 227 conflicts and nearly 2,300 observations. The analysis presented below employs a more sophisticated conceptual and methodological framework than simply correlating the duration of a dispute with the number of mediation attempts. Additionally we also control for some of the factors that would make a dispute seem more serious than another, factors that may be associated with the decision to attempt conflict management in the first place. These control variables and ancillary analyses, as it

\[1\] The population of disputes would be all interstate disputes going back to time \( t_0 \). Our sample begins after World War II. The sample includes all disputes meeting the Bercovitch operational criteria (see below for extended data set discussion) between 1945 and 1995.
turns out, do not change the inferences drawn from our results. The questions we answer are twofold. First, at what point do mediation attempts make expected future durations shorter rather than longer, and second does mediation make disputes end more quickly than some other kinds of conflict management?

We will proceed as follows. First, we will articulate a set of hypotheses derived both from earlier theoretical and empirical literatures and from our own understanding of the conflict management process. We will then test these hypotheses against data on conflict and conflict mediation efforts in the post-1945 period. A description of the results and a discussion will follow. Our analyses demonstrate that the effects of mediation efforts are not linear. This suggests that the timing of management efforts is important in understanding when they are likely to shorten the expected length of a dispute and when they can be expected to actually increase the expected duration. We find that conflict management efforts that occur immediately after disputes first begin have the best chance of bringing the dispute to a quicker end than it would have otherwise. If this opening moment is missed – as Northedge and Donelan (1971) speculated – for some time mediation actually appears to lead to disputes lasting longer than they would in the absence of conflict management. We also find however, that there is indeed some point after which conflict management again seems to decrease rather than increase the duration of interstate disputes.

Theoretical Rationale and Hypotheses

a) Conflict Management in the Literature

In the study of international conflict, qualitative studies of conflict management generally find a close fit between models portending to account for what the authors refer to as successful outcomes, and the evidence of success (Keashly and Fisher, 1990; Zartman, 1995). In this literature, definitions of success are controversial; varying from simply stopping the fighting to the more complex task of resolving the underlying contested issues at stake (Bercovitch and Regan, 1996). Within the quantitative literature, the relationship between mediation and the more objective but conceptually narrower dependent variable ‘conflict duration’ is considerably less clear. Part of the reason is that qualitative studies are able to emphasize the complex and sequential process of resolving conflicts, whereas quantitative studies generally focus on third party efforts and disputes themselves as discreet events. Kleiboer’s survey of a decade’s research into mediation identifies four factors associated with mediation success: 1) characteristics of the dispute, 2) characteristics of the mediator, 3) the interrelationship of the parties,
and 4) the international context. Dispute characteristic variables attempt to account for the nature of the conflict in which the mediation is attempted, i.e., is the conflict one of high intensity, a large number of casualties, associated with a protracted conflictual relationship, or over tangible or intangible issues (see: Bercovitch et al, 1991; Bercovitch and Langley, 1993). Contextual variables attempt to relate the relative capabilities and the global environment to the outcome of diplomatic interventions (see: Bercovitch and Regan, 1996; Bercovitch et al, 1991). Of concern are issues like the extent of the disparity in power between combatants and the polarity of the system (Bercovitch and Langly, 1993; Dixon, 1993). Attention to attributes of the actors focuses on both the mediators and combatants, with arguments relating the status of the mediator to successful outcomes, the role of democratic government in the outcomes of conflict management efforts (Dixon, 1996 & 1993), or the effect of particular strategies of mediation (Carnevale, 1986) on its ultimate success (again noting that there is not consensus across scholars, but here we simply review the notion of success as defined by each of the authors mentioned). From this contextual perspective, Bercovitch and Langley (1993: 689) found that “dispute duration has a strong inverse relationship with successful mediation, but only when it combines with fatalities and complexity.”

There are two important points evident from the quantitative studies of conflict management that we believe can be rectified by a more careful specification and testing. The first is an empirical result suggesting that third party efforts, varying definitions of success notwithstanding, are not terribly effective at settling or resolving conflicts. Evidence suggests that mediation is successful (leading to a cessation of fighting) only around 30% of the time (e.g. Bercovitch and Langley, 1993), even though Dixon (1996) identifies mediation as the most

2 Kleiboer notes the lack of consensus regarding definition of success (1996). Assefa avoids any definition whatsoever (Assefa, 1987). Frei (1976) defines success, not in terms of the effects of mediation on the disputes, but simply whether or not the parties agree to the presence of a mediator. Bercovitch and associates (Bercovitch et al, 1991) employ a multpart definition to include cease-fire, provision of settlements, or full-scale settlement of issues at stake. Smith (1985) and Touvall and Zartman (1985) define success in the context of the mediator’s own goals for the mediation attempt. As Kleiboer points out, lack of consensus about what ‘success’ means has likely been a cause of the fields slow progress towards a systematic understanding of the mediation process.
effective form of conflict management. His results, however, show that it is at best marginally more effective than mediation captured by Bercovitch and Langley. These studies focus on a short-term outcomes and indicators of success such as a settlement of an issue, a partial or full cease-fire, and the escalation or de-escalation across phases of a conflict. Since such a small percentage of the mediations produce what these authors think of as a successful outcome, the relationship between the treatment (mediation) and the response (conflict behavior) might appear to be negative, or at best there would be no strong relationship between mediation and conflict settlement. Based on this literature, although we go beyond the focus on short-term outcomes to emphasize the termination of the conflict, we initially hypothesize that:

**H1: Mediation will have no discernible effect on dispute duration.**

Hypothesis 1 follows from the argument that if short-term successes from mediation are difficult to come by, then we should not expect the aggregation of these discreet events to result in a significant change in the course of the conflict over the long-term. We concur with Kleiboer (1996) and Goertz and Regan (1997) in arguing that the study of mediation, specifically, and conflict management more generally, should explicitly confront the meaning of “success.” For example, the focus on short-term outcomes 1) can lead to interpretation of results that might only hold for a relatively short period of time (Bercovitch and Langley, 1993; Dixon, 1996), and 2) cannot tell us much about the cumulative effect of a series of short-term agreements. This suggests that there are of course many ways to think about the outcome -- or effectiveness -- of conflict management efforts. Some who study mediation in social or labor setting focus on short-term behavioral outcomes in terms of, for instance, the distribution of a divorce settlement. In the international conflict mediation literature scholars have focused on the role of mediation in shifting to different phases of the conflict (e.g. Dixon, 1996), or have coded outcomes along a dimension reflecting whether an agreement was reached (e.g. Bercovitch, 1991; with Langley, 1993). These distinctions are important and reflect something about the process of interest to the researcher. For example, if one focuses on a specific mediation (as the unit of analysis) then success can be conceived of in terms of signed documents, cease-fires, or the resolution of the issues at stake. Some of the interesting explanatory variables would involve characteristics of the mediator, such as his/her status and strategy adopted. Nevertheless,
even mediation attempts that led to temporarily cease-fires might not resolve the underlying issues and lead to the termination of the conflict.

Sociologists, economists, and epidemiologists often argue that interventions are cumulative, and that what appears to be short-term failures (e.g. no response) actually contributes to successful long-term prognoses, even though it might be difficult to observe this contribution in the short-term. In this study, we are agnostic regarding the debate over definitions of success – at least its short-term dimensions – and focus instead on the effects or lack thereof of mediation on the expected future duration of a dispute following mediation. To do this we must articulate a more dynamic view of the conflict management process that incorporates the role of time in determining the outcome of the process. We believe that there are good theoretical and policy-oriented reasons behind our decision to focus on the duration of the conflict as our outcome.

International mediation – perhaps more so than its domestic counterparts – involves audiences at many levels (Putnam, 1986), historical enmities that can span generations (e.g. Kosovo), and participants that shift across time. Mediation, therefore, can be productively thought of in terms of its impact on how long a conflict endures in addition to, or to the exclusion of, whether a mediator is able to secure an agreement from a particular leader at a specific point in time. Sometimes the latter is sufficient, but too often, it tells us very little about the role of conflict management in shaping the character of outcomes in terms of the expected future duration (witness the numerous agreements and cease-fires in Bosnia, pre-1995). By examining the effect of mediation on the expected duration of a conflict, we acquire evidence that sheds light on interesting theoretical debates regarding the most effective time to initiate a mediation. Those who address questions of ripeness or system time as opposed to calendar time (e.g. Haass, 1991) or hurting stalemates (Zartman, 1985) or phases (Kriesberg, 1994) have at the core of their arguments the resolution or termination of a conflict, not a short-term agreement that might simply maintain the status quo.3

3 Zartman and others noted above focus not on the role of calendar time – the number of months from a mediation attempt, for example, but on system time, or ripeness. In this notion, time matters in the sequencing of events that must take place over the life of a conflict. According to ripeness scholars, disputes cannot end until certain stages of conflict development have been passed through. In this paper, we focus on calendar time. A
Towards A Process oriented view of Conflict Management

Pillar (1983) describes negotiating an end to conflict as a bargaining process, where incremental concessions decrease the critical risk faced by each actor for subsequent concessions, and therefore increase the likelihood that further concessions will be forthcoming and accepted. In entering a negotiating setting, we would expect that both parties in the conflict would have expectations about their adversaries opening gambit. It would also be reasonable to expect that the initial positions of both parties would be mutually unacceptable. A role of the mediator, in this instance, is to do what neither party alone could do: offer compromises that expose the adversaries to increased risk. At an early stage of the conflict management process, we might expect the conflicting parties to be furthest apart, with each side holding to her ideal point (Morgan, 1995). Moreover, as Morgan points out, liking issues makes possible a set of conditions that could simultaneously satisfy both parties. One contribution of a third party is to initiate the linking of issues within a conflict.

A critical part of the bargaining process is the ability to make concessions, with the ultimate goal of finding issue space that is within the indifference curves of each actor’s preferences over outcomes (Morgan, 1995; Pillar, 1983). Concessions are key to finding these mutually acceptable outcomes. According to Pillar’s model (Pillar, 1983), bargaining behavior relates to the difference in utilities between each actors' current position. The greater that difference the higher the costs and risks associated with making concessions. As that difference narrows, costs and risks associated with further movement declines. Any concession by one actor, therefore, reduces the risks associated with further concessions, leading to an environment where concessions are reciprocated. One implication of this is that small concessions will be made that induce a concession from the opponent (p. 94). We can think of this as if there are not only periods when concessions are more forthcoming, but that the movement across phases and the conditions for ending the dispute are to a considerable degree a function of the conflict management process itself. The process of mediation increases the knowledge that the parties hold regarding their own and their adversaries’ positions, potential compromises, and the costs of continued conflict. This knowledge should be cumulative, and we might expect, therefore, that diplomacy’s data set that would be appropriate to a system time or conflict stages process would the Frank Sherman’s Sherfacs data.
contribution to resolution is continuous, cumulative, and that observable successes would be aggregated through time.

Although a simplification, Pillar’s conception of bargaining moves us closer to an understanding of the role that time may play in dispute duration and the timing of diplomatic efforts. Pillar’s arguments and our second hypothesis imply that the effect of each subsequent mediation attempt should correspond to shorter expected durations than we would expect otherwise. In addition, the size of the reduction in expected duration should increase proportionate to the number of previous attempts. This linear and cumulative conception of the role of mediation in conflict resolution forms the basis of our second hypothesis:

**H2: Mediation is a cumulative process with monotonically increasing returns, the greater the number of mediation attempts, the shorter the expected duration of the dispute.**

If we think about conflicts in terms of phases, or system time (as opposed to calendar time) then linearity appears problematic. A mediation during different phases might not have the same probability of reducing the duration of the conflict. For example, Bercovitch (1999) identifies six phases of a conflict in which mediation might take place. The earliest phase is the dispute onset; the latest is the settlement phase. The intermediate phases involve periods of crises and/or hostilities. From this theoretical perspective, we hypothesize that the first and last phases would present a more opportune environment in which to resolve issues and therefore mediations would be more likely to shorten durations. Mediations during the more hostile periods of the conflict may have short-term outcomes that actually contribute to lengthening the overall duration of the conflict. A negotiated cease-fire, for instance, may allow one or both sides to solidify the status quo or reinforce positions. Short-term settlements may also serve to generate asymmetric domestic or international support, allowing the antagonists to increase the size of their demands, thereby increasing the expected future duration of the dispute. During the civil war in Angola, for example, cease-fires during the intermediate phases allowed the protagonists time to reinforce their troops. During the recent Kosovo War, NATO leaders were hesitant to halt the bombing for fear of allowing the Serbian military to reposition and consolidate its positions on the ground. During the active fighting stages of a conflict, breaks in fighting, while they may allow for continued negotiation, also provide a secure environment for the protagonists to reinforce troops, re-supply units whose stores have been
drawn low or to move troops into safer locations. As a result, mediation in the middle stages may result in military situations that actually make it possible for the two sides to continue to fight longer than they would have otherwise.

Given variability in the nature of conflict in each of the phases, the range of potential observable outcomes to the diplomatic process, and the crucial role of both concession and mediators (Dixon, 1996; Bercovitch, 1989 & 1996; Pillar, 1983; Morgan, 1995), we would expect that time and the timing of outside involvement to matter considerably in accounting for the effects of the conflict management efforts. Following Bercovitch’s theoretical approach, we hypothesize, therefore, that the timing of conflict management efforts should directly affect the duration of the conflict, and that the relationship between the timing of the diplomatic activities and the resolution of the conflict will be non-linear. Specifically we would expect the relationship to reflect something like a 2nd order quadratic function -- with a U-shaped concavity -- where early and late negotiations are more likely to lead to shorter expected durations, but those taking place in the middle of a protracted conflict will lead to longer expected durations.

A second theoretical pathway accounting for non-linearity can be found in analogies drawn from non-linear processes in other social settings, as well as the medical sciences. The transformation of neighborhoods and therapeutic methods to combat disease also reflect an exponential rate of change after some ‘treatment’ has been administered. Hypothesis 2 is based on a linear dose-response theoretical approach, but this is not the only treatment process observed in social and physical processes. Frequently, dose-response relationships are non-linear, either reflecting exponential effects or quadratic forms. Schelling articulated what he termed the “tipping” model of the racial transformation of communities, and the relationship between dosage and frequency of medical treatment has been shown to have a exponential and quadratic relationship to remission and cure rates (Schelling, 1972; Ewald, 1994; Sagripanti et al, 1997; Veronesi et al, 1994). The social or medical problem can be seen as analogous to the international conflict, as can the treatment to the mediation attempt. We posit that this non-linear relationship between conflict outcomes and mediation efforts more closely captures the critical role of time and timing. This leads to our third hypothesis:

**H3: There is a curvilinear relationship between the time of a mediation taking place and the expected duration of the dispute following the mediation attempt.**
The next section will discuss operational indicators, the explicit model used to test our hypotheses, and the Time Varying Covariate (TVC) approach to data analysis.

Research Design: Case Selection, Variables and Data

We operationalize our dependent variable in terms of the length of the conflict in months. We do not include any judgment of “success” in our dependent variable coding. Following Bercovitch, whose codings are based on historical judgments, we code a conflict as both present and ongoing, or not. Rather than attempting to estimate winners and losers of the conflict, or the relative success or failure mediation’s contributions to normatively more or less palatable outcomes, we estimate the time we expect a conflict to continue past a given observation. If the observation marked a mediation attempt, we then are able to estimate the expected duration following a mediation attempt at a particular point in time. By fitting a curvilinear model to the data, we will be able to test the three hypotheses relating the timing of mediation attempt and the subsequent dispute duration following the mediation effort.

Data on conflicts, the management efforts and their timing, and the termination point of the conflict were derived from Bercovitch’s data (1997). His data cover the years 1945-1995, incorporating all events that meet his operation criterion, 227 international disputes with 2291 observations. Each dispute may have multiple observations, with a range of 2 to 144. An observation reflects one of two occurrences: recorded diplomatic activity taking place during the dispute or the end of a calendar year. As a result, in our data set, we have just over 100 disputes where mediation takes place and approximately half the individual observations mark mediation attempts.

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4 As noted above, we do not sample from the set of cases Bercovitch coded. Bercovitch coded all disputes from 1945 to 1995. In this sense, Bercovitch’s data are a sample from the universe or population of all interstate disputes that begins well before 1945.

5 The mean number of observations is 10.

6 The cases we used here reflect somewhat different inclusion criteria than the more commonly used Correlates of War Militarized Interstate Dispute data (MID). To be included in our dataset, some actual use of force must have occurred (the equivalent force level in the MID data set is level 3). While there need not be
According to Bercovitch, “the defining criterion [of a military dispute] was the crossover from employing diplomatic or political means of addressing a conflict to using credible threatening military force (italic in original)” (Bercovitch and Jackson, 1997). By comparison, a dispute in the MID data ends after six months of inaction (Jones, Bremer, Singer, 1997). A dispute in our data can end by one of four mechanisms, and we are unconcerned with which outcome is more “successful” in the normative sense. The end of a dispute is recorded when the issues have been addressed by either: a victory, abatement, lapse, or settlement (Bercovitch and Jackson, 1997).

Previous studies have focused primarily on short-term outcomes, which fail to take into account any cumulative effects from mediation efforts. We, on the other hand, will estimate the effects of mediation attempts on the duration of disputes and how those effects vary as a function of time. One significant problem with most previous research on the effects of mediation is that the unit of analysis is the mediation attempt, not the conflict in which the mediation is attempted. As a result, with such as research design, it is impossible to compare disputes with and without mediation. The notable exception to this is Dixon (1996) and his use of the conflict phase as the unit of analysis. We argue that Dixon's approach is moving in the right direction, though it has not been taken far enough. Rather than focusing on the mediation attempt or the phase of the conflict, our unit of analysis will be the entire dispute itself. This focus on the dispute and the length of its duration moves us from developing predictors of short-term outcomes toward a more long-term understanding of the effect of conflict management on conflict resolution.

Conflict Management Variables

fatalities associated with a given dispute, it must have escalated beyond the level of threats or displays of force to be included. Given this coding rule, the overlap between the MID data and Bercovitch's is extensive, though still not perfect. The MID data records 256 disputes of level three or higher while Bercovitch's mediation data record 227 disputes. The differences reflect criteria for terminating and re-initiating an ongoing dispute. Some disputes that the Correlates of War researchers code as multiple disputes Bercovitch and associates coded as a single ongoing dispute. For more detailed discussion of the data, see Bercovitch (1991) and Bercovitch (1989)
The specification of our model posits that the instantaneous probability of a dispute ending (the hazard rate) is a function of time, the timing of diplomatic efforts, the continuity across third party participants, the level of fatalities, and the existence of concurrent military hostilities. Time is measured in terms of the number of months since the dispute began.\(^7\) We operationalize the explanatory variables as follows:

- **Mediation**: This is a dummy variable marking whether a mediation attempt was underway during the observation in question.

- **Mediation Timing**: The timing of the diplomatic effort reflects an interactive term between ‘time’ and the existence of a diplomatic initiative. This gives the number of months after the conflict began that the particular mediation attempt occurs.

- **LN (Mediation Timing)**: We specify a non-linear version of the timing of the conflict management effort by using the LOG of mediation timing in months.

- **Previous Attempts By Same Mediator**: This is a count of the number of previous mediation attempts by the mediator present at the observation in question. Note that this is not a simple count of all previous mediation efforts, but rather those efforts by the same mediator.\(^8\)

- **Other Conflict Management**: We include a dummy variable (0/1) marking the presence of conflict management attempts other than mediation.

We also include several control variables to account for the effects of various other factors noted in the literature that also may influence the expected duration of a dispute.

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\(^7\) Focusing on chronological time brings substantial empirical payoff in that it allows us to estimate in rigorous fashion the effects of mediation on the calendar time of dispute duration. It may turn out, however, that dispute phases are orthogonal to calendar time, in which case we would observe no relationship between mediation attempts and time. While we believe that distinctions between conflict phases are both theoretical and empirically valid and important, we also believe that conflict phases and calendar time tend to be closely associated. This empirical and not theoretical question will be borne out in the analysis presented below.

\(^8\) Including a count of all previous efforts would create the obvious problem of not being able to tell which variable should be on the left side of the equation: mediation attempts or duration. Our variable reverts to zero when a new mediator is brought in. Most disputes with mediation have multiple mediators.
Control Variables

- Military Hostilities: Concurrent military hostilities are coded dichotomously if they were ongoing at the time of the conflict management effort.
- Fatalities: Fatality levels are grouped according to Bercovitch’s data; the scale is based on 5-points, ranging from 1 when there are between 0-500 fatalities, and 5, when there are more than 10,000.¹⁹
- Issue: We also included a dichotomous marker for cases in which the stakes are quite high, specifically those cases coded by Bercovitch where the issue at stake is national independence or sovereignty.

Hazard Analysis

The appropriate way to analyze the duration of events (such as wars or disputes) is to use a hazard model.¹⁰ The use of ordinary least squares (OLS) regression is inappropriate. Since duration data are strictly positive, the assumption of normally distributed errors made by OLS is violated. Applying a linear model to duration data would introduce specification error, biased coefficients, and the possible prediction of negative values for expected war duration (Hanushek and Jackson 1977; King 1989; for a review of the approach in political science, see Box-Steffensmeier and Jones, 1997).

¹⁹ We also tested a model that included the estimated number of actual casualties. The results were not remarkable. The 5-point scale is to be preferred as it represents the most realistic level of accurate measurement. There is tremendous uncertainty associated with casualty, KIA and MIA data.

¹⁰ Hazard models are also referred to as survival models, duration models or event history models. A basic introduction to such analysis is Allison (1984). Comprehensive sources for duration analysis include Greene (1993), Kalbfleisch and Prentice (1980), Kiefer (1988), and Lancaster (1990). Recent applications of hazard analysis to political science include Warwick (1992), Vuchinich and Teachman (1993) and Bueno de Mesquita and Siverson (1995); Bennett and Stam, 1996; Bennett, 1997)
Hazard models focus on the **hazard rate**, which is, in rough terms, the instantaneous rate at which a dispute terminates at duration $t$, given that it has persisted until time $t$.\(^{11}\) When applied to our data, a hazard model estimates the instantaneous rate at which transitions occur from a state of being in a dispute to a state of peace as a function of a set of independent variables, including time. Hazard rates need not be constant over time. One important use of hazard models is in identifying what is known as the duration dependence of a process (Bennett, forthcoming). If the hazard rate in an observed distribution of events increases over time or has positive duration dependence, we would expect the event to end relatively more quickly the longer it continues – that is, at each observation the expected future duration would decline at an increasing rate. If the hazard rate is decreasing over time, the distribution shows negative duration dependence. In these events, with each passing observation we would expect the length of time until the process ends to increase. Duration dependent processes are implicitly argued to be an important part of the role that institutions can play in international politics (Keohane, 1989; Martin, 1992). Negative duration dependence would occur if an event or situation tended to become institutionalized over time. Finally, if the hazard rate is independent of the time a situation has continued, there is no duration dependence (Bennett, 1998).

Without any covariates, the basic functional form of the hazard rate $\lambda(t)$ using a Weibull specification is\(^{12}\):

\[ \lambda(t) = \lim_{\Delta t \to 0} \frac{P(t \leq T < t + \Delta t | T \geq t)}{\Delta t} \]

\(^{11}\) Technically, given observed duration times $t$, which are drawn from a random variable $T$, the hazard rate is the relative likelihood that an event will end in an interval of time $t + \Delta t$, as the interval goes to 0, given that the event has survived up to time $t$. The hazard rate is defined as $\lambda(t) = \lim_{\Delta t \to 0} \frac{P(t \leq T < t + \Delta t | T \geq t)}{\Delta t}$.

\(^{12}\) It is important to note that hazard model notation varies significantly between sources, resulting in some confusion as the same model may appear with different signs and parameter normalizations (Greene 1993:725). Our presentation here uses the notation found in the Stata Manual (1997). Several different parametric functional forms can be specified as the basis for a hazard model, with the exponential, Weibull, normal, log-normal, and gamma distributions representing only a few of many possibilities. There are few firm guidelines for selection of model form; as Kiefer (1988:661) states, the family of duration distributions may be chosen "on the basis of a particular economic theory, convenience, and perhaps some preliminary plotting of
\[ \lambda(t) = \lambda p (\lambda t)^{p-1} \]

The function \( \lambda(t) \) is the hazard rate at some time \( t \). The parameter \( p \) on the right hand side of the model represents the duration dependence estimate. The parameter \( p \) determines the shape of the hazard function, thereby accounting for duration dependence. When \( p=1 \), there is no duration dependence, and the hazard rate \( \lambda(t) \) equals the constant rate \( l \). When \( 0 < p < 1 \), the hazard rate decreases monotonically over time. When \( p > 1 \), the hazard rate increases monotonically.

Covariates (independent variables) can be added into the model as influences on the hazard rate by specifying:

\[ \lambda = e^{-\beta x_i} \]

The presence of \( e \) and our interactive mediation and time terms makes direct interpretation of the final \( \beta \) coefficients difficult. The effect of unit changes in the independent variables on duration are not constant over the range of the independent variables as they would be in an OLS model; the effect changes depending both upon the value of the independent variable in question and the value of the other independent variables. In fact, this is the point we will make below: the effect of mediation varies in large part as a function of the timing of when the mediation takes place\(^{13}\).

For various reasons, we use a Weibull specification in our hazard analysis. The Weibull form allows for positive, negative or no duration dependence. The Weibull model allows the inclusion of independent variables, and allows easy statistical estimation even when time-varying covariates are included. It is also possible to add a specification for heterogeneity between cases; we test for this and find a Weibull model with gamma heterogeneity statistically indistinguishable in overall fit from the simpler Weibull.

\(^{13}\) Our tables present the parameters in the Ln(expected time) format, a presentation option as compared to hazard ratios. We do this because it simplifies the calculation of predicted values for the tables presenting substantive effects. Generally speaking, in the log expected time format, positive coefficients correspond to hazard ratios great than 1, negative coefficients with hazard ratios less than 1.
Analyses to be performed: Time Varying Covariates

Hazard or duration models are frequently estimated on cross-sectional data that consist of one observation per case, using variables measured at the beginning of each observation. Variable values are then constant within each event. In our case, this would be a dataset with one observation per dispute, with variables measured at the beginning or end of the dispute. This one-observation-per-dispute approach, however, may ignore important information if variables change over time within cases preventing one from making any substantive claims about cross-temporal variation being associated with event duration. It also ignores the possibility that the effect of certain variables may change over time within a particular dispute, as we believe to be the case with the effects of mediation over the lifespan of an interstate dispute. For instance, mediation attempts may occur at various times during a dispute, the effect of each attempt on the expected future duration of the dispute may vary as a function of the point in time at which the mediation took place. Mediation attempts at the beginning of the dispute may be associated with higher hazard rates (leading to shorter expected duration) than mediation attempts further into a dispute.

One compromise solution to this problem is to create variables that measure average values across an event (e.g., the mean of the balance of forces across several years of war). Using average values might make better predictions (albeit ex post) than initial values since the effects of changes are indirectly included. However, a better approach is available. Relatively recent work has extended the estimation of hazard models to allow inclusion of time-varying covariates (TVC), that is, variables whose values change over the course of an event (Greene 1993; Lancaster 1990; Petersen 1986; for applied examples see Bennett and Stam, 1996; Bennett, 1998). Each case (dispute) can be broken into discrete intervals yielding multiple observations that may have different values on the independent variables. Each observed interval contributes to the log-likelihood function since it uses all available information. In our data set, individual observations are marked by either annual accounting or by the presence of some type of conflict management attempt, of which mediation is one type. We subdivide

14 Using a TVC approach, the data set then resembles something like a patient’s personal history. Each patient is a case with multiple observations. Sometimes an observation may be a result of an annual checkup – just to be sure no pathologies have developed in the past year that might otherwise go unnoticed. Other entries in the patient’s history might be the result of an acute illness, or, in our case, a mediation attempt.
disputes lasting less than twelve months that cross a year boundary into multiple observations. Using the TVC approach is substantively important because it is with this type of model that we can sort out the curvilinear relationships between mediation attempts, mediation timing and the endings of interstate disputes. We use the statistical routines found in STATA to perform our estimations.

Results

We begin the presentation of our results with a look at the baseline hazard function. In this graph, we see the relationship between the likelihood of a dispute persisting for another month and the passage of time.

![Figure 1. Kaplan-Meier survival curves, data are grouped by mediation.](image)

The vertical axis of the graph is the probability of a dispute continuing until the next time-period, in our case to the next month. As you can see, the likelihood of a dispute continuing drops very quickly over the first 24 months and then begins to level off. Also, note that there are two curves. The upper curve is a graph of the survival function for disputes where mediation has taken place. The lower curve is a survival curve for disputes where no mediation was present. Until roughly 200 months, the mediated disputes appear to have a much greater chance of continuing at any point in time compared to those without mediation. After roughly 200 months, the probability of a dispute continuing until the next observation drops at a rapid rate. Another way to display this relationship is to graph the hazard function and observe the relative effect of mediation on the likelihood of the
disputes ending. The distinction between the curves in figure 1 and its hazard analogue (Figure 2) is that the
former presents the cumulative probability of surviving as opposed to the curve in Figure 2 which describes the
instantaneous probability of the conflict terminating at a given point in time.

Figure 2. The Hazard function for mediated disputes and time.

In Figure 2, we present the hazard function for mediated disputes. In this graph, the vertical axis
represents the relative risk of a dispute ending; the horizontal axis represents the cumulative number of months a
dispute has continued. We can easily see that the hazard, or risk of a dispute ending, does not seem to be related
to mediation as a linear function of time. In other words, at some points in time (earlier on) mediation seems to
do little to increase the hazard, or probability that the dispute will end. As time passes, the hazard rate increases,
and at some point past roughly 100-200 months, the hazard associated with mediation seems to increase
exponentially. This empirical support bolsters our theoretical basis for specifying a non-linear model of the role
of mediation in the conflict resolution process. In order to test the competing relationships between mediation,
dispute resolution and time – linear versus non-linear – we fit two parametric models.
In Table 1, we present the results of two Weibull models. We start in Model 1 by estimating a linear specification of the effects of mediation on dispute duration, along with several other independent control variables as mentioned above. While the interpretation of the coefficients is somewhat problematic, in general positive coefficients are associated with longer durations; negative coefficients are associated with shorter ones. The results here coincide with the description presented in Figure 1. The mediation variable appears, across the board, to be associated with longer disputes, not shorter ones. This would be generally consistent with the extant empirical literature on mediation outcomes, which tend to show that mediations have little net effect on dispute progression. In Model 1 we find that while mediation leads to longer durations, in general, we also find that other forms of conflict management lead to even longer expected durations. The number of mediation attempts by a particular mediator at the observation in question leads to shorter expected durations (this finding, however, does not meet standard levels of statistical significance), while higher levels of fatalities and concurrent hostilities also increase dispute durations.

This result relating increased fatalities to increased conflict durations must be tempered by the fact that the fatality data are grouped. Unlike the mediation timing data, which vary from observation to observation, the fatality data are the sum of fatalities over the course of the dispute. These data limitations preclude us from being able to distinguish the precise effects of fatalities, in that we would obviously expect fatalities and the duration of disputes to be highly correlated. We cannot make any inferences about the timing of particular casualties and as a result cannot make inferences about the relationship between casualties suffered in one conflict phase versus another. We do, however, have time-varying data for the presence of military hostilities during a particular observation or mediation attempt. The results are not subject to the same sorts of potential biases that the findings on fatalities are. If open military hostilities coincide with a mediation attempt, we expect that the dispute will last longer than it would absent the open use of force, although this finding falls just short of conventional standards.

We check the fit with other distributions to be sure that our results are not overly dependent on our choice of underlying distribution (for a detailed discussion of some of these issues see Box-Steffensmeier and Jones, 1997). We find that the results are roughly the same (same signs and rough magnitude) using a Cox model. The standard errors of the mediation variable increases to the point where we no longer meet the p<0.05 threshold. Other distributions (exponential, gamma) also yield unremarkable differences.
of statistical significance. Disputes over independence or national sovereignty also appear to last longer than those over other issue areas.

Finally, looking at the estimate for \( p \), the duration dependence parameter, we find that the overall hazard rate falls as a function of time. In substantive terms this means that the chance of a dispute ending drops over time, it does not increase. The longer a dispute lasts, the longer the expected future duration will be. This points to a potential institutionalization process taking place. While we do expect all disputes to end eventually, the longer they continue, the length of time until we expect to observe the end of the dispute increases. Therefore, for example, we would expect the time to the end of the dispute (in months) to be shorter at the beginning of the dispute, but as time passes and interests become more entrenched, we would expect the dispute to last longer.

Table 1. Weibull Hazard Model of Dispute Duration

As we noted earlier, we believe that the relationship between mediation, time and the duration of disputes cannot be adequately summarized with a single dummy variable marking the average effect of mediation on dispute duration. Nor could we explore this complex relationship simply by correlating the number of
mediation attempts with the expected duration of disputes. Our more complex analysis allows us to distinguish
the effects of mediation from other types of conflict management and how those effects vary over the course of a
dispute. In Model 2, we add two interactive terms – mediation*time and ln (mediation*time) – to allow for the
possibility that the effects of mediation might vary as a function of the timing of the mediation attempts. What we
find is exactly that. The two terms for our curvilinear specification fit the data quite well. We also find that the
fit for the concurrent hostilities variable and the number of previous attempts by the same mediator now meet
standard levels of significance.

Looking at the mediation dummy variable, we now see that on average, mediation is associated with
shorter, not longer disputes. This allows us to think about two related aspects of the role of mediation in dispute
resolution. First, since on average, mediations shorten the length of a dispute it would suggest that there is not
simply a selection mechanism operating whereby longer disputes experience more mediation because they have
more opportunity for diplomatic interventions. Second, mediation can be a very effective tool for conflict
management, but it should not be used in an ad hoc manner. The timing of a mediation attempt is critical, which
we can see with the statistically significant results for the interactive terms. To demonstrate this in Figure 3 we
graph the expected duration of disputes while controlling for the other factors in the model and allowing the
timing of the mediation attempt to vary.
In Figure 3, we see the effects of mediation on the hazard rate -- or the probability that the dispute would end at any given instance -- and how this effect changes over time during the life of an interstate dispute. The horizontal axis represents the time at which the mediation attempt took place. The vertical axis represents how much longer we would expect the dispute to last given that the dispute has continued to some point on the horizontal axis. Initially, mediation efforts can be very successful in ending a dispute. Very quickly, however, the effects of mediation drop substantially, and in fact, for some time increase the expected duration considerably. After a dispute has gone on for some period, mediation again begins to work towards shortening, rather than lengthening, the dispute. As a result, we find support for Hypothesis 3, that there is a curvilinear relationship between the timing of mediation attempts and the future expected duration associated with the mediations. This again leads us to reject Hypothesis 2, that all mediations make a positive contribution towards resolution. In fact, many of the mediation attempts are followed by an increase in the expected length of the dispute; this would probably be the most typical result. The aggregate effect of mediation, however, cannot be understood simply by looking at any single independent variable, rather all four variables associated with mediation – mediation,
mediation timing, Ln (MT) and the number of previous attempts by the same mediator -- all need to be taken into account when we talk about the “effect” of mediation. This cumulative impact of mediation on conflict duration is what we present in the graphs and in the tables.

Our results indicate that there are circumstances when mediation leads to the relative shortening of disputes and times when it leads to the lengthening of disputes, even though on average mediation shortens dispute durations. Our results support Northedge and Donelan’s contention that mediation should take place immediately at the opening of hostilities and further that some mediation attempts after an initial period of conflict will likely lead to longer disputes than otherwise. Bercovitch’s contention that some time should pass before mediation takes place is also supported, Northedge and Donelan’s argument notwithstanding. If the early window of opportunity is missed, then it appears likely that Bercovitch is correct in asserting that some amount of time must pass – time where both participants may reach a point where mediation is desired rather than imposed on the participants. Upon reaching this phase, where participants welcome intervention and/or assistance, mediation may lead to shorter expected durations. As we noted above, while we cannot say that time determines phases of a conflict – if for no other reason than phases can move in either direction – we can speculate about an intuitive relationship. During interstate conflicts, costs increase monotonically, while benefits tend to remain constant. If the progression though conflict phases is, in part, based on the two sides’ mutual expectations of payoffs, then in many instances the movement across phases would be unidirectional. Nevertheless, one explanation for the curvilinear results is that short-term agreements temporarily check costs, possibly leading to movements backward in the phases of a conflict. The hazard graph in Figure 2 and the predicted durations in Figure 3 confirms this time-variant relationship between mediation and duration.

Two important questions come to mind immediately. First, how long after a dispute has begun will mediation bring about longer expected durations? Second, how long must a dispute continue before mediation again serves to shorten it? Unfortunately, we do not have a good answer to either of the questions. The precise location of the inflection point where mediation serves to shorten rather than lengthen disputes is exceedingly difficult to estimate for several reasons. While we fit a logged function here, there is no strong theoretical reason why this must be the precise parametric form. There are myriad other functions that fit the general description \(y=x-x^2\), for example). A squared function fits the data as well as the logged but the inflection point is shifted considerably to the right, thereby perhaps leading us to conclude that the inflection point might come later than
we would think otherwise. Another reason for our uncertainty has to do with the nature of the dataset. There are a small number of cases each with many observations that last for more than ten years (Kampuchea-Vietnam, N. Vietnam-USA, Ethiopia-Somalia). These cases serve to shift the inflection point of the mediation-timing curve quite far to the right. In an auxiliary analysis where we dropped all cases that lasted more than 10 years, the results remain essentially unchanged except that the inflection point in the mediation curve moves substantially to the left, implying that mediation more quickly begins to contribute to the shortening of the conflict. So, while we cannot identify the specific point at which mediation shortens or lengthens disputes, we do know with a high degree of certainty that mediation near the very outset of a dispute, or later in its progression, is beneficial. Again, this does not explicitly identify a ripe point or a specific phase, but it does add credence to these theoretical arguments. Since the results hold after dropping the most protracted conflicts, and only the inflection point shifts, this gives us some suggestion that phase-time is also an important element. Unfortunately given our data limitations we have no way to directly test a phase-based explanation.

One might question whether we could simply switch our dependent and independent variables – the number of mediation attempts and how long the dispute continues – suggesting that dispute duration simply leads to a greater number of mediation attempts. The short answer is no. The estimate of duration is the expected future duration given 1) that some mediation has taken place and 2) the time at which mediation attempt took place, all while controlling for the number of attempts made by the current mediator (not the total number of attempts). In addition, as we have shown, our results demonstrate that on average mediations lead to shorter disputes, but also that the timing of these efforts matters. Reversing the causal arrows simply does not make sense given these results.

We extend our ability to bring to light information from our data by estimating the effects of the other independent variables on predicted durations of a conflict. In Table 2, we present predicted durations in which we shift the independent variables’ range from their minimum to maximum values and observe the corresponding change in the expected dispute duration.

First, other forms of conflict management are associated with substantially longer durations, though a caveat is in order here. While we do expect most forms of conflict management to reduce the likelihood of immediate settlement, we do not typically expect conflict management efforts to increase disputes 30 or more years. This result in Table 2 reflects the worst possible case, where at every potential opportunity some form of
conflict management was attempted. In disputes such as this, little overt fighting might be expected; we also would expect that the underlying issues might never be addressed since all efforts would be going simply to manage the conflict so that no military hostilities would flare up. Regardless, the evidence suggests that most forms of conflict management other than mediation serve to increase substantially dispute durations.

Second, multiple previous attempts by a single mediator or team of mediators reduces the duration of the conflict. Contrary to the beliefs of some, bringing in new faces does not necessarily increase the chances of resolving a dispute. Jimmy Carter, for example, was able to get the warring sides in Bosnia to agree to a temporary cease-fire, but was not able to broker an end to the dispute. Rather, the building of local knowledge and trust may be more important. One implication is that we should be more inclined to focus energies and resources on single mediators rather than try to routinely bring in new actors, if the objective is to shorten the conflict. Note that this runs counter to a possible selection bias or mistaken association of correlation and causality. The naive hypothesis would be that more mediations attempts should be associated with longer disputes, in that in the absence of any substantive effect, the longer a dispute lasts the more the chances for mediation attempts to take place. Our results, however, indicate that the greater the number of mediation attempts by a single mediator the shorter the dispute should last into the future. We should also note that the time-varying composition of our data across observations confirms that we are not simply correlating the number of mediation attempts with the duration of the dispute.

| Table 2. Marginal Effects of Independent Variables on Dispute Duration |
| Change in Independent Variables | Expected Change in Dispute Duration |
| From | To | (Months) |
| Other Conflict Management | None | Each Observation | 432 |
| Previous Attempts | 0 | 6 | -76 |
| Fatalities | 0-500 | >10,000 | 68 |
| Hostilities during mediation | No | Yes | 56 |
| Issue: Indep./Sovereignty | No | Yes | 82 |

Finally, we find that disputes over national independence or sovereignty also appear to be associated with longer than average durations. Disputes where the stakes are very high will result in situations where the actors involved will be willing to bear substantial costs for long periods. We also find that those disputes where
the costs have been high – those where fatalities exceed 10,000 – are also very likely to be associated with disputes of the longest duration. Sorting out the causal direction is, of course, problematic. The longer a war goes on, the more casualties we expect. The number of casualties is an ex post indicator of the seriousness of the conflict and the costs incurred from the conflict. We acknowledge this up front. However, casualties are generally a monotonically increasing result of conflict and decision-makers should be able to observe this change over time. Unfortunately in our data set, casualties are recorded in the aggregate and therefore we lose the ex ante data that would influence the decision to settle at a given point in time. However crude our indicator, in the absence of extreme spikes in the number of casualties, it does reflect that costs must be evaluated when thinking about future courses of action. That said, the duration dependence parameter (less than one implying institutionalizing effects) leads us to believe that actors view sunk costs not necessarily as rational choice scholars might suggest, but rather as a reason to continue the dispute into the future. Negotiating an end might not be psychologically or politically possible in the short term.

Discussion

Is any mediation effort justified? Which types of mediation work best? Based on the data, mediation immediately after a conflict begins can easily be justified on both normative and empirical grounds. After a period passes – about a month – the data provide a less clear answer. The point at which mediation attempts again seem to make disputes shorter is, as we note in the paper, dependent upon the functional form of the curvilinear relationship that we specify. There is inadequate information in the data to allow us to specify which particular curvilinear specification would be the best, and unfortunately, theoretical development is insufficient to help us specify the form of this relationship. The notion of ripeness reflects this difficulty, and points clearly to the need for more case study based data and research. If the progression toward a ripe point is continuous and monotonic, then the link to calendar time is increasingly important. We suspect that it is not directly related, and our evidence points to this conclusion (e.g. the institutionalizing effects demonstrated by the duration dependence parameter). Much more theoretical specification is required before an adequate test can be articulated. Sociologists, economists, and medical scientists have suggested concepts such as tipping points – points somewhat analogous to a ripe point – but our data do not allow us to identify such a point ex ante (Schelling, 1972; Jones, 1997; Sagripanti et al, 1997 ).
While we were no more successful at identifying the specific timing of a ‘tipping point’ than the sociologists and economists of a generation ago, we have shown that the timing of diplomacy has important implications for the subsequent duration of a dispute, and that tipping points or ‘ripe periods’ exist more likely than not. There does seem to be a period within a conflict where the role of diplomacy in resolving a conflict is considerably muted, and, in fact, after an initial phase of a conflict has taken place, mediation, while it may lead to a temporary secession of hostilities, leads on average to longer dispute durations than we would expect otherwise. One of the key results of our analyses that differentiates our work from most others – and we think moves the study of mediation forward – is that our focus is on the long-term implications of mediations as opposed to the short-term outcomes of most analyses. What we demonstrate is that regardless of the short-term effects, in the long-run mediation works, but that it needs to be implemented at certain times in the life of a conflict. In many ways, this is convergent with other analyses of mediation outcomes, where the general evidence is that they result in short-term settlements only about 30% of the time. What we show is that in many instances – generally related to the timing of the effort – mediation does not seem to be a constructive contribution to the management of conflict, at least in terms of leading more directly to resolution. But even during this period where mediation appears to increase the duration of the conflict, it might simultaneously be reducing the intensity or hostility levels of the conflict (Goertz and Regan, 1996). In effect, mediation may help to manage a conflict even if the efforts stymie attempts to resolve it.

There are two central implications of our results: 1) that there is a need to think more closely about model specification and the role of timing or sequencing in understanding international conflict and conflict resolution, and 2) the preliminary policy implications that derive from our analysis. Scholars who adopt a more qualitative approach to the study of peace and conflict resolution articulate arguments suggesting that the ability to resolve conflicts is not tied very tightly to structural conditions. The main themes are twofold. First, that conflict resolution is context dependent and second, that the most important dimension of a contextual understanding is the role of event timing or phases within conflicts. Theory suggests that there is a point in each conflict where the tempo of resolution efforts will accelerate more quickly and the efforts of the diplomats are much more likely to be successful. Most empirical studies, on the other hand, have failed to incorporate carefully the role of time into their model specifications. Contextual variables such as the status of the intervening party or the strategy that a mediator adopts are insufficient to account for the resolution of disputes, even when the
outcome is conceptualized as a short-term respite in the hostilities. Our model specification explicitly tries to
capture the role played by the timing of events, and the strength of our empirical results demonstrates that one
critical element of the contextual conditions associated with effective conflict management is indeed related to
time. However, beyond a simple claim that timing is important, we show also that it matters considerably when,
during the course of a conflict, a diplomatic initiative is undertaken.

The potential policy implications fall into three main areas: 1) the time to intervene, 2) the role of
continuity within negotiating teams, and 3) the value of maintaining conflict management initiatives. Policy
makers are always searching for the propitious moment to initiate a program. Richard Haass (1990), William
Zartman (1985), and others have guided the policy community in the direction of looking for the opportune
moment to try to mediate a conflict. Our analysis suggests that there is not one propitious period per conflict, but
two. The data demonstrate that conflict management that gets in early, at the very outset of the dispute has a
much higher probability of leading to a quick end to the dispute than an effort that starts just a bit later. It does
not take long for disputes to become entrenched in the minds and actions of the participants and our findings
regarding duration dependence indicate that ongoing disputes do indeed become entrenched. The effectiveness of
conflict management experiences a low point during an intermediate period of prolonged disputes. If the dispute
is not resolved early, efforts to reach an agreement during this intermediate period are not likely to prove effective
and, in fact, mediation may appear to be counter-productive. Another point is reached later in the life of a conflict
where diplomacy, again, becomes increasingly effective. One of the inferences we draw from our understanding
of the bargaining process and the empirical evidence is that expectations should be lowered during this
intermediate period, though efforts should not necessarily be curtailed. If the negotiating process is cumulative as
our findings regarding the number of attempts by a single mediator suggest, the rather meager success rate may be
obscuring a sequence of small concessions that can pave the way for a cascade of larger concessions just before
resolution. Although we did not directly test the cumulative effects, logical arguments give us a glimpse of what
may be happening to create the strong non-linear pattern that we see (e.g. Pillar, 1983).

While it might appear that extending the duration of a dispute is a normatively bad outcome, in fact, the
alternative, while being of far shorter duration, might be far worse. In summary, the standard caveat about the
need for more research applies. The next step in this research project will be to estimate the effects of this known
selection bias. This will involve the development (both theoretical and empirical) of a model of intervention.
When we have a better and more systematic grasp of which disputes attract mediation and which do not, we will then be able to judge more precisely the specific effect of mediation and mediation timing. Before we can claim to understand the life process of interstate disputes far more research remains to be done.
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