ArkPSA

Arkansas Political Science Association

_____

_____

Uncertainty as a Condition for Change: The Israeli-Palestinian Conflict

G. Dale Thomas
American Public University System

Ongoing conflicts often frustrate those who seek their peaceful conclusion as well as those who seek to force a suitable settlement on the opposing party. Thus, political leadership often has the willingness to pursue policies that can lead to dramatic changes, but they are frequently frustrated by a lack of opportunity. This paper examines the concept of uncertainty in the Israeli-Palestinian conflict as a condition for major change, where uncertainty refers to instabilities in dyadic conflict-cooperation flows between Israel and the Palestinians as measured by event data from 1985 to 2010. Four key hypotheses on the importance of uncertainty and exogenous shocks for introducing major initiatives are evaluated. The results indicate that the presence or absence of uncertainty in the system (both endogenous and exogenous) is an important indicator of opportunities to pursue a peaceful resolution as well as a possible early warning indicator for rising tensions.

Introduction

In an ongoing, protracted conflict like that between the Israelis and Palestinians where positions have become deeply entrenched, what creates the conditions for change? What factors allow leaders to introduce new policies, and what prompts individuals to seek vigilante solutions? Are these two things related? Why was famous general, national hero, and Israeli Prime Minister Ariel Sharon able to orchestrate an Israeli withdrawal from Gaza, while the equally, if not more famous general, national hero, and Israeli Prime Minister Yitzhak Rabin assassinated after withdrawals from Jericho and Gaza City? While acknowledging progress made in research on the roles that coalitions, hawks and doves, and uncertainty play in crisis bargaining and enduring rivalries (e.g., Colaresi 2004; Fearon 1995; Fey and Ramsay 2011; Schultz 1998, 2005; Wolford 2014), questions remain.

Building on the opportunity and willingness framework proposed by Most and Starr (1989), this paper examines the nature of opportunity within the Israeli-Palestinian conflict. While leadership may desire to implement major initiatives, their ability to do so is constrained by the very nature of the conflict in which they are involved, and actors, if they are to be successful,

have to consider not only the interstate[1] game but domestic games of both parties as well (Schultz 1998, 2005). Indeed, Colaresi (2004) notes that unreciprocated cooperation in a rivalry context statistically leads to shortened leadership tenure, and if leaders are to remain in power, their decision space is restricted. The Israeli-Palestinian conflict has been so steady across its multi-decade existence that Schrodt (1997) speaks of the development of a Nash equilibrium in the conflict system, and interestingly, leadership on both sides has remained within the hands of a very small and consistent group of actors. Why then do some unreciprocated 'cooperative' moves like Israel's unilateral withdrawal from Gaza do little to change the internal balance of political power while others lead to the ousting of leaders such as Ehud Barak in 2001? Thus, the first step in understanding opportunity is to clearly specify the nature of the conflict. After this is done, one can examine the conditions that appear to create opportunity.[2]

The Israeli-Palestinian conflict is considered the prototypical protracted social conflict by a number of scholars (Azar 1984a, 1984b; Rasler 2000; Starr 1999). While many of the dynamics of the conflict have been examined—e.g., shocks (Rasler 2000), geography (Starr 2001), mediation (Schrodt and Gerner 2004), spoiling (Pearlman 2008/2009), and strategic avoidance (DeRouen and Sprecher 2006)—statesmen continue to struggle in trying to resolve this enduring conflict, and scholars continue to ask why.

This paper examines the concept of uncertainty in the Israeli-Palestinian conflict as a condition for major change, where uncertainty refers to instabilities in dyadic conflict-cooperation flows between Israel and the Palestinians as measured by event data from 1985 to 2010. Major change is operationalized as key events in the history of the Israeli-Palestinian conflict for the same period. Using proportional hazards models to evaluate four key hypotheses on the role that uncertainty and exogenous shocks play in major initiatives, the analysis indicates that uncertainty in the conflict system (both endogenous and exogenous) is an important factor that should be considered by both statesmen and scholars in understanding the conflict system. Importantly, neither the cooperative nor conflictual nature of the policies and initiatives is considered in this result. Rather, the analysis only

---

[1] Interstate is used within this context while acknowledging that the existence of a Palestinian state is not fully accepted; however, other terms while perhaps more accurate legally are also more likely to lead to confusion over the intended meaning.

[2] Rasler approaches this question through an evolutionary framework involving "political shocks, expectancy revision, policy entrepreneurship, third-party pressure, and reciprocity" (2000, 699).

examines the effect of changing one's policy. Moreover, the results indicate that uncertainty, as operationalized in this paper, may be a significant early warning indicator of unexpected changes in the behaviors of both sides to the conflict. Therefore, this paper makes an important contribution to the ongoing dialogue surrounding the Israeli-Palestinian conflict by clarifying the role that policy consistency and inconsistency plays. Moreover, these results are theoretically generalizable to other protracted social conflicts.

Protracted Social Conflict, Uncertainty, and Policy

Azar (1984b) defines protracted social conflicts as those "in which structural behavior (ethnic, religious, linguistic, economic) has affected overt hostile behavior (interaction), creating a complicated causal network that makes these conflicts difficult to 'solve'" (85). The Israeli-Palestinian conflict is considered the quintessential protracted social conflict and has led to the creation of a variety of organizations (from governments to terrorist organizations), each of which pursues its vision of a satisfactory future. Nonetheless, the organizations require human, monetary, and other resources if they are to achieve their objectives.

Any actions that threaten these resources inhibit the future competiveness of an organization (Shellman 2006). These resources are typically granted through exchange; the organizations need to provide individuals in society with something desirable if their support is to be captured and maintained. This is true even in the case of identity based conflict: group membership and even identity are not a given (Ferguson and Mansbach 1996) but rather are constructed (Aspinall 2007). Similarly, Azar (1984a) argues protracted social conflict "is the locus of identity and not the other way around—you are who you are depending upon your views on the Arab-Israeli conflict" (302). Indeed, within rivalry situations, unexpected behavior from leaders can quickly lead to their ouster as they are not viewed true to the cause (Colaresi 2004).

Migdal (1988) contends that organizations are able to exercise control over their followers by providing survival strategies that include meeting the mundane needs of food and housing as well as higher level psychological needs, such as group identity. On the other hand, alienating one's supporters reduces one's capacity to mobilize resources while at the same time increasing potential support for one's opponents or the likelihood of a new group filling the void left by the shift in a group's policy (Shellman 2006). In essence, protracted social conflict is a two-level game (Friedman 1999; Starr

1999). Thus as long as preferences regarding the choice of survival strategies remain stable, groups involved in protracted social conflict find deviating significantly from established policies difficult. Protracted social conflict involves the long-term interaction of learning actors. In such cases, when coupled with a stable pay-off structure, a Nash equilibrium develops (Luce and Raiffa 1985; Schrodt 1997). Unless the payoff structure somehow changes, no reason exists for deviating from established policies. Expectations become set, negotiating positions known, and behavior reduces to standard operating procedures. As a result, informational asymmetries (Schultz 1998) and thus strategic uncertainty is dramatically reduced (Fey and Ramsay 2011).

However, if leaders do choose to undertake major initiatives, or changes, they can knowingly, or unknowingly, undermine the support of their followers, especially within the context of enduring rivalries (Colaresi 2004). Ferguson and Mansbach (1996) argued that when "values cease being allocated in an acceptable fashion, even durable loyalties erode and fade, and the stage is set for their redistribution and a shift in authority patterns" (36). In the short term, both endogenous and exogenous shocks (e.g. Brancati 2007) can prompt such shifts in loyalty.[3] Given this situation, leaders have little incentive to change behaviors,[4] and one can easily see how such conflicts ossify and become more and more difficult to resolve. Nonetheless, leaders clearly do undertake new policies, such as Ariel Sharon's insistence on a complete Israeli withdrawal from the Gaza Strip. Therefore, one can reasonably ask what types of conditions are more or less likely to allow, or to prompt, major events that stand out against the backdrop of the ongoing conflict.

Enduring rivalries exhibit many similar characteristics to protracted social conflicts and may provide some clue. Goertz and Diehl (1995) find political shocks to be a "modest necessary condition for the initiation and termination of enduring rivalries…" (31). Similarly, Rasler (2000) finds strong support that shocks are major factor in policy innovation for both the Israelis and Palestinians, especially when combined with other factors such as third-party pressure and reciprocity.

---

[3] Israeli Prime Minister Yitzhak Rabin was assassinated by a disaffected Jew, not by a Palestinian, as he tried to implement a land for peace solution to the Israeli-Palestinian conflict.
[4] As Schultz (2005) notes, "Doves want peace, but they may not have the electoral security or credibility to deliver it. Hawks enjoy both electoral security and credibility in attempting cooperation, but they may not want to try" (26).

Conceptually, shocks can be thought of as destabilizing actor in the conflict and potentially undermining the existing payoff structure. As noted above, this can occur when the environment of the conflict exogenously changes, for example with the occurrence of regional wars (Rasler 2000), and uncertainty is introduced for both leaders and organizational membership with the continued validity of survival strategies offered by existing social organizations called into question. In the face of uncertainty, group leadership can respond by reaffirming old policies and existing survival strategies, an approach emphasized by Israeli Prime Minister Benjamin Netanyahu, or by implementing new policies, such as Yasser Arafat's renunciation of terrorism and recognition of Israel in December of 1988. Likewise, individuals and small groups may cling tightly to existing survival strategies or throw off the social control of existing organizations in favor of new solutions. Thus, in the discussion that follows, the term shock(s) refers to exogenously introduced uncertainty from major systemic events.

Similarly, one might expect that uncertainty can be introduced endogenously as well, and a reasonable question is whether uncertainty can be unwittingly or even knowingly increased through the behaviors of their conflict counterparts? What role then does uncertainty play in protracted social conflicts? Is uncertainty a necessary condition, a sufficient condition, both, or neither for major events? Is uncertainty, like political shocks for enduring rivalries, a "modest necessary condition" (Goertz and Diel 1995) for significant initiatives? Moreover, how can you measure uncertainty? Lipshitz and Strauss (1997) have identified at least twelve different conceptualizations of uncertainty in relation to decision making. Nonetheless, given the context of this study and previous literature such as Brancatti (2007), Rasler (2000), and Geortz and Diehl (1995), uncertainty should include exogenous shocks as well as unexpected changes from within the conflict system.

Thus, the focus of this paper is on how uncertainty reduces constraints on leadership imposed by the intra-group game in protracted social conflict as they undertake actions in the intergroup game.[5] The effects of uncertainty in the intergroup game cannot be dismissed and clearly play a well-documented role at this level (e.g., Fey and Ramsay 2011). While the two can be unpacked analytically, empirically separating the two is difficult but can be at least partially addressed by specifically including key events not

---

[5] For a broader discussion of the impact of coalitional, or intra-group, behavior on intergroup behavior in crisis behavior and rivalry see Colaresi (2004) and Schultz (2005).

orchestrated by prominent group leadership (Israeli government and the PLO/Fatah led Palestinian Authority), which demonstrate a weakening of social control in the intra-group game.

Theoretically, both endogenous (policy-based) and exogenous shocks increase the uncertainty in the conflict system and potentially bring into question the existing pay-off structure on which conflict participants' survival strategies are based. This increases the room for leaders to maneuver,[6] thereby giving them greater policy flexibility to initiate conflict, make peace, or introduce other major innovations before behavioral patterns solidify again.

These arguments can be represented as distinct hypotheses. Does uncertainty in one's own policy provide opportunity for leaders of opposing groups to introduce major initiatives? While the answer to this question might be true for Israel, it might be different for the Palestinians given the difference in governing structures for the two. Thus, separate hypotheses should be tested and separate models estimated for each.

H1: As Palestinian policy uncertainty increases, the likelihood of a major Israeli initiative increases.

H2: As Israeli policy uncertainty increases, the likelihood of a major Palestinian initiative increases.

Exogenous shocks can clearly affect the viability of existing survival strategies (see Bracanti 2007) and should also be considered. Rasler (2000) specifically examines the impact of a number of shocks on major initiatives in both Israeli and Palestinian policy. These shocks are the Israeli invasion of Lebanon in 1982, the Intifada in 1987, and the Gulf War in 1991. Such shocks represent major systemic events that while exogenous to the Israeli-Palestinian conflict itself affect the environment in which the conflict plays out. Accordingly, one could hypothesize that leaders are more likely to undertake major initiatives during these unsettled periods.

H3: As uncertainty increases due to exogenous shocks, the likelihood of a major Israeli initiative increases.

---

[6] Even negotiators can seize on such uncertainty to increase their effectiveness (Gowan 2013). Peleg and Scham (2010) argue that for a diplomatic breakthrough to occur between the Israelis and Palestinians, the involved parties have to find the status quo untenable. Unless a change occurs in the payoff structure, such an evaluation is unlikely to occur.

H4: As uncertainty increases due to exogenous shocks, the likelihood of a major Palestinian initiative increases.

Data and Analyses

A Cox proportional hazards model with repeat failures seems ideally suited to test the four above hypotheses (Allison 1984; Box-Steffensmeier and Zorn 2001). Doing so requires operationalizing both major initiatives and uncertainty. In addition, a number of control variables should also be included based on previous studies.

Major initiatives are operationalized as events that are collectively identified by scholars in chronological representations of the conflict. These would include chronologies, timelines, and historical discussions.[7] In essence, what are the key-events that stand out enough to be consistently included in concise versions of the historical narrative? The period at risk then is measured as the number of weeks between major initiatives.

The history and discourse of the Israeli-Palestinian conflict is hotly contested. Depending on how one refers to the Temple Rock/Haram al-Sharif in the Old City of Jerusalem/East Jerusalem, where the First and Second Temples stood/where the Dome of the Rock stands today conveys a stance on the conflict itself. If one chooses the term Temple Mount, then one is aligning with the Jewish position. Alternatively, if one chooses Haram al-Sharif, then one is more in line with the Palestinian position. Thus, the discourse itself is an integral part of the ongoing conflict in the region. The

---

[7] A non-exclusive list of examples of chronological representations referenced to compile the list of events include: Al Jazeera: Timeline: Palestine since 1915 http://www.aljazeera.com/focus/arabunity/2008/02/20085251908164329.html; BBC News: A History of the Conflict http://news.bbc.co.uk/2/shared/spl/hi/middle_east/03/v3_ip_timeline/html/; Council on Foreign Relations: Crisis Guide: The Israeli-Palestinian Conflict http://www.cfr.org/publication/CGME_transcript.html; Foundation for Middle East Peace: Israeli-Arab / Israeli-Palestinian Conflict Timeline, 1967-2007 http://www.fmep.org/resources/reference/timeline.html; Frontline: Battle for the Holy Land http://www.pbs.org/wgbh/pages/frontline/shows/holy/cron/; MidEast Web: TimeLine of Israeli-Palestinian History and the Arab-Israeli Conflict http://www.mideastweb.org/timeline.htm; The Guardian: The Arab-Israeli conflict A brief history of the key events and people that shaped the Arab-Israeli conflict http://www.theguardian.com/world/gallery/2009/aug/17/israel-middleeast#/?picture=351653628&index=12; Wikipedia: Timeline of the Israeli-Palestinian conflict http://en.wikipedia.org/wiki/Timeline_of_the_Israeli%E2%80%93Palestinian_conflict.

same is true for any list of events. Therefore, no claim is made that the lists of Israeli and Palestinian initiatives are a satisfactory representation of the conflict to either side. Undoubtedly, some will complain that the lists are incomplete while others will assert that the lists are overly inclusive. Therefore, the choice of what initiatives have been included is presented in detail, open to examination, and no special claim is made to the validity of this list over another other than an attempt has been made to compile events considered important enough by both sides, independently or jointly, to be included in chronological representations of the conflict.

Table 1: Major Israeli Events/Initiatives in Relation to Palestinian Policy Uncertainty

DATE	ACTOR	EVENT	LOW	UNCERTAINTY NORMAL	HIGH
10/1/85	Govt	Operation Wooden Leg		X	
10/30/91	Govt	Madrid Peace Talks	X		
8/20/93	Govt	Declaration of Principles on Interim Self-Government		X	
2/25/94	Civilian	Baruch Goldstein attack in Hebron		X	
5/18/94	Govt	Withdrawl from Jericho and Gaza City			X
9/28/95	Govt	Oslo II signed			X
11/4/95	Civilian	Yitzhak Rabin Assassinated			X
1/15/97	Govt	Protocol Concerning Redeployment in Hebron			X
10/23/98	Govt	Wye River Memorandum		X	
5/24/00	Govt	Withdrawl from Lebanon	X		
7/1/00	Govt	Camp David Summit	X		
1/21/01	Govt	Taba Summit		X	
2/6/01	Govt	Cancels Taba Negotiations		X	
8/27/01	Govt	Abu Ali Mustafa Assassinated		X	
3/14/02	Govt	Attacks on Ramallah and other West Bank Towns		X	
3/29/02	Govt	Operation Defensive Shield		X	
4/2/02	Govt	Occupation of Bethlehem		X	
4/12/02	Govt	Battle of Jenin		X	
6/1/02	Govt	Construction of the West Bank Fence		X	
7/23/02	Govt	Assassination of Salah Shedadeh		X	
3/24/03	Govt	Dismantling of Illegal Hebron Settlement		X	
9/30/04	Govt	Operation Days of Penitence			X
8/7/05	Civilian	Israeli Fires on Bus in Shfaram			X
8/17/05	Civilian	Israeli kills Four West Bank Palestinians			X
9/12/05	Govt	Unilateral Withdrawal from Gaza			X
6/13/06	Govt	Israel Kills 11 Palestinians in Missile Strike		X	
7/12/06	Govt	Israeli-Lebanon Conflict Begins			X
10/11/06	Govt	Air Force Offensive in Gaza Strip			X
11/8/06	Govt	Israel Shells Beit Hanoun			X
1/19/07	Govt	Israel Transfers $100 Million to Palestinian Authority President Mahmoud Abbas.		X	
11/27/07	Govt	Annapolis Conference		X	
2/28/08	Govt	Operation Hot Winter		X	
12/27/08	Govt	Operation Cast Lead		X	
1/1/10	Govt	Israeli Air Force Strikes on Smuggling Tunnels			X
9/2/10	Govt	Washington Talks	X		

Importantly, the societal-wide two-level game nature of the conflict leads to the inclusion not only events that are undertaken by government but also events that are undertaken by non-state actors on both sides of the conflict. Governmental legitimacy is continually in question not only for the Palestinians but interestingly for many ultra-orthodox Jews as well.[8] Protracted social conflict as presented above would lead one to expect social control to lessen during periods when fundamental components of survival strategies are weakened through intergroup interaction.[9] This can be seen in the resulting list of events. The Baruch Goldstein attack at Hebron and the assassination of Yitzhak Rabin follow on the heels of the Oslo Accords, which through implementing a land for peace solution weakened the bonds between Jewish identity and the Promised Land. Similarly, the August 2005 attacks by Israelis on Palestinians occur within the context of Ariel Sharon's unilateral withdrawal from Gaza. Israeli events are shown in Table 1.

Yasser Arafat's recognition of Israel's right to exist in 1988, and the subsequent signing and implementation of the Oslo Accords in 1993 were viewed as sellouts by many Palestinians. As the PLO was seen as increasingly unable to deliver adequate survival strategies, HAMAS has filled that void. Palestinian events are shown in Table 2.

Event data analysis captures who did what to whom, and when and is a preferred method for numerically measuring directed-dyadic behavior through time. This analysis uses event data from the May 2005 release of the KEDS WEIS event data set developed by the Kansas Event Data System project.[10] The data has been subsequently extended to through December 31, 2010[11] by the author. Whether or not conflict and cooperation can be considered on the same dimension has been a long-standing issue in the

---

[8] Such views were expressed very strongly during interviews conducted by the author in Jerusalem in April 2006 following the victory of HAMAS in Palestinian parliamentary elections earlier in the year.

[9] Pearlman (2008/09, 79) specifically looks at this within the context of "spoiling," suggesting that spoilers, "those who use violence or other means to undermine negotiations in the expectation that a settlement will threaten their power or interests," result from various factions competing for power.

[10] The original data can be found at http://web.ku.edu/~keds/data.html.

[11] This is not a splicing of data sets but rather a true extension. The additional data has been generated using the same coding software (TABARI) and dictionaries as the original data. Since the coding is deterministic and fully automated, only very minor differences should exist based on new actors being added into the actor dictionary as they appear on the political scene, such as Ariel Sharon's Kadima party. Since the research question focuses on Israeli-Palestinian interaction only these stories have been downloaded and coded rather than all stories related to the Levant. All Agence France Press news stories beginning in January 2004 with the keyword

TABLE 2: Major Palestinian Events/Initiatives in Relation to Israeli Policy Uncertainty

			UNCERTAINTY		
DATE	ACTOR	EVENT	LOW	NORMAL	HIGH
10/1/85	PLO	Attack on Civilian Yacht		X	
10/7/85	PLFP	Achille Lauro		X	
12/27/85	PLO	Rome and Vienna Airports		X	
12/8/87	PLO	Intifada		X	
7/16/88		Tel Aviv Jerusalem Bus 405			X
11/15/88	PLO	Declaration of Palestinian State			X
12/12/88	PLO	Arafat Recognizes Israel's Right to Exist and Renounces Terrorism			X
10/30/91	PLO	Madrid	X		
4/1/93	HAMAS	Bet Al Suicide Bombing		X	
8/20/93	PLO	Declaration of Principles on Interim Self-Government		X	
4/6/94	HAMAS	Afula Suicide Bombing		X	
7/1/94	PLO	Arafat returns from exile		X	
10/19/94		Suicide Bombing in Tel Aviv		X	
1/22/95	PIJ	Suicide Bombing		X	
9/28/95	PLO	Oslo II signed			X
2/25/96		Suicide Bombing			X
1/15/97	PLO	Protocol Concerning Redeployment in Hebron			X
7/30/97		Jerusalem Suicide Bombing			X
10/23/98	PLO	Wye River Memorandum		X	
7/1/00	PLO	Camp David Summit	X		
9/28/00	PLO	Al-Aqsa Intifida	X		
10/1/00	Civilian	Solidarity Demonstrations	X		
10/12/00	PLO	Lynching of Israeli Reservists in Ramallah	X		
11/22/00		Car bomb in Hadera	X		
1/21/01	PLO	Taba Summit		X	
6/1/01	HAMAS	Dolphinarium Suicide Bombing		X	
8/9/01	HAMAS	Sbarro Massacre		X	
10/17/01	PLFP	Rehavam Zeevi Assassinated		X	
3/27/02		Suicide Bombing in Netanya		X	
3/30/02		Tel Aviv Suicide Bombing			X
3/31/02	HAMAS	Matza Restaurant Bombing, Haifa			X
6/18/02		Patt Junction Bombing			X
7/31/02	HAMAS	Hebrew University of Jerusalem Bombing			X
11/21/02	HAMAS	Jerusalem Bus Suicide Bombing		X	
6/29/03		HAMAS, Islamic Jihand, and Fatah Three-month Cease-fire		X	
8/19/03	HAMAS	Jerusalem Bus Suicide Bombing		X	
10/4/03		Maxim Restaurant Bombing in Haifa		X	
2/25/05	Islamic Jihad	Stage Club Bombing in Tel Aviv		X	
1/26/06		HAMAS wins Palestinian Elections		X	
6/9/06	HAMAS	End of Cease-fire		X	
6/25/06		Kidnapping of Gilad Shalit		X	
9/1/06		Fighting between Fatah and HAMAS in the Gaza Strip		X	
10/20/06		Palestinian Gunmen Fire on Prime Minister Ismail Haniyeh			X
6/7/07		HAMAS seizes control of Gaza Strip from Fatah		X	
11/27/07	PLO	Annapolis Conference		X	
9/2/10	PLO	Washington Talks		X	

"Israel" have been coded using TABARI. The original KEDS project dataset has a known issue caused by a switch from Reuters to AFP in 1999. I have controlled for this split by separately calculating the mean and standard deviations for each half of the dataset. Data density is lower for the first few years of the original data set, so I have chosen to use the data from 1985 to 2011.

literature. Based on a psychophysical magnitude scaling survey of perceptions of conflict and cooperation in the CAMEO coding scheme, Thomas (2013) demonstrates that taking a net score for conflict and cooperation to produce a single summary measure for the time period is statistically justifiable.[12] Therefore, the data has been scaled (Goldstein 1992) and aggregated into weekly totals of net conflict and cooperation for the two directed dyads, Israel → Palestinians and Palestinians → Israel.[13] This results in an *n* of 1,357 weeks for each of the directed dyads.

Within the context of event data, policy can be operationalized as the net conflict-cooperation score for a directed-dyad across a reasonable time period. Too short of a window and transient effects from a handful of incidents could be mischaracterized as policy, and too long of a window and meaningful variation in policy will be lost. For the purposes of this analysis, a six-month (26 week) window has been adopted. Therefore, as shown below in Equation (1), policy is operationalized as the 26-week vector of weekly net conflict-cooperation scores for the directed-dyad.

$$policy_t = (score_t, score_{t-1}, score_{t-2}, \dots, score_{t-25}) \ (1)$$

Uncertainty within the conflict literature normally refers to incomplete information, whether on oppositional intent, capabilities, or the probability of victory (e.g., Fearon 1995; Fey and Ramsay 2011; Schultz 1998, 2005). This study focuses specifically on the uncertainty surrounding oppositional intent as signaled by both parties. Uncertainty is directly related to the amount of entropy, or information, contained in a signal (Pierce 1980). Therefore, one can expect as the amount of information in the directed-dyadic signal increases, the uncertainty that conflict participants are experiencing will also increase.

A number of metrics exist for looking at the amount of information in a signal. While Shannon's Information dimension (Peitgen, Jürgens, and Saupe 1992) works very well for a narrow range of symbols, the range of conflict-

---

[12] One could also study the separate effects of conflict and cooperation; however, such a study deviates dramatically from the intent of this paper which is looking at the overall amount of uncertainty expressed in opposing behavior.

[13] The choice of a weekly aggregation period is partially arbitrary. News reports have some temporal uncertainty built into them; the event reported in an article may have happened that day, the day before, or even days before. Given that the paper is looking at changes in behavior, minimizing this effect while maintaining as fine-grained picture leads me to choose a weekly aggregation period.

cooperation scores for the Israeli-Palestinian directed dyads is very large. Therefore, an alternative strategy is required that allows for interval level data rather than categorical data. Visual Recurrence Analysis (Eckmann, Kamphorst, and Ruelle 1987) from physics captures this effect by measuring the Euclidean distance between points in a hyper-dimensional space defined by the sequential observations. In essence, when using a one unit delay, this becomes the sum of squared differences between successive observations and has a number of nice properties and avoids the pitfalls associated with other more common measures, such as the standard deviation.[14]

As Equation (2) shows, uncertainty can then be operationalized as the square-root of the sum of squared differences between the successive observations that compose policy at time *t,* where policy is operationalized a vector of the current and previous 25 weeks net conflict-cooperation scores for the directed-dyad. Importantly, this measure does not consider the cooperativeness nor the conflictualness of the policy, only the level of uncertainty.

$$Uncertainty_t = \sqrt{\sum_{i=t-24}^{t}(Score_i - Score_{i-1})^2} \ (2)$$

By standardizing this score one can classify weeks on the basis of their *z-score* into low, normal, and high uncertainty weeks. Values that are one standard deviation or more below the average uncertainty are considered low uncertainty weeks, and correspondingly, values that are one standard deviation or more above the average uncertainty are considered high uncertainty weeks. When combined with the major initiatives, this provides an easy to grasp representation of the data (see Tables 1 and 2).

While one could argue that major initiatives will drive the uncertainty variable, each of the initiatives that compose the dependent variables are coded as single events and are dwarfed by the thousands of non-initiative events (ISR→PSE 36 out of 41,375 total events; PSE→ISR 43 out of 24,080 total events). As a result, the actual contribution of these "events" to the independent variable of uncertainty is negligible (ISR→PSE 0.09%; PSE→ISR 0.2%).

---

[14] For example, while two series: 0, 0, 0, 1, 1, 1 and 0, 1, 0, 1, 0, 1 would both have a variance of .25, the second series would much more representative of a carrot/stick policy and better represents policy uncertainty.

As stated above, exogenous uncertainty has been shown to be a significant factor in determining Israeli-Palestinian behavior. Specifically, Rasler (2000) examines the effect of a number of shocks on major changes in the Israeli-Palestinian conflict: the Israeli invasion of Lebanon in 1982, the Intifada in 1987, and the Gulf War in 1991. Given that the temporal coverage of her study differs from this study and that the two Intifadas are considered major initiatives and will therefore represented by existing variables, the following shocks are included: the first Gulf War (August 2, 1990 – April 6, 1991), the second Gulf War (March 19, 2003 – May 1, 2003), and Israel's 2006 war with Hezbollah (July 12, 2006 – August 14, 2006).

Literature on diversionary force (Mitchell and Prins 2004; Tir and Jasinski 2008) finds economic conditions can clearly impact the decision to use force. Thus, changes in economic conditions are very likely to affect perceived opportunity and can be seen as exogenous shocks that increase overall uncertainty in the conflict system for the pool of possible group members. This matches the behavior noted by Brancati (2007) where the exogenous shock of earthquakes increased the likelihood of conflict especially for societies whose populations were in more tenuous positions. Remember that group leadership attracts followers through the provision of survival strategies, of which one of the most fundamental is economic. In addition, the Palestinian economy is highly dependent upon not only the political relationship between the Palestinians and Israel but also upon the Israeli economy itself; the International Labor Organization (2013) notes over 83,000 Palestinians worked in Israel and the settlements in 2012, which represents around 10% of total Palestinian employment. Therefore, changes in annual Israeli GDP per capital are included in both models.[15]

Additionally, perceptions certainly exist in Israeli politics that Likud governments are much more hardline and less open to change than Labor governments. Indeed, security considerations drove the 1996 election of Benjamin Netanyahu in the wake of land for peace proposals by Labor under both Yitzhak Rabin and Shimon Perez. Sprecher and DeRouen (2002) find the existence of a Likud government to be strongly statistically significant in determining the likelihood of Israeli and Arab military actions from May

---

[15] Mintz and Russett (1992) find both positive and negative correlations between changes in per capita GDP and both Israeli and Arab military actions during the period of 1961-1986 depending on whether one looks at the contemporaneous or lagged effects. Ireland and Gartner (2001) find that inflation does not impact the likelihood of parliamentary governments to initiate conflicts, but Tir and Jasinksi (2008) find that a negative economic growth rate is strongly statistically significant for explaining government use of force against minorities at risk.

1948 through 1998.[16] Therefore, a control variable is included for weeks in which Likud controlled the office of prime minister.

While Ireland and Gartner (2001) did not find a difference in conflict initiation likelihoods between coalition governments and single party parliamentary majorities, DeRouen and Sprecher (2006) do find that surplus government coalitions in Israel have an affect on Arab behavior toward Israel. Arguably, minimum winning coalitions are much more likely to be constrained in their policy options, as any changes in the negotiated and agreed policies among coalition partners can easily lead to the defection of a party and the collapse of the government. Therefore, minimum winning coalitions and caretaker governments should reduce the probability of major initiatives. The surplus coalition variable (coded 1 for a surplus coalition and coded 0 for a minimum winning coalition or caretaker government) is based on data from Woldendorp, Keman, and Budge (2011) and has been extended through 2010 by the author.

In addition, DeRouen and Sprecher (2006) find that the three months before Israeli elections have a strong statistical impact on Arab behavior towards Israel, a result that reinforces the earlier findings of Russett and Barzilai (1992). Given these results, control variables are included for changes in Israeli GDP per capita, Likud governments, surplus winning coalitions, and the three months leading up to Israeli elections. Summary statistics for the independent uncertainty variables and the control variables are shown in Table 3, and the resulting analyses are shown in Tables 4 and 5.[17]

The results of the hazard analysis of major Israeli initiatives are shown in Table 4.[18] Two models are presented where the dependent variable is the period at risk for major Israeli initiatives. Model 1 includes the two independent variables that represent uncertainty in the environment (high Palestinian policy uncertainty and exogenous shocks) and each of the control variables. While the independent variables of Palestinian policy uncertainty

---

[16] Interestingly, when focusing on Egyptian, Jordanian, and Syrian behavior from 1966 through 1998, DeRouen and Sprecher (2006) do not find Likud governments to be a significant factor in determining the likelihood of Arab hostility toward Israel. Given the more limited nature of these findings, I have chosen to include the Likud government variable as a control.

[17] While one could include a lag of the uncertainty variable, because the variable is a shifting window composed of 26 weeks and only shifts one week at a time, very little difference exists between the lagged and non-lagged versions.

[18] None of the variables included in the four models violate the proportional hazards assumption (Box-Steffensmeier and Zorn 2001; Box-Steffensmeier, Reiter and Zorn 2003).

Table 3: Summary Statistics for Independent and Control Variables

	Israeli	Palestinian	Weeks Present
Low Uncertainty Weeks	234	221	
Normal Uncertainty Weeks	894	926	
High Uncertainty Weeks	229	210	
Likud Government			732
Surplus Coalitions			913
Exogenous Shock			46
Israeli Elections			110
	Mean	**Minimum**	**Maximum**
Growth in GDP per Capita	4.42	-0.066	9.2

N=1,357 total weeks

Table 4: Cox Proportional Hazard Model of Uncertainty and Major Initiatives in Israeli Behavior

| | Major Israeli Initiatives | | | |
| | Model 1 | | Model 2 | |
Variable	Coefficient	Hazard Ratio	Coefficient	Hazard Ratio
High Palestinian Policy Uncertainty	0.938*	2.556*	0.938**	2.556**
	(0.491)	(1.255)	(0.451)	(1.154)
Exogenous Shocks	0.770	2.159	0.922	2.514
	(0.826)	(1.784)	(0.784)	(1.970)
Growth in Israel's GDP per Capita	-0.242**	0.785**	-0.217**	0.805**
	(0.100)	(0.078)	(0.091)	(0.073)
Likud Prime Minister	-0.559	0.572	-0.519	0.595
	(0.405)	(.231)	(0.385)	(0.229)
Elections	-0.500	0.607		
	(0.734)	(0.446)		
Surplus Governing Coalition	-0.176	0.839		
	(0.440)	(0.369)		
X^2 (degrees of freedom)	10.33 (6)		9.81 (4)**	
N	36		36	

Standard errors in parentheses; ** $p < 0.05$, * $p < 0.1$

and growth in Israel's GDP per capita have statistically significant results, none of the remaining variables do, and the model itself is not statistically significant. A second, restricted model, was tested with high Palestinian policy uncertainty, exogenous shocks, growth in Israel's GDP per capita and the presence of a Likud Prime minister. This dramatically improves the overall model fit ($p > X^2 = 0.044$).

The null hypothesis for *H1* can easily be rejected; high Palestinian policy uncertainty increases the probability of a major Israeli initiative by more

than 155% over the baseline hazard (*p<0.038*). However, the null hypothesis for *H3*, cannot be rejected. Even though the coefficient is in the hypothesized direction—an exogenous shock increases the likelihood of a major initiative by 151%—the resulting coefficient is not statistically significant (*p<0.24*). This may simply be due to the relatively small number of weeks, 46 out of 1,357, that exogenous shocks were present in the dataset.

Major Israeli initiatives are less likely though as GDP per capita improves. For each percentage point improvement in the annual growth rate of Israel's GDP per capita, the probability of a major initiative toward the Palestinians decreases by approximately 19.5% over the baseline model. When existing survival strategies seem to be working, leaders appear constrained and lack the opportunity to undertake major initiatives.

The hazard ratio for periods with Likud prime ministers conforms to expectations, but is statistically insignificant (*p<0.178*). Likud prime ministers appear to be more than 40% less likely to undertake major initiatives than their counterparts in Labor and Kadima. However, this finding is inconclusive with the given sample size.

Table 5: Cox Proportional Hazard Model of Uncertainty and Major Initiatives in Palestinian Behavior

Variable	Major Palestinian Initiatives			
	Model 3		**Model 4**	
	Coefficient	Hazard Ratio	Coefficient	Hazard Ratio
High Israeli Policy Uncertainty	0.872** (0.378)	2.392** (0.904)	0.855** (0.374)	2.352** (0.879)
Exogenous Shocks	-44	3.17e-20	-44.91	3.13e-20
Growth in Israel's GDP per Capita	-0.145* (0.083)	0.865* (0.072)	-0.147* (0.083)	0.863* (0.072)
Likud Prime Minister	-0.750* (0.406)	0.472* (0.192)	-.744* (0.407)	0.475* (0.193)
Elections	0.198 (0.561)	1.220 (0.684)		
Surplus Governing Coalition	-0.612* (0.357)	0.542* (0.193)	-0.629* (0.353)	0.533* (0.188)
X^2 (degrees of freedom)	15.32 (6)**		15.20 (5)***	
N	43		43	

Standard errors in parentheses; *** p<0.01, ** p < 0.05, *p < 0.1

The analysis of Palestinian initiatives can be found in Table 5. Once again, two separate models are presented: a complete model with all control variables (model 3) and a restricted model (model 4). The effects of exogenous shocks are virtually indistinguishable from the baseline model in both cases. As mentioned above, this situation is most likely exacerbated by exogenous shocks only being present in slightly over 3% of the observed weeks. While model 3 is statistically significant (*p<0.018*), the three months prior to elections once again have no significant effect and are dropped from the model. The resulting model 4 is very strong with a probability of seeing these results by chance of only *p<0.009*. Even though one cannot distinguish the effects of exogenous shocks from the baseline hazard model, the variable is retained in the analysis to test *H4*.

Model 4 appears to very adequately capture the conditions for the Palestinians undertaking major initiatives. As hypothesized, during periods of high Israeli policy uncertainty, the Palestinians are 135% more likely to produce a major initiative. Thus, one can safely reject the null hypothesis for *H2*. As stated above, the effects of exogenous shocks are indistinguishable from the baseline model thereby preventing one from rejecting the null hypothesis for *H4*.

Interestingly, Palestinians are also unlikely to undertake major initiatives when the Israeli economy is improving. For each percentage point improvement in Israel's GDP per capita, the likelihood of a major Palestinian policy appearing drops by more than 13% (*p<0.078*). Thus, for a year in which Israeli per capita GDP grows by 2%, the probability of a major Palestinian action drops by 26%. As stated above, the strong dependence of the Palestinian economy on that of Israel helps explain this result (International Labor Organization 2013).

Both the presence of a Likud prime minister and the existence of a surplus coalition in the Israeli government also decrease the probability of significant actions being undertaken by the Palestinians. A Likud prime minister reduces the likelihood of such a policy by more than 52% compared to the baseline model (*p<0.067*). Similarly, the existence of a surplus coalition in the Israeli government reduces the probability of major Palestinian action by more than 46% compared to the baseline model (*p<0.075*). This suggests that the Palestinians are not only sensitive to the uncertainty in the conflict system generated by Israeli policy but are also reacting strategically to the

conditions and constraints facing Israeli policymakers.[19] This result is also in line with expectations found in Schultz (1998).

Conclusion

After first specifying the characteristics of protracted social conflict, this paper identified some of the mechanisms in play that would likely suppress change and constrain leaders' opportunities for policy innovation. In an effort to maintain social control as a means of mobilizing resources for the inter-organizational competition and to stay in power, leaders are likely to avoid policy change as long as the environment appears steady. However, environmental turbulence may increase the decision space of leaders by increasing the uncertainty experienced by their followers.

The above analysis tests this hypothesis by examining the impact of high uncertainty on policy innovation. Just as Goertz and Diehl (1995) find exogenous political shocks to be of moderate necessity for ending enduring rivalries and Rasler (2000) finds shocks to be significant for the de-escalation of protracted social conflict, this paper also finds that uncertainty in the policymaking of key conflict system actors is a major factor for policy innovation for both state and nonstate actors.

These conclusions have significant repercussions for organization leaders involved in protracted social conflicts. First, constraints on policymaking appear to weaken when the environment is unsettled. Maintaining organizational control while pursuing a change in policy or a major action may be far easier when opposing organizations are signaling mixed intents. Importantly, this analysis ignores the nature of the intent— neither cooperation nor conflict are addressed, rather only policy consistency is examined. Similarly, carrot and stick diplomacy creates uncertainty that may increase the decision space of an opponent. Second, maintaining policy consistency—be it cooperative or conflictual—may be a means of reducing the likelihood of unwanted responses. Becoming more cooperative, or conflictual, may actually produce the opposite results one is seeking.

Outside parties may also find intervention to be most effective during times of policy uncertainty. Just as Kofi Annan played on the uncertainty found in the Syria Crisis (Gowan 2013), mediators likely have more room to maneuver when the parties are experiencing uncertainty, especially within

---

[19] These results support the earlier results of DeRouen and Sprecher (2006).

protracted social conflict environments. Both failed Madrid peace talks in 1991 and the Camp David Summit in 2000 occurred during very low policy uncertainty periods for both the Israelis and the Palestinians. The most recent Washington talks in September 2010 occurred during normal policy uncertainty for both the Israelis and the Palestinians. Each of these talks failed to produce any significant progress towards a peaceful settlement. Especially in the earlier cases, the hardening of positions on both sides in the conflict system left leaders little room to maneuver within their organizations. Alternatively, the Oslo Accords (The Declaration of Principles on Interim Self-Government) took place during a period of normal uncertainty for both Israelis and Palestinians, but the negotiations that led to their signing took place in total secrecy because of the extreme controversy that would have resulted with any publicity. Oslo II was signed during a period of high uncertainty in both Palestinian policy and Israeli policy. Similarly, the Protocol Concerning Redeployment in Hebron was signed during periods of high policy uncertainty for both Israel and the Palestinians.

Another very interesting result is that improvements in Israel's economy dramatically reduce the probability of change in the conflict system. Israeli leaders are almost 20% less likely to undertake a major initiative for each percentage point of growth in GDP per capita compared to the baseline hazard model. Similarly, Palestinians are more than 13% less likely to do so for each percentage point in GDP per capita growth.

Outside pressure may simply be unable to move the sides toward agreement during periods of low and normal policy uncertainty. Moreover, periods of high economic growth decrease the ability of outside powers to move the parties toward significant policy changes. Based on the recent levels of uncertainty in both Israeli and Palestinian directed-dyadic policy, little substantive progress in peace talks seems likely. Interestingly, the initial six months of the Obama administration was the last period of high policy uncertainty between the parties through March 2011 and may have been a significant missed opportunity as the new administration focused its attention instead on the global financial crisis, exiting Iraq, and its difficult war in Afghanistan. The importance of this missed opportunity is even more apparent when one considers that growth in Israeli GDP per capita was only 0.77% in 2009 versus 4.8% in 2010 and 4.7% in 2011.

Future research into the relationship between uncertainty and policy innovation in the Israeli-Palestinian conflict could easily expand to include

other social organizations in Israeli conflict systems, such as the governments of Lebanon, Jordan, Syria, and Egypt as well as Hezbollah. The directed-dyadic behavior of these actors toward both the Israelis and Palestinians could be important factors in shaping the existing pay-off structure in the ongoing conflict, and shifts in this behavior could increase the uncertainty in the system. In addition, while the Camp David Accords in 1978 precede the first available machine coded event data on the Levant, many other significant initiatives exist from 1979 to the present. Analyzing these periods would provide additional evidence as to the nature and importance of uncertainty in protracted social conflict. Moreover, the extended time period could provide additional examples of exogenous shocks.

Finally, given that the models place uncertainty within the theoretical two-level game construct for protracted social conflict, the analysis results should be generalizable to other protracted social conflicts. While this must yet be empirically established, examining other cases such as the Troubles in Northern Ireland or the struggle for Kashmir will help answer this question.[20]

---

[20] Data replication: the dataset, codebook, do file, and log for the empirical analysis in this manuscript are available from the author upon request. The results in this manuscript were obtained by using Stata SE 10.1.

References

Allison, Paul. 1984. *Event History Analysis: Regression for Longitudinal Event Data.* Newbury Park, CA: Sage Publications, Inc.

Aspinall, Edward. 2007. "The Construction Of Grievance: Natural Resources and Identity an a Separatist Conflict." *Journal of Conflict Resolution* 51(6): 950-972.

Azar, Edward. 1984a. "The Arab-Israeli Conflict--Costs and Consequences." *Korea and World Affairs* 8(Summer): 300-317.

Azar, Edward. 1984b. "The Theory of Protracted Social Conflict and the Challenge of Transforming Conflict." In: Dina Zinnes (ed.) *Conflict Processes and the Breakdown of International Systems.* Denver, CO: Graduate School of International Studies, University of Denver.

Box-Steffensmeier, Janet and Christopher Zorn. 2001. "Duration Models and Proportional Hazards in Political Science." *American Journal of Political Science* 45(4): 972-988.

Box-Steffensmeier, Janet, Dan Reiter, and Christopher Zorn. 2003. "Nonproportional Hazards and Event History Analysis in International Relations." *Journal of Conflict Resolution* 47(1): 33-53.

Brancati, Dawn. 2007. "Political Aftershocks: The Impact of Earthquakes on Intrastate Conflict." *Journal of Conflict Resolution* 51(5): 715-743.

Colaresi, Michael. 2004. "When Doves Cry: International Rivalry, Unreciprocated Cooperation, and Leadership Turnover." *American Journal of Political Science* 48(3): 555–570.

DeRouen, Karl and Christopher Sprecher. 2006. "Arab Behaviour towards Israel: Strategic Avoidance or Exploiting Opportunities?" *British Journal of Political Science* 36(3): 549-560.

Eckmann, J.P., S. Oliffson Kamphorst, and D. Ruelle. 1987. "Recurrence Plots of Dynamical Systems." *Europhysics Letters* 4(9): 973-977.

Fearon, James D. 1995. "Rationalist Explanations for War." *International Organization* 49(3): 379-414.

Ferguson, Yale, and Richard Mansbach. 1996. *Polities: Authority, Identity, and Change.* Columbia, SC: University of South Carolina Press.

Fey, Mark, and Kristopher W. Ramsay. 2011. "Uncertainty and Incentives in Crisis Bargaining: Game-Free Analysis of International Conflict." *American Journal of Political Science* 55(1): 149-169.

Friedman, Gil. 1999. "Conceptualizing Protracted Conflict and Protracted Conflict Management." In *The Understanding and Management of Global Violence: New Approaches to Theory and Research on Protracted Conflict.* ed Harvey Starr. New York: St. Martin's Press.

Goldstein, Joshua S. 1992. "A Conflict-Cooperation Scale for WEIS Events Data." *Journal of Conflict Resolution* 36 (June): 369-85.

Goertz, Gary, and Paul F. Diehl. 1995. "The Initiation and Termination of Enduring Rivalries: The Impact of Political Shocks." *American Journal of Political Science* 39 (February): 30-52.

Gowan, Richard. 2013. "Kofi Annan, Syria and the Uses of Uncertainty In Mediation." *Stability* 2.1 Article 8: 1-6. DOI: http://dx.doi.org/10.5334/sta.ax.

International Labor Organization. 2013. "The Situation of Workers of the Occupied Arab Territories." *International Labour Conference, 102nd Session, 2013.* Report of the Director-General, Appendix (ILC.102/DG/APP).

Ireland, Michael J. and Scott Sigmund Gartner. 2001. "Time to Fight: Government Type and Conflict Initiation in Parliamentary Systems." *Journal of Conflict Resolution* 45(5): 547-568.

Lipshitz, Raanan and Orna Strauss. 1997. "Coping with Uncertainty: A Naturalistic Decision-Making Analysis." *Organizational Behavior and Human Decision Processes* 69(2): 149-163.

Luce, R. Duncan, and Howard Raiffa. 1985. *Games and Decisions: Introduction and Critical Survey.* New York: Dover Publications.

Mitchell, Sara McLaughlin and Brandon C. Prins. 2004. "Rivalry and Diversionary Uses of Force." *Journal of Conflict Resolution* 48(6): 937-961.

Migdal, Joel S. 1988. *Strong Societies and Weak States: State-Society Relations and State Capabilities in the Third World.* Princeton, NJ: Princeton University Press.

Mintz, Alex, and Bruce Russett. 1992. "The Dual Economy and Arab-Israeli Use of Force: A Transnational System?" In *Defense, Welfare, and Growth*, eds Steve Chan and Alex Mintz. London: Routledge Kegan Paul.

Most, Benjamin, and Harvey Starr. 1989. *Inquiry, Logic and International Politics.* Columbia, SC: University of South Carolina Press.

Pearlman, Wendy. 2008/2009. "Spoiling Inside and Out: Internal Political Contestation and the Middle East Peace Process." *International Security* 33(3): 79-109.

Peitgen, Heinz-Otto, Hartmut Jürgens, and Dietmar Saupe. 1992. *Chaos and Fractals: New Frontiers of Science.* New York: Springer.

Peleg, Ilan and Paul Scham. 2010. "Historical Breakthroughs in Arab-Israeli Negotiations: Lessons for the Future." *Middle East Journal* 64(2): 215-233.

Pierce, John R. 1980. *An Introduction to Information Theory: Symbols, Signals and Noise.* 2nd Revised ed. New York: Dover Publications.

Rasler, Karen. 2000. "Shocks, Expectancy Revision, and the De-Escalation of Protracted Social Conflicts: the Israeli-Palestinian Case." *Journal of Peace Research* 37(6): 699-720.

Russett, Bruce, and Gad Barzilai. 1992. "The Political Economy of Military Actions: the United States and Israel." In *The Political Economy of Military Spending in the United States*, ed. Alex Mintz. London: Routledge Kegan Paul.

Schrodt, Philip A. 1997. "Pattern Recognition of International Crises Using Hidden Markov Models." Paper Presented at the Annual Meeting of the International Studies Association, Toronto.

Schrodt, Philip A. and Deborah J. Gerner. 2004. "An Event Data Analysis of Third-Party Mediation in the Middle East and Balkans." *Journal of Conflict Resolution* 48(3): 310-330.

Schultz, Kenneth A. 1998. "Domestic Opposition and Signaling in International Crises." *The American Political Science Review* 92(4): 829-844.

Schultz, Kenneth A. 2005. "The Politics of Risking Peace: Do Hawks or Doves Deliver the Olive Branch?" *International Organization* 59(1): 1-38.

Shellman, Stephen M. 2006. "Process Matters: Conflict and Cooperation in Sequential Government-Dissident Interactions." *Security Studies* 15(4): 563–599.

Sprecher, Christopher and Karl DeRouen, Jr. 2002. "Israeli Military Actions and Internalization-Externalization Processes." *Journal of Conflict Resolution* 46(2): 244-259.

Starr, Harvey, ed. 1999. *The Understanding and Management of Global Violence: New Approaches to Theory and Research on Protracted Conflict.* New York: St. Martin's Press.

Starr, Harvey. 2001. "Using Geographic Information Systems to Revisit Enduring Rivalries: The Case of Israel." *Geopolitics* 5:37–56.

Thomas, G. Dale. 2013. "Scaling CAMEO: Psychophysical Magnitude Scaling of Conflict and Cooperation." *Foreign Policy Analysis* Forthcoming, doi: 10.1111/fpa.12012.

Tir, Jaroslav and Michael Jasinksi. 2008. "Domestic-Level Diversionary Theory of War: Targeting Ethnic Minorities." *Journal of Conflict Resolution* 52(5): 641-664.

Woldendorp, Jaap, Hans Keman, and Ian Budge. 2011. "Party Government in 40 Democracies 1945-2008." Composition-Duration-Personnel. (http://www.fsw.vu.nl/en/departments/political-science/staff/woldendorp/party-government-data-set/index.asp).

Wolford, Scott. 2014. "Showing Restraint, Signaling Resolve: Coalitions, Cooperation, and Crisis Bargaining." *American Journal of Political Science* 58(1): 144–156.