Online Appendices

for

“Negotiation as an Instrument of War”

A Descriptive Statistics

Below are descriptive statistics for all wars, also broken down to pre-1945 and post-1945. The main text of the paper only relies on post-1945 data, but I provide information on all data here because it is used throughout the appendices.

Table A1 provides some summaries of several features of war, such as their average length, proportion of time spent in negotiations, and so on. Tables A2 and A3 present summary statistics of the variables used in the statistical analysis.

Table A1: Summary statistics at the war level.

	Min.	1Q	Med.	Mean	3Q	Max.
War length (days)	5.00	31.00	93.00	374.90	262.50	3,735.00
Battle length (days)	1.00	2.00	5.00	14.89	14.00	326.00
Negotiation length (days)	1.00	3.00	9.00	49.49	27.00	1306.00
Number of negotiations	1.00	1.00	2.00	2.92	3.00	10.00
Total battles	1.00	3.00	6.00	8.79	8.75	50.00
First neg. (prop. of war)	0.00	0.09	0.44	0.53	1.00	1.00
Prop. w/ negotiations	0.00	0.00	0.10	0.21	0.39	0.75

Table A2: Summary statistics for continuous variables.

	Min.	1Q	Med.	Mean	3Q	Max.
Issue salience	0.00	2.00	2.00	2.82	4.00	4.00
CINC ratio	0.01	0.28	0.53	0.56	0.93	0.99
Position	−10.00	−3.00	1.00	4.88	8.00	27.00
Momentum	−10.00	0.00	0.00	0.08	0.00	10.00
Active battles	0.00	0.00	0.00	0.42	1.00	8.00
Completed battles	0.00	1.39	2.57	2.28	3.37	3.83

Table A3: Summary statistics for binary variables.

	0	1
Negotiation	9,510 (0.725)	3,613 (0.275)
Early negotiation	12,521 (0.954)	602 (0.046)
Late negotiation	10,112 (0.771)	3,011 (0.229)
Unnatural negotiation	11,681 (0.890)	1,442 (0.110)
Natural negotiation	10,112 (0.835)	3,011 (0.165)
Contiguity	5,841 (0.445)	7,282 (0.555)
Democratic belligerent	9,141 (0.697)	3,982 (0.303)
Nuclear belligerent	6,940 (0.529)	6,183 (0.471)
Post-Cold War	11,346 (0.865)	1,777 (0.135)

B Technical Information on Battle Data

In collecting my list of battles, I defer to the best-informed decisions of military historians that have analyzed these conflicts. This appendix describes the resources, definitions, and processes I used to convert these predominantly qualitative records into quantitative data.

B.1 Data Sources

As mentioned in the main text, I use battle data from Author (forthcoming). The backbone of the dataset come from Jaques (2007) and is supplemented by Clodfelter (2008), Eggenberger (1985), and Showalter (2014). See Author (forthcoming) for definitions and more information.

Table A4 provides the number of battles per post-1945 war. Counts from the CDB90 are provided for comparison.

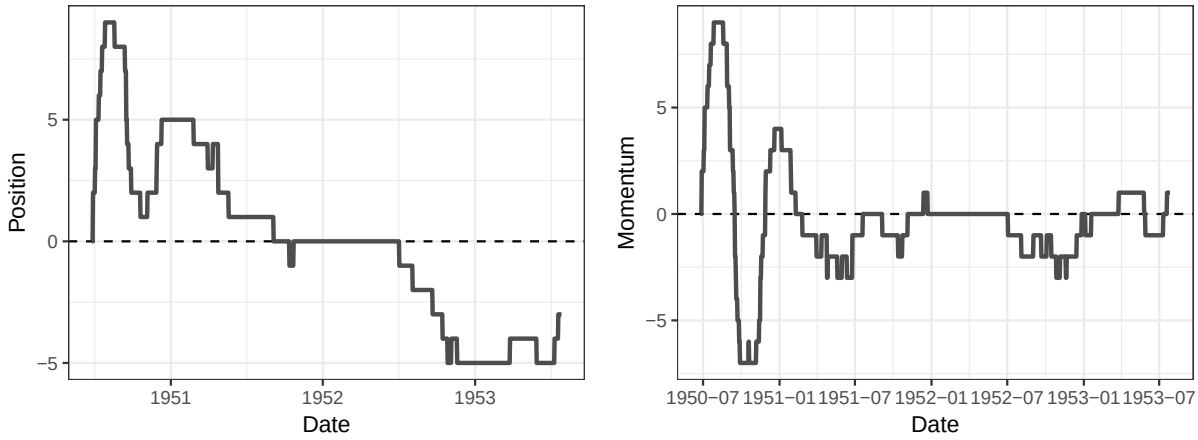
Table A4: Comparison of battles in the new battle dataset (BDS) and existing Concepts Analysis Agency Database of Battles (CDB).

#	War	BDS	CDB	#	War	BDS	CDB
147	First Kashmir	7		186	War over Angola	18	
148	Arab-Israeli	25	9	187	Second Ogaden War, Phase 2	6	
151	Korean	41	11	189	Vietnamese-Cambodian	3	
153	Off-shore Islands	3		190	Ugandan-Tanzanian	2	
155	Sinai War	6	4	193	Sino-Vietnamese Punitive	1	
156	Soviet Invasion of Hungary	1		199	Iran-Iraq	27	
168	Ifni War	5		202	Falkland Islands	7	
159	Taiwan Straits	1		205	War over Lebanon	5	1
160	Assam	4		207	War over the Aouzou Strip	6	
163	Vietnam War, Phase 2	50	1	208	Sino-Vietnamese Border War	5	
166	Second Kashmir	8		211	Gulf War	8	
169	Six Day War	10	22	215	Bosnian Independence	9	
170	Second Laotian, Phase 2	1		216	Azeri-Armenian	5	
172	War of Attrition	10	1	217	Cenepa Valley	8	
175	Football War	2		219	Badme Border	5	
176	Communist Coalition	1		221	War for Kosovo	1	
178	Bangladesh	14		223	Kargil War	1	
181	Yom Kippur War	11	33	225	Invasion of Afghanistan	6	
184	Turco-Cypriot	5		227	Invasion of Iraq	6	
					Total	334	82

C Example Battle Outcome Plots

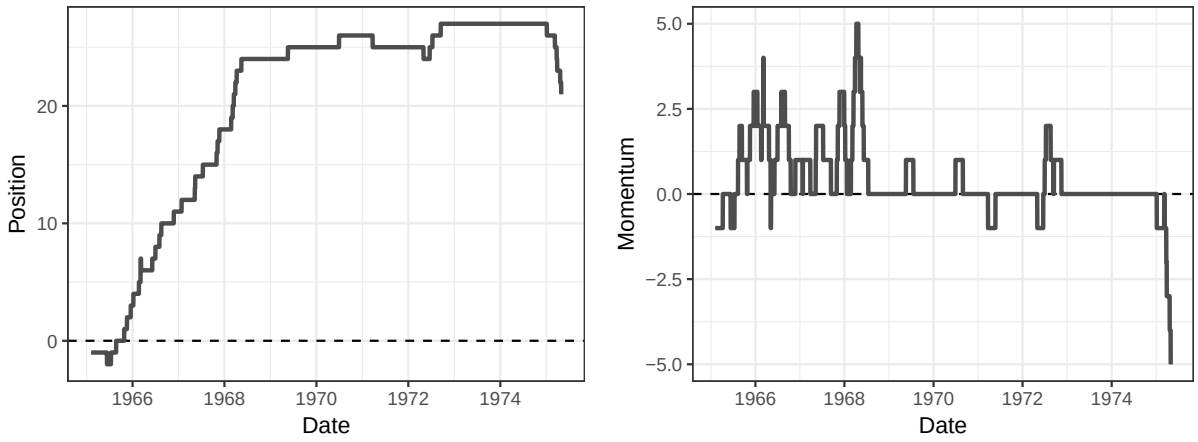
This appendix provide plots of position and momentum over time for several additional wars covering a wide range of time and space.

Figure A1: Korean War (1950 – 1953)



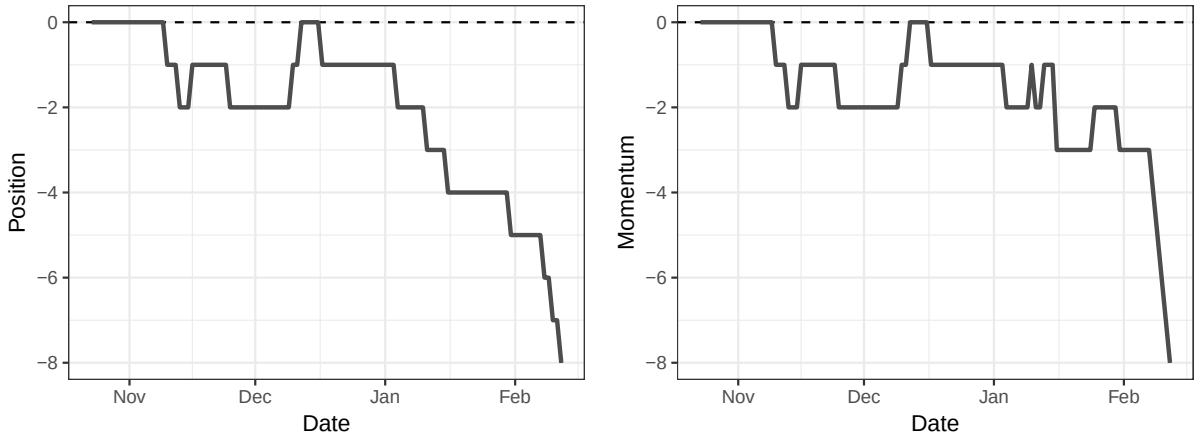
(a) Position **(b)** Momentum

Figure A2: Vietnam War, Phase 2 (1965 – 1975)



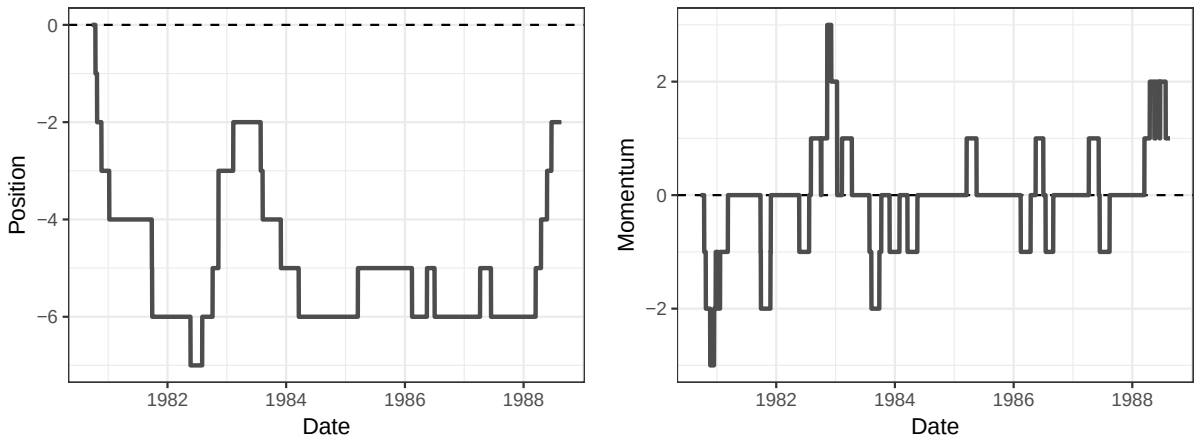
(a) Position **(b)** Momentum

Figure A3: War over Angola (1975 – 1976)



(a) Position **(b)** Momentum

Figure A4: Iran-Iraq War (1980 – 1988)



(a) Position **(b)** Momentum

D More on Negotiations

D.1 Negotiations Periods Per War

Table A5 presents the number of negotiation periods to occur in each post-1945 conflict.

War	# Negs.	Unnatural	Natural
Arab-Israeli	1	1	0
Assam	2	0	2
Azeri-Armenian	6	5	1
Badme Border	10	10	0
Bangladesh	0	0	0
Bosnian Independence	2	2	0
Cenepa Valley	3	3	0
Falkland Islands	3	2	1
First Kashmir	5	5	0
Football War	1	1	0
Gulf War	1	0	1
Ifni War	1	0	1
Invasion of Afghanistan	0	0	0
Invasion of Iraq	0	0	0
Iran-Iraq	9	8	1
Kargil War	2	0	2
Korean	3	0	3
Off-shore Islands	0	0	0
Second Kashmir	0	0	0
Second Ogaden War, Phase 2	2	2	0
Sinai War	0	0	0
Sino-Vietnamese Punitive	0	0	0
Six Day War	0	0	0
Soviet Invasion of Hungary	0	0	0
Taiwan Straits	1	0	1
Turco-Cypriot	1	1	0
Ugandian-Tanzanian	2	2	0
Vietnam War, Phase 2	8	1	7
Vietnamese-Cambodian	2	2	0
War for Kosovo	2	1	1
War of Attrition	2	2	0
War over Angola	1	1	0
War over Lebanon	1	1	0
War over the Aouzou Strip	2	2	0
Yom Kippur War	0	0	0

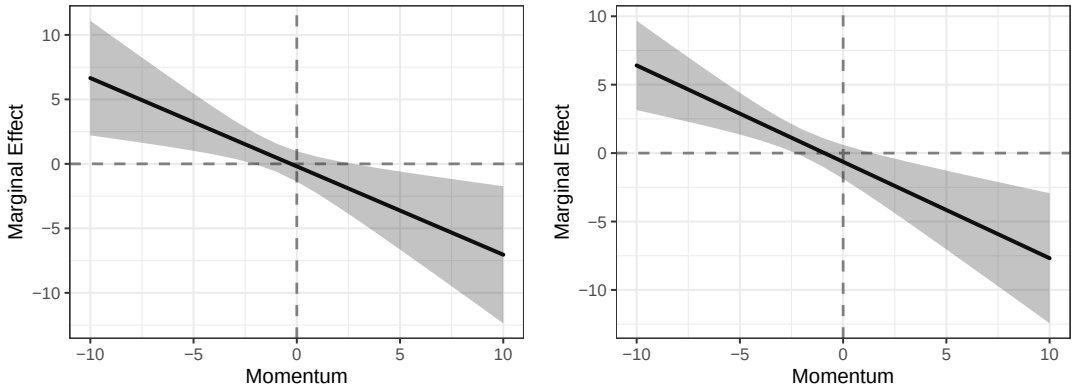
Table A5: Number of discrete negotiation efforts per war.

E Robustness Checks for Hypothesis 1

This appendix provides several robustness checks on the hazard model results that support Hypothesis 1 in the main text. For reference, my main analysis covers all post-1945 conflicts. My main explanatory variable is an interaction between my binary negotiation variable and a battlefield momentum measure based on the previous $d = 60$ days of the war.

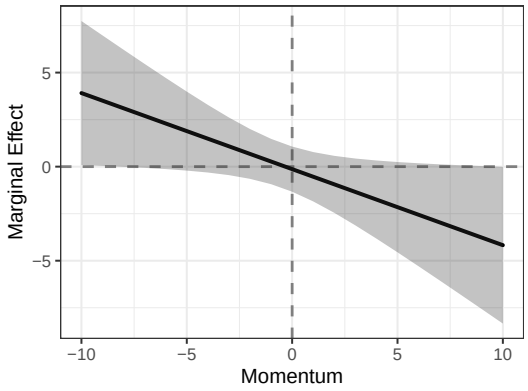
E.1 Other Temporal Windows

Here, I check whether my main findings are affected by using other temporal windows—that is, values of d. Table A6 recreates the analysis in Table 3 of the main text, but using $d = 30$ and $d = 90$. Figure A5 reproduces the appropriate marginal effects plots. The substantive results are unaffected by these adjustments. Negotiations undermine the likelihood of conflict termination when war initiators have the battlefield trending in their favor.

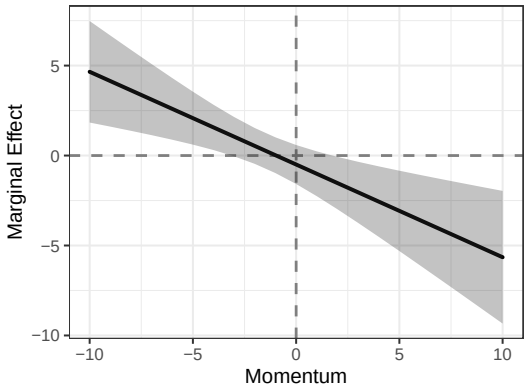


(a) Model 1 ($d = 30$, basic)

(b) Model 2 ($d = 30$, full)



(c) Model 3 ($d = 90$, basic)



(d) Model 4 ($d = 90$, full)

Figure A5: Marginal effect of negotiations on conflict termination, conditional on battlefield momentum using different temporal windows. Based on Table A6. 95% confidence intervals in bands.

Table A6: Cox proportional hazard model results regarding the effects of negotiations and momentum on war termination, using different temporal windows for momentum.

	Dependent variable:			
	War termination			
	(1)	(2)	(3)	(4)
Negotiation	−0.196	−0.638	−0.132	−0.499
	(0.630)	(0.695)	(0.629)	(0.673)
Momentum (30)	0.210	0.067		
	(0.119)	(0.152)		
Momentum (90)			0.124	−0.078
			(0.119)	(0.159)
Negotiation × Momentum (90)			−0.404*	−0.515***
			(0.227)	(0.231)
Position		−0.032		0.083
		(0.121)		(0.139)
Issue salience		−0.975**		−0.962**
		(0.341)		(0.340)
Contiguity		0.455		0.624
		(0.552)		(0.575)
CINC ratio		1.198*		1.516*
		(0.757)		(0.796)
Democracy		−0.651		−0.723
		(0.601)		(0.592)
Nuclear		0.966		1.011
		(0.610)		(0.594)
Post-Cold War		1.375**		1.359**
		(0.598)		(0.599)
Completed battles		2.417***		2.515***
		(0.456)		(0.459)
Negotiation × Momentum (30)	−0.685**	−0.704***		
	(0.332)	(0.331)		
Clustered SEs (War)	✓	✓	✓	✓
Observations	13,123	13,123	13,123	13,123
Events	35	35	35	35
Note:				$^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

E.2 Re-weighted Battles

The main analysis utilizes standardized scores where all battles receive a weight of one. This is an obvious simplification; some battles are far more consequential, informative, and/or costly than others, and leaders likely care about this distinctions when making choices regarding the conduct of war.

No consistent information on casualties or troop allocations exists across all battles to create weighted scores based on direct military losses.[1] As such, I try two alternatives that add heterogeneity to the scores.

The first involves differentiation based on whether the battle attacker or battle defender won. If we take the notion of the first-mover advantage and project it down to the battle level, then attackers should select into clashes where they have tactical and strategic advantages. They should generally select into battles they believe they can win. Losing a battle one initiates is surprising and thus bears greater informational weight. Table A7 breaks down the battles according to whether the war initiator or target won (which I used in the main analysis), as well as whether the battle attacker or defender won. Perhaps attesting to the first-mover advantage in battles, attackers tend to be highly successful, winning 67% of the time. I give battles won by the defender a weight of $v > 1$. Here, $v = 2$ to roughly align with observed proportions.

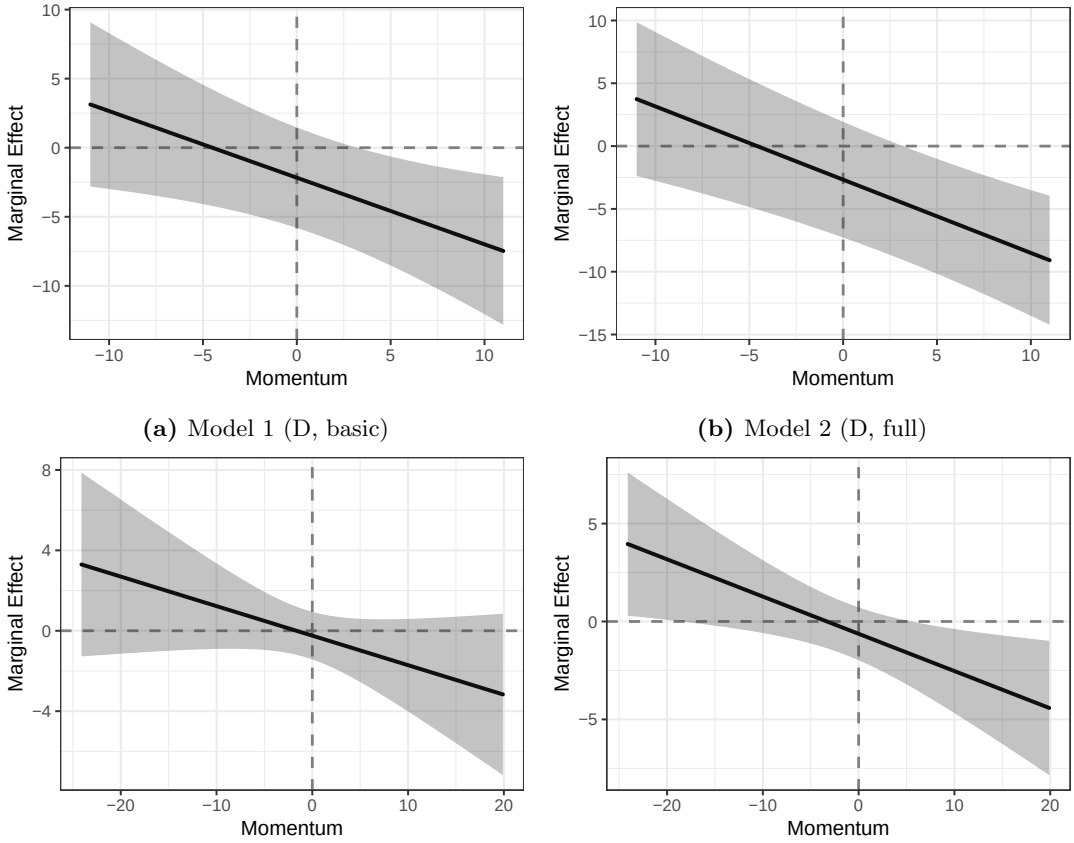
Second, I create weighted scores based on the log-length of each battle. Duration indicates persistence in fighting, which proxies for the importance of the objective over which hostilities occur. The outcome of a longer battle will prefer more information and have a larger impact on subsequent decision-making. A battle that lasts ℓ days therefore receives a weight of $\log(\ell)$.

Table A8 replicates Table 3 in the main analysis using battle scores re-weighted by defender victories and logged battle lengths. and Figure A6 displays marginal effects. Both sets of results produce similar results, but statistical significance in Model 3 does not reach statistical significance at the 95% level.

	Battle Attacker	**Inconclusive**	**Battle Defender**	*Total*
War Initiator	106 (0.32) 1		61 (0.18) v	167 (0.50)
Inconclusive		18 (0.05) 0		18 (0.05)
War Target	104 (0.31) -1		45 (0.13) $-v$	149 (0.45)
Total	210 (0.67)	18 (0.05)	106 (0.32)	334 (1.00)

Table A7: Re-weighted scores for individual battles according to which belligerent won. Victor is identified according to its role in starting the overall war and starting the individual battle.

[1] Weisiger (2016) produces monthly-level casualty estimates, but these cannot be disaggregated to the daily or battle level.



(a) Model 1 (D, basic)

(b) Model 2 (D, full)

(c) Model 3 (L, basic)

(d) Model 4 (L, full)

Figure A6: Marginal effect of negotiations on conflict termination, conditional on battlefield momentum using battles weighted by defender victory (D) or logged battle length (L). Based on Table A8. 95% confidence intervals in bands.

Table A8: Cox proportional hazard model results regarding the effects of negotiations and momentum on war termination, with battle measures re-weighted by defender victory (D) or logged battle length (L).

	Dependent variable:			
	War termination			
	(1)	(2)	(3)	(4)
Negotiation	−0.047	−0.414	0.918**	−0.630
	(0.648)	(0.689)	(0.394)	(0.737)
Momentum (W)	0.066	0.180		
	(0.093)	(0.135)		
Position		−0.136		−0.072
		(0.140)		(0.124)
Issue salience		−0.933**		−1.004***
		(0.346)		(0.327)
Contiguity		0.443		1.017
		(0.582)		(0.803)
CINC ratio		1.354*		1.332*
		(0.785)		(0.822)
Democracy		−0.852		−0.674
		(0.636)		(0.601)
Nuclear		0.867		1.011
		(0.623)		(0.582)
Post-Cold War		1.327**		1.310**
		(0.589)		(0.606)
Completed battles		2.679***		2.701***
		(0.491)		(0.515)
Negotiation × Momentum (W)	−0.531**	−0.572***		
	(0.209)	(0.208)		
Momentum (LL)			−0.028	0.039
			(0.055)	(0.064)
Negotiation × Momentum (LL)			−0.119	−0.190**
			(0.086)	(0.092)
Clustered SEs (War)	✓	✓	✓	✓
Observations	13,123	13,123	13,123	13,123
Events	35	35	35	35

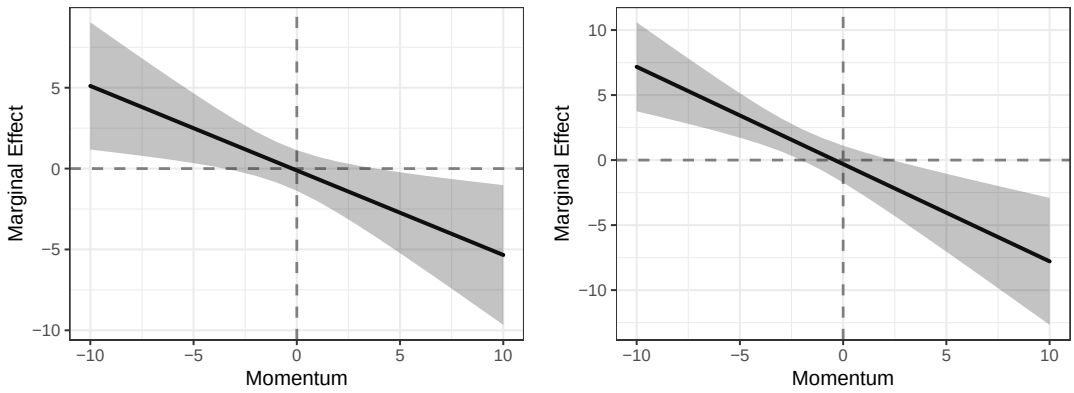
Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

E.3 Removing Longer Wars

Some concerns may exist that two exceptionally long wars—the Vietnam and Iran-Iraq conflicts—have an undue influence on these results. Table A9 replicates the main analysis, but removes these two wars from the data. The results are unchanged. The marginal effect plots in Figure A7 actually become stronger than what we saw in the main text, suggesting that these longer wars were diluting the impact of instrumental negotiations. This makes sense, since the impact of instrumental negotiations as a tool to mitigate the first-mover advantage likely loses its value in protracted conflicts.

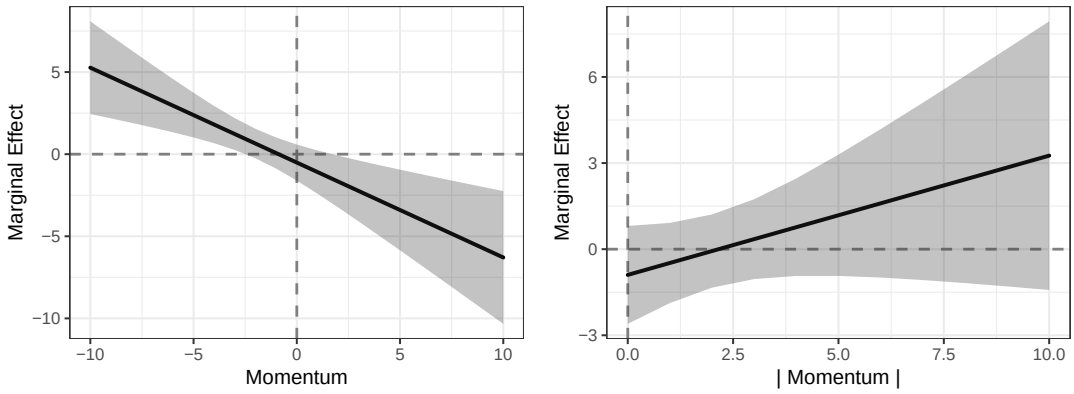
Table A9: Cox proportional hazard model results regarding the effects of negotiations and momentum on war termination, removing the Vietnam and Iran-Iraq Wars.

	Dependent variable:			
	War termination			
	(1)	(2)	(3)	(4)
Negotiation	−0.122	−0.351	−0.117	−0.308
	(0.599)	(0.675)	(0.648)	(0.740)
Momentum		0.052	0.137	0.193
		(0.194)	(0.126)	(0.220)
Negotiation × Momentum			−0.523**	−0.748***
			(0.254)	(0.279)
Position		−0.088		−0.143
		(0.179)		(0.196)
Issue salience		−0.848**		−0.758*
		(0.345)		(0.353)
Contiguity		0.358		1.708**
		(0.556)		(0.901)
CINC ratio		1.010		1.800***
		(0.768)		(0.846)
Democracy		−0.766		−0.839
		(0.581)		(0.597)
Nuclear		1.073*		0.687
		(0.564)		(0.584)
Post-Cold War		1.290**		1.249*
		(0.594)		(0.606)
Completed battles		2.531***		2.603***
		(0.513)		(0.494)
Clustered SEs (War)	✓	✓	✓	✓
Observations	6,498	6,498	6,498	6,498
Events	33	33	33	33
Note:				$^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$



(a) Model 3 **(b)** Model 4

Figure A7: Marginal effect of negotiations on conflict termination, conditional on battlefield momentum, removing the Vietnam and Iran-Iraq Wars. Based on Table A9. 95% confidence intervals in bands.



(a) Model 4 **(b)** Model 6

Figure A8: Marginal effect of negotiations on conflict termination conditional on battlefield momentum, switching initiator/target designations in accordance to the IWD. Based on Table A10. 95% confidence intervals in bands.

E.4 Changing War Initiators

In recent years, Reiter et al. (2016) have released the Interstate War Dataset (IWD, currently version 1.2), which makes some minor corrections to the Correlates of War interstate war dataset. One of these changes involves adjustments to war initiators in two post-1945 wars. These are the following:

- Bangladesh War: Switch initiator from Pakistan to India
- Gulf War: Switch initiator from Iraq to US and coalition

Given the article's focus on the first-mover advantage and the distinction between war initiators and war targets, we want to ensure that changing labels for these two wars does not undermine the overall results. I therefore rerun the main analysis after switching initiators and targets. This effectively means I that flip the signs of the *Momentum* and *Position* measures. Table A10 replicates Table 3 in the main text, and Figure A8 displays marginal effects plots for Models 4 and 6. We see that the results are basically unchanged.

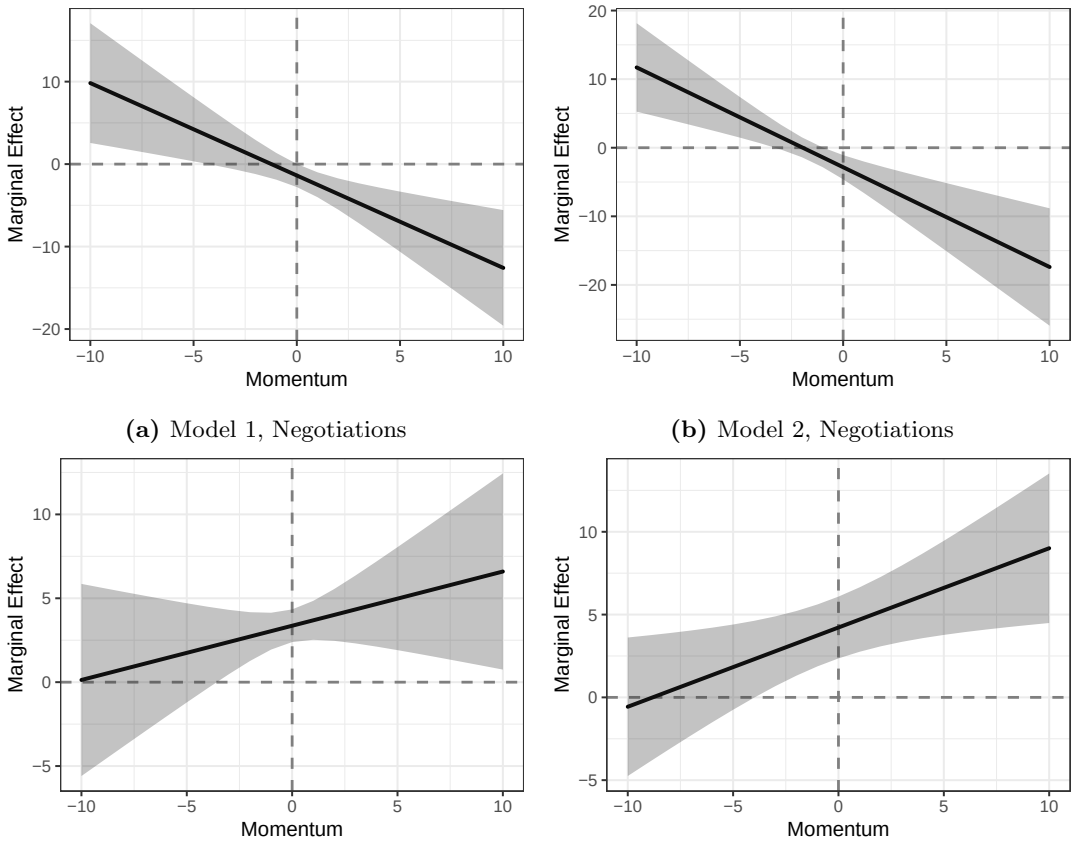
Table A10: Cox proportional hazard model results regarding the effects of negotiations and momentum on war termination, switching initiator/target designations in accordance to the IWD.

	Dependent variable:					
	War termination					
	(1)	(2)	(3)	(4)	(5)	(6)
Negotiation	−0.072	−0.392	0.169	−0.534	−0.316	−0.897
	(0.600)	(0.686)	(0.666)	(0.686)	(0.925)	(1.015)
Momentum		0.096	0.294***	0.027		
		(0.168)	(0.088)	(0.152)		
Negotiation × Momentum			−0.691**	−0.716***		
			(0.261)	(0.288)		
— Momentum —					0.390***	0.514***
					(0.091)	(0.183)
Negotiation × — Momentum —					0.318	0.416
					(0.301)	(0.340)
Position		0.018		0.076		−0.074
		(0.141)		(0.126)		(0.093)
Issue salience		−1.151***		−0.967***		−0.768**
		(0.322)		(0.325)		(0.307)
Contiguity		0.953		0.704		1.262*
		(0.731)		(0.581)		(0.734)
CINC ratio		1.204		1.801**		2.385**
		(0.791)		(0.817)		(0.948)
Democracy		−0.962		−0.748		−0.860
		(0.615)		(0.587)		(0.598)
Nuclear		1.344*		0.819		0.212
		(0.618)		(0.605)		(0.612)
Post-Cold War		1.501**		1.256**		1.830***
		(0.616)		(0.596)		(0.650)
Completed battles		2.757***		2.362***		1.071*
		(0.522)		(0.473)		(0.511)
Clustered SEs (War)	✓	✓	✓	✓	✓	✓
Observations	13,123	13,123	13,123	13,123	13,123	13,123
Events	35	35	35	35	35	35
Note:						$^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

E.5 The Possibility of Instrumental Ceasefires

One may be concerned that the paper's main finding on instrumental negotiations are indirectly capturing what we might call "instrumental ceasefires" instead. To address this, I create a binary variable that tracks whether an active ceasefire was in place on each war-day. Such ceasefires are not common; only 669 days feature them, and only 223 of those days include contemporaneous negotiations. These low numbers may be surprising, but they reflect the fact that most post-1945 conflicts are terminated through a ceasefire instead of a more formal peace agreement (Fazal 2013).

Table A11 replicates Models 3 and 4 in Table 3 of the main text but also include the interaction between ceasefires and momentum. All results regarding instrumental negotiations remain strong and statistically significant. Figure A9 calculates estimated marginal effects for negotiations and ceasefires conditional on battlefield momentum. Negotiations continue to retain their instrumental nature. In fact, the intensity and statistical significance of this relationship becomes even stronger. Moreover, ceasefires appear to have a highly positive conditional relationship with battlefield momentum—not a negative one. The highly positive effects again affirm the notion that ceasefires are commonly used to end conflicts in contemporary conflicts (Werner and Yuen 2005).



(a) Model 1, Negotiations

(b) Model 2, Negotiations

(c) Model 1, Ceasefires

(d) Model 2, Ceasefires

Figure A9: Marginal effect of negotiations on conflict termination, conditional on battlefield momentum, including ceasefires. Based on Table A11. 95% confidence intervals in bands.

Table A11: Cox proportional hazard model results regarding the effects of negotiations and momentum on war termination, including ceasefires.

	Dependent variable:	
	War termination	
	(1)	(2)
Negotiation	−1.381	−2.841***
	(0.791)	(1.184)
Ceasefire	3.363***	4.220***
	(0.565)	(0.993)
Momentum	0.045	0.460*
	(0.161)	(0.264)
Negotiation × Momentum	−1.121***	−1.455***
	(0.378)	(0.481)
Ceasefire × Momentum	0.323	0.479**
	(0.232)	(0.327)
Position		−0.590**
		(0.243)
Issue salience		−1.891***
		(0.588)
Contiguity		0.715
		(1.062)
CINC ratio		0.590
		(1.042)
Democracy		−1.376
		(0.894)
Nuclear		3.790***
		(1.197)
Post-Cold War		1.847*
		(0.847)
Completed battles		2.959***
		(0.698)
Clustered SEs (War)	✓	✓
Observations	13,123	13,123
Events	35	35
Note:	*p < 0.1; **p < 0.05; ***p < 0.01	

F Robustness Check for Hypothesis 2

F.1 Including Ceasefires

To address concerns that the dampening effect of negotiations is not simply a side effect of contemporaneous ceasefires, I incorporate the binary ceasefire variable described in Section E.5. See Table A12, which replicates Table 6 in the main text. Ceasefires have a strongly negative association with the number of active battles taking place, but these findings do not affect the negative coefficient for negotiations. In accordance with Hypothesis 2, periods with negotiations feature lower levels of active hostilities.

Table A12: Poisson regression results for the number of active battles per war-day, including a ceasefire variable.

	Dependent variable:			
	Active battles			
	(1)	(2)	(3)	(4)
Negotiation	-0.162^{***}	-0.346^{***}		
	(0.039)	(0.052)		
Early negotiation			-0.181^{***}	-0.255^{***}
			(0.070)	(0.073)
Late negotiation			-0.155^{***}	-0.398^{***}
			(0.046)	(0.068)
Ceasefire	-1.329^{***}	-1.338^{***}	-1.323^{***}	-1.377^{***}
	(0.126)	(0.147)	(0.126)	(0.148)
Momentum		-0.008		-0.009
		(0.011)		(0.011)
Position		0.007		0.006
		(0.006)		(0.006)
Issue salience		3.243^{***}		3.242^{***}
		(0.226)		(0.227)
Contiguity		-2.700^{***}		-2.692^{***}
		(0.183)		(0.184)
CINC ratio		-1.149^{***}		-1.115^{***}
		(0.173)		(0.175)
Democracy		-0.517^{***}		-0.546^{***}
		(0.170)		(0.173)
Nuclear		1.666^{***}		1.687^{***}
		(0.136)		(0.139)
Post-Cold War		1.807^{***}		1.759^{***}
		(0.374)		(0.378)
Completed battles		-0.342^{***}		-0.334^{***}
		(0.031)		(0.031)
Constant	0.157^{**}	-4.823^{***}	0.161^{**}	-4.862^{***}
	(0.064)	(0.416)	(0.063)	(0.421)
War FEs	✓	✓	✓	✓
Clustered SEs (War)	✓	✓	✓	✓
Observations	13,123	13,123	13,123	13,123
Note:				$^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

F.2 Negative Binomial Regressions

The *Active battles* variable has a mean of 0.419 and variance of 0.667. Dispersion tests indicate that overdispersion is low enough to use Poisson models instead of negative binomial models. Nonetheless, Table A13 presents estimates from a series of negative binomial models (that also include the ceasefire variable). Results are substantively the same as those in the main text.

Table A13: Negative binomial regression results for the number of active battles per war-day.

	Dependent variable:			
	Active battles			
	(1)	(2)	(3)	(4)
Negotiation	-0.162^{***}	-0.379^{***}		
	(0.039)	(0.053)		
Early negotiation			-0.180^{***}	-0.249^{***}
			(0.070)	(0.051)
Late negotiation			-0.155^{***}	-0.214^{***}
			(0.046)	(0.027)
Ceasefire	-1.329^{***}	-1.357^{***}	-1.323^{***}	-0.388^{***}
	(0.126)	(0.148)	(0.126)	(0.027)
Momentum		-0.009		-0.003
		(0.011)		(0.006)
Position		0.006		0.005^{**}
		(0.006)		(0.002)
Issue salience		3.457^{***}		1.525^{***}
		(0.218)		(0.085)
Contiguity		-2.790^{***}		-1.525^{***}
		(0.186)		(0.112)
CINC ratio		-1.309^{***}		-0.786^{***}
		(0.184)		(0.101)
Democracy		-0.646^{***}		-0.264^{***}
		(0.156)		(0.061)
Nuclear		1.929^{***}		0.789^{***}
		(0.133)		(0.047)
Post-Cold War		1.903^{***}		0.823^{***}
		(0.351)		(0.155)
Completed battles		-0.374^{***}		-0.174^{***}
		(0.029)		(0.015)
Constant	0.157^{**}	-5.083^{***}	0.161^{**}	-0.919^{***}
	(0.064)	(0.399)	(0.063)	(0.161)
War FEs	✓	✓	✓	✓
Clustered SEs (War)	✓	✓	✓	✓
Observations	13,123	13,123	13,123	13,123
Note:				$^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

G Robustness Checks for Hypothesis 3

This appendix performs a series of robustness checks regarding Hypothesis 3.

G.1 Instability

Figure A10 and Table A14 replicate Figure 7 and Table 7 in the main text. I replace the momentum measure with its absolute value. This helps assess how absolute momentum (regardless of which side benefits) behaves before and after negotiations. Perhaps unsurprisingly, the results obscure the difference between gains by the initiator and target. We do not see any reversal of fortune or return to parity, but rather an increase in absolute momentum. This is likely a reflection of the new gains that war targets make in the aftermath of failed negotiations.

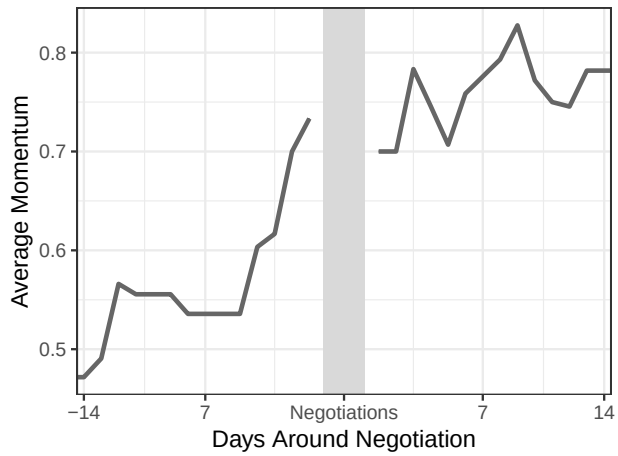


Figure A10: Average value of absolute momentum in the 14 days before and after every negotiation period that does not terminate war.

Table A14: Least squares regressions of instability ($d = 60$) before and after negotiations end.

	Dependent variable:					
	Momentum					
	7-Day Window		14-Day Window		21-Day Window	
	(1)	(2)	(3)	(4)	(5)	(6)
Post-negotiation	0.130^{**}	0.056	0.198^{***}	0.083^{**}	0.226^{***}	0.085^{**}
	(0.053)	(0.049)	(0.042)	(0.039)	(0.037)	(0.035)
Negotiation		0.148		0.005		-0.100^{*}
		(0.112)		(0.070)		(0.056)
Issue salience		−0.080		−0.245		-0.644^{**}
		(0.444)		(0.321)		(0.306)
Contiguity		-1.038^{***}		-0.790^{***}		-0.424^{*}
		(0.371)		(0.257)		(0.220)
CINC ratio		−0.288		-0.654^{**}		-0.592^{**}
		(0.394)		(0.301)		(0.260)
Democracy		−0.315		-0.481^{***}		-0.671^{***}
		(0.217)		(0.166)		(0.164)
Nuclear		0.392^{***}		0.535^{***}		0.335^{***}
		(0.125)		(0.124)		(0.105)
Post-Cold War		−0.803		−0.442		−0.064
		(0.605)		(0.421)		(0.339)
Active battles		−0.003		−0.012		−0.014
		(0.045)		(0.030)		(0.026)
Completed battles		0.569^{***}		0.683^{***}		0.813^{***}
		(0.093)		(0.069)		(0.063)
Time trend		-0.001^{***}		-0.001^{***}		-0.001^{***}
		(0.0001)		(0.0001)		(0.0001)
Constant	0.364^{*}	1.165	0.129	1.321^{**}	0.040	1.703^{***}
	(0.212)	(0.857)	(0.133)	(0.599)	(0.109)	(0.538)
War FEs	✓		✓		✓	
Observations	788	788	1,440	1,440	2,025	2,025

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

G.2 30-Day Momentum Measure

The main analysis in the paper uses a 60-day momentum measure. Figure A11 and Table A15 demonstrates that the main results remain when using a 30-day window for the momentum measure.

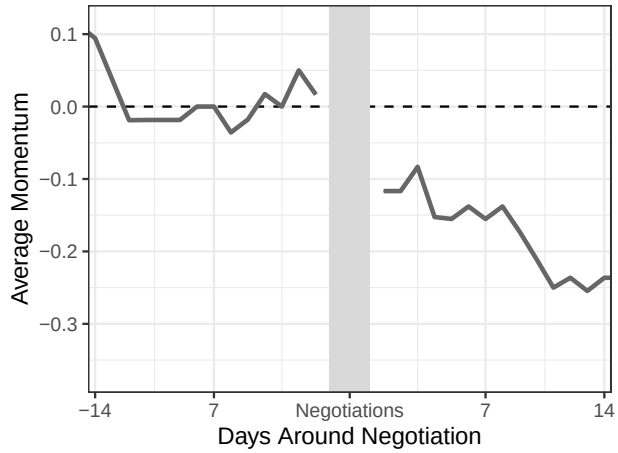


Figure A11: Average value of momentum ($d = 30$) in the 14 days before and after every negotiation period that does not terminate war.

Table A15: Least squares regressions of momentum ($d = 30$) before and after negotiations end.

	Dependent variable:					
	Momentum					
	7-Day Window		14-Day Window		21-Day Window	
	(1)	(2)	(3)	(4)	(5)	(6)
Post-negotiation	-0.138^{***}	-0.162^{***}	-0.201^{***}	-0.231^{***}	-0.284^{***}	-0.318^{***}
	(0.044)	(0.043)	(0.035)	(0.033)	(0.030)	(0.028)
Negotiation		-0.059		-0.123		-0.034
		(0.112)		(0.075)		(0.055)
Issue salience		-1.306^{***}		-1.205^{***}		-1.379^{***}
		(0.331)		(0.207)		(0.180)
Contiguity		2.340^{***}		2.244^{***}		2.774^{***}
		(0.521)		(0.381)		(0.322)
CINC ratio		-0.081		0.152		0.733^{***}
		(0.264)		(0.226)		(0.237)
Democracy		0.540^{***}		0.485^{***}		0.316^{**}
		(0.197)		(0.151)		(0.127)
Nuclear		0.069		-0.017		-0.233^{***}
		(0.089)		(0.071)		(0.089)
Post-Cold War		0.475		0.432		0.639^{*}
		(0.588)		(0.422)		(0.340)
Active battles		0.117^{***}		0.125^{***}		0.113^{***}
		(0.039)		(0.030)		(0.025)
Completed battles		0.330^{***}		0.324^{***}		0.334^{***}
		(0.085)		(0.057)		(0.047)
Time trend		-0.0002^{***}		-0.0003^{***}		-0.0003^{***}
		(0.0001)		(0.0001)		(0.0001)
Constant	-0.360^{*}	0.361	-0.128	0.320	-0.001	0.122
	(0.213)	(0.758)	(0.132)	(0.495)	(0.111)	(0.390)
War FEs	✓		✓		✓	
Observations	788	788	1,440	1,440	2,025	2,025

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

G.3 90-Day Momentum Measure

Figure A12 and Table A16 demonstrates that the main results remain when using a 90-day window for the momentum measure.

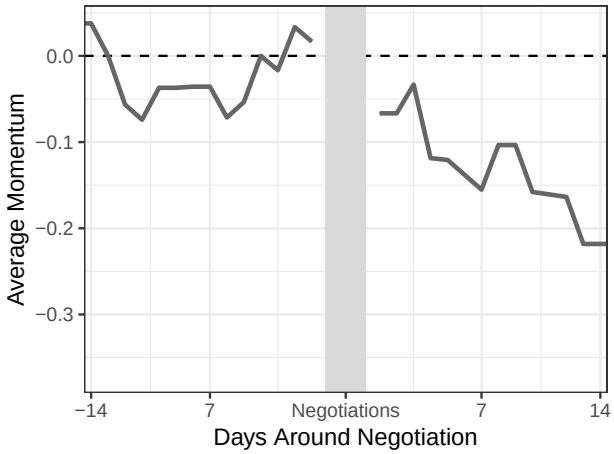


Figure A12: Average value of momentum ($d = 90$) in the 14 days before and after every negotiation period that does not terminate war.

Table A16: Least squares regressions of momentum ($d = 90$) before and after negotiations end.

	Dependent variable:					
	Momentum					
	7-Day Window		14-Day Window		21-Day Window	
	(1)	(2)	(3)	(4)	(5)	(6)
Post-negotiation	−0.067	−0.187**	−0.079	−0.225***	−0.147***	−0.283***
	(0.070)	(0.076)	(0.055)	(0.060)	(0.049)	(0.052)
Negotiation		−0.014		−0.013		0.119
		(0.148)		(0.104)		(0.080)
Issue salience		−0.595		−0.822**		−1.570***
		(0.413)		(0.332)		(0.290)
Contiguity		3.069***		3.366***		4.388***
		(0.526)		(0.435)		(0.386)
CINC ratio		−4.353***		−3.504***		−1.551***
		(0.660)		(0.521)		(0.419)
Democracy		0.188		0.240		−0.064
		(0.308)		(0.243)		(0.213)
Nuclear		1.508***		1.302***		0.481***
		(0.396)		(0.289)		(0.175)
Post-Cold War		3.484***		3.029***		2.776***
		(0.714)		(0.525)		(0.457)
Active battles		0.094*		0.061		0.027
		(0.053)		(0.039)		(0.033)
Completed battles		0.775***		0.747***		0.693***
		(0.155)		(0.106)		(0.087)
Time trend		−0.001***		−0.001***		−0.001***
		(0.0002)		(0.0001)		(0.0001)
Constant	−0.395*	−0.189	−0.196	−0.067	−0.091	0.103
	(0.208)	(0.686)	(0.128)	(0.563)	(0.107)	(0.487)
War FEs	✓		✓		✓	
Observations	788	788	1,440	1,440	2,025	2,025

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

G.4 Changing War Initiators

Figure A13 and Table A17 replicate Table 7 in the main text, but after switching initiator and target labels in the Bangladesh and Gulf Wars in accordance to the Interstate War Dataset (Reiter et al. 2016). We see that some of the results are attenuated, particularly by changes in labels from the Gulf War. Reversals of fortune do not appear to materialize in the 7-day window before and after failed negotiations but continue to emerge in Models 4 through 6, which reflect 14-day and 21-day windows.

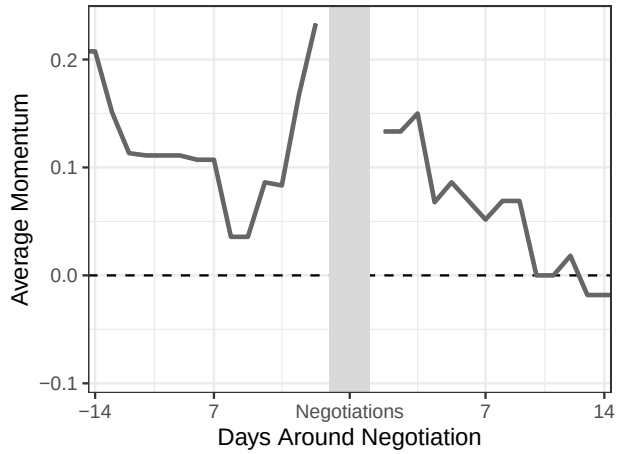


Figure A13: Average value of momentum ($d = 60$) in the 14 days before and after every negotiation period that does not terminate war, changing initiators according to IWD.

Table A17: Least squares regressions of momentum ($d = 60$) before and after negotiations end, changing initiators according to IWD.

	Dependent variable:					
	Momentum					
	7-Day Window		14-Day Window		21-Day Window	
	(1)	(2)	(3)	(4)	(5)	(6)
Post-negotiation	0.010	−0.098	−0.033	−0.168***	−0.088**	−0.234***
	(0.057)	(0.060)	(0.045)	(0.048)	(0.040)	(0.042)
Negotiation		−0.017		−0.006		0.110
		(0.143)		(0.100)		(0.079)
Issue salience		−0.839**		−0.862***		−1.419***
		(0.353)		(0.239)		(0.222)
Contiguity		2.735***		2.926***		3.657***
		(0.388)		(0.280)		(0.252)
CINC ratio		−1.496***		−1.040***		0.239
		(0.379)		(0.318)		(0.310)
Democracy		0.465*		0.284		−0.058
		(0.260)		(0.197)		(0.175)
Nuclear		0.835***		0.696***		0.152
		(0.173)		(0.166)		(0.118)
Post-Cold War		2.014***		2.135***		2.093***
		(0.516)		(0.369)		(0.314)
Active battles		−0.049		−0.053		−0.100***
		(0.049)		(0.034)		(0.030)
Completed battles		0.651***		0.674***		0.688***
		(0.119)		(0.084)		(0.071)
Time trend		−0.0004***		−0.0005***		−0.001***
		(0.0001)		(0.0001)		(0.0001)
Constant	−0.434**	−0.820	−0.222*	−0.953**	−0.130	−0.727**
	(0.201)	(0.626)	(0.124)	(0.404)	(0.103)	(0.336)
War FEs	✓		✓		✓	
Observations	788	788	1,440	1,440	2,025	2,025

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

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