Supporting Information for "Mutual Optimism as a Cause of Conflict: Secret Alliances and Conflict Onset"

Table 1: Calculating Capabilities

C's capabilities	Conditions
A adds C to A	(1) A and C have public or secret offensive/defensive alliance AND (2) B and C have no public alliance
A adds C to B	(1) B and C have public offensive/defensive alliance AND (2) A and C have no alliance
A is uncertain about C	A and C have no alliance & B and C have no public alliance
A excludes C	A and C have an alliance & B and C have a public alliance

Notes: Coding rules for calculating *Mutual Optimism* in a dyad involving states A and B where state C is a third party. Alliances are coded as secret only if the entirety of the alliance was secret as coded by ATOP. Public alliances with secret provisions are coded as public. Any bias from the latter coding choice would work against our results, suggesting our effect sizes may be understated.

Table 2: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Outcome Variable					
MID	0.021	0.142	0	1	24,886
Explanatory Variables					
Mutual Optimism					
Continuous, no prior	1.035	0.11	1	1.97	24,886
Binary, no prior	0.390	0.488	0	1	24,886
Continuous, prior	0.849	0.251	0.005	1.846	24,886
Binary, no prior	0.081	0.273	0	1	24,886
Control Variables					
Relative Capabilities	0.106	0.126	0	0.5	24,886
Contiguity	0.299	0.458	0	1	24,886
Joint Democracy	0.031	0.172	0	1	24,886
Alliance	0.094	0.292	0	1	24,886
Peace Years	27.139	23.976	0	107	24,886

Table 3: Alternative Outcome Variable: Use of Force

	No Prior		Prior	
	(1) Continuous	(2) Dichotomous	(3) Continuous	(4) Dichotomous
Mutual Optimism	1.29***	0.45***	0.20	0.48**
	(0.44)	(0.14)	(0.23)	(0.19)
Relative Capabilities	1.79***	1.98***	2.04***	1.63***
	(0.61)	(0.58)	(0.59)	(0.63)
Contiguity	0.91***	0.97***	0.95***	0.93***
	(0.20)	(0.20)	(0.21)	(0.20)
Joint Democracy	-0.09	-0.19	-0.11	-0.13
	(0.29)	(0.28)	(0.29)	(0.28)
Alliance	-1.02***	-0.99***	-1.01***	-1.00***
	(0.25)	(0.25)	(0.26)	(0.26)
Peace Years	-0.18***	-0.18***	-0.18***	-0.18***
	(0.02)	(0.02)	(0.02)	(0.02)
Constant	-4.85***	-3.73***	-3.74***	-3.55***
	(0.49)	(0.20)	(0.26)	(0.18)
N	24,886	24,886	24,886	24,886

$^{*}p < 0.1,^{**} p < 0.05,^{***} p < 0.01$

Notes: Logistic regression with non-directed politically relevant dyad year as the unit of analysis. Outcome variable is the use of force indicated by a militarized dispute with a hostility level of either "use of force" or "war." Standard errors in parentheses are clustered on the dyad. Results for higher order *Peace Years* are not shown. Additional analysis (not shown) indicates that *Mutual Optimism* has the strongest effect in Model 3 when moving from values just below one to values just above one. This is consistent with the theoretical expectation that increasing optimism is most problematic when the summed probabilities of victory are close to one.

Table 4: Robustness Test: Drop Dyads with Recent Signers

	No Prior		Prior	
	(1)	(2)	(3)	(4)
	Continuous	Dichotomous	Continuous	Dichotomous
Mutual Optimism	0.90**	0.38***	0.19	0.38**
	(0.44)	(0.14)	(0.24)	(0.19)
Relative Capabilities	2.35***	2.44***	2.50***	2.25***
	(0.62)	(0.62)	(0.61)	(0.62)
Alliance	-1.03***	-1.03***	-1.03***	-1.02***
	(0.28)	(0.28)	(0.28)	(0.28)
Contiguity	0.75***	0.80***	0.79***	0.76***
	(0.21)	(0.21)	(0.23)	(0.21)
Joint Democracy	-0.11	-0.18	-0.11	-0.13
	(0.33)	(0.32)	(0.32)	(0.33)
Peace Years	-0.16***	-0.16***	-0.16***	-0.16***
	(0.02)	(0.02)	(0.02)	(0.02)
Constant	-4.18***	-3.39***	-3.45***	-3.27***
	(0.50)	(0.19)	(0.26)	(0.18)
N	20,729	20,729	20,729	20,729

$^{*}p < 0.1,^{**} p < 0.05,^{***} p < 0.01$

Notes: Logistic regression with non-directed politically relevant dyad year as the unit of analysis. Excludes dyads where either state signed a secret alliance in the prior three years. Standard errors in parentheses are clustered on the dyad. Results for higher order *Peace Years* are not shown.

Table 5: Robustness Test: Only Include Secret Defensive Allies

	No Prior		Prior	
	(1)	(2)	(3)	(4)
	Continuous	Dichotomous	Continuous	Dichotomous
Mutual Optimism	0.19	0.31**	0.20	0.36**
	(0.58)	(0.12)	(0.26)	(0.17)
Relative Capabilities	2.36***	2.34***	2.42***	2.25***
	(0.53)	(0.53)	(0.53)	(0.52)
Alliance	-0.80***	-0.79***	-0.80***	-0.80***
	(0.23)	(0.22)	(0.22)	(0.22)
Contiguity	0.83***	0.87***	0.87***	0.83***
	(0.18)	(0.18)	(0.19)	(0.18)
Joint Democracy	-0.07	-0.11	-0.08	-0.09
	(0.26)	(0.25)	(0.26)	(0.26)
Peace Years	-0.14***	-0.13***	-0.14***	-0.14***
	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-3.52***	-3.42***	-3.52***	-3.33***
	(0.60)	(0.17)	(0.28)	(0.16)
N	24,886	24,886	24,886	24,886

$^{*}p < 0.1,^{**}p < 0.05,^{***}p < 0.01$

Notes: Logistic regression with non-directed politically relevant dyad year as the unit of analysis. Mutual optimism calculation only includes capabilities from secret *defensive* alliances. Standard errors in parentheses are clustered on the dyad. Results for higher order *Peace Years* are not shown.

Table 6: Robustness Test: Only Dyads with Allies

	No Prior		Prior	
	(1)	(2)	(3)	(4)
	Continuous	Dichotomous	Continuous	Dichotomous
Mutual Optimism	1.09***	0.73***	0.48	0.44***
	(0.34)	(0.15)	(0.45)	(0.16)
Relative Capabilities	2.94***	3.17***	3.09***	2.71***
	(0.52)	(0.46)	(0.51)	(0.54)
Alliance	-0.57**	-0.53**	-0.58**	-0.55**
	(0.23)	(0.23)	(0.24)	(0.24)
Contiguity	0.75***	0.79***	0.80***	0.77***
	(0.18)	(0.17)	(0.18)	(0.18)
Joint Democracy	0.19	0.00	0.18	0.13
	(0.25)	(0.24)	(0.25)	(0.25)
Peace Years	-0.13***	-0.13***	-0.13***	-0.13***
	(0.02)	(0.02)	(0.02)	(0.02)
Constant	-4.65 ***	-3.94***	-3.99***	-3.54***
	(0.39)	(0.20)	(0.46)	(0.18)
N	17,627	17,627	17,627	17,627

$^*p < 0.1,$ $^{**}p < 0.05,$ $^{***}p < 0.01$

Notes: Logistic regression with non-directed politically relevant dyad year as the unit of analysis. Excludes dyads where neither state has any alliances (public or secret). Standard errors in parentheses are clustered on the dyad. Results for higher order *Peace Years* are not shown. Additional analysis (not shown) indicates that *Mutual Optimism* has the strongest effect in Model 3 when moving from values just below one to values just above one. This is consistent with the theoretical expectation that increasing optimism is most problematic when the summed probabilities of victory are close to one.

Table 7: Robustness Test: Split by Target-Specificity

	Targeted		Not Targeted	
	(1)	(2)	(3)	(4)
	No Prior	Prior	No Prior	Prior
Mutual Optimism	0.27**	0.31*	0.45***	0.83***
	(0.13)	(0.17)	(0.14)	(0.20)
Relative Capabilities	2.29***	2.16***	2.34***	2.06***
	(0.53)	(0.56)	(0.53)	(0.52)
Contiguity	0.85***	0.83***	0.84***	0.85***
	(0.18)	(0.18)	(0.18)	(0.18)
Joint Democracy	-0.10	-0.05	-0.14	-0.22
	(0.26)	(0.26)	(0.25)	(0.26)
Alliance	-0.80***	-0.80***	-0.85***	-0.86***
	(0.23)	(0.23)	(0.22)	(0.22)
Peace Years	-0.13***	-0.14***	-0.13***	-0.13***
	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-3.35***	-3.29***	-3.35***	-3.29***
	(0.17)	(0.16)	(0.16)	(0.16)
N	23,818	23,818	23,818	23,818

$^*p < 0.1,^{**}p < 0.05,^{***}p < 0.01$

Notes: Logistic regression with non-directed politically relevant dyad year as the unit of analysis. Mutual optimism is based on calculations where ally capabilities are only included if they specifically target the opposing state (Models 1 and 2) or do not target the opposing state (Models 3 and 4). All measures of mutual optimism are dichotomous. Standard errors in parentheses are clustered on the dyad. Results for higher order *Peace Years* are not shown.