Institutional Opposition, Regime Accountability, and International Conflict

Online Appendix

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This document includes: (1) tables for all robustness checks explained in the main text and footnotes; (2) derivation of the likelihood function; (3) results of Monte Carlo simulations that illustrate how our statistical model reduces bias in the presence of endogenous IO opposition; and (4) a list of cases with institutional opposition.

1 Robustness Checks

This section presents 11 tables.

- Table 1 reproduces the main statistical results presented in the paper.
- Tables 2–5 present results from models with alternative measures of regime accountability.
- Tables 6–7 present results from models with alternative classifications of the dependent variable.
- Tables 8–9 present results from models with additional instruments.
- Tables 10–11 present results from models without exclusion restrictions.

The footnotes of the tables explain where in the article the robustness checks are mentioned.

Table 1: Main Model: Dispute Escalation and Institutional Opposition

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Polity Score	−0.109**	0.006	0.084**
	(0.029)	(0.016)	(0.026)
Balance of Forces	2.266**	3.187**	1.251**
	(0.565)	(0.249)	(0.322)
Enduring Rivalry	1.071**	0.291*	−0.086
	(0.533)	(0.149)	(0.295)
Alliance	−0.367	−0.196*	−0.162
	(0.394)	(0.100)	(0.208)
Strategic Value	−0.794*	0.238*	0.564*
	(0.405)	(0.131)	(0.300)
Economic Value	0.046	0.156	0.534**
	(0.364)	(0.104)	(0.233)
IO Membership			0.042*
			(0.024)
Constant (α_I, α_N, θ)	−1.033**	−1.753**	−2.044**
	(0.482)	(0.115)	(0.244)
Cut point (τ_2)	0.214**		
	(0.029)		
Correlation (ρ)	0.583**		
	(0.150)		
Number of Observations	3,880		
Log likelihood	−1042		
χ^2	53.16		

Robust standard errors in parentheses. We fix the first cut point parameter, τ_1, to zero and estimate the second cut point parameter, τ_2, with the constraint that it is greater than zero. ρ measures the correlation between IO opposition and dispute escalation and can assume values from -1 to $+1$. ** $p < 0.05$, and * $p < 0.10$ (Two-tailed).

Table 2: Political Competition as an Alternative Measure of Regime Accountability

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Political Competition	−0.113**	0.137**	0.230**
	(0.037)	(0.043)	(0.068)
Balance of Forces	1.611**	2.921**	1.528**
	(0.462)	(0.290)	(0.299)
Enduring Rivalry	0.609**	0.285*	0.146
	(0.189)	(0.146)	(0.189)
Alliance	−0.400**	−0.112	0.022
	(0.194)	(0.103)	(0.139)
Strategic Value	−0.138	0.276**	0.340**
	(0.204)	(0.110)	(0.150)
Economic Value	0.337**	0.154*	0.193
	(0.148)	(0.094)	(0.128)
IO Membership			0.007
			(0.018)
Constant (α_I, α_N, θ)	−1.358**	−1.921**	−2.663**
	(0.299)	(0.128)	(0.215)
Cut point (τ_2)	0.141**		
	(0.032)		
Correlation (ρ)	0.965**		
	(0.056)		
Number of Observations	3,671		
Log likelihood	−985		
χ^2	29.93		

Results using political competition (`polcomp`) from the Polity IV data set as an alternative measure of regime accountability.
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.14 (footnote 13).

Table 3: Winning Coalition Size as an Alternative Measure of Regime Accountability

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Winning Coalition Size	-3.280**	-0.339	0.695*
	(1.138)	(0.207)	(0.414)
Balance of Forces	2.154**	3.265**	1.569**
	(0.495)	(0.248)	(0.237)
Enduring Rivalry	1.591**	0.363**	0.099
	(0.809)	(0.128)	(0.190)
Alliance	-0.557	-0.224**	-0.190
	(0.493)	(0.097)	(0.176)
Strategic Value	-0.393	0.144	0.137
	(0.605)	(0.094)	(0.231)
Economic Value	0.202	0.080	0.349**
	(0.391)	(0.083)	(0.142)
IO Membership			0.050**
			(0.021)
Constant (α_I, α_N, θ)	1.001	-1.622**	-2.649**
	(1.248)	(0.111)	(0.273)
Cut point (τ_2)	0.235**		
	(0.035)		
Correlation (ρ)	0.591*		
	(0.253)		
Number of Observations	3,880		
Log likelihood	-1046		
χ^2	55.99		

Results using winning coalition size (W) from Bueno de Mesquita et al. (2003) as an alternative measure of regime accountability.
** $p < 0.05$ (Two-tailed.) * $p < 0.10$ (Two-tailed.)
See p.14 (footnote 13).

Table 4: Polyarchy Variable as an Alternative Measure of Regime Accountability

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Polyarchy	-0.065**	-0.008	0.023
	(0.021)	(0.012)	(0.027)
Balance of Forces	2.471**	3.241**	1.556**
	(0.720)	(0.258)	(0.330)
Enduring Rivalry	0.658	0.364**	0.302
	(0.736)	(0.135)	(0.227)
Alliance	-0.597	-0.166*	-0.147
	(0.657)	(0.099)	(0.256)
Strategic Value	-0.167	0.148	0.093
	(0.609)	(0.101)	(0.276)
Economic Value	0.274	0.076	0.288
	(0.425)	(0.089)	(0.209)
IO Membership			0.039*
			(0.022)
Constant (α_I, α_N, θ)	-0.540	-1.738**	-2.342**
	(0.892)	(0.097)	(0.220)
Cut point (τ_2)	0.229**		
	(0.035)		
Correlation (ρ)	0.595*		
	(0.262)		
Number of Observations	3,880		
Log likelihood	-1032		
χ^2	54.53		

Results using polyarchy from Vanhanen (2000) as an alternative measure of regime accountability.
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.14 (footnote 13).

Table 5: Political Constraint Index as an Alternative Measure of Regime Accountability

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
POLCONIII	-3.602**	-0.950**	1.174
	(1.740)	(0.382)	(1.106)
Balance of Forces	2.158**	3.292**	1.528**
	(0.821)	(0.244)	(0.322)
Enduring Rivalry	0.667	0.215	0.161
	(0.579)	(0.155)	(0.263)
Alliance	0.135	-0.354**	-0.265
	(0.655)	(0.104)	(0.208)
Strategic Value	-0.568	0.109	0.276
	(0.566)	(0.100)	(0.250)
Economic Value	0.616	0.100	0.146
	(0.451)	(0.087)	(0.203)
IO Membership			0.036*
			(0.019)
Constant (α_I, α_N, θ)	-0.506	-1.690**	-2.278**
	(1.093)	(0.107)	(0.200)
Cut point (τ_2)	0.251**		
	(0.036)		
Correlation (ρ)	0.531		
	(0.316)		
Number of Observations	3,664		
Log likelihood	-946		
χ^2	30.61		

Results using political constraint from Henisz (2002) as an alternative measure of regime accountability.
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.14 (footnote 13).

Table 6: Alternative Classification of the Dependent Variable ("Low" and "Moderate" levels of escalation are merged)

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Polity Score	−0.097**	0.013	0.114**
	(0.025)	(0.018)	(0.025)
Balance of Forces	2.544**	2.807**	0.813**
	(0.349)	(0.194)	(0.407)
Enduring Rivalry	0.988**	0.294*	−0.283
	(0.344)	(0.152)	(0.314)
Alliance	−0.329	−0.156	−0.139
	(0.323)	(0.103)	(0.256)
Strategic Value	−0.668**	0.301**	0.764**
	(0.286)	(0.149)	(0.332)
Economic Value	−0.066	0.188*	0.675**
	(0.355)	(0.110)	(0.275)
Challenger IO Membership			0.052*
			(0.027)
Constant (α_I, α_N, θ)	−1.073**	−1.776**	−1.778**
	(0.508)	(0.138)	(0.331)
Cut point (τ_2)	1.215**		
	(0.122)		
Correlation (ρ)	0.330*		
	(0.182)		
Number of Observations	3,880		
Log likelihood	−1003		
χ^2	93.54		

Results using an alternative coding of the dependent variable: "Low" and "Moderate" levels of escalation are merged into one category.
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.11 (footnote 8) and p.28.

Table 7: Alternative Classification of the Dependent Variable (three levels of escalation)

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Polity Score	-0.105**	0.006	0.101**
	(0.023)	(0.017)	(0.027)
Balance of Forces	2.342**	2.841**	1.023**
	(0.389)	(0.188)	(0.347)
Enduring Rivalry	1.036**	0.345**	-0.184
	(0.334)	(0.142)	(0.276)
Alliance	-0.319	-0.187*	-0.158
	(0.334)	(0.099)	(0.224)
Strategic Value	-0.612**	0.255**	0.606**
	(0.295)	(0.125)	(0.280)
Economic Value	-0.045	0.161	0.606**
	(0.343)	(0.103)	(0.240)
Challenger IO Membership			0.046*
			(0.025)
Constant (α_I, α_N, θ)	-1.187**	-2.017**	-1.879**
	(0.564)	(0.166)	(0.405)
Cut point 2	0.213**		
	(0.028)		
Cut point 3	1.050**		
	(0.119)		
Correlation (ρ)	0.385*		
	(0.201)		
Number of Observations	3,880		
Log likelihood	-1124		
χ^2	81.12		

Results using three levels of escalation as the dependent variable. This model thus have an additional cut point parameter. We fix the first cut point to zero and estimate the second and the third cut points with the constraint that they are greater than zero.
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.11 (footnote 8) and p.28.

Table 8: Cold War Dummy as an Additional Instrument

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Polity Score	−0.110**	0.005	0.083**
	(0.030)	(0.016)	(0.027)
Balance of Forces	2.256**	3.194**	1.255**
	(0.571)	(0.252)	(0.322)
Enduring Rivalry	1.089**	0.294**	−0.090
	(0.551)	(0.149)	(0.296)
Alliance	−0.382	−0.194*	−0.158
	(0.410)	(0.100)	(0.208)
Strategic Value	−0.810*	0.236*	0.567*
	(0.422)	(0.131)	(0.302)
Economic Value	0.027	0.155	0.544**
	(0.387)	(0.105)	(0.236)
IO Membership			0.043*
			(0.023)
Cold War			−0.086
			(0.250)
Constant (α_I, α_N, θ)	−0.992*	−1.762**	−2.057**
	(0.547)	(0.121)	(0.246)
Cut point (τ_2)	0.215**		
	(0.030)		
Correlation (ρ)	0.575**		
	(0.157)		
Number of Observations	3,880		
Log likelihood	−1042		
χ^2	53.62		

Results from a model that includes an additional instrument in the equation for institutional opposition, a dummy variable for whether a dispute was in the Cold War (1 if yes).
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.26.

Table 9: Cold War and Regional Dummies as Additional Instruments

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Polity Score	-0.110**	0.005	0.086**
	(0.031)	(0.016)	(0.026)
Balance of Forces	2.293**	3.193**	1.260**
	(0.575)	(0.253)	(0.335)
Enduring Rivalry	1.094*	0.291*	-0.061
	(0.573)	(0.151)	(0.305)
Alliance	-0.319	-0.206**	-0.223
	(0.413)	(0.100)	(0.212)
Strategic Value	-0.893**	0.252*	0.646*
	(0.424)	(0.143)	(0.331)
Economic Value	0.043	0.146	0.479*
	(0.449)	(0.103)	(0.266)
IO Membership			0.062*
			(0.036)
Cold War			-0.141
			(0.242)
Asia			-0.275*
			(0.160)
Americas			-0.351
			(0.260)
Constant (α_I, α_N, θ)	-0.986	-1.763**	-1.930**
	(0.617)	(0.124)	(0.269)
Cut point (τ_2)	0.216**		
	(0.030)		
Correlation (ρ)	0.558**		
	(0.155)		
Number of Observations	3,880		
Log likelihood	-1038		
χ^2	51.39		

Results from a model that includes three additional variables as instruments in the equation for institutional opposition: (1) a dummy variable for whether a dispute was in the Cold War (1 if yes); (2) a dummy variable for whether a disputes was in Asia (1 if yes); (3) a dummy variable for whether a dispute was in Americas (1 if yes).
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.26.

Table 10: No Exclusion Restriction (1): IO Membership Included in All Three Equations

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Polity Score	-0.112**	0.004	0.086**
	(0.035)	(0.017)	(0.028)
Balance of Forces	2.254**	3.201**	1.221**
	(0.594)	(0.254)	(0.334)
Enduring Rivalry	1.025*	0.292**	-0.099
	(0.523)	(0.148)	(0.313)
Alliance	-0.137	-0.229**	-0.251
	(0.428)	(0.109)	(0.239)
Strategic Value	-0.918**	0.244*	0.603*
	(0.456)	(0.140)	(0.322)
Economic Value	0.090	0.140	0.500**
	(0.398)	(0.108)	(0.245)
IO Membership	-0.063	0.011	0.070*
	(0.045)	(0.018)	(0.036)
Constant (α_I, α_N, θ)	-0.739	-1.802**	-2.076**
	(0.674)	(0.129)	(0.264)
Cut point (τ_2)	0.217**		
	(0.032)		
Correlation (ρ)	0.517**		
	(0.156)		
Number of Observations	3,880		
Log likelihood	-1040		
χ^2	50.81		

Results from including the IO Membership variable in the equation for dispute escalation.
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.26.

Table 11: No Exclusion Restriction (2): IO Membership Excluded from All Three Equations

	Dispute Escalation		Institutional Opposition
	$\boldsymbol{\beta_I}$	$\boldsymbol{\beta_N}$	$\boldsymbol{\gamma}$
Polity Score	-0.111**	0.005	0.084**
	(0.030)	(0.014)	(0.027)
Balance of Forces	2.231**	3.194**	1.239**
	(0.575)	(0.242)	(0.330)
Enduring Rivalry	1.047*	0.299**	-0.039
	(0.545)	(0.145)	(0.288)
Alliance	-0.362	-0.201**	-0.054
	(0.393)	(0.099)	(0.184)
Strategic Value	-0.815*	0.233*	0.509*
	(0.426)	(0.126)	(0.288)
Economic Value	0.034	0.153	0.526**
	(0.369)	(0.106)	(0.232)
Constant (α_I, α_N, θ)	-0.985**	-1.759**	-1.895**
	(0.466)	(0.104)	(0.226)
Cut point (τ_2)	0.215**		
	(0.030)		
Correlation (ρ)	0.582**		
	(0.153)		
Number of Observations	3,880		
Log likelihood	-1043		
χ^2	47.04		

Results from excluding the IO Membership variable from the equation for institutional opposition.
** $p < 0.05$ (Two-tailed), and * $p < 0.10$ (Two-tailed).
See p.26.

1.1 Substantive Effects with Alternative Measures of Regime Accountability

As shown in Tables 2–5, our findings are generally consistent across different measures of regime accountability. That said, the numerical results (i.e., estimated coefficients for the measures used for regime accountability) do vary depending on the measures. These differences, however, do not generate much difference in the substantive conclusions that we draw. To illustrate this point, we created four Figures that show the substantive effects of these four alternative measures (figures 1 and 2).

Figure 1 shows the predicted probabilities for `Political Competition` (top panel) and `Winning Coalition Size` (bottom panel). Following the same approach as we used for Polity Score, for these two alternative measures we chose a "typical" value of regime accountability for non-democracies and a "typical" value of regime accountability for democracies. The `Political Competition` variable varies from 1 (least accountable) to 10 (most accountable). For illustration, we compared the values of 1 (minimum, and the most frequently observed value when the regime is autocratic, or when `Polity` variable is < 6) and 10 (maximum, and the most frequently observed value when the regime is democratic, or when the `Polity` variable is ≥ 6). The `Winning Coalition Size` variable varies from 0 (least accountable) to 1 (most accountable). We compared the values of 0.5 (median, and the most frequently observed value when the regime is autocratic, or when `Polity` variable is < 6) and 1 (maximum, and the most frequently observed value when the regime is democratic, or when the `Polity` variable is ≥ 6).

Figure 2 shows the predicted probabilities for `Polyarchy` (top panel) and `Political Constraint` (bottom panel). Since `Polyarchy` and `Political Constraint` are continuous variables, we are unable to choose most frequently observed values for non-democracies and democracies. Instead, we compared the median and maximum values of each variable. The value of `Polyarchy` varies from 0 (least accountable) to 34 (most accountable) in the sample. For illustration, we compared the values of 0 (both the minimum and the median observed value) and 34 (the maximum observed value). The `Political Constraint` index varies from 0 (least accountable) to 0.67 (most accountable) in the sample. We compared the values of 0 (both the minimum and the median observed value) and 0.67 (the maximum observed value).

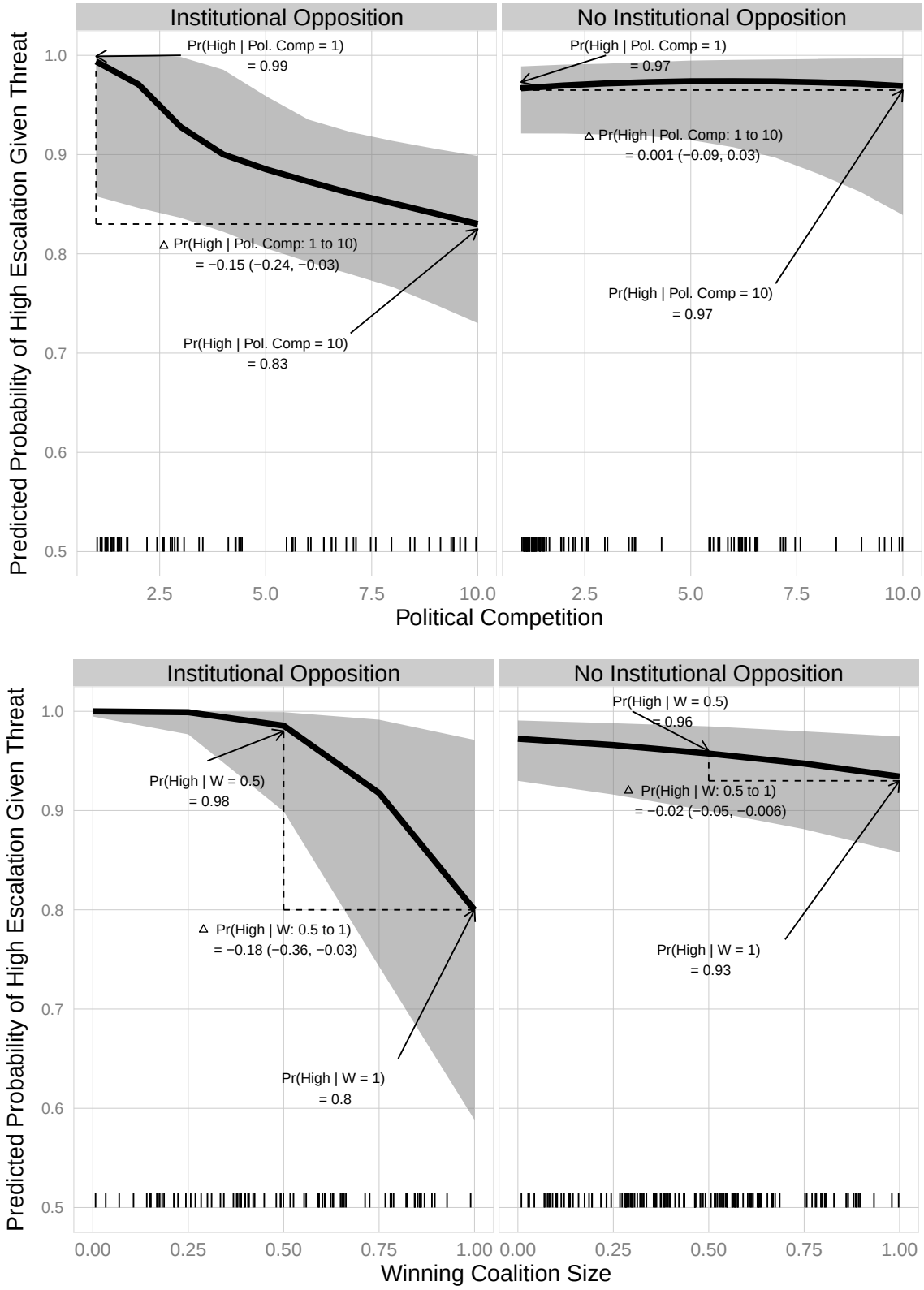

Figure 1: Substantive effects with alternative measures of accountability

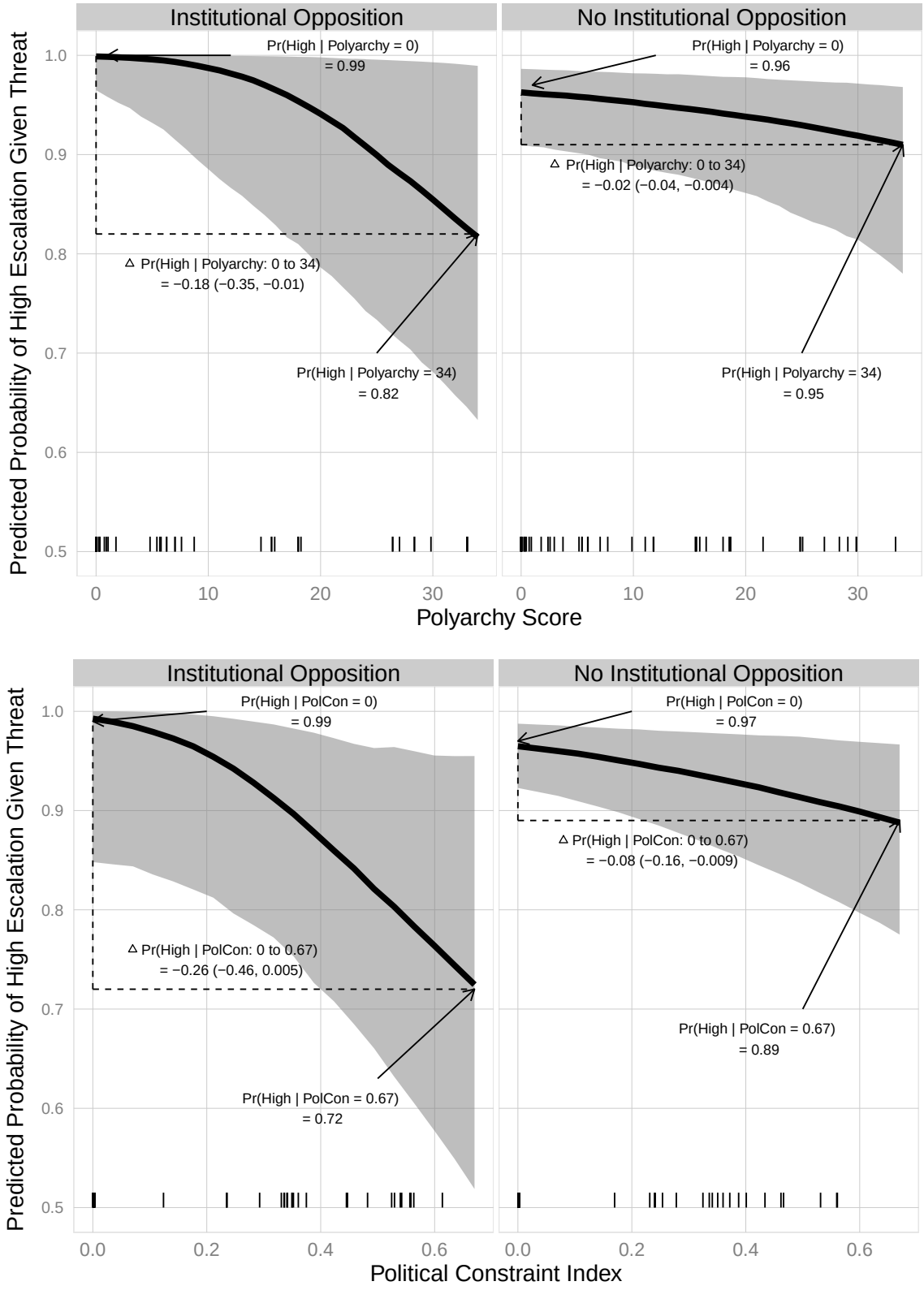

Figure 2: Substantive effects with alternative measures of accountability

2 Derivation of the Likelihood Function

We assume that μ and ϵ are distributed bivariate normal each with unit variance and correlation ρ. Let Φ_2 denote the standard bivariate normal cumulative distribution function. Let `Inst` denote institutional opposition, where `Inst = 1` means the presence and `Inst = 0` means the absence of opposition. Let `D` denote the level of military escalation, where `D = 0` means "No Military Threat," `D = 1` means "Low Escalation," and `D = 2` means "High Escalation."

When an IO intervenes, the probability that the challenger chooses "Low Escalation" is

$$\begin{aligned}
\Pr(\texttt{Inst} = 1, \texttt{D} = 1) &= \Pr(z^* > 0 \cap \tau_1 < y_I^* \leq \tau_2) \qquad (1)\\
&= \Pr(z^* > 0 \cap y_I^* \leq \tau_2) - \Pr(z^* > 0 \cap y_I^* \leq \tau_1)\\
&= \Pr(\boldsymbol{w\gamma} + \mu > 0 \cap \boldsymbol{x\beta_I} + \epsilon \leq \tau_2) - \Pr(\boldsymbol{w\gamma} + \mu > 0 \cap \boldsymbol{x\beta_I} + \epsilon \leq \tau_1)\\
&= \Pr(\mu > -\boldsymbol{w\gamma} \cap \epsilon \leq \tau_2 - \boldsymbol{x\beta_I}) - \Pr(\mu > -\boldsymbol{w\gamma} \cap \epsilon \leq \tau_1 - \boldsymbol{x\beta_I})\\
&= \Phi_2(\boldsymbol{w\gamma}, \tau_2 - \boldsymbol{x\beta_I}, -\rho) - \Phi_2(\boldsymbol{w\gamma}, \tau_1 - \boldsymbol{x\beta_I}, -\rho),
\end{aligned}$$

and the probability of "High Escalation" is

$$\begin{aligned}
\Pr(\texttt{Inst} = 1, \texttt{D} = 2) &= \Pr(z^* > 0 \cap y_I^* > \tau_2) \qquad (2)\\
&= \Pr(\boldsymbol{w\gamma} + \mu > 0 \cap \boldsymbol{x\beta_I} + \epsilon > \tau_2)\\
&= \Pr(\mu > -\boldsymbol{w\gamma} \cap \epsilon > \tau_2 - \boldsymbol{x\beta_I})\\
&= \Phi_2(\boldsymbol{w\gamma}, \boldsymbol{x\beta_I} - \tau_2, \rho).
\end{aligned}$$

When an IO does not intervene, the probability that the challenger chooses "Low Escalation" is

$$\begin{aligned}
\Pr(\texttt{Inst} = 0, \texttt{D} = 1) &= \Pr(z^* \leq 0 \cap \tau_1 < y_N^* \leq \tau_2) \qquad (3)\\
&= \Pr(z^* \leq 0 \cap y_N^* \leq \tau_2) - \Pr(z^* \leq 0 \cap y_N^* \leq \tau_1)\\
&= \Pr(\boldsymbol{w\gamma} + \mu \leq 0 \cap \boldsymbol{x\beta_N} + \epsilon \leq \tau_2) - \Pr(\boldsymbol{w\gamma} + \mu \leq 0 \cap \boldsymbol{x\beta_N} + \epsilon \leq \tau_1)\\
&= \Pr(\mu \leq -\boldsymbol{w\gamma} \cap \epsilon \leq \tau_2 - \boldsymbol{x\beta_N}) - \Pr(\mu \leq -\boldsymbol{w\gamma} \cap \epsilon \leq \tau_1 - \boldsymbol{x\beta_N})\\
&= \Phi_2(-\boldsymbol{w\gamma}, \tau_2 - \boldsymbol{x\beta_N}, \rho) - \Phi_2(-\boldsymbol{w\gamma}, \tau_1 - \boldsymbol{x\beta_N}, \rho),
\end{aligned}$$

and the probability of "High Escalation" is

$$\begin{aligned}
\Pr(\texttt{Inst} = 0, \texttt{D} = 2) &= \Pr(z^* \leq 0 \cap y_N^* > \tau_2) \qquad (4)\\
&= \Pr(\boldsymbol{w\gamma} + \mu \leq 0 \cap \boldsymbol{x\beta_N} + \epsilon > \tau_2)\\
&= \Pr(\mu \leq -\boldsymbol{w\gamma} \cap \epsilon > \tau_2 - \boldsymbol{x\beta_N})\\
&= \Phi_2(-\boldsymbol{w\gamma}, \boldsymbol{x\beta_N} - \tau_2, -\rho).
\end{aligned}$$

Finally, the probability that a dispute is not militarized (and hence institutional oppo-

sition is unobserved) is obtained as

$$\begin{aligned}
\Pr(\texttt{D}=0) &= \Pr(\texttt{Inst}=1,\texttt{D}=0)+\Pr(\texttt{Inst}=0,\texttt{D}=0) \\
&= \Pr(z^*>0\cap y_I^*\leq\tau_1)+\Pr(z^*\leq 0\cap y_N^*\leq\tau_1) \\
&= \Pr(\boldsymbol{w\gamma}+\mu>0\cap\boldsymbol{x\beta_I}+\epsilon\leq\tau_1)+\Pr(\boldsymbol{w\gamma}+\mu\leq 0\cap\boldsymbol{x\beta_N}+\epsilon\leq\tau_1) \\
&= \Pr(\mu>-\boldsymbol{w\gamma}\cap\epsilon\leq\tau_1-\boldsymbol{x\beta_I})+\Pr(\mu\leq-\boldsymbol{w\gamma}\cap\epsilon\leq\tau_1-\boldsymbol{x\beta_N}) \\
&= \Phi_2(\boldsymbol{w\gamma},\tau_1-\boldsymbol{x\beta_I},-\rho)+\Phi_2(-\boldsymbol{w\gamma},\tau_1-\boldsymbol{x\beta_N},\rho).
\end{aligned} \tag{5}$$

The likelihood function is constructed by combining equations (1) through (5) as follows:

$$\begin{aligned}
L &= \prod_{\texttt{D}=0}\Big[\Phi_2(\boldsymbol{w\gamma},\tau_1-\boldsymbol{x\beta_I},-\rho)+\Phi_2(-\boldsymbol{w\gamma},\tau_1-\boldsymbol{x\beta_N},\rho)\Big] \\
&\times\prod_{\texttt{Inst}=1,\texttt{D}=1}\Big[\Phi_2(\boldsymbol{w\gamma},\tau_2-\boldsymbol{x\beta_I},-\rho)-\Phi_2(\boldsymbol{w\gamma},\tau_1-\boldsymbol{x\beta_I},-\rho)\Big] \\
&\times\prod_{\texttt{Inst}=0,\texttt{D}=1}\Big[\Phi_2(-\boldsymbol{w\gamma},\tau_2-\boldsymbol{x\beta_N},\rho)-\Phi_2(-\boldsymbol{w\gamma},\tau_1-\boldsymbol{x\beta_N},\rho)\Big] \\
&\times\prod_{\texttt{Inst}=1,\texttt{D}=2}\Big[\Phi_2(\boldsymbol{w\gamma},\boldsymbol{x\beta_I}-\tau_2,\rho)\Big]\prod_{\texttt{Inst}=0,\texttt{D}=2}\Big[\Phi_2(-\boldsymbol{w\gamma},\boldsymbol{x\beta_N}-\tau_2,-\rho)\Big].
\end{aligned} \tag{6}$$

We obtain parameter estimates by maximizing the log likelihood function with respect to the parameters $(\alpha_I,\alpha_N,\boldsymbol{\beta_I},\boldsymbol{\beta_N},\boldsymbol{\gamma},\theta,\tau_2,\rho)$.

After the estimation, confidence intervals of substantive effects can be obtained by following the approach proposed by King, Tomz & Wittenberg (2000). Specifically, we draw $1,000$ random values from the multivariate normal distribution characterized by the estimated parameters $(\hat{\alpha}_I,\hat{\alpha}_N,\hat{\boldsymbol{\beta}}_{\boldsymbol{I}},\hat{\boldsymbol{\beta}}_{\boldsymbol{N}},\hat{\boldsymbol{\gamma}},\hat{\theta},\hat{\tau}_2,\hat{\rho})$ and the variance-covariance matrix, and then match each set of drawn parameters with the values of $\boldsymbol{x}$ and $\boldsymbol{w}$ of our interests. Our point estimate for a given set of covariate profile is the 50th percentile value of the $1,000$ simulated probabilities, and the two-tailed 95% confidence interval is determined by the 2.5th (lower bound) and 97.5th (upper bound) percentile values of the prediction.

3 Monte Carlo Simulations

This section presents the results of Monte Carlo simulations that illustrate how our inference may be biased if we ignore the endogeneity of IO opposition. We also show that our proposed model can recover the true effect in the presence of endogeneity. Our simulated data are generated according to the assumptions of our model presented in the paper. Throughout the iterations, we assign the following values to the parameters of our model: $\beta_I = -1$, $\beta_N = 0$, and $\alpha_I = \alpha_N = 1$. That is, we assume that the effect of a covariate on dispute escalation is -1 in the presence of IO opposition whereas it is 0 in its absence. We also assume that the baseline propensity of dispute escalation is the same regardless of IO opposition. The purpose of Monte Carlo simulations is to test if our proposed model and a naive probit model can recover these values.

Table 12: Monte Carlo Simulation Results

	$\hat{\alpha}_I - \hat{\alpha}_N$ (True value: 0)		$\hat{\beta}_I$ (True value: -1)		$\hat{\rho}$
Given ρ	Naive	Joint	Naive	Joint	
$-.8$	-1.34	$-.02$	$-.42$	-1.00	$-.78$
$-.6$	$-.90$	$-.06$	$-.48$	$-.98$	$-.57$
$-.4$	$-.55$	$-.03$	$-.59$	-1.00	$-.37$
$-.2$	$-.25$	.003	$-.72$	-1.03	$-.18$
0	$-.02$	$-.01$	$-.76$	$-.98$	.01
.2	.29	.08	$-.94$	-1.07	.18
.4	.56	$-.02$	-1.11	-1.01	.41
.6	.88	$-.02$	-1.30	$-.95$	.59
.8	1.40	.01	-1.77	$-.98$	.78

Note. Cell entries are the average estimates from 100 iterations.

In the table, each row shows the mean estimates from 100 iterations for a given value of ρ. First, we can see that our proposed joint model can recover values that are very close to the true values. On the other hand, a naive estimation generates biased inferences when ρ is not equal to zero. Consistent with our argument, mean estimates of $\alpha_I - \alpha_N$ tend to be greater than the true value of 0 when ρ is positive. This is because α_I is overestimated and/or α_N is underestimated when there exists a positive correlation between unobservable determinants of IO opposition and dispute escalation (μ and ϵ, respectively). More importantly, a naive estimation generates biased estimates of β_I, the effect of covariates on dispute escalation in the presence of institutional opposition. These results further increase our confidence in the reported results.

4 List of IO Opposition

Table 13: List of Institutional Opposition

Disputed territory	Challenger	Polity	Target	Year	Month	Institutions	Escalation
Islands in Corisco Bay	Gabon	-9	Equatorial Guinea	1972	8	OAU	High
Ogaden region	Somalia	7	Ethopia	1963	11	OAU	High
Dori district	Mali	-7	Burkina Faso	1974	11	OAU	High
Bakassi Peninsula/Lake Chad	Nigeria	-7	Cameroun	1993	12	ICJ	High
Northeastern province of Kenya	Somalia	7	Kenya	1963	12	OAU	High
Northeastern province of Kenya	Somalia	7	Kenya	1965	1	OAU	Low
Northeastern province of Kenya	Somalia	7	Kenya	1966	1	OAU	Low
Northeastern province of Kenya	Somalia	7	Kenya	1967	3	OAU/UN	High
Kagera Salient	Uganda	-7	Tanzania	1978	10	OAU	High
Falkland Islands (Malvinas)	Argentina	6	United Kingdom	1976	2	UNSC	High
Falkland Islands (Malvinas)	Argentina	-8	United Kingdom	1982	3	UNSC	High
Beagle Channel	Argentina	-9	Chile	1977	8	ICJ	High
Beagle Channel	Argentina	-9	Chile	1978	8	Vatican	High
Beagle Channel	Argentina	-8	Chile	1980	10	Vatican/ICJ	High
Maranon region	Ecuador	9	Peru	1981	1	OAS	High
Maranon region	Ecuador	9	Peru	1995	1	Protocol of Rio	High
Gulf of Fonseca	El Salvador	0	Honduras	1969	6	OAS	High
Belize	Guatemala	1	United Kingdom	1972	1	OAS	Low
Belize	Guatemala	-3	United Kingdom	1975	11	UNGA	Low
Belize	Guatemala	-3	United Kingdom	1977	4	UNGA	High
Gulf of Fonseca	Honduras	-1	El Salvador	1970	1	CAS/OAS	High
Southern border of Guyana	Suriname	7	Guyana	1978	1	ATC	Low
Essequibo region	Venezuela	6	Guyana	1966	10	UN	Low
Land border/Gulf of Thailand	Cambodia	-7	Vietnam	1977	2	UNSC	High
Preah Vihear	Cambodia	-9	Thailand	1961	6	ICJ	High
Paracel and Spratly Islands	China	-7	Vietnam	1978	4	UNSC	High
Enclaves and sections of border	India	9	Pakistan	1956	8	UNSC	High
Enclaves and sections of border	India	9	Pakistan	1958	3	UN	High
Enclaves and sections of border	India	9	Pakistan	1959	1	IBRD	High
Jammu and Kashmir	India	9	Pakistan	1947	10	UNSC	High
West Irian	Indonesia	0	Netherlands	1954	10	UNGA	Low
West Irian	Indonesia	-1	Netherlands	1957	2	UNGA	High
West Irian	Indonesia	-5	Netherlands	1961	11	UNGA	High
Korea	North Korea	-7	South Korea	1949	5	UNGA	High
Korea	North Korea	-8	South Korea	1958	3	UNGA	High
Korea	North Korea	-9	South Korea	1970	6	UN	High
Korea	North Korea	-9	South Korea	1974	2	UN	High
Vietnam	North Vietnam	-7	South Vietnam	1965	10	ICCS	High
Jammu and Kashmir	Pakistan	2	India	1947	9	UNSC	High
Jammu and Kashmir	Pakistan	4	India	1951	7	UNSC	High
Jammu and Kashmir	Pakistan	1	India	1964	3	UNSC	High
Jammu and Kashmir	Pakistan	1	India	1965	3	UN	High
Jammu and Kashmir	Pakistan	-7	India	1981	7	UNGA	High
Jammu and Kashmir	Pakistan	-4	India	1987	9	UN	High
Enclaves and sections of border	Pakistan	8	India	1957	8	UNSC	High
Enclaves and sections of border	Pakistan	1	India	1962	9	UNSC	High
Enclaves and sections of border	Pakistan	1	India	1963	7	UN	High
Enclaves and sections of border	Pakistan	1	India	1965	1	UN	High
Aozou Strip	Chad	-7	Libya	1987	9	OAU	High
Ill-defined border	South Yemen	-5	Saudi Arabia	1969	11	Arab Summit	High
Buraimi Oasis	United Kingdom	10	Saudi Arabia	1955	10	UN	Low
Wadi Halfa salient and Hala'ib	Egypt	-7	Sudan	1958	2	UNSC	Low
Territory occupied	Egypt	-7	Israel	1969	3	UN	High
after the Six Day War	Egypt	-7	Israel	1973	10	UNSC	High
Territory in Negev	Egypt	1	Israel	1948	5	UNSC	High
Hanish islands	Eritea	-2	Yemen	1995	11	UN	High
Shatt-al-Arab Waterway	Iran	-10	Iraq	1974	1	UNSC	High
Shatt-al-Arab Waterway	Iran	-10	Iraq	1974	8	OPEC	High
Bubiyan and Warba islands	Iraq	-7	Kuwait	1972	12	Arab League	High
Kuwait	Iraq	-9	Kuwait	1990	6	UNSC	High

Table 13: List of Institutional Opposition

Disputed territory	Challenger	Polity	Target	Year	Month	Institutions	Escalation
Kuwait	Iraq	-9	Kuwait	1994	7	UNSC	High
Shatt-al-Arab Waterway	Iraq	-9	Iran	1980	3	UNSC	High
DMZ established after 1948 war	Israel	10	Egypt	1955	2	UNSC	High
DMZ established after 1948 war	Israel	10	Egypt	1956	10	UNSC,UNGA	High
DMZ established after 1948 war	Israel	10	Jordan	1953	2	UNSC	High
DMZ established after 1948 war	Israel	10	Jordan	1956	7	UNSC,UNGA	Low
DMZ established after 1948 war	Israel	10	Jordan	1957	7	UN	High
DMZ established after 1948 war	Israel	10	Jordan	1966	11	UNSC	High
DMZ established after 1948 war	Israel	10	Syria	1951	3	UNSC	High
DMZ established after 1948 war	Jordan	-10	Israel	1948	5	UNSC	High
DMZ established after 1948 war	Jordan	-9	Israel	1967	5	UNGA	High
Tindouh area	Morocco	-1	Algeria	1963	10	OAS	High
Spanish Sahara	Morocco	-9	Spain	1975	10	ICJ	High
Aden areas	North Yemen	-3	South Yemen	1972	3	Arab League	High
Aden areas	North Yemen	-6	South Yemen	1979	2	Arab League	High
Hawar islands	Qatar	-10	Bahrein	1986	4	GCC	High
Military base rights	Russia	4	Georgia	1993	1	UN	High
Ill-defined border	Saudi Arabia	-10	Yemen	1994	10	UNSC/Arab League	High
Independence of Israel	Syria	-7	Israel	1948	5	UN	High
DMZ established after 1948 war	Syria	7	Israel	1956	3	UNSC	High
DMZ established after 1948 war	Syria	7	Israel	1958	11	UNSC	High
DMZ established after 1948 war	Syria	-2	Israel	1962	2	UNSC	High
DMZ established after 1948 war	Syria	-7	Israel	1963	12	UNSC	High
DMZ established after 1948 war	Syria	-7	Israel	1965	3	UN	High
DMZ established after 1948 war	Syria	-7	Israel	1966	3	UNSC	High
DMZ established after 1948 war	Syria	-7	Israel	1967	1	UNSC	High
Golan Heights	Syria	-9	Israel	1969	7	UNSC	High
Golan Heights	Syria	-9	Israel	1973	10	UNSC	High
Golan Heights	Syria	-9	Israel	1974	1	UNSC	High
Military base rights	Tunisia	-9	France	1961	7	UNSC	High