Even Generals Need Friends:
How Domestic and International Reactions to Coups Influence Regime Survival

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Online Appendix

Our manuscript includes a handful of footnotes that speak to the robustness of our findings. We also employ a newer dataset to capture post-coup signals. The purpose of this appendix is to provide additional information on these two points. We begin by providing descriptive statistics on all measures used in the manuscript. Second, we provide additional information in how the measure for *International Protests* was coded. Third, we provide analyses using alternative specifications of our primary independent variables. Fourth, we present analyses that test for unobserved heterogeneity. Fifth, we present analyses that explicitly test for selection bias. Finally, we present analyses using year (instead of month) as the unit of analysis.

1. Descriptive Statistics

Appendix Table 1. Descriptive Statistics for All Measures used in the Primary Analysis

Continuous measures

	Min	Max	Mean	Median	SD
Leader duration	1.0	510.0	112.2	78.0	105.5
Domestic protests	0	16	0.51	0	1.03
International protests	-7.4	6.3	-0.13	0	1.87
GDP/capita (ln)	5.6	11.5	7.6	7.3	1.0
Ch. GDP/capita	-12.7	12.2	0.1	0.1	1.6
Population (ln)	4.5	12.2	8.8	8.8	1.5
Recent failed coup	0	4	0.1	0	0.4
Pre-coup GDP/cap (ln)	4.4	10.3	6.4	6.4	1.1
Pre-coup Ch. GDP/capita	-5.8	4.0	0.7	0.6	1.4

Dichotomous measures

	Min	Max	% coded 1
Pre-coup protests	0	1	26.7
Pre-coup sanctions	0	1	19.9
Pre-coup democracy	0	1	18.4

## 2. Additional Information on Coding of International Protest Measure

Capturing international reactions to coups can be done in many ways. One option would be to use events datasets, such as COPDAB, WEIS, or the SPEED dataset, which capture interactions between states at the daily level. After exploring this option, we found that too many of these events seemed to have very little to do with coups. Our theory speaks to international reactions to coups specifically, so we prefer a measure that specifically captures these reactions. Fortunately, Shannon et al. (2015) recently published an article in *Foreign Policy Analyses* that includes the exact data for our needs. Both the paper and replication data are posted online, which gave us access to the variables used in this paper.[1]

These authors followed several steps to generate their measure for international reactions to coups. We describe these steps here in more detail than the paper allows.

First, the authors began with the 228 successful coups coded by Powell and Thyne (2011) from 1950 to 2011. Second, they defined the post-coup period as either (1) six months following a successful coup or (2) the time until a subsequent coup, if the subsequent coup attempt comes during the six-month post-coup period. For example, Cuba had a single successful coup in 1952 on March 10. The post-coup period for Cuba was then 03/10/52 until 09/10/52 (the coup date plus 6 months). We provide a histogram of the time between the coup and the post-coup signal in Appendix Figure 1 below. As we can see, the bulk of post-coup signals happen soon after the

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[1] Data are available at: http://www.uky.edu/~clthyn2/research.htm

coup. Twelve percent of post-coup signals happen in the day after the coup (the modal category), and 65 percent come within 30 days of the coup.

App. Figure 1. Time between Coup Date and Signal Date
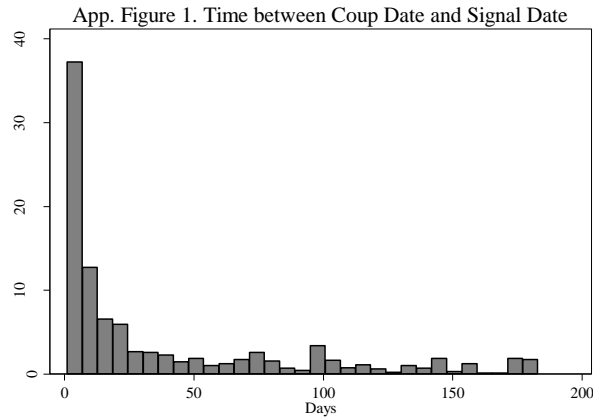
Having defined the post-coup periods, the authors then searched for information on official state and IO reactions to the coup. The authors relied primarily on the *Historical New York Times* database and the *Lexis-Nexis* database. This search produced over 700 articles for potential coding, which resulted in 1259 official reactions to 98 of the 228 coups. The map below, taken from the Shannon et al. (2015) manuscript, shows the spatial distribution of the states and IOs that sent official statements to successful coups.
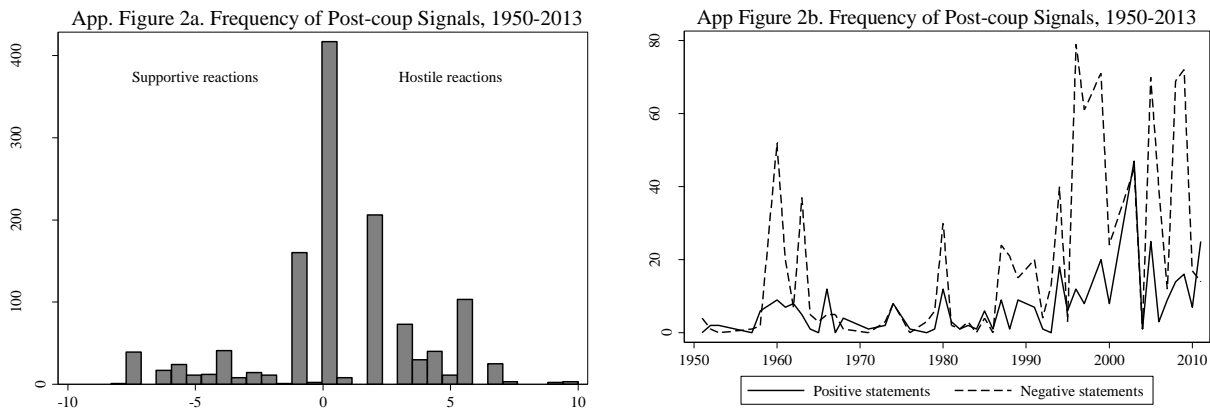

FIG 1. Signal Frequency Following Coups, 1950–2011

Unsurprisingly given its global reach, post-coup signals from the US are the highest. However, we see that the data sources are not unduly biased towards the US or other Western states. The second through fourth most frequent signalers are the UN, EU and AU, respectively. Among the top-15 signalers, we see states as diverse as Japan, Nigeria, Egypt and France. Thus, we have little reason to suspect that the sources used to collect the data have unduly biased observations towards Western states.

Beyond coding whether or not there was an official statement, the authors coded the intensity and direction of the statement using Goldstein's (1992) well-known protocol. This measure

ranges from -10 (most hostile) to +8.3 (most supportive). For example, following the 02/11/2011 coup in Egypt, UN Secretary-General Ban Ki-moon praised the overthrow: "I commend the people of Egypt for the peaceful and courageous and orderly manner in which they have exercised their legitimate rights…I call on all parties to continue in the same spirit. The United Nations stands ready to assist in the process."[2] This quote coincides with Goldstein's (1992) "Endorse other's policy or position; give verbal support," which is coded +3.6. For a negative example, in December 2006 the US decided to suspend all aid to Fiji following its coup on 12/05/2006.[3] This event coincides with Goldstein's (2002) "Reduce or cut off aid or assistance; act to punish/deprive," which is coded -5.6. Recall, however, that we reversed the sign of these signals in the manuscript to keep the protest measures consistent (i.e., positive values indicate hostile reactions), as shown below.

In order to better describe these data, below we present a histogram of all official responses sent during post-coup periods from 1950 to 2013. We also show the number of positive and negative (collapsing all positive/negative statements by 'sum') over time.

App. Figure 2a. Frequency of Post-coup Signals, 1950-2013

App Figure 2b. Frequency of Post-coup Signals, 1950-2013

The figures above provide two points worth mentioning. First, in Figure 1b we see a dramatic increase in signals following the end of the Cold War. We analyze how this period influences signals in Models 6 and 7 in the manuscript. Adding a control variable for the Cold War changes our analyses little.[4]

Second, the measure for "International Protests" used in the manuscript is continuous, as shown in Figure 2a. We also tested a dichotomous variable capturing only negative signals (i.e., those to the right of '0' in Figure 2a). We chose to present the continuous measure to avoid ignoring positive post-coup signals. To assure that this decision does not influence our findings, we ran our primary analyses using the dichotomized post-coup signals measure (see below). Again, using this alternative measure did not alter our primary findings.

3. Alternative Measurement for the Primary Independent Variables

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[2] Radio Free Europe (02/12/11); retrieved from Lexis-Nexis.
[3] IPS – Inter Press Service (12/05/06); retrieved from Lexis-Nexis.
[4] We opted to present only the most relevant analyses in this Appendix to keep the length reasonable. All analyses mentioned but not presented are available upon request and will be included in our replication files upon publication.

In the manuscript we chose to use continuous measures for the primary independent variables, capturing the mean signal sent from external actors and a count of protest events from domestic actors. However, there are several other ways that we could have measured these concepts using available data. For example, the domestic protest variable could have been a measure weighting the number of events by the number of protesters. For international reactions, we could similarly take a count of all negative signalers, the sum of all negative signals, or a dummy variable for positive/negative/mixed signals.

Among all the alternative measures mentioned above, our primary results remain consistent for each specification, and we will make all alternative specifications available in our replication files. To provide an example, in Appendix Table 2 below we present what we think is likely the most obvious alternative to the measures used in the paper. Model 1 presents the baseline findings for the main models (those from Table 1, Model 2 in the manuscript). In Model 2, we replace the "Domestic Protests" measure with the sum of all protesters for each month (logged due to skewness). In Model 3, we replace both protest measures with dummy variables. For the international protests measures, this means that we now have a dummy for International protests, International support, and a "Mixed" measure where the coup-born regime received both support and protests from international actors.

As we can see, our results change very little. The only difference in terms of statistical significance is that "Intl protests" becomes insignificant, though we see the expected signs (negative for protests, positive for support). Given that the dichotomized versions lose information, we strongly suspect that our baseline measures provide the best test of our hypotheses.

Appendix Table 2. Influence of Domestic and International Reactions on Leadership Tenure: Alternative Specification of the Primary IVs

	Model 1	Model 2	Model 3
Primary IVs			
Domestic Protests (H1)	-0.133*	-0.080*	-0.559*
	(0.066)	(0.034)	(0.256)
Intl protests (H2)	-0.127*	-0.128+	-0.326
	(0.064)	(0.065)	(0.286)
Intl support (H2)			0.277
			(0.456)
Mixed intl reaction (H2)			0.454
			(0.558)
Post-coup controls			
GDP/capita (ln)	-0.316	-0.321	-0.191
	(0.205)	(0.206)	(0.202)
Ch. GDP/capita	0.106	0.102	0.092
	(0.066)	(0.067)	(0.065)
Population	-0.078	-0.074	-0.090
	(0.104)	(0.109)	(0.099)
Recent failed coup	-0.348*	-0.331*	-0.289
	(0.163)	(0.161)	(0.177)
Pre-coup controls			
Pre-coup protests	0.199	0.186	0.241
	(0.298)	(0.289)	(0.322)
Pre-coup sanctions	0.049	0.081	0.077
	(0.380)	(0.391)	(0.382)
Pre-coup democracy	0.384	0.414	0.285
	(0.271)	(0.278)	(0.269)
Pre-coup GDP/cap.	0.350*	0.376*	0.220
	(0.174)	(0.174)	(0.179)
Pre-coup Ch. GDP/cap.	0.043	0.049	0.042
	(0.107)	(0.107)	(0.110)
Constant	5.098*	4.946*	5.109*
	(1.391)	(1.462)	(1.410)
Observations	16,666	16,666	16,666
Post-coup states	70	70	70
Post-coup periods	206	206	206
Leader Terminations	192	192	192
Wald Chi2	20.53*	23.86*	20.34+
p	0.692	0.692	0.687

Note: Robust standard errors clustered by state in parentheses. *p<.05, +p<.10 (two-tailed).

4. Unobserved Heterogeneity

A common issue with duration models is the presence of unobserved heterogeneity, meaning that the systematic part of our models might not fully account for different hazards for each unit. For our analyses, there may be something about each state that causes systematic variations in each state's hazard that is not being controlled for (e.g., history of authoritarianism, influential neighbors). Our primary analyses cluster standard errors by country to help account for this. However, we can go step further to assure that our results are not unduly biased by unobserved heterogeneity.

One reasonable option proposed by Zorn (2000) is to use a model that specifically addressed unit-level heterogeneity. Explaining that fixed effects are likely to produce incidental parameter problems, he proposes a random effects model for duration analyses. Taking this approach, we introduce a (gamma) frailty term by state in Appendix Table 3 below. As we can see, the results change very little after adding this term.

Appendix Table 3a. Influence of Domestic and International Reactions on Leadership Tenure: Considering Unobserved Heterogeneity

	Model 1	Model 2	Model 3	Model 4
Primary IVs				
Domestic protests (H1)	-0.122+	-0.128+	-0.124+	-0.128+
	(0.071)	(0.071)	(0.072)	(0.071)
Intl protests (H2)		-0.122+	-0.070	-0.124+
		(0.064)	(0.076)	(0.074)
Intl protests SD (H2)			0.042	
			(0.132)	
Intl prot.*Intl prot. SD (H2)			-0.069	
			(0.057)	
Domestic prot*Intl prot. (H3)				0.002
				(0.028)
Post-coup controls				
GDP/capita (ln)	-0.242	-0.340	-0.390+	-0.342
	(0.208)	(0.214)	(0.222)	(0.215)
Ch. GDP/capita	0.099	0.103	0.105	0.102
	(0.073)	(0.074)	(0.075)	(0.074)
Population	-0.113	-0.099	-0.116	-0.099
	(0.101)	(0.099)	(0.099)	(0.100)
Recent failed coup	-0.185	-0.214	-0.205	-0.213
	(0.187)	(0.189)	(0.189)	(0.190)
Pre-coup controls				
Pre-coup protests	0.244	0.234	0.249	0.233
	(0.280)	(0.276)	(0.278)	(0.277)
Pre-coup sanctions	0.210	0.161	0.129	0.162
	(0.313)	(0.309)	(0.312)	(0.310)
Pre-coup democracy	0.269	0.298	0.377	0.298
	(0.317)	(0.315)	(0.324)	(0.315)
Pre-coup GDP/cap.	0.308+	0.364*	0.383+	0.365*
	(0.181)	(0.183)	(0.205)	(0.183)
Pre-coup Ch. GDP/cap.	0.043	0.050	0.059	0.050
	(0.099)	(0.097)	(0.101)	(0.097)
Constant	4.994*	5.279*	5.671*	5.282*
	(1.475)	(1.471)	(1.503)	(1.471)
p	0.736	0.738	0.736	0.738
Post-coup states	70	70	70	70
Post-coup periods	206	206	206	206
Leader Terminations	192	192	192	192
Wald Chi2	10.48	14.17	15.65	14.18
Theta	0.175	0.158	0.141	0.158
Chi2 theta	3.417	3.038	2.381	3.033
Prob>=Chi2 theta	0.0323	0.0407	0.0614	0.0408
Observations	16,666	16,666	16,666	16,666

Robust standard errors clustered by state in parentheses. *p<.05, +p<.10 (two-tailed).

Appendix Table 3b. Influence of Domestic and International Reactions on Leadership Tenure: Considering Unobserved Heterogeneity

	Model 5	Model 6 (Cold War)	Model 7 (Post-CW)	Model 8	Model 9	Model 10
Primary IVs						
Intl protests, IOs (H4)	-0.086	-0.071	-0.237	-0.098	-0.043	-0.128
	(0.092)	(0.118)	(0.173)	(0.093)	(0.153)	(0.167)
Intl protests, states (H4)	-0.134+	-0.159*	0.114			
	(0.068)	(0.081)	(0.167)			
Intl protests, major powers (H5)				-0.117+		
				(0.066)		
Intl protests, ~major powers (H5)				-0.004		
				(0.090)		
Intl protests, trade partners (H5)					-0.167*	
					(0.065)	
Intl protests, ~trade partners (H5)					-0.038	
					(0.134)	
Intl protests, allies (H5)						-0.146*
						(0.069)
Intl protests, ~allies (H5)						0.039
						(0.146)
Post-coup controls						
Domestic protests	-0.123+	-0.115+	0.055	-0.124+	-0.122+	-0.123+
	(0.071)	(0.069)	(0.269)	(0.071)	(0.071)	(0.071)
GDP/capita (ln)	-0.397+	-0.767*	-0.112	-0.371+	-0.381+	-0.361+
	(0.217)	(0.355)	(0.448)	(0.216)	(0.210)	(0.215)
Ch. GDP/capita	0.104	0.089	0.073	0.102	0.102	0.099
	(0.074)	(0.100)	(0.093)	(0.074)	(0.074)	(0.073)
Population	-0.102	-0.083	-0.245	-0.105	-0.123	-0.104
	(0.098)	(0.129)	(0.192)	(0.098)	(0.097)	(0.098)
Recent failed coup	-0.204	0.059	-1.057*	-0.217	-0.223	-0.195
	(0.190)	(0.215)	(0.414)	(0.191)	(0.193)	(0.191)
Pre-coup controls						
Pre-coup protests	0.223	0.360	0.259	0.230	0.240	0.215
	(0.275)	(0.314)	(0.640)	(0.277)	(0.275)	(0.277)
Pre-coup sanctions	0.166	0.321	0.054	0.172	0.169	0.170
	(0.308)	(0.386)	(0.628)	(0.305)	(0.299)	(0.306)
Pre-coup democracy	0.349	0.477	-0.532	0.358	0.408	0.300
	(0.316)	(0.410)	(0.606)	(0.316)	(0.310)	(0.317)
Pre-coup GDP/cap.	0.409*	0.596*	0.403	0.389*	0.406*	0.366*
	(0.186)	(0.296)	(0.520)	(0.186)	(0.182)	(0.185)
Pre-coup Ch. GDP/cap.	0.045	-0.013	0.231	0.051	0.046	0.060
	(0.096)	(0.127)	(0.173)	(0.096)	(0.094)	(0.096)
Constant	5.464*	6.766*	4.832	5.423*	5.564*	5.458*
	(1.466)	(2.049)	(3.161)	(1.457)	(1.432)	(1.453)
p	0.738	0.806	0.816	0.735	0.734	0.737
Post-coup states	70	67	46	70	70	70
Post-coup periods	206	174	66	206	206	206
Leader Terminations	192	140	52	192	192	192
Wald Chi2	16.47	14.14	18.09	16.16	19.77	17.02
Theta	0.146	0.534	0.376	0.134	0.111	0.136
Chi2 theta	2.678	9.336	1.086	2.229	1.568	2.272
Prob>=Chi2 theta	0.0509	0.00112	0.149	0.0677	0.105	0.0659
Observations	16,666	10,171	6,495	16,666	16,666	16,666

Robust standard errors clustered by state in parentheses. *p<.05, +p<.10 (two-tailed).

5. Selection Bias

Our next concern is selection bias. Our analyses consider how reactions from domestic and international actors influence the post-coup tenure of coup leaders. As strategic actors, we should expect coup leaders to consider the level of domestic and international support/resistance following a coup, and information about these factors is likely available to coup plotters before a coup is attempted. Recognizing the strategic nature of coup plotters, the analyses in our manuscript control for several factors that might provide this type of information: pre-coup protests, pre-coup sanctions, pre-coup democracy, pre-coup GDP/capita, and yearly change in pre-coup GDP/capita. Taking this approach is a necessary first step because it allows us to hold important factors about the pre-coup environment constant in order to gauge the influence of post-coup factors on leadership tenure. However, this approach cannot eliminate concerns with selection bias.

The primary concern with selection bias is that we can only observe post-coup cases following successful coups, which might be a unique set of cases that come about due to expectations about domestic and international reactions to the coup. For example, if international actors have friendly relationships with the incumbent government of a state, then coup plotters will be unlikely to overthrow the incumbent government because they should expect a backlash to their putsch. If coup plotters decide to overthrow the government in spite of this likely backlash, then these types of plotters may also be the type that will be willing to cede power quickly. A process like this played out in 2009 in Honduras, for instance. The coup plotters who overthrew Zelaya very likely expected a backlash to their maneuver based on clear policies from the OAS (specifically Resolution 1080, 1991 and the Inter-American Democratic Charter, 2001). They chose the coup route anyway, and were predictably suspended from the OAS. As Thompson and Lacey (2009) explain, however, this was a strategic set of coup plotters. Recognizing that they would be punished for the coup, they chose to launch the coup only months before pre-planned elections, expecting that they could withstand the backlash for a few months and then cede power back to the electoral process.

More generally, we might expect our primary processes of interests—the influence of domestic and international responses on leadership duration—to be influenced by the initial decision to launch a coup. And as the example above illustrates, such a selection process could yield Type I errors. Controlling for the pre-coup environment helps ease our fears, but such an approach cannot directly model the selection process of interest.

In order to fully capture potential selection bias, a selection model is needed. We present such a test in Appendix Table 4 below. These analyses employ the "Dursel" program as first presented by Boehmke, Morey and Shannon (2006). Akin to more common selection models (e.g., Heckman), this approach models a two stage process where the first stage predicts the selection process (successful coups in this case), and the second stage captures the duration process (post-coup leadership tenure in this case). The primary limitation of this approach is that the estimator is currently unable to examine the second/duration stage with time-varying co-variates. However, our models can fairly easily be reduced to time in-variate models, making this an appropriate (and best available) technique to capture potential selection effects.

In order to capture the first stage, we begin by following past research in gathering independent variables that have been found to predict coups (e.g., Powell 2012; Belkin and Schofer 2003). These measures include GDP/capita and yearly change in GDP/capita from Gleditsch (2002), Polity scores from Marshall, Jaggers and Gurr (2011), and time since the last coup with polynomial approximations (following Carter and Signorino 2010). We add two measures to directly capture likely responses to coups. These measures include pre-coup protests and pre-coup sanctions, which are present in our primary analyses and explained in the manuscript.

The second stage largely mimics the models from the manuscript except for two key differences. First, as explained above, the dursel estimator cannot include time-varying covariates. Thus, instead of using measures for GDP/capita, Ch. GDP/capita, Population and Democracy at the country-month level, we collapsed these measures by mean for each country over the term of the post-coup time period. Second, given that the pre-coup environment is best modeled in the first stage, we omit pre-coup protests, pre-coup sanctions, and pre-coup polity from the second stage. We present the analyses in Appendix Table 4.

Beginning with the selection stage, we see that our estimations largely confirm those that we have seen in previous work. Higher levels of economic growth and democracy help a state avoid successful coups, while protests make coups more likely. Moving to the duration stage, we see findings that closely mirror our primary findings. Both domestic and international protests continue to have a strong, leadership-shortening effect, and the interactive terms continue to be insignificant. Likewise, major powers, trading partners, and allied state reactions continue to have the strongest regime-shortening effect on coup-born regimes.

Appendix Table 4a. Influence of Domestic and International Reactions on Leadership Tenure: Considering Selection Bias

	Model 1	Model 2	Model 3	Model 4
Duration				
Domestic protests (H1)	-0.146*	-0.163*	-0.177*	-0.163*
	(0.068)	(0.066)	(0.063)	(0.065)
Intl protests (H2)		-0.092*	-0.099+	-0.082
		(0.047)	(0.053)	(0.055)
Intl protests SD (H2)			0.086	
			(0.084)	
Intl prot.*Intl prot. SD (H2)			-0.005	
			(0.047)	
Domestic prot*Intl prot. (H3)				-0.009
				(0.020)
GDP/capita (ln)	0.078	0.040	0.026	0.043
	(0.107)	(0.111)	(0.124)	(0.112)
Ch. GDP/capita	0.127	0.067	0.055	0.075
	(0.264)	(0.271)	(0.276)	(0.276)
Population	0.040	0.048	0.045	0.047
	(0.066)	(0.064)	(0.065)	(0.064)
Recent failed coup	-0.488*	-0.550*	-0.533*	-0.566*
	(0.129)	(0.129)	(0.138)	(0.138)
Constant	3.614*	3.856*	3.963*	3.845*
	(1.045)	(1.045)	(1.138)	(1.049)
Selection				
Protests	0.099*	0.099*	0.099*	0.099*
	(0.048)	(0.048)	(0.048)	(0.048)
Sanctions	-0.027	-0.027	-0.027	-0.027
	(0.018)	(0.018)	(0.018)	(0.018)
GDP/capita (ln)	0.151*	0.151*	0.151*	0.151*
	(0.018)	(0.018)	(0.018)	(0.018)
Ch. GDP/capita	-0.105*	-0.105*	-0.105*	-0.105*
	(0.013)	(0.013)	(0.013)	(0.013)
Polity	-0.012*	-0.012*	-0.012*	-0.012*
	(0.003)	(0.003)	(0.003)	(0.003)
Time since last coup	-0.060*	-0.060*	-0.060*	-0.060*
	(0.015)	(0.015)	(0.015)	(0.015)
Time^2	0.002*	0.002*	0.002*	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)
Time^3	-0.000*	-0.000*	-0.000*	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-1.942*	-1.942*	-1.942*	-1.942*
	(0.136)	(0.136)	(0.136)	(0.136)
p (duration dependence)	0.794	0.800	0.803	0.800
	(0.037)	(0.037)	(0.038)	(0.037)
rho (error correlation)	-0.019	-0.022	-0.027	-0.207
	(0.028)	(0.030)	(0.033)	(0.030)
Observations (selection)	7352	7352	7352	7352
Observations (duration)	183	183	183	183
Wald Chi2	178.8*	178.8*	178.8*	178.8*

Robust standard errors clustered by state in parentheses. *p<.05, +p<.10 (two-tailed).

Appendix Table 4b. Influence of Domestic and International Reactions on Leadership Tenure: Considering Selection Bias

	Model 5	Model 6 (Cold War)	Model 7 (Post-CW)	Model 8	Model 9	Model 10
Duration						
Intl protests, IOs (H4)	-0.058	-0.045	-0.052	-0.077	-0.102	-0.138
	(0.065)	(0.076)	(0.162)	(0.062)	(0.103)	(0.120)
Intl protests, states (H4)	-0.098+	-0.113+	0.056			
	(0.053)	(0.066)	(0.116)			
Intl protests, major powers (H5)				-0.133*		
				(0.050)		
Intl protests, ~major powers (H5)				0.064		
				(0.064)		
Intl protests, trade partners (H5)					-0.168*	
					(0.047)	
Intl protests, ~trade partners (H5)					0.059	
					(0.094)	
Intl protests, allies (H5)						-0.139*
						(0.050)
Intl protests, ~allies (H5)						0.078
						(0.109)
Domestic protests	-0.166*	-0.187*	0.262	-0.161*	-0.171*	-0.171*
	(0.066)	(0.065)	(0.224)	(0.066)	(0.062)	(0.061)
GDP/capita (ln)	0.027	0.056	0.085	0.040	0.054	0.028
	(0.113)	(0.133)	(0.226)	(0.113)	(0.109)	(0.113)
Ch. GDP/capita	0.064	-0.222	0.451*	0.040	0.019	0.038
	(0.271)	(0.280)	(0.183)	(0.275)	(0.277)	(0.274)
Population	0.049	0.045	-0.052	0.038	0.021	0.053
	(0.065)	(0.075)	(0.179)	(0.064)	(0.063)	(0.066)
Recent failed coup	-0.555*	-0.569*	-1.096	-0.604*	-0.608*	-0.563*
	(0.130)	(0.143)	(0.987)	(0.134)	(0.130)	(0.128)
Constant	3.969*	3.851*	4.008	3.958*	3.994*	3.898*
	(1.061)	(1.221)	(2.860)	(1.054)	(1.018)	(1.063)

Robust standard errors clustered by state in parentheses. *p<.05, +p<.10 (two-tailed).

Appendix Table 4b. Influence of Domestic and International Reactions
on Leadership Tenure: Considering Selection Bias (continued)

	Model 5	Model 6 (Cold War)	Model 7 (Post-CW)	Model 8	Model 9	Model 10
Selection						
Protests	0.099*	0.122*	-0.080	0.099*	0.099*	0.099*
	(0.048)	(0.058)	(0.107)	(0.048)	(0.048)	(0.048)
Sanctions	-0.027	-0.051	0.011	-0.027	-0.027	-0.027
	(0.018)	(0.033)	(0.012)	(0.018)	(0.018)	(0.018)
GDP/capita (ln)	0.151*	0.285*	-0.078+	0.151*	0.151*	0.151*
	(0.018)	(0.027)	(0.044)	(0.018)	(0.018)	(0.018)
Ch. GDP/capita	-0.105*	-0.149*	-0.053*	-0.105*	-0.105*	-0.105*
	(0.013)	(0.021)	(0.018)	(0.013)	(0.013)	(0.013)
Polity	-0.012*	-0.014*	-0.005	-0.012*	-0.012*	-0.012*
	(0.003)	(0.004)	(0.007)	(0.003)	(0.003)	(0.003)
Time since last coup	-0.060*	-0.071*	-0.033	-0.060*	-0.060*	-0.060*
	(0.015)	(0.021)	(0.028)	(0.015)	(0.015)	(0.015)
Time^2	0.002*	0.003+	0.002	0.002*	0.002*	0.002*
	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Time^3	-0.000*	-0.000+	-0.000	-0.000*	-0.000*	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-1.942*	-2.738*	-0.654+	-1.942*	-1.942*	-1.942*
	(0.136)	(0.185)	(0.356)	(0.136)	(0.136)	(0.136)
p (duration dependence)	0.802	0.793	0.946	0.805	0.807	0.805
	(0.038)	(0.041)	(0.099)	(0.037)	(0.037)	(0.038)
rho (error correlation)	-0.022	-0.02	0.011	-0.018	-0.004	-0.021
	(0.031)	(0.036)	(0.063)	(0.029)	(0.027)	(0.032)
Observations (selection)	7352	4382	2970	7352	7352	7352
Observations (duration)	183	151	32	183	183	183
Wald Chi2	178.8*	190.2*	30.92*	178.8*	178.9*	178.7*

Robust standard errors clustered by state in parentheses. *p<.05, +p<.10 (two-tailed).

6. Month/Year Unit of Analysis

Our final concern is the unit of analysis for our sample. The manuscript uses the country-month as the unit of consideration. This is done because it takes advantage of the precision for the dependent variable and the primary independent variables (domestic and international protests measures), which are coded at the country/day level. However, several of the control variables are measured at the country/year level (e.g., GDP/capita, Polity), and the country/year level is a common approach for studying leader duration. To make sure that our unit of analysis is not biasing our findings, in Appendix Table 5 below we reproduce our findings with country/year as the unit of analysis. As we can see, results remain consistent with the primary analyses in terms of significance and size/direction of the coefficients.

Appendix Table 5a. Influence of Domestic and International Reactions on Leadership Tenure: Analysis at Year Level

	Model 1	Model 2	Model 3	Model 4
Primary IVs				
Domestic protests (H1)	-0.121*	-0.123*	-0.136*	-0.124*
	(0.054)	(0.053)	(0.052)	(0.052)
Intl protests (H2)		-0.093+	-0.073	-0.096
		(0.052)	(0.059)	(0.064)
Intl protests (SD) (H2)			0.121	
			(0.099)	
Intl prot.*Intl prot. SD (H2)			-0.035	
			(0.051)	
Domestic prot*Intl prot. (H3)				0.003
				(0.018)
Post-coup controls				
GDP/capita (ln)	-0.077	-0.162	-0.158	-0.163
	(0.157)	(0.163)	(0.165)	(0.166)
Ch. GDP/capita	0.069+	0.073+	0.067	0.073+
	(0.041)	(0.044)	(0.042)	(0.044)
Population	-0.051	-0.038	-0.050	-0.037
	(0.089)	(0.084)	(0.083)	(0.084)
Recent failed coup	-0.188+	-0.195+	-0.185+	-0.194+
	(0.100)	(0.104)	(0.097)	(0.104)
Pre-coup controls				
Protests	0.179	0.169	0.158	0.169
	(0.250)	(0.245)	(0.259)	(0.245)
Sanctions	0.022	-0.018	-0.061	-0.017
	(0.298)	(0.300)	(0.281)	(0.301)
Democracy	0.240	0.279	0.275	0.279
	(0.225)	(0.213)	(0.200)	(0.214)
GDP/capita (ln)	0.170	0.222+	0.172	0.222
	(0.134)	(0.135)	(0.143)	(0.136)
Ch. GDP/capita	0.023	0.031	0.057	0.032
	(0.085)	(0.083)	(0.090)	(0.083)
Constant	2.024+	2.226*	2.550*	2.226*
	(1.121)	(1.117)	(1.169)	(1.115)
p	0.905	0.913	0.918	0.913
Post-coup states	70	70	70	70
Post-coup periods	206	206	206	206
Leader Terminations	192	192	192	192
Wald Chi2	18.82*	20.62*	23.07*	20.75*
Observations	1,571	1,571	1,571	1,571

Robust standard errors clustered by state in parentheses. *p<.05, +p<.10 (two-tailed).

Appendix Table 5b. Influence of Domestic and International Reactions on Leadership Tenure: Analysis at Year Level

	Model 5	Model 6 (Cold War)	Model 7 (Post-CW)	Model 8	Model 9	Model 10
Primary IVs						
Intl protests, IOs (H4)	-0.077	-0.026	-0.178	-0.089	-0.044	-0.104
	(0.087)	(0.081)	(0.143)	(0.086)	(0.129)	(0.140)
Intl protests, states (H4)	-0.087*	-0.132*	0.150			
	(0.043)	(0.044)	(0.096)			
Intl protests, major powers (H5)				-0.092*		
				(0.040)		
Intl protests, ~major powers (H5)				0.019		
				(0.079)		
Intl protests, trade partners (H5)					-0.130*	
					(0.040)	
Intl protests, ~trade partners (H5)					-0.026	
					(0.103)	
Intl protests, allies (H5)						-0.119*
						(0.032)
Intl protests, ~allies (H5)						0.029
						(0.111)
Post-coup controls						
Domestic protests	-0.118*	-0.099+	-0.066	-0.116*	-0.111*	-0.115*
	(0.053)	(0.051)	(0.189)	(0.054)	(0.056)	(0.054)
GDP/capita (ln)	-0.193	-0.197	0.188	-0.177	-0.193	-0.177
	(0.166)	(0.244)	(0.227)	(0.167)	(0.163)	(0.168)
Ch. GDP/capita	0.075+	0.028	0.056	0.073+	0.074+	0.069
	(0.044)	(0.047)	(0.049)	(0.043)	(0.044)	(0.042)
Population	-0.038	-0.017	-0.104	-0.044	-0.060	-0.042
	(0.083)	(0.093)	(0.161)	(0.082)	(0.083)	(0.082)
Recent failed coup	-0.188+	-0.081	-0.614*	-0.192+	-0.180+	-0.173
	(0.105)	(0.131)	(0.241)	(0.106)	(0.105)	(0.107)
Pre-coup controls						
Protests	0.167	0.125	0.143	0.162	0.174	0.154
	(0.245)	(0.285)	(0.427)	(0.247)	(0.243)	(0.251)
Sanctions	-0.012	0.027	0.036	0.002	0.016	0.011
	(0.302)	(0.346)	(0.587)	(0.300)	(0.302)	(0.304)
Democracy	0.292	0.425	-0.466	0.287	0.318+	0.242
	(0.203)	(0.263)	(0.438)	(0.199)	(0.191)	(0.198)
GDP/capita (ln)	0.247+	0.128	0.164	0.236+	0.251+	0.219
	(0.138)	(0.210)	(0.248)	(0.139)	(0.136)	(0.138)
Ch. GDP/capita	0.028	-0.001	0.131	0.032	0.028	0.040
	(0.084)	(0.102)	(0.085)	(0.084)	(0.083)	(0.084)
Constant	2.314*	2.777*	0.958	2.306*	2.475*	2.382*
	(1.114)	(1.318)	(2.407)	(1.118)	(1.136)	(1.115)
p	0.914	0.983	0.968	0.916	0.923	0.917
Post-coup states	70	67	46	70	70	70
Post-coup periods	206	174	66	206	206	206
Leader Terminations	192	140	52	192	192	192
Wald Chi2	26.10*	19.84*	30.21*	26.51*	35.81*	44.05*
Observations	1,571	989	582	1,571	1,571	1,571

Robust standard errors clustered by state in parentheses. *p<.05, +p<.10 (two-tailed).

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