Emergency and Escape: Explaining Why States Derogate from Human Rights Treaties

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13 Appendix

The additional models presented in this appendix are intended to allow us to further scrutinize the primary results from our model. We focus on the results for the indicator variables: Stable Democracy and Court. However, the other null findings reported in the main article are supported by these alternative estimation techniques. Below we present information on inter-coder reliability, alternative variable operationalizations and alternative model specifications.[1]

13.1 Inter-Coder Reliability for Derogation and State of Emergency Variables

We re-coded a sample of 120 randomly selected country-years, first by a second human coder, then by a simple coding rule that sets all values to 0. Two reliability scores were computed that compared the re-coded cases with the original coded data. These reliability scores were then compared to each other using difference in proportions test that allow us to reject the null hypotheses that the two proportions under comparison are statistically indistinguishable for both declared and undeclared states of emergency. The human coder was statistically more accurate than the simple coding rule hat set all values to 0 when compared with the original coding.

13.2 Alternative Variables

13.2.1 Operationalizing Stable Democracy

In the main analysis we code states as a STABLE DEMOCRACY when the state has a Polity score greater than or equal to 7 in the current year and each of the previous five years; otherwise 0. As a robustness test we have estimated our models using the less restrictive cutoff of greater than or equal to 6.

13.2.2 Operationalizing Peer Group

The spatial diffusion of democracy (Gleditsch and Ward, 2006), international war (Most and Starr, 1989) and civil war (Salehyan and Gleditsch, 2006) are all well documented political processes that cluster in space. The omission of spatial information from a statistical model may lead to biased estimates (Franzese and Hays, 2007; Ward and Gleditsch, 2008). To account for this possibility we have created a variable that measures if derogation behavior is mediated through geographic space. We begin with a simple count of the number of derogations that occur. We then use this variable to construct an average.

The spatial count variable takes the sum of the number of derogation events (all treaty derogations, ICCPR treaty derogations, European treaty derogations, or OAS treaty derogations) that occur in the neighboring states of each country in the data. Gleditsch and Ward (2001) define a state j as a neighbor of another state i if the borders of the two state are contiguous or some point on the boarders of two states are within the minimum distance $m_{ij} \leq 950km$. State j is included if it has ratified the necessary treaty of interest. The total number of states of emergency θ_i that exist within the neighborhood of state i is defined as follows:

$$\theta_i = \sum_{ij} x_j d_{ij} r_j \tag{1}$$

Where, x_j is the treaty derogation in the neighboring state j such that:

[1] Note that the table styles vary based on the software that we used to estimate the models. We estimated some of our models in Stata and some in R. In Stata, we used the `outtex` command to generate the tables. In R, we used the `xtable` command from the xtable library for most of the tabular output. For the hazard models we were able to use the `apsrtable` command from the apsrtable package.

$$x_j = \begin{cases} 0 & \text{if neighbor } j \text{ does not derogate} \\ 1 & \text{if neighbor } j \text{ derogates} \end{cases} \tag{2}$$

And, x_j is summed over all ij directed-dyads, where $m_{ij} \leq 950km$ and where the neighbor has ratified the necessary treaty. The minimum distance threshold d_{ij} is therefore:

$$d_{ij} = \begin{cases} 0 & \text{if} \quad m_{ij} > 950km \\ 1 & \text{if} \quad m_{ij} \leq 950km \end{cases} \tag{3}$$

and the condition of ratification r_j is therefore:

$$r_j = \begin{cases} 0 & \text{if neighbor } j \text{ has not ratified the necessary treaty} \\ 1 & \text{if neighbor } j \text{ has ratified the necessary treaty} \end{cases} \tag{4}$$

A simple modification to the formula above allows for the construction of the average number of treaty derogations $\gamma_i$in the neighborhood of state i.

$$\gamma_i = \frac{\sum_{ij} x_j d_{ij} r_j}{\sum_{ij} d_{ij} r_j} \tag{5}$$

We include the average number of treaty derogations $\gamma_i$in the neighborhood of state i in each of our regressions. This variable is not significant and the results are robust if we exclude the variable from the models.

13.3 Robustness Tests

We have undertaken several additional tests to ensure the robustness of our findings, none of which have changed our results. Our robustness checks include several models. We begin with a simple logistic regression equation with listwise deletion (i.e., no multiple imputation)[2] and then several versions of a generalized estimation equation (Zorn, 2001) again with listwise deletion[3], several Heckman selection models to account for the possibility of selection bias (Heckman, 1976)[4], several hazard models for duration dependent variables[5], and a treatment effect model (Ho et al., 2007, 2008) that we estimate in conjunction with the primary models that we presented in the manuscript.

These models are all supportive of our main results.[6]

[2]The logistic regression equation is defined as follows: $Pr(y_i = 1|\theta_i) = 1/(1 + exp(-1 * (\beta \mathbf{X_i} + \epsilon_i)))$, where y_i is the binary dependent variable, $\mathbf{X_i}$ is the vector of k independent variables that enter the model, β is the vector of parameter estimates and ϵ_i.

[3]The generalized estimation equations are defined as follows for a binary dependent variable $Pr(y_{it} = 1|\pi_{it}) = 1/(1 + exp(-1 * (\beta \mathbf{X_{it}} + V_{it})))$, where y_{it} is the binary dependent variable, $\mathbf{X_{it}}$ is the vector of k independent variables that enter the model, β is the vector of parameter estimates and V_{it} is the variance function. We use several other generalized estimation equations for dependent variables that are continuous and event counts. The independent variables enter the generalized estimation equation in the same way for these other dependent variable but the link function changes. For a continuous dependent variable the link function is gaussian; for a count dependent variable the link function is exponential.

[4]The Heckman selection model calculates a selection bias term from the predicted probabilities generated from the first stage probit equation: $Pr(y_i = 1|\theta_i) = \Phi(\beta \mathbf{X_i} + \epsilon_i)))$. The bias term or Mills lambda ratio is then used as an independent variable in the second stage equation, which can be another probit equation or an OLS equation.

[5]Each hazard model is defined as follows: $h(t) = h_0(t) * e^{(\beta \mathbf{X_i})}$, where t is the duration of the derogation period, $h_0(t)$ is the baseline hazard, $\mathbf{X_i}$ is the vector of k independent variables that enter the model and β is the vector of parameter estimates.

[6]Note that the primary models were generated in R using the Zelig package (Imai, King and Lau, 2008, 2010). However, some of the robustness tests are estimated using Stata 11 instead. Each table notes which program was used to generate the estimates.

13.3.1 Logitistic Regression with Listwise Deletion

Table 1: Logistic Regression for binary dependent variable of Treaty Derogations by Eligible States from 1977 to 2007

Variable	**Coefficient** (Std. Err.)
Intercept	-3.688* (1.826)
Stable Democracy	0.850** (0.309)
Court	1.394** (0.453)
Political Violence	0.147* (0.058)
Population	0.065 (0.103)
Income	0.193 (0.125)
Time^1	-0.904** (0.154)
Time^2	0.068** (0.019)
Time^3	-0.002** (0.001)
$N = 834$	

Significance levels : † : 10% ∗ : 5% ∗∗ : 1%
Estimated in Stata 11.0 using the `logit` command

13.3.2 Generalized Estimation Equation with Listwise Deletion

Table 2: Generalized Estimation Equation for binary dependent variable of Treaty Derogations by Eligible States from 1977 to 2007

Variable	**Coefficient** (Std. Err.)
Intercept	-3.005 (2.468)
Stable Democracy	0.830* (0.367)
Court	1.400** (0.416)
Political Violence	0.124† (0.064)
Population	0.052 (0.127)
Income	0.143 (0.169)
Time^1	-0.939** (0.163)
Time^2	0.071** (0.020)
Time^3	-0.002** (0.001)
$N = 834$	

Significance levels : † : 10% * : 5% ** : 1%
Estimated in Stata 11.0 using the `xtgee` command

13.3.3 Selection Models with Listwise Deletion

The Heckman model allows us to model the data generating process by which country-years enter the eligible sample. However, we explained why this process and the decision to file a treaty derogation are independent. Thus, we must be even more cautious in the interpretation of these results given the stringent parametric assumptions that the Heckman model imposes on the data.

Equation 2 for the Heckman Selection model displayed in the results below is estimated first. This equation produces a new variable that is used to correct for selection bias in Equation 1. On a cautionary note, recent work has demonstrated that the Heckman models are highly sensitive to the specification of the two equations (Signorino, 2003). Most researchers include the same variables in both equations of the model with the exception of the minimum difference of one variable. This satisfys the the exclusion restriction for the model. However, the decision of which variable to exclude from which equation is not always well supported by theory. Sartori (2003) demonstrates that the Heckman model is identified only by distributional assumptions when the exclusion restriction is satisfied with only one variable. Heckman (2005) and others (Sartori, 2003; Simmons and Hopkins, 2005) now propose the use of other models with less restrictive distributional assumptions. The problem for us should be clear from the tables below: which variables to put into which equation? Most of the variables make intuitive sense in both. However, the results for Equation 1 are similar to the results from the single equation models. The two models below demonstrate the results are consistent when explicitly accounting for selection of states into State of Emergency conditions. The significance level for the stable democracy drops below $p > 0.05$ in this model but no other changes occur.

Table 3: Heckman Selection Model

Variable	**Coefficient**	**(Std. Err.)**
Equation 1 : Derogation		
Intercept	-2.546**	(0.849)
Stable Democracy	0.239†	(0.129)
Court	0.617**	(0.231)
Political Violence	0.161**	(0.030)
Population	0.068	(0.046)
Income	0.056	(0.060)
Time^1 since last Derogation	-0.456**	(0.050)
Time^2	0.031**	(0.005)
Time^3	-0.001**	(0.000)
Equation 2 (Selection): State of Emergency		
Intercept	0.576	(0.478)
Stable Democracy	-0.097	(0.088)
Court	-0.355**	(0.107)
Political Violence	0.247**	(0.029)
Population	0.043	(0.028)
Income	-0.087**	(0.031)
Time^1 since last soe	-0.467**	(0.033)
Time^2	0.037**	(0.004)
Time^3	-0.001**	(0.000)
ρ	4.074	(55.858)
$N = 3565$		

Significance levels : † : 10% * : 5% ** : 1%

Estimated in Stata 11.0 using the `heckprob` command

Table 4: Heckman Selection Model

Variable	Coefficient	(Std. Err.)
Equation 1 : Derogation		
Intercept	-2.802**	(1.064)
Stable Democracy	0.316†	(0.171)
Court	0.707**	(0.227)
Political Violence	0.166**	(0.044)
Population	0.072	(0.058)
Income	0.065	(0.073)
Time^1 since last Derogation	-0.465**	(0.059)
Time^2	0.031**	(0.006)
Time^3	-0.001**	(0.000)
Equation 2 (Selection): State of Emergency		
Intercept	-0.426	(0.412)
Political Violence	0.269**	(0.027)
Population	0.073**	(0.025)
Income	-0.096**	(0.024)
Time^1 since last SOE	-0.475**	(0.032)
Time^2	0.037**	(0.004)
Time^3	-0.001**	(0.000)
ρ	1.041	(0.848)
$N = 3565$		

Significance levels : † : 10% ∗ : 5% ∗∗ : 1%

Estimated in Stata 11.0 using the `heckprob` command

13.3.4 Information Selection Models

In the following selection models, we model the decision to derogate in equation 1 and the provision of information in equation 2. In the time information model the significance level for the stable democracy drops below $p > 0.05$ but no other changes occur. Notice that the estimates from the selection equation are consistent with those displayed in Table 1. However, some of the coefficients are slightly different because the selection equations are estiamated using a probit regression instead of a logistic regression.

Table 5: Heckman Selection Model

Variable	**Coefficient**	**(Std. Err.)**
Equation 1 : Information-Time		
Intercept	0.964**	(0.302)
Information-Time$_{t-1}$	0.093*	(0.045)
Stable Democracy	0.061†	(0.034)
Court	0.128*	(0.060)
Political Violence	0.014†	(0.007)
Population	-0.024	(0.016)
Income	0.019	(0.022)
Equation 2 (Selection) : Derogation		
Intercept	-1.632	(1.122)
Stable Democracy	0.474**	(0.170)
Court	0.760**	(0.246)
Political Violence	0.083*	(0.035)
Population	0.009	(0.060)
Income	0.113	(0.079)
Time^1 since last Derogation	-0.472**	(0.065)
Time^2	0.033**	(0.007)
Time^3	-0.001**	(0.000)
ρ	0.134	(0.168)
$N = 834$		

Significance levels : † : 10% * : 5% ** : 1%

Estimated in Stata 11.0 using the `heckman` command

Table 6: Heckman Selection Model

Variable	**Coefficient**	**(Std. Err.)**
Equation 1 : Information-Rights		
Intercept	1.053*	(0.521)
Information-Rights$_{t-1}$	0.320**	(0.073)
Stable Democracy	0.160**	(0.061)
Court	0.071	(0.103)
Political Violence	0.023†	(0.013)
Population	-0.046	(0.028)
Income	0.013	(0.039)
Equation 2 (selection) : Derogation		
Intercept	-1.487	(1.121)
Stable Democracy	0.470**	(0.171)
Court	0.753**	(0.246)
Political Violence	0.077*	(0.035)
Population	0.005	(0.061)
Income	0.109	(0.079)
Time^1 since last Derogation	-0.507**	(0.064)
Time^2	0.036**	(0.007)
Time^3	-0.001**	(0.000)
ρ	0.457**	(0.158)
$N = 834$		

Significance levels : † : 10% * : 5% ** : 1%

Estimated in Stata 11.0 using the `heckman` command

13.3.5 Alternative Lagged Structures for the Information Models

The different lagged structures include (1) the lagged dependent variable, (2) the lagged dependent variable and the lagged count of all the total number of filed derogations, (3) the lagged count of the total number of filed derogations and the lagged count of the total number of derogations that include information (either time or rights information), and (4) the natural log of the lagged count of the total number of filed derogations and the lagged count of the total number of derogations that include information.

13.4 Time

We re-estimated all of the models using natural cubic splines (Beck, Katz and Tucker, 1998) instead of a cubic polynomial. This change does not alter any of the results.

13.4.1 Treatment Effects Model

The goal of the treatment effects procedure is to produce two groups of country-years that are equivalent in terms of a set of control variables. The drawback of this procedure is that we can only test one relationship at a time and we cannot assess dynamic effects. Our ability to make inferences from the treatment effects model is hampered by the reduction in country-year units because of eligibility issues discussed in the main text. This reduction decreases the number of non-treated units to match with treated units; therefore we are only able to use this method to estimate the treatment effect of stable-democracies, with Courts on the likelihood of filing a treaty derogation.

Table 7: Generalized Estimation Equation for binary dependent variable of Treaty Derogations from 1977-2007

	Estimate	Naive S.E.	Naive z	Robust S.E.	Robust z
Intercept	-2.507	3.238	-0.774	2.170	-1.155
TREATMENT	1.030	0.442	2.330	0.305	3.379
Political Violence	-0.038	0.130	-0.295	0.085	-0.452
Population	0.131	0.169	0.771	0.127	1.028
Income	0.132	0.224	0.592	0.172	0.770
Time^1	-1.042	0.230	-4.529	0.199	-5.244
Time^2	0.084	0.027	3.122	0.026	3.237
Time^3	-0.002	0.001	-2.584	0.001	-2.410
$N = 596$					

Treatment = Stable Democracy with Courts

Estimated with the R package Zelig using the `logit.gee` model

and with the R package Matchit using the `matchit` command

13.4.2 Alternative Models of Political Violence

We estimated several alternative models with different political violence variables. First, we added a squared version of the political threat variable from our main model. If the squared term had been statistically significant it would have provided evidence that states are less likely to derogate during the worst emergencies. The null finding suggests instead that states are derogating during a variety of emergencies, not just the existential threats.

Second, we estimated new models with five binary threat variables that measure the presence of protest, rebellion, violent rebellion, civil war and armed conflict. These variables are drawn from the Cross-National Research on USAIDs Democracy and Governance Programs (Finkel et al., 2009). We choose to use the political violence variable because these other variables only go back to 1990. However, our main findings are robust to the use of these variables as alternatives. These models are all supportive of the main results.

Table 8: Generalized Estimation Equations for binary dependent variable of Treaty Derogations by Eligible States from 1977 to 2007

	Value	Std. Error	t-stat	p-value
Intercept	-2.950	1.838	-1.605	0.109
Political Violence^1	0.177	0.143	1.242	0.214
Political Violence^2	-0.016	0.021	-0.736	0.462
Population	0.148	0.098	1.507	0.132
Income	0.228	0.136	1.674	0.094
Time^1	-0.963	0.144	-6.673	0.000
Time^2	0.074	0.018	4.186	0.000
Time^3	-0.002	0.001	-3.152	0.002
$N = 1193$				

Estimated with the R package Zelig using the `logit.gee` model

	Value	Std. Error	t-stat	p-value
Protest	0.314	0.304	1.031	0.311
Rebellion	0.195	0.374	0.523	0.602
Violent Rebellion	0.543	0.274	1.980	0.050
Civil War	-0.234	0.389	-0.601	0.552
Armed Conflict	0.841	0.400	2.105	0.040
Population	0.095	0.106	0.895	0.371
Income	0.242	0.146	1.654	0.098
Time^1	-0.935	0.134	-6.965	0.000
Time^2	0.069	0.016	4.448	0.000
Time^3	-0.002	0.000	-3.343	0.001
$N = 1193$				

Estimated with the R package Zelig using the `logit.gee` model

Third, we have analyzed the effect that both high and low levels of political violence on the duration of derogations. To calculate the derogation period we estimated a Cox Proportional Hazard model on the length of time a derogation period persisted. To generate the dependent variable for this model we had to make a decision on how to count periods of time over which a state derogated over several years. We measured the periods as ending if a derogation was not filed in the following 1-year, in the following 2-years, the following 3-years, the following 4-years and the following 5-years. Thus, we estimated 5 hazard models and obtained very consistent results across each of

them. The drawback to using the longer period is that we decrease the number of observations from a high of 54 to a low of 36. However, the results are very consistent across the five models. Note that model 1- model 5 correspond to the 1-year through 5-year cutoffs.

To further test these results, we measured POLITICAL VIOLENCE in two ways: in Table 9 this variable is a dummy variable and in Table 10 this variable is ordinal and ranges from 0 to 10. The dummy variable is coded as high levels of violence if the ordinal variable is greater than 2 and 0 for low levels of violence otherwise.[7]

Table 9: Hazard Model of Duration of Derogation Period as a function of Political Violence as a Dummy Variable

	Model 1	Model 2	Model 3	Model 4	Model 5
Stable Democracy	0.016	0.316	0.113	0.242	−0.011
	(0.286)	(0.324)	(0.331)	(0.419)	(0.458)
Court	−0.012	0.013	0.424	0.315	0.306
	(0.408)	(0.433)	(0.449)	(0.466)	(0.505)
Political Violence (Dichotomous)	-1.239^{***}	-1.186^{***}	$-0.711^{\dagger}$	-0.806^{*}	$-0.706^{\dagger}$
	(0.323)	(0.336)	(0.378)	(0.393)	(0.412)
Population	-0.306^{*}	-0.359^{*}	$-0.380^{\dagger}$	$-0.425^{\dagger}$	−0.304
	(0.128)	(0.182)	(0.203)	(0.246)	(0.244)
Income	−0.121	−0.187	0.014	−0.107	−0.005
	(0.200)	(0.229)	(0.216)	(0.298)	(0.310)
$N =$	54	48	42	39	36

Robust standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Estimated with the R package Survival using the `coxph` model

Table 10: Hazard Model of Duration of Derogation Period as a function of Political Violence as an Ordinal Variable

	Model 1	Model 2	Model 3	Model 4	Model 5
Stable Democracy	−0.090	0.216	0.027	0.137	−0.124
	(0.279)	(0.320)	(0.346)	(0.419)	(0.457)
Court	0.252	0.248	0.585	0.492	0.454
	(0.358)	(0.378)	(0.423)	(0.426)	(0.459)
Political Violence (Ordinal)	-0.298^{**}	-0.270^{**}	$-0.155^{\dagger}$	$-0.154^{\dagger}$	−0.128
	(0.092)	(0.103)	(0.088)	(0.091)	(0.095)
Population	-0.303^{*}	$-0.364^{\dagger}$	$-0.386^{\dagger}$	$-0.432^{\dagger}$	−0.314
	(0.146)	(0.196)	(0.206)	(0.250)	(0.248)
Income	−0.191	−0.247	−0.019	−0.117	−0.007
	(0.194)	(0.223)	(0.220)	(0.306)	(0.320)
$N =$	54	48	42	39	36

Robust standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Estimated with the R package Survival using the `coxph` model

While STABLE DEMOCRACY and the COURTS are not predictors of DEROGATION-DURATION, POLITICAL VIOLENCE decreases the hazard rate. Stable democracies and countries with Courts

[7] Note that the results are consistent if we measure the dummy variable as greater than 3.

are unlikely to derogate for long periods, as our theory predicts, except when they face extreme levels of violence. Further, the duration of derogations by countries that are not stable democracies or do not have Courts is not sensitive to violence levels. Thus, the estimated coefficient for POLITICAL VIOLENCE in these models is driven by the observations that are stable democracies (see Table 11 and Table 12 for the hazard models estimated on only the stable democratic observations). These new results also help us to further unpack serial derogation in a systematic way.

Table 11: Hazard Model of Duration of Derogation Period as a function of Political Violence as an Ordinal Variable for Stable Democracies

	Model 1	Model 2	Model 3	Model 4	Model 5
Political Violence (Ordinal)	-0.572^{*}	-0.569^{*}	-0.526^{*}	-0.522^{*}	-0.547^{*}
	(0.258)	(0.242)	(0.248)	(0.232)	(0.245)
Population	-0.120	-0.114	-0.037	-0.036	0.176
	(0.255)	(0.245)	(0.310)	(0.274)	(0.256)
Income	-0.135	-0.156	-0.155	-0.238	-0.196
	(0.250)	(0.247)	(0.280)	(0.347)	(0.376)
$N =$	24	22	19	16	14

Robust standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Estimated with the R package Survival using the `coxph` model

Table 12: Hazard Model of Duration of Derogation Period as a function of Political Violence as a Dummy Variable for Stable Democracies

	Model 1	Model 2	Model 3	Model 4	Model 5
Political Violence (Dichotomous)	-2.358^{***}	-2.334^{***}	-2.206^{***}	-2.540^{**}	-2.631^{**}
	(0.596)	(0.568)	(0.636)	(0.832)	(0.863)
Population	-0.135	-0.131	-0.038	-0.028	0.204
	(0.196)	(0.189)	(0.256)	(0.223)	(0.206)
Income	0.067	0.045	0.069	-0.042	0.034
	(0.217)	(0.214)	(0.259)	(0.327)	(0.353)
$N =$	24	22	19	16	14

Robust standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Estimated with the R package Survival using the `coxph` model

We present all of these results visually in the main manuscript.

13.4.3 Trade and Aid

Table 13: Generalized Estimation Equation for binary dependent variable of Treaty Derogations by Eligible States from 1977 to 2007

	Value	Std. Error	t-stat	p-value
Intercept	-3.646	2.601	-1.402	0.161
Stable Democracy	0.910	0.323	2.821	0.005
Court	0.767	0.359	2.139	0.035
Political Violence	0.099	0.060	1.653	0.098
Democratization	0.355	0.306	1.160	0.247
Treaty	0.648	0.803	0.808	0.419
Aid	-0.089	0.058	-1.540	0.124
Trade	0.079	0.113	0.697	0.486
Population	0.108	0.127	0.849	0.396
Income	0.129	0.201	0.644	0.520
Time^1	-0.957	0.143	-6.707	0.000
Time^2	0.073	0.017	4.180	0.000
Time^3	-0.002	0.001	-3.129	0.002
$N = 1193$				

Estimated with the R package Zelig using the `logit.gee` model

The following model is estimated from a reduced sample where we remove US and EU observations in order to determine if these countries influence the reaming states to derogate as a condition of aid or trade. We note that in the restricted model, it is only appropriate to draw inferences for the effect of the aid (and trade) variable on the likelihood of derogation. All of the other variables in this model are necessary controls but inferences from these variables are biased since relevant observations have been removed from the sample.

Table 14: Generalized Estimation Equation for binary dependent variable of Treaty Derogations by Non-Donor Eligible States from 1977 to 2007

	Value	Std. Error	t-stat	p-value
Intercept	-6.890	2.837	-2.429	0.015
Stable Democracy	0.741	0.353	2.099	0.036
Court	0.796	0.388	2.050	0.044
Political Violence	0.087	0.067	1.312	0.189
Democratization	0.370	0.325	1.136	0.256
Treaty	0.491	0.874	0.561	0.575
Aid	-0.084	0.147	-0.572	0.567
Trade	-0.004	0.103	-0.043	0.966
Population	0.232	0.149	1.555	0.120
Income	0.390	0.237	1.648	0.099
Time^1	-0.906	0.147	-6.173	0.000
Time^2	0.066	0.016	4.096	0.000
Time^3	-0.001	0.000	-3.136	0.002
$N = 893$				

Estimated with the R package Zelig using the `logit.gee` model

13.4.4 Post Cold War Analysis

Table 15: Generalized Estimation Equation for binary dependent variable of Treaty Derogations by Eligible States from 1977 to 2007

	Value	Std. Error	t-stat	p-value
Intercept	-4.522	1.745	-2.592	0.010
Stable Democracy	0.772	0.318	2.426	0.015
Court	0.837	0.361	2.314	0.022
Political Violence	0.085	0.063	1.354	0.176
Post Cold War Dummy	0.013	0.302	0.043	0.966
Population	0.143	0.104	1.384	0.166
Income	0.251	0.142	1.760	0.078
Time^1	-0.967	0.143	-6.750	0.000
Time^2	0.074	0.018	4.182	0.000
Time^3	-0.002	0.001	-3.154	0.002
$N = 1193$				

Estimated with the R package Zelig using the `logit.gee` model

Table 16: Generalized Estimation Equation for binary dependent variable of Treaty Derogations by Eligible States from 1990 to 2007 (Post Cold War Period)

	Value	Std. Error	t-stat	p-value
Intercept	-4.862	2.892	-1.681	0.093
Stable Democracy	0.955	0.488	1.956	0.051
Court	0.746	0.399	1.871	0.063
Political Violence	0.142	0.077	1.837	0.066
Population	0.116	0.159	0.726	0.468
Income	0.350	0.191	1.834	0.067
Time^1	-0.820	0.144	-5.696	0.000
Time^2	0.054	0.014	3.712	0.000
Time^3	-0.001	0.000	-2.995	0.003
$N = 801$				

Estimated with the R package Zelig using the `logit.gee` model

13.4.5 Count Model

We estimated both a a generalized estimation equation and a negative binomial regression on the count of derogations filed each year. In both models the stable democracy and court finding are positive and significant. Thus, eligible countries with strong institutional checks are on average filing treaty derogations more often than other eligible countries. This finding supports our main hypotheses; however we still consider the estimation of the binary dependent variable the most appropriate estimation choice because the frequency of derogations is in part a function of variation in idiosyncratic domestic procedures that we are not able to account for in the statistical model at this time.

Table 17: Generalized Estimation Equation for count dependent variable of Treaty Derogations by Eligible States from 1977 to 2007 (Poisson)

	Value	Std. Error	t-stat	p-value
Intercept	-5.187	1.717	-3.022	0.003
Derogation Count$_{t-1}$	0.135	0.020	6.913	0.000
Stable Democracy	0.787	0.449	1.754	0.079
Court	1.234	0.585	2.108	0.040
Political Violence	0.057	0.058	0.974	0.330
Population	0.075	0.090	0.833	0.405
Income	0.190	0.133	1.423	0.155
$N = 1193$				

Estimated with the R package Zelig using the `poisson.gee` model

Table 18: Generalized Estimation Equation for count dependent variable of Treaty Derogations by Eligible States from 1977 to 2007 (Negative Binomial)

Variable	**Coefficient** (Std. Err.)
Intercept	-3.222** (0.590)
Derogation Count$_{t-1}$	0.497** (0.043)
Stable Democracy	0.662† (0.383)
Court	1.459* (0.615)
Political Violence	0.095 (0.075)
Population	0.000† (0.000)
Income	0.000 (0.000)
$N = 834$	

Significance levels : † : 10% * : 5% ** : 1%
Estimated in Stata 11.0 using the `xtgee` command

13.5 Descriptive Statistics

Table 19: Descriptive Statistics Before Imputation for All Country-Year Observations 1977-2007

	Mean	Std. Dev.	Min	Max
Stable Democracy	0.306	0.461	0.000	1.000
Court	0.840	0.367	0.000	1.000
Stable Democracy and Court	0.345	0.475	0.000	1.000
Stable Democracy and Not Court	0.031	0.174	0.000	1.000
Not Stable Democracy and Court	0.498	0.500	0.000	1.000
Not Stable Democracy and Not Court	0.126	0.332	0.000	1.000
Political Violence	0.778	1.783	0.000	10.000
ln(Population)	15.490	2.026	8.788	21.002
ln(Income)	7.455	1.586	2.773	11.062
Treaty	0.513	0.299	0.000	1.000
Democratization	0.155	0.362	0.000	1.000
ln(Aid+1)	4.118	2.267	0.000	9.998
ln(Trade+1)	5.179	2.579	0.000	12.261
N varies due to missingness of each variable				

Table 20: Descriptive Statistics After Imputation for All Country-Year Observations 1977-2007

	Mean	Std. Dev.	Min	Max
Stable Democracy	0.321	0.467	0.000	1.000
Court	0.798	0.402	0.000	1.000
Stable Democracy and Court	0.287	0.452	0.000	1.000
Stable Democracy and Not Court	0.034	0.181	0.000	1.000
Not Stable Democracy and Court	0.511	0.500	0.000	1.000
Not Stable Democracy and Not Court	0.168	0.374	0.000	1.000
Political Violence	0.734	1.700	0.000	10.000
ln(Population)	15.475	2.024	8.727	21.153
ln(Income)	7.438	1.593	2.700	11.598
Treaty	0.513	0.298	-0.035	1.030
Democratization	0.157	0.364	0.000	1.000
ln(Aid+1)	4.216	2.224	0.000	10.935
ln(Trade+1)	5.204	2.627	0.000	14.684
$N = 5427$				
Number of Imputations= 10				

Table 21: Descriptive Statistics Before Imputation for Eligible Country-Year Observations 1977-2007

	Mean	Std. Dev.	Min	Max
Stable Democracy	0.290	0.454	0.000	1.000
Court	0.811	0.391	0.000	1.000
Stable Democracy and Court	0.267	0.443	0.000	1.000
Stable Democracy and Not Court	0.049	0.216	0.000	1.000
Not Stable Democracy and Court	0.545	0.498	0.000	1.000
Not Stable Democracy and Not Court	0.139	0.346	0.000	1.000
Political Violence	1.819	2.428	0.000	10.000
ln(Population)	16.424	1.423	11.400	20.845
ln(Income)	7.121	1.347	4.605	10.554
Treaty	0.676	0.170	0.143	1.000
Democratization	0.187	0.390	0.000	1.000
ln(Aid+1)	4.942	2.025	0.000	9.810
ln(Trade+1)	5.660	2.238	0.000	11.778
N varies due to missingness of each variable				

Table 22: Descriptive Statistics After Imputation for Eligible Country-Year Observations 1977-2007

	Mean	Std. Dev.	Min	Max
Stable Democracy	0.291	0.454	0.000	1.000
Court	0.797	0.402	0.000	1.000
Stable Democracy and Court	0.247	0.432	0.000	1.000
Stable Democracy and Not Court	0.044	0.204	0.000	1.000
Not Stable Democracy and Court	0.550	0.498	0.000	1.000
Not Stable Democracy and Not Court	0.159	0.366	0.000	1.000
Political Violence	1.804	2.412	0.000	10.000
ln(Population)	16.423	1.427	11.400	20.926
ln(Income)	7.083	1.366	3.445	10.564
Treaty	0.676	0.170	0.143	1.000
Democratization	0.188	0.391	0.000	1.000
ln(Aid+1)	4.954	2.026	0.000	10.555
ln(Trade+1)	5.741	2.345	0.000	14.410
$N = 834$				
Number of Imputations= 10				

Table 23: Descriptive Statistics Before Imputation for Derogating Country-Year Observations 1977-2007

	Mean	Std. Dev.	Min	Max
Stable Democracy	0.500	0.501	0.000	1.000
Court	0.936	0.245	0.000	1.000
Stable Democracy and Court	0.420	0.495	0.000	1.000
Stable Democracy and Not Court	0.014	0.120	0.000	1.000
Not Stable Democracy and Court	0.529	0.501	0.000	1.000
Not Stable Democracy and Not Court	0.036	0.188	0.000	1.000
Political Violence	2.198	2.216	0.000	9.000
ln(Population)	16.694	1.100	12.861	18.816
ln(Income)	7.839	1.247	5.407	10.226
Treaty	0.718	0.188	0.000	1.000
Democratization	0.167	0.374	0.000	1.000
ln(Aid+1)	4.524	2.427	0.000	8.654
ln(Trade+1)	6.970	2.025	0.637	10.791
N varies due to missingness of each variable				

Table 24: Descriptive Statistics After Imputation for Derogating Country-Year Observations 1977-2007

	Mean	Std. Dev.	Min	Max
Stable Democracy	0.500	0.501	0.000	1.000
Court	0.903	0.295	0.000	1.000
Stable Democracy and Court	0.458	0.499	0.000	1.000
Stable Democracy and Not Court	0.042	0.199	0.000	1.000
Not Stable Democracy and Court	0.445	0.498	0.000	1.000
Not Stable Democracy and Not Court	0.055	0.227	0.000	1.000
Political Violence	2.202	2.203	0.000	9.000
ln(Population)	16.700	1.103	12.861	18.816
ln(Income)	7.849	1.247	5.407	10.226
Treaty	0.725	0.176	0.273	1.000
Democratization	0.171	0.378	0.000	1.000
ln(Aid+1)	4.631	2.333	0.000	9.571
ln(Trade+1)	6.971	2.029	0.637	10.791
$N = 228$				
Number of Imputations= 10				

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