

# Supplementary Material: Two Sword Lengths Apart: Credible Commitment Problems and Physical Violence in Multi-party Elected National Legislatures

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## **Details on Prior Correction of the Rare Logistic Regression Models**

For prior correction (see King and Zeng, 2001) in the models with the full sample of elected multi-party legislatures I used the observed proportion of all observations with legislative violence up to 2010: i.e. 2.1 percent of observations up until 2010 had violence ( $\tau = \frac{71}{3370} = 0.021$ ). There were 69 observed incidences of violence and 2654 country-years from 1990 through 2009 in the sample, so:  $\tau = \frac{63}{2654} = 0.024$ .

Table 1: Legislative Violence Rare Events Logistic Regression Results (Multi-Party Elected Legislature 1981-2009)

	B1	B2	B3	B4	B5	B6	B7	B8
(Intercept)	-2.85*** (0.20)	-1.23 (0.77)	-3.45 (4.33)	-1.46* (0.65)	-2.36** (0.85)	-1.83* (0.84)	-1.80* (0.76)	-1.77 (1.00)
Low Disproportionality	-1.31*** (0.34)	-1.67*** (0.35)	-2.17*** (0.62)	-1.11** (0.38)	-1.27* (0.53)	-1.53** (0.57)	-1.43*** (0.37)	-1.13** (0.37)
Dem. Age	-0.02** (0.01)	-0.02** (0.01)	-0.02 (0.01)	-0.02* (0.01)	-0.03* (0.01)	-0.03* (0.01)	-0.02** (0.01)	-0.02* (0.01)
Majority Size		-0.03*** (0.01)	-0.02 (0.01)	-0.02* (0.01)	0.00 (0.01)	-0.02 (0.01)	-0.03* (0.01)	-0.02* (0.01)
Leg. Immunity		-0.37 (0.33)						
PR Electoral System		1.06* (0.51)						
Single Party Gov.		-0.53 (0.31)						
Self Expression			1.48 (3.44)					
Ethnic Frac.			0.81 (1.09)					
Perc. Women in Parl.				-0.02 (0.02)				
Murder Rate					0.01 (0.02)			
Federal						0.74 (0.60)	0.79* (0.39)	
Gov. Frac.						0.79 (0.82)		
No. of Parties by Seats							0.12 (0.07)	
GINI								0.01 (0.02)
GDP per Capita								0.00 (0.03)
AIC	443.72	425.38	215.80	370.34	191.36	176.05	367.64	353.38
BIC	460.95	465.48	244.39	398.19	215.19	204.71	401.24	386.08
Log Likelihood	-218.86	-205.69	-101.90	-180.17	-90.68	-82.02	-177.82	-170.69
Deviance	437.72	411.38	203.80	360.34	181.36	164.05	355.64	341.38
Num. obs.	2306	2274	866	2274	1960	931	2053	2005

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

Standard errors are in parentheses. All models use robust (WEAVE) standard errors.

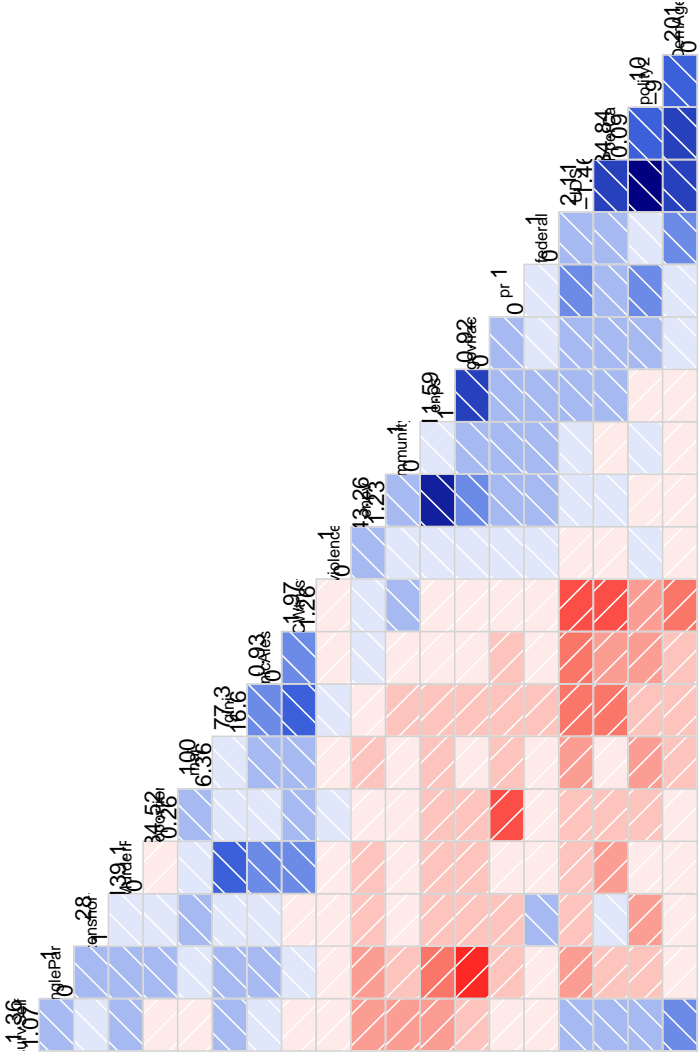
Table 2: Variable Summary

Variable	Description	Source
Disprop	Gallagher Index of Electoral Disproportionality	Gallagher (2012) & Carey and Hix (2011)
ENPS	Effective number of parties by seats	Gallagher (2012) & Carey and Hix (2011)
ENPV	Effective number of parties by votes	Gallagher (2012) & Carey and Hix (2011)
Ethnic Fractionalization	Probability two randomly selected members of society are from the same ethnic group	Alesina et al. (2003)
Federal	Whether a country has a federal system or not	Carey and Hix (2011), updated from 2003 by the author
GDP/Capita	GDP per capita in thousands of US dollars	World Bank (2011)
Gov. Fractionalization	Probability that two members of the Government will be from different parties	Beck et al. (2001)
Gini	Gini Coefficient of income inequality	UNU-WIDER (2008)
Immunity	Whether a legislators are immune from arrest and/or criminal prosecution or not	Fish and Kroening (2009)
LEIC	Legislative Indices of Electoral Competitiveness. Includes both the existence of a legislature and its level of electoral competitiveness.	Beck et al. (2001)
Majority	Percentage of legislature controlled by governing parties	Beck et al. (2001)
Murder Rate	Murders per 100,000 population	United Nations (2013)
Polity	Polity IV Score	Marshall and Jaggers (2009)
PR	Whether a country uses a proportional representation electoral system or a plurality system	Beck et al. (2001)
Self Expression	WVS self-expression indicator averaged across country-survey waves	World Values Survey Association (2009)
System	Government system (parliamentary, presidential, or mixed)	Beck et al. (2001)
Tenshort	Tenure of the shortest serving veto player	Beck et al. (2001)
Trust	Average of WVS responses where 1 = most people can be trusted and 2 = you can't be too careful	World Values Survey Association (2009)
UDS	Posterior Mean Unified Democracy Score	Pemstein, Meserve and Melton (2010)
Violence	Incidences of violence between legislators in the national parliamentary chamber	author
Perc. Women in Parl.	Percentage of parliamentary seats held by women	Paxton, Green and Hughes (2008) & Inter-Parliamentary Union (2013)

Please contact the author for detailed summary statistics.

All of the data from Beck et al. (2001) was updated through 2010.

Figure 1: Correlation Matrix for Variables Included in the Analysis (Multi-Party Elected Legislatures)



Redder squares indicate stronger negative bi-variate correlations.  
 Bluer squares indicate stronger positive bi-variate correlations.  
 Numbers in the diagonal squares indicate the minimum and maximum observed values of the variables in the sample.

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