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Online Appendices

Rules for Party Subsidies and Electoral Volatility in Latin America

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Appendix 1 Results for total volatility

Table 1A: Models for total electoral volatility in lower chamber elections in Latin America

	Model 1 Total volatility	Model 2 Total volatility
Less strict eligibility thresholds	-17.508*	-7.479
	(8.400)	(4.459)
Stricter eligibility thresholds	-12.415	-9.485*
	(8.074)	(5.231)
Party system fragmentation	—	1.323
		(0.935)
Average district magnitude (ln)	—	-4.741
		(3.646)
Upper chamber coordination	—	-15.273
		(14.582)
Ideological polarization	—	-2.449*
		(1.173)
Institutional discontinuity	—	12.140***
		(2.069)
Years since democracy (ln)	—	5.682**
		(2.239)
GDP growth	—	-0.153
		(0.263)
Inflation (ln)	—	0.991
		(0.684)
Indigenous population	—	0.408***
		(0.138)
Electorate size (ln)	—	0.597
		(1.735)
Constant	37.989***	12.527
	(7.817)	(23.349)
R-squared	0.129	0.482
N	137	137

Note: Main entries are OLS estimates with robust standard errors clustered by country in parentheses. The reference category is countries that do not provide DSF.

*p≤ 0.1. **p≤ 0.05. ***p≤ 0.01.

Appendix 2 Robustness checks

Table 2A: Models with statistical outliers considered

	Model 1 Party replacement volatility	Model 2 Stable party volatility	Model 3 Party replacement volatility	Model 4 Stable party volatility
Less strict eligibility thresholds	-3.167*	0.569	-3.167*	0.569
	(1.622)	(3.456)	(1.597)	(3.416)
Stricter eligibility thresholds	-1.650	-2.914	-1.650	-2.914
	(1.961)	(2.783)	(1.931)	(2.751)
Party system fragmentation	-0.006	0.926*	-0.006	0.926*
	(0.372)	(0.486)	(0.366)	(0.481)
Average district magnitude (ln)	0.123	-2.285*	0.123	-2.285*
	(0.846)	(1.311)	(0.833)	(1.296)
Upper chamber coordination	3.283	-1.585	3.283	-1.585
	(5.989)	(4.938)	(5.896)	(4.881)
Ideological polarization	0.027	-1.368	0.027	-1.368
	(0.464)	(0.559)	(0.457)	(0.552)
Institutional discontinuity	5.555***	7.987***	5.555***	7.987***
	(1.400)	(1.825)	(1.378)	(1.803)
Years since democracy (ln)	1.469*	2.215**	1.469*	2.215**
	(0.788)	(1.026)	(0.776)	(1.014)
GDP growth	-0.035	-0.115	-0.035	-0.115
	(0.105)	(0.270)	(0.104)	(0.267)
Inflation (ln)	-0.061	0.588*	-0.061	0.588*
	(0.271)	(0.323)	(0.267)	(0.319)
Indigenous population	0.257***	0.220**	0.257***	0.220**
	(0.072)	(0.093)	(0.071)	(0.092)
Size of voters (ln)	0.120	-0.294	0.120	-0.294
	(0.692)	(0.965)	(0.681)	(0.954)
Statistical outlier dummies included	Yes	Yes	—	—
Statistical outlier dropped	—	—	Yes	Yes
Constant	0.253	16.851	0.253	16.851
	(9.613)	(13.394)	(9.464)	(13.238)
R-squared	0.605	0.551	0.393	0.371
N	131	131	127	128

Note 1: For party replacement volatility, the outliers include Guatemala 1999-2003, Peru 2000-2001, Peru 2006-2011, and Venezuela 1993-1998. For stable party volatility, the outliers include Bolivia 2005-2009, Venezuela 2000-2005, and Venezuela 2005-2010.

Note 2: Main entries are OLS estimates with robust standard errors clustered by country in parentheses. The reference category is countries that do not provide DSF.

*p≤ 0.1. **p≤ 0.05. ***p≤ 0.01.

Table 2B: Models using Birch's measures of volatility as the DV

	Model 1 DV= Party replacement score	Model 2 DV = Volatility score
Less strict eligibility thresholds	-4.970***	-1.680
	(1.547)	(3.824)
Stricter eligibility thresholds	0.017	-4.034
	(2.381)	(3.652)
Party system fragmentation	-0.334	1.156*
	(0.714)	(0.624)
Average district magnitude (ln)	0.539	-2.400
	(2.759)	(1.790)
Upper chamber coordination	-2.088	-4.238
	(8.429)	(6.245)
Ideological polarization	-0.176	-1.851
	(0.934)	(0.738)
Institutional discontinuity	6.379*	9.606***
	(3.421)	(1.593)
Years since democracy (ln)	2.025	2.858**
	(1.778)	(1.267)
GDP growth	0.153	-0.089
	(0.210)	(0.217)
Inflation (ln)	0.481	0.662
	(0.805)	(0.445)
Indigenous population	0.296***	0.298**
	(0.077)	(0.108)
Size of voters (ln)	1.169	-0.072
	(1.277)	(1.099)
Constant	-15.067	14.981
	(17.371)	(15.353)
R-squared	0.201	0.444
N	131	131

Note 1: Party replacement score is calculated as "the sum of the vote shares won by electoral contenders at election t+1 that had not contested election t" (Birch 2003, 123). Second, volatility score is calculated as the sum of vote difference for each continuous party that contested at both election t and election t+1, divided by the sum of these parties' total vote shares at each election.

Note 2: Main entries are OLS estimates with robust standard errors clustered by country in parentheses. The reference category is countries that do not provide DSF.

*p≤ 0.1. **p≤ 0.05. ***p≤ 0.01.

Table 2C: Models using 2% as the cut-off point for the least strict threshold

	Model 1 Party replacement volatility	Model 2 Stable party volatility
Eligibility for DSF: Threshold < 2%	-4.002**	-4.261
	(1.531)	(3.676)
Eligibility for DSF: Threshold ≥ 2%	-2.392	-6.896
	(2.049)	(4.914)
Party system fragmentation	0.187	1.128*
	(0.474)	(0.594)
Average district magnitude (ln)	0.136	-4.741*
	(1.144)	(2.677)
Upper chamber coordination	0.942	-16.338
	(6.409)	(11.903)
Ideological polarization	-0.227	-2.218**
	(0.446)	(0.855)
Institutional discontinuity	4.237*	7.774***
	(2.123)	(1.780)
Years since democracy (ln)	2.077**	3.473*
	(0.970)	(1.861)
GDP growth	0.118	-0.265
	(0.123)	(0.304)
Inflation (ln)	0.183	0.828*
	(0.397)	(0.397)
Indigenous population	0.308***	0.095
	(0.045)	(0.140)
Size of voters (ln)	0.172	0.613
	(0.731)	(1.221)
Constant	-1.926	11.712
	(10.675)	(16.630)
R-squared	0.343	0.394
N	131	131

Note : Main entries are OLS estimates with robust standard errors clustered by country in parentheses. The reference category is countries that do not provide DSF.

*p≤ 0.1. **p≤ 0.05. ***p≤ 0.01.

Table 2D: Models using different levels of eligibility thresholds

	Model 1 Party replacement volatility	Model 2 Stable party volatility
Eligibility for DSF: Threshold < 1%	-4.347**	-3.181
	(1.600)	(3.235)
Eligibility for DSF: Threshold = 1%	-2.291	-7.674*
	(3.631)	(4.192)
Eligibility for DSF: Threshold = 2%	-3.094	-8.483
	(3.150)	(5.135)
Eligibility for DSF: Threshold = 3%	-2.808	-5.253
	(2.268)	(4.417)
Eligibility for DSF: Threshold = 4%	-1.547	-6.212
	(2.986)	(6.067)
Eligibility for DSF: Threshold = 5%	-2.284	-3.833
	(2.727)	(5.702)
Eligibility for DSF: Threshold = 10%	-1.813	-2.002
	(2.144)	(2.448)
Party system fragmentation	0.152	0.813
	(0.619)	(0.694)
Average district magnitude (ln)	0.142	-4.524
	(1.258)	(2.682)
Upper chamber coordination	2.071	-13.587
	(7.931)	(14.746)
Ideological polarization	-0.078	-2.353**
	(0.491)	(0.976)
Institutional discontinuity	3.958*	7.787***
	(2.025)	(1.863)
Years since democracy (ln)	2.045*	3.623
	(1.076)	(2.102)
GDP growth	0.111	-0.220
	(0.130)	(0.284)
Inflation (ln)	0.150	0.794
	(0.427)	(0.548)
Indigenous population	0.314***	0.112
	(0.050)	(0.143)
Size of voters (ln)	0.448	0.745
	(0.838)	(1.012)
Constant	-6.713	9.781
	(11.447)	(14.104)
R-squared	0.347	0.410
N	131	131

Note : Main entries are OLS estimates with robust standard errors clustered by country in parentheses. The reference category is countries that do not provide DSF.

*p≤ 0.1. **p≤ 0.05. ***p≤ 0.01.

Appendix 3 Notes on Endogeneity Issues

Regarding the issue of endogeneity, it is possible that politicians might change party finance laws to secure their parties' survival. For instance, in countries where party replacement volatility is not high, politicians might try to lower the threshold for obtaining DSF so that they could further secure their advantage for electoral competition. Focusing on the relationship between party replacement volatility and "threshold <1%," I thus undertake two tests for testing this possible endogeneity issue.

Following how Potter and Tavits (2015) addressed the endogeneity issue between campaign financing rules and party system features, I first considered whether party replacement in the previous election would influence the elections for which we have measurements for "threshold <1%". If there is a strong relationship (presumably negative) between the Party Replacement Volatility t-1 and the current value of "threshold <1%", then it might suggest a potential endogenous relationship. The test indicates that the correlation is weak ($r = -0.30$). Next, I examine cases in which rules for DSF changed between two consecutive country-election observations. If the adoption of party financing regulations is endogenous to party replacement volatility, it is expected that a country with a lower score in party replacement volatility tends to change the rules to be the least strict eligibility threshold for DSF (e.g., threshold <1%). In my dataset, I identify one instance involving a change to the least strict eligibility threshold for DSF and three instances involving a change from the least strict eligibility threshold for DSF to a different rule. If there is an endogeneity problem, the relationship between the average ENPV during the interval of measurement years and the change of rules (1 = changed to threshold <1%; -1 = changed from threshold <1% to something else) should be strong and negative. The test shows that this correlation coefficient is weak ($r = -0.29$).

A stronger test of the causal order between rules for DSF and party replacement volatility can be performed by using instrumental variable regression. However, because we have two independent variables for the rules for DSF, it is difficult to find an instrumental variable for each independent variable.

Appendix 4 Legal Sources for Coding Party Financing Rules in Latin America (1978-2014)

Country	Legal Sources
Argentina	1. Direct public funding since 1961 (Casas-Zamora and Zovatto 2016, 93) 2. Article 56 of Ley 22627 (1982) 3. Article 46 of Ley 23298 (1985) 4. Article 9, "Ley de Financiamiento de Partidos Políticos" (Ley 25600) (2002) 5. Ley 26215 (2007) 6. Ley 26571 (2009)
Bolivia	1. Article 96 of Ley #1246 (1991) prohibits state funding; Article 98 provides free media for parties. 2. Article 252 of Ley de Reforma y Complementacion al Régimen Electoral, 19 de marzo de 1997 (1997) 3. Article 52 of Ley de Partidos Politicos (1999) (Gutierrez and Zovatto 2011, 100; Lazarte 2006, 261) 4. The 2009 Constitution
Brazil	1. Law No. 5682 (1971) 2. Article 41(a) of Ley General de Partidos Políticos (1995)
Chile	1. Article 33 of Ley 18603 (1987) 2. Article 31 of Ley 18700 (1988) 3. Ley 19884 (Ley de Gastos Electorales) (2003)
Colombia	1. Article 17 of Ley 58 (1985): indirect state funding only 2. Article 109 of the 1991 Constitution 3. Article 18 of Ley 84 de 1993 4. Article 12, Ley 130 (1994) 5. Article 17, Ley 1475 (2011)
Costa Rica	1. Article 96 of the Constitution 2. Código Electoral (Ley 1536) of 1952 3. Article 96 of Código Electoral (Ley 8765) of 2009

Dominican Republic	1. Article 70 of Ley 5884 (1962)
	2. Article 50 of Electoral Law (Ley Electoral #275-97) (1997)
Ecuador	1. Article 59 of Political Party Law (Decreto Supremo 2262) (1978)
	2. Article 57 of CODIFICACION DE LA LEY DE PARTIDOS POLITICOS (2000) (public codification of the 1978 Law)
	3. Art. 355 of the Organic Electoral and Political Organizations Law of the Republic of Ecuador, Code of the Democracy
El Salvador	1. Article 137; Article 132 of Electoral Code (Decreto #863, 1988)
	2. Article 187 of Electoral Code (Decreto #417) (1993)
Guatemala	1. Article 20 of Electoral and Political Parties Law (Decreto 1-85) (1985)
	2. Article 21 of la Ley Electoral de Partidos Políticos (LEPP) (Decreto 10-04) (2004)
Honduras	1. Article 33 and Article 44 of the Electoral and the Political Organizations Law (Gaceta #23407), 1981
	2. Article 25 of the Electoral and the Political Organizations Law (reformed by Decreto #147-86, Gaceta #25076), 1986
	3. Article 82 (and 136) of the Electoral and the Political Organizations Law (Decreto #44-2004), 2004
Mexico	1. Article 41 of the Constitution
	2. Article 49 and Article 66 of COFIPE (1990; 1996)
Nicaragua	1. Article 123 of Electoral Law of 1988 (Leyes #43 & 56)
	2. Article 103, Article 105, and Article 74 of Electoral Law of 1996 (Ley #211)
	3. Article 65 of Electoral Law of 2000 (Ley #331)
	4. Article 99 of Electoral Law (2000)
Panama	1. Article 114; Article 164 of Electoral Code, 1993
	2. Article 109; Article 169 of Electoral Code, 2003
	3. Article 182 of Electoral Code, 2006
Paraguay	1. Article 296 of Electoral Code (Ley #01/90), 1990
	2. Article 276 of Electoral Code (Ley #834/96), 1996
	3. Article 71 of Ley Nº 4743 / Regula El Financiamiento Político (2012)

Peru	1. Article 71, 1979 Constitution; Article 35, 1993 Constitution
	2. Article 29 of Political Party Law (Ley #28094), 2003
Uruguay	1. Ley núm. 17.787 del 21 de Junio de 2004
	2. Article 21 of Ley 18485 (2009)
	3. Article 11 of Political Party Law (Ley #9831), 1931
	4. Article 7 of Political Party Law (Ley #18485), 2009
Venezuela	1. Article 154 of Ley de Reforma Parcial de la Ley Orgánica del Sufragio (1973); Article 155 of the same law reformed in 1977
	2. Article 160 of Ley Orgánica del Sufragio (1988); Article 176 of the same law reformed in 1992
	3. Article 203 of Ley Orgánica del Sufragio y Participación Política (1998)
	4. Article 67 of the 1999 Constitution