Supplementary Materials for the Article "Rethinking Public Funding of Parties and Corruption: Confronting Theoretical Complexity and Challenging Measurement"

Appendix A: Data sources and descriptive statistics

Table A1: Data sources and coding for independent, dependent and control variables

Variable	Source	Original measurement	Transformed measurement
Dependent variable: Political corruption	Business Environment and Enterprise Performance Survey (BEEPS)	Percentage of firms substantively affected by informal payments made to political parties and parliamentarians	Normalized based on Yeo-Johnson transformation due to skewness
Independent variable: Direct public funding	Lipcean (2021)	Yearly amount of direct budgetary subsidies per vote for party statutory and electoral activities	Annual data aggregated based on BEPPS rounds
Donation limits	Authors' data constructed from national party and campaign funding laws 1990-2020	Ordinal scale 0-6; 0 - No limits 1 - Limits on individual and legal entities 2 - Full ban on corporate donations	Not applicable
Liberal democracy index	Coppedge et al. (2020) Coppedge et al. (2021)	0 - 1; larger scores reflect more democracy	Rescaled 0 - 10 to reduce the scale range between variables
Economic development	Gapminder dataset based on data from World Bank , IMF, Bolt & Zanden (2020) Feenstra & Inklaar (2021)	Gross Domestic Product (GDP) per capita in constant 2017 USD	Logarithmic transformation
Electoral system	International IDEA (2021) Bormann & Golder (2013)	1 - Majoritarian, 2 - Mixed, 3 - Proportional	Not applicable
Form of government	Cruz et al. (2021) Elgie (2018)	1 - Presidential, 2 - Semi-presidential, 3 - Parliamentary	Not applicable
Size of government	International Monetary Fund	Percentage of GDP	Not applicable

Variable	Source	Original measurement	Transformed measurement
Inequality Gini (disposable income)	World Inequality database	0 - 1; higher scores indicate more inequality	Not applicable
Ethnic fractionali- sation	Drazanova (2020)	0 - 1; higher scores indicate more fractionalisation	Rescaled 0 - 10 to reduce the scale range between variables

Table A2: Table of summary statistics

	Mean	Median	Min	Max	SD	P25	P75
Corruption 1	8.00	4.74	0.10	42.80	8.99	2.29	9.07
Corruption 2	7.94	5.12	0.10	41.57	8.75	2.69	9.30
Corruption 3	8.04	5.27	0.10	41.57	8.73	2.74	9.51
Corruption 1 Yeo-Johnson transformed	0.00	0.00	-2.45	2.02	1.00	-0.73	0.65
Corruption 2 Yeo-Johnson transformed	0.00	0.01	-2.36	2.22	1.00	-0.65	0.64
Corruption 3 Yeo-Johnson transformed	0.00	0.04	-2.55	2.10	1.00	-0.65	0.67
DPF level nominal value	1.86	0.63	0.00	14.46	2.82	0.01	2.67
DPF level inflation adjusted	1.24	0.43	0.00	8.80	1.81	0.00	1.90
DPF level inflation adjusted & discounted	1.06	0.38	0.00	7.15	1.51	0.00	1.65
Donation limits restrictions	1.34	1.00	0.00	4.12	1.27	0.00	2.57
Democracy	4.37	4.07	0.35	8.42	2.57	2.11	7.14
GDP per capita (.000)	14.88	13.47	1.45	38.02	8.76	8.29	20.78
Electoral system	2.44	3.00	1.00	3.00	0.69	2.00	3.00
Parliamentary	2.18	2.00	1.00	3.00	0.83	1.00	3.00
Inequality	32.09	32.25	21.21	43.20	5.04	28.30	35.96
Ethnic fractionalization	0.35	0.34	0.03	0.66	0.17	0.23	0.49
Government size % GDP	35.68	36.05	3.07	64.04	9.81	29.65	42.66

Note: Corruption 1 - percentage of informal payments to political parties and parliamentarians; Corruption 2 - percentage of informal payments to political parties, parliamentarians and central government officials; Corruption 3 - percentage of informal payments to political parties, parliametarians, central and local government officials. *Corruption 1 Yeo-Johnson transformed* and *DPF level inflation-adjusted and inflation-adjusted and discounted* are used as dependent and and independent variables in the main analysis respectively.

Figure A1: Correlation matrix of variables used in the analysis

Figure A2: Relationship between alternative operationalisation of public funding

Figure A3: Relationship between public funding per registered voter and vote

Figure A4: Relationship between alternative operationalisation of corruption

Selecting the best normalization algorithm for the dependent variable

Since our dependent variable is heavily right-hand skewed, we normalize it using the bestNormalize R library (Peterson, 2021). The package performs several transformations including log, square root, Box-Cox etc. and automatically selects the best transformation in terms of normality distribution. The output below indicates that Yeo-Johnson transformation (Yeo & Johnson, 2000) is the best algorithm for our corruption data. Additionally, Figure A5 plots these transformations.

```
Best Normalizing transformation with 132 Observations
 Estimated Normality Statistics (Pearson P / df, lower => more normal):
 - arcsinh(x): 0.9974
 - Box-Cox: 0.9745
 - Center+scale: 3.5692
 - Double Reversed Log_b(x+a): 4.6604
 - Exp(x): 17.6018
 - Log_b(x+a): 1.0466
 - orderNorm (ORQ): 1.1455
 - sqrt(x + a): 1.6774
 - Yeo-Johnson: 0.9371
Estimation method: Out-of-sample via CV with 10 folds and 5 repeats

Based off these, bestNormalize chose:
Standardized Yeo-Johnson Transformation with 132 nonmissing obs.:
 Estimated statistics:
 - lambda = -0.2176026
 - mean (before standardization) = 1.453412
 - sd (before standardization) = 0.5555278
```

Figure A5: Alternative transformations of dependent variable - party corruption

Appendix B: Alernative model specifications

Table B1: The effect of DPF on political corruption: Year fixed-effects models (DPF inflation adjusted and discounted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.156**	−0.191***	−0.205***	−0.207***	−0.212***	−0.200***
	(0.054)	(0.047)	(0.046)	(0.047)	(0.048)	(0.044)
Donation limits	0.006	−0.007	−0.013	−0.017	−0.016	−0.010
	(0.059)	(0.045)	(0.045)	(0.052)	(0.047)	(0.047)
Democracy	0.083*	0.023	0.011	0.012	0.022	0.010
	(0.039)	(0.026)	(0.029)	(0.031)	(0.032)	(0.031)
GDPpc(log)	−0.117	−0.138	−0.150	−0.119	−0.131	−0.196
	(0.171)	(0.147)	(0.137)	(0.154)	(0.145)	(0.146)
Electoral System		0.464***	0.408**	0.402**	0.383**	0.448**
		(0.115)	(0.127)	(0.127)	(0.136)	(0.142)
Parliamentary			0.123	0.112	0.110	0.065
			(0.093)	(0.109)	(0.106)	(0.118)
Ethnic fraction.					0.400	
					(0.524)	
Inequality				0.005		
				(0.022)		
Government size % GDP						0.011
						(0.008)
Num.Obs.	132	132	132	132	132	132
R2	0.398	0.461	0.465	0.465	0.469	0.473
R2 Adj.	0.359	0.421	0.421	0.416	0.420	0.425
R2 Within	0.072	0.169	0.176	0.176	0.181	0.188
AIC	324.6	312.1	313.0	315.0	314.1	313.0
BIC	350.6	340.9	344.8	349.6	348.7	347.6
RMSE	0.77	0.73	0.73	0.73	0.73	0.72
FE: year	X	X	X	X	X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country.

Table B2: The effect of DPF on political corruption: Country fixed-effects models (DPF inflation adjusted and discounted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.120	−0.119	−0.131	−0.128	−0.137	−0.107
	(0.114)	(0.114)	(0.113)	(0.116)	(0.109)	(0.113)
Donation limits	−0.210*	−0.208*	−0.170	−0.118	−0.178	−0.155
	(0.100)	(0.099)	(0.108)	(0.092)	(0.105)	(0.105)
Democracy	−0.104	−0.111	−0.041	−0.009	−0.078	−0.045
	(0.092)	(0.094)	(0.109)	(0.103)	(0.118)	(0.128)
GDPpc(log)	−0.450	−0.470+	−0.429	−0.397	−0.551+	−0.573+
	(0.270)	(0.260)	(0.267)	(0.270)	(0.306)	(0.305)
Electoral System		0.139	0.208	0.181	0.219	0.262
		(0.280)	(0.305)	(0.324)	(0.333)	(0.315)
Parliamentary			−0.519	−0.435	−0.535	−0.632+
			(0.385)	(0.266)	(0.407)	(0.370)
Ethnic fraction.					−3.102	
					(4.255)	
Inequality				−0.168*		
				(0.062)		
Government size % GDP						0.025
						(0.016)
Num.Obs.	132	132	132	132	132	132
R2	0.385	0.386	0.398	0.442	0.403	0.424
R2 Adj.	0.202	0.196	0.203	0.254	0.202	0.230
R2 Within	0.191	0.193	0.209	0.267	0.216	0.243
AIC	371.5	373.1	372.6	364.6	373.4	368.7
BIC	460.8	465.4	467.8	462.6	471.5	466.7
RMSE	0.78	0.78	0.77	0.74	0.77	0.76
FE: country	X	X	X	X	X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country.

Table B3: The effect of DPF on political corruption: Two-way fixed-effects models (DPF inflation adjusted and discounted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.164*	−0.156+	−0.163+	−0.162+	−0.166+	−0.145+
	(0.079)	(0.083)	(0.084)	(0.086)	(0.081)	(0.084)
Donation limits	−0.091	−0.081	−0.043	−0.029	−0.050	−0.048
	(0.095)	(0.093)	(0.088)	(0.088)	(0.093)	(0.085)
Democracy	−0.006	−0.019	0.045	0.053	0.014	0.046
	(0.079)	(0.081)	(0.077)	(0.078)	(0.084)	(0.090)
GDPpc(log)	−0.370	−0.286	−0.202	−0.219	−0.296	−0.431
	(0.492)	(0.460)	(0.514)	(0.466)	(0.523)	(0.577)
Electoral System		0.173	0.246	0.234	0.255	0.274
		(0.263)	(0.289)	(0.289)	(0.308)	(0.296)
Parliamentary			−0.485*	−0.452*	−0.499*	−0.573*
			(0.177)	(0.188)	(0.201)	(0.218)
Ethnic fraction.					−2.604	
					(3.514)	
Inequality				−0.071		
				(0.057)		
Government size % GDP						0.019+
						(0.011)
Num.Obs.	132	132	132	132	132	132
R2	0.591	0.593	0.603	0.610	0.607	0.617
R2 Adj.	0.448	0.445	0.453	0.457	0.452	0.467
R2 Within	0.046	0.052	0.075	0.092	0.084	0.108
AIC	325.6	326.8	325.6	325.2	326.3	322.8
BIC	426.5	430.6	432.2	434.7	435.9	432.3
RMSE	0.64	0.64	0.63	0.62	0.62	0.62
FE: country	X	X	X	X	X	X
FE: year	X	X	X	X	X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country.

Table B4: The effect of DPF on party corruption: Within-between random-effects models (DPF inflation adjusted and discounted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level (within)	−0.117	−0.118	−0.131	−0.128	−0.136	−0.107
	(0.110)	(0.110)	(0.109)	(0.111)	(0.104)	(0.108)
Donation limits (within)	−0.218*	−0.211*	−0.171+	−0.118	−0.178+	−0.158
	(0.093)	(0.095)	(0.103)	(0.088)	(0.100)	(0.099)
Democracy (within)	−0.093	−0.108	−0.039	−0.009	−0.077	−0.040
	(0.090)	(0.091)	(0.105)	(0.098)	(0.112)	(0.122)
GDPpc(log) (within)	−0.451+	−0.469+	−0.429+	−0.397	−0.551+	−0.571+
	(0.261)	(0.251)	(0.256)	(0.258)	(0.292)	(0.292)
Electoral System (within)		0.135	0.207	0.181	0.218	0.258
		(0.268)	(0.292)	(0.309)	(0.317)	(0.300)
Parliamentary (within)			−0.520	−0.435+	−0.535	−0.636+
			(0.368)	(0.254)	(0.389)	(0.351)
Ethnic fractionalization (within)					−3.103	
					(4.067)	
Inequality (within)				−0.168**		
				(0.059)		
Government size % GDP (within)						0.026
						(0.016)
DPF level (between)	−0.188*	−0.274***	−0.314***	−0.322***	−0.327***	−0.316***
	(0.084)	(0.064)	(0.059)	(0.065)	(0.062)	(0.056)
Donation limits (between)	0.033	−0.023	−0.036	−0.048	−0.043	−0.036
	(0.088)	(0.068)	(0.066)	(0.081)	(0.065)	(0.067)
Democracy (between)	0.097*	0.034	0.014	0.018	0.028	0.013
	(0.040)	(0.030)	(0.035)	(0.038)	(0.038)	(0.036)
GDPpc(log) (between)	−0.095	−0.111	−0.124	−0.064	−0.100	−0.135
	(0.204)	(0.178)	(0.156)	(0.188)	(0.154)	(0.158)
Electoral System (between)		0.550***	0.420**	0.405**	0.383**	0.438**
		(0.117)	(0.135)	(0.135)	(0.145)	(0.151)
Parliamentary (between)			0.249*	0.230+	0.238*	0.228*
			(0.102)	(0.135)	(0.104)	(0.095)
Ethnic fractionalization (between)					0.460	
					(0.466)	
Inequality (between)				0.009		
				(0.027)		
Government size % GDP (between)						0.004
						(0.011)
Num.Obs.	132	132	132	132	132	132
AIC	364.9	358.9	358.5	354.0	360.7	357.5
BIC	393.7	393.5	398.8	400.1	406.8	403.6
Log.Lik.	−172.433	−167.434	−165.243	−161.009	−164.327	−162.752
RMSE	0.89	0.86	0.85	0.82	0.84	0.83

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B5: The effect of DPF on political corruption: Year fixed-effects models (DPF inflation adjusted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.128**	−0.157***	−0.169***	−0.170***	−0.174***	−0.164***
	(0.045)	(0.040)	(0.041)	(0.041)	(0.042)	(0.039)
Donation limits	0.008	−0.004	−0.011	−0.014	−0.013	−0.007
	(0.060)	(0.046)	(0.045)	(0.053)	(0.048)	(0.048)
Democracy	0.082*	0.021	0.009	0.011	0.019	0.009
	(0.039)	(0.027)	(0.029)	(0.031)	(0.033)	(0.031)
GDPpc(log)	−0.119	−0.141	−0.152	−0.126	−0.135	−0.197
	(0.171)	(0.147)	(0.138)	(0.155)	(0.146)	(0.146)
Electoral System		0.464***	0.408**	0.403**	0.385**	0.448**
		(0.115)	(0.126)	(0.126)	(0.136)	(0.140)
Parliamentary			0.122	0.112	0.109	0.064
			(0.093)	(0.110)	(0.107)	(0.118)
Ethnic fraction.					0.368	
					(0.526)	
Inequality				0.004		
				(0.022)		
Government size % GDP						0.011
						(0.008)
Num.Obs.	132	132	132	132	132	132
R2	0.396	0.459	0.463	0.463	0.466	0.471
R2 Adj.	0.357	0.419	0.419	0.414	0.417	0.423
R2 Within	0.070	0.167	0.173	0.173	0.178	0.185
AIC	325.0	312.4	313.5	315.4	314.7	313.5
BIC	350.9	341.3	345.2	350.0	349.3	348.1
RMSE	0.77	0.73	0.73	0.73	0.73	0.72
FE: year	X	X	X	X	X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country.

Table B6: The effect of DPF on political corruption: Country fixed-effects models (DPF inflation adjusted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.086	−0.085	−0.094	−0.090	−0.098	−0.072
	(0.093)	(0.093)	(0.093)	(0.096)	(0.090)	(0.092)
Donation limits	−0.211*	−0.209+	−0.171	−0.119	−0.178	−0.157
	(0.102)	(0.102)	(0.111)	(0.095)	(0.107)	(0.108)
Democracy	−0.110	−0.117	−0.048	−0.016	−0.085	−0.052
	(0.092)	(0.094)	(0.109)	(0.104)	(0.118)	(0.128)
GDPpc(log)	−0.471+	−0.491+	−0.452	−0.422	−0.571+	−0.600+
	(0.268)	(0.258)	(0.265)	(0.264)	(0.305)	(0.302)
Electoral System		0.140	0.208	0.181	0.219	0.262
		(0.276)	(0.300)	(0.319)	(0.327)	(0.310)
Parliamentary			−0.511	−0.427	−0.526	−0.624
			(0.387)	(0.267)	(0.409)	(0.372)
Ethnic fraction.					−3.033	
					(4.226)	
Inequality				−0.168*		
				(0.062)		
Government size % GDP						0.026
						(0.016)
Num.Obs.	132	132	132	132	132	132
R2	0.383	0.384	0.395	0.439	0.401	0.422
R2 Adj.	0.199	0.193	0.200	0.251	0.199	0.227
R2 Within	0.188	0.191	0.205	0.263	0.212	0.240
AIC	371.9	373.6	373.2	365.2	374.0	369.2
BIC	461.3	465.8	468.3	463.2	472.0	467.3
RMSE	0.78	0.78	0.77	0.75	0.77	0.76
FE: country	X	X	X	X	X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country.

Table B7: The effect of DPF on political corruption: Two-way fixed-effects models (DPF inflation adjusted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.139*	−0.132+	−0.137+	−0.134+	−0.139+	−0.121+
	(0.067)	(0.070)	(0.071)	(0.072)	(0.068)	(0.071)
Donation limits	−0.089	−0.080	−0.043	−0.029	−0.050	−0.048
	(0.095)	(0.093)	(0.087)	(0.088)	(0.093)	(0.084)
Democracy	−0.008	−0.020	0.043	0.050	0.012	0.044
	(0.079)	(0.080)	(0.076)	(0.078)	(0.084)	(0.090)
GDPpc(log)	−0.416	−0.332	−0.250	−0.264	−0.342	−0.472
	(0.491)	(0.461)	(0.517)	(0.470)	(0.526)	(0.576)
Electoral System		0.166	0.238	0.227	0.247	0.267
		(0.260)	(0.286)	(0.286)	(0.306)	(0.294)
Parliamentary			−0.481*	−0.449*	−0.494*	−0.569*
			(0.177)	(0.188)	(0.200)	(0.218)
Ethnic fraction.					−2.555	
					(3.541)	
Inequality				−0.069		
				(0.057)		
Government size % GDP						0.019+
						(0.011)
Num.Obs.	132	132	132	132	132	132
R2	0.592	0.594	0.604	0.610	0.607	0.617
R2 Adj.	0.448	0.446	0.453	0.457	0.453	0.467
R2 Within	0.048	0.053	0.076	0.092	0.084	0.108
AIC	325.4	326.7	325.5	325.2	326.3	322.7
BIC	426.3	430.5	432.1	434.7	435.8	432.3
RMSE	0.64	0.63	0.63	0.62	0.62	0.62
FE: country	X	X	X	X	X	X
FE: year	X	X	X	X	X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country.

Table B8: The effect of DPF on party corruption: Within-between random-effects models (DPF inflation adjusted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level (within)	−0.083	−0.084	−0.094	−0.090	−0.098	−0.072
	(0.090)	(0.090)	(0.089)	(0.092)	(0.086)	(0.088)
Donation limits (within)	−0.218*	−0.211*	−0.172	−0.119	−0.179+	−0.160
	(0.096)	(0.097)	(0.106)	(0.090)	(0.102)	(0.102)
Democracy (within)	−0.099	−0.114	−0.046	−0.016	−0.084	−0.047
	(0.090)	(0.091)	(0.105)	(0.099)	(0.112)	(0.122)
GDPpc(log) (within)	−0.472+	−0.490*	−0.451+	−0.422+	−0.572*	−0.598*
	(0.259)	(0.249)	(0.254)	(0.252)	(0.291)	(0.289)
Electoral System (within)		0.136	0.207	0.181	0.218	0.258
		(0.264)	(0.288)	(0.305)	(0.312)	(0.296)
Parliamentary (within)			−0.513	−0.427+	−0.527	−0.629+
			(0.369)	(0.255)	(0.390)	(0.353)
Ethnic fractionalization (within)					−3.033	
					(4.047)	
Inequality (within)				−0.168**		
				(0.060)		
Government size % GDP (within)						0.026+
						(0.016)
DPF level (between)	−0.154*	−0.230***	−0.264***	−0.269***	−0.272***	−0.265***
	(0.069)	(0.053)	(0.049)	(0.053)	(0.051)	(0.047)
Donation limits (between)	0.036	−0.021	−0.034	−0.044	−0.040	−0.034
	(0.088)	(0.068)	(0.066)	(0.081)	(0.066)	(0.067)
Democracy (between)	0.095*	0.032	0.011	0.015	0.024	0.010
	(0.040)	(0.030)	(0.034)	(0.038)	(0.038)	(0.036)
GDPpc(log) (between)	−0.095	−0.108	−0.120	−0.070	−0.099	−0.132
	(0.204)	(0.179)	(0.157)	(0.188)	(0.155)	(0.157)
Electoral System (between)		0.554***	0.426**	0.413**	0.392**	0.445**
		(0.116)	(0.134)	(0.135)	(0.146)	(0.149)
Parliamentary (between)			0.247*	0.232+	0.236*	0.225*
			(0.103)	(0.135)	(0.104)	(0.097)
Ethnic fractionalization (between)					0.410	
					(0.468)	
Inequality (between)				0.008		
				(0.027)		
Government size % GDP (between)						0.004
						(0.011)
Num.Obs.	132	132	132	132	132	132
AIC	365.5	359.5	359.2	354.9	361.6	358.2
BIC	394.3	394.1	399.6	401.0	407.7	404.3
Log.Lik.	−172.745	−167.737	−165.602	−161.430	−164.797	−163.105
RMSE	0.90	0.86	0.85	0.82	0.84	0.83

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Table B9: The effect of DPF on political corruption: Two-way fixed-effects models with election dummies and election frequency

	(1)	(2)	(3)	(4)
DPF level-inflation adjusted	−0.120	−0.124+		
	(0.071)	(0.070)		
DPF level-inflation adjusted & discounted			−0.144	−0.148+
			(0.085)	(0.084)
Donation limits	−0.045	−0.028	−0.045	−0.029
	(0.091)	(0.091)	(0.091)	(0.091)
Democracy	0.046	0.022	0.049	0.024
	(0.090)	(0.093)	(0.090)	(0.094)
GDPpc(log)	−0.485	−0.488	−0.447	−0.446
	(0.585)	(0.582)	(0.583)	(0.582)
Electoral System	0.266	0.275	0.272	0.282
	(0.294)	(0.284)	(0.296)	(0.286)
Parliamentary	−0.571*	−0.576**	−0.576*	−0.580**
	(0.222)	(0.207)	(0.222)	(0.207)
Government size % GDP	0.019	0.020+	0.019+	0.020+
	(0.011)	(0.011)	(0.011)	(0.011)
Elections dummies	−0.031		−0.036	
	(0.184)		(0.184)	
Elections frequency		−0.091		−0.090
		(0.122)		(0.122)
Num.Obs.	132	132	132	132
R2	0.618	0.620	0.618	0.620
R2 Adj.	0.461	0.465	0.461	0.465
R2 Within	0.109	0.115	0.109	0.115
AIC	324.7	323.7	324.7	323.8
BIC	437.1	436.2	437.1	436.2
RMSE	0.62	0.61	0.62	0.61
FE: country	X	X	X	X
FE: year	X	X	X	X

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country.

Table B10: The effect of DPF on political corruption: Two-way fixed-effects models without authoritarian regimes (DPF inflation adjusted and discounted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.191*	−0.191*	−0.204*	−0.201*	−0.237*	−0.187+
	(0.084)	(0.087)	(0.087)	(0.087)	(0.086)	(0.091)
Donation limits	−0.020	−0.021	0.023	0.029	−0.017	−0.043
	(0.101)	(0.098)	(0.095)	(0.098)	(0.104)	(0.120)
Democracy	−0.032	−0.031	0.042	0.047	−0.018	0.002
	(0.096)	(0.094)	(0.096)	(0.100)	(0.110)	(0.102)
GDPpc(log)	−0.336	−0.332	−0.310	−0.305	−0.380	−0.291
	(0.580)	(0.595)	(0.655)	(0.503)	(0.628)	(0.619)
Electoral System		−0.034	0.175	0.242	0.336	0.141
		(0.198)	(0.180)	(0.190)	(0.260)	(0.166)
Parliamentary			−0.497*	−0.484*	−0.604*	−0.553*
			(0.188)	(0.183)	(0.272)	(0.241)
Ethnic fraction.					−5.413	
					(5.242)	
Inequality				−0.101		
				(0.062)		
Government size % GDP						0.024
						(0.024)
Num.Obs.	98	98	98	98	98	98
R2	0.587	0.587	0.600	0.615	0.612	0.613
R2 Adj.	0.428	0.420	0.429	0.443	0.438	0.440
R2 Within	0.061	0.061	0.090	0.125	0.117	0.120
AIC	244.4	246.4	245.3	243.5	244.3	244.0
BIC	316.7	321.3	322.9	323.6	324.5	324.1
RMSE	0.63	0.63	0.62	0.61	0.61	0.61
FE: country	X	X	X	X	X	X
FE: year	X	X	X	X	X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country. Authoritarian regimes removed: Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan

Table B11: The effect of DPF on political corruption: Two-way fixed-effects models without authoritarian regimes (DPF inflation adjusted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.151+	−0.151+	−0.162*	−0.158+	−0.189*	−0.147+
	(0.074)	(0.076)	(0.076)	(0.076)	(0.075)	(0.079)
Donation limits	−0.021	−0.021	0.022	0.029	−0.018	−0.044
	(0.101)	(0.098)	(0.096)	(0.098)	(0.103)	(0.120)
Democracy	−0.034	−0.034	0.039	0.043	−0.021	−0.001
	(0.096)	(0.094)	(0.097)	(0.100)	(0.111)	(0.102)
GDPpc(log)	−0.387	−0.384	−0.366	−0.359	−0.445	−0.342
	(0.582)	(0.596)	(0.659)	(0.512)	(0.631)	(0.622)
Electoral System		−0.026	0.182	0.248	0.342	0.148
		(0.191)	(0.174)	(0.189)	(0.260)	(0.159)
Parliamentary			−0.495*	−0.481*	−0.601*	−0.551*
			(0.186)	(0.181)	(0.271)	(0.240)
Ethnic fraction.					−5.369	
					(5.304)	
Inequality				−0.100		
				(0.063)		
Government size % GDP						0.025
						(0.024)
Num.Obs.	98	98	98	98	98	98
R2	0.585	0.585	0.597	0.612	0.609	0.611
R2 Adj.	0.425	0.417	0.426	0.439	0.434	0.437
R2 Within	0.056	0.057	0.085	0.119	0.112	0.116
AIC	244.9	246.8	245.9	244.2	244.9	244.5
BIC	317.2	321.8	323.4	324.3	325.1	324.6
RMSE	0.63	0.63	0.62	0.61	0.62	0.61
FE: country	X	X	X	X	X	X
FE: year	X	X	X	X	X	X

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country. Authoritarian regimes removed: Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan

Table B12: The effect of DPF on party corruption: Within-between random-effects models without authoritarian regimes (DPF inflation adjusted and discounted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level (within)	−0.152	−0.155	−0.167	−0.161	−0.213*	−0.157
	(0.104)	(0.106)	(0.105)	(0.103)	(0.094)	(0.103)
Donation limits (within)	−0.127	−0.125	−0.085	−0.050	−0.131	−0.155
	(0.110)	(0.107)	(0.121)	(0.113)	(0.115)	(0.122)
Democracy (within)	−0.163+	−0.163+	−0.096	−0.054	−0.177	−0.159
	(0.089)	(0.089)	(0.110)	(0.101)	(0.116)	(0.105)
GDPpc(log) (within)	−0.594	−0.585	−0.560	−0.384	−0.590	−0.364
	(0.377)	(0.378)	(0.397)	(0.364)	(0.394)	(0.424)
Electoral System (within)		−0.066	0.129	0.272	0.375+	0.107
		(0.230)	(0.190)	(0.204)	(0.215)	(0.217)
Parliamentary (within)			−0.463	−0.444+	−0.625	−0.547
			(0.367)	(0.238)	(0.411)	(0.338)
Ethnic fractionalization (within)					−7.940	
					(5.252)	
Inequality (within)				−0.190***		
				(0.055)		
Government size % GDP (within)						0.037
						(0.023)
DPF level (between)	−0.177*	−0.236***	−0.257***	−0.154	−0.286***	−0.243***
	(0.081)	(0.068)	(0.061)	(0.136)	(0.068)	(0.049)
Donation limits (between)	0.029	−0.021	−0.009	0.071	−0.045	0.009
	(0.086)	(0.070)	(0.080)	(0.153)	(0.077)	(0.077)
Democracy (between)	0.072	0.065	0.065	0.117	0.060	0.084
	(0.069)	(0.072)	(0.075)	(0.097)	(0.074)	(0.068)
GDPpc(log) (between)	−0.432	−0.481	−0.501	−1.186	−0.365	−0.673*
	(0.371)	(0.337)	(0.342)	(0.832)	(0.365)	(0.298)
Electoral System (between)		0.428**	0.331+	0.260	0.326*	0.332+
		(0.162)	(0.183)	(0.228)	(0.161)	(0.199)
Parliamentary (between)			0.186	0.261	0.091	0.120
			(0.203)	(0.260)	(0.174)	(0.199)
Ethnic fractionalization (between)					0.669	
					(0.611)	
Inequality (between)				−0.048		
				(0.059)		
Government size % GDP (between)						0.014
						(0.010)
Num.Obs.	98	98	98	98	98	98
AIC	261.9	262.7	264.3	257.9	263.2	262.2
BIC	287.7	293.8	300.4	299.2	304.5	303.6
Log.Lik.	−120.948	−119.369	−118.130	−112.925	−115.590	−115.103
RMSE	0.83	0.82	0.81	0.77	0.79	0.78

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Table B13: The effect of DPF on political corruption: fixed-effects models lagged by BEEPS wave (DPF inflation adjusted and discounted)

	Year fixed-effects		Country fixed-effects		Two-way fixed-effects	
	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.189*	−0.258***	−0.135+	−0.138+	−0.211*	−0.215*
	(0.080)	(0.064)	(0.070)	(0.067)	(0.084)	(0.085)
Donation limits	−0.040	−0.068	−0.175	−0.190+	−0.171	−0.166
	(0.079)	(0.071)	(0.106)	(0.111)	(0.127)	(0.138)
Democracy	0.069	−0.022	−0.265+	−0.310+	−0.254+	−0.303+
	(0.046)	(0.047)	(0.129)	(0.166)	(0.126)	(0.155)
GDPpc(log)	−0.093	−0.148	0.866*	0.975*	0.048	0.329
	(0.143)	(0.111)	(0.355)	(0.391)	(0.632)	(0.728)
Electoral System		0.313*		−0.016		−0.157
		(0.132)		(0.299)		(0.302)
Parliamentary		0.333*		0.258		0.322
		(0.138)		(0.443)		(0.457)
Government size % GDP		−0.003		−0.018		−0.021*
		(0.009)		(0.011)		(0.010)
Num.Obs.	105	105	105	105	105	105
R2	0.106	0.235	0.424	0.438	0.466	0.487
R2 Adj.	0.042	0.154	0.190	0.177	0.218	0.215
R2 Within	0.073	0.206	0.142	0.163	0.160	0.192
AIC	262.0	251.7	261.9	265.3	259.9	261.7
BIC	283.2	280.9	344.2	355.6	350.1	359.9
RMSE	0.78	0.72	0.63	0.62	0.60	0.59
FE: country			X	X	X	X
FE: year	X	X			X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country.

Table B14: The effect of DPF on party corruption: Within-between random-effects models lagged by BEEPS waves (DPF inflation adjusted and discounted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level (within)	−0.137*	−0.137*	−0.134*	−0.141*	−0.126*	−0.139*
	(0.067)	(0.067)	(0.067)	(0.069)	(0.064)	(0.064)
Donation limits (within)	−0.172+	−0.177+	−0.188+	−0.156	−0.195*	−0.190+
	(0.092)	(0.097)	(0.099)	(0.106)	(0.092)	(0.101)
Democracy (within)	−0.280*	−0.267*	−0.301+	−0.277+	−0.283	−0.309*
	(0.125)	(0.125)	(0.168)	(0.159)	(0.174)	(0.156)
GDPpc(log) (within)	0.910**	0.886**	0.875*	0.927**	1.008**	0.990**
	(0.333)	(0.339)	(0.344)	(0.339)	(0.381)	(0.367)
Electoral System (within)		0.018	0.021	−0.001	0.022	−0.007
		(0.273)	(0.279)	(0.285)	(0.289)	(0.280)
Parliamentary (within)			0.199	0.185	0.294	0.250
			(0.420)	(0.419)	(0.431)	(0.408)
Ethnic fractionalization (within)					2.892	
					(3.190)	
Inequality (within)				−0.063		
				(0.089)		
Government size % GDP (within)						−0.018+
						(0.010)
DPF level (between)	−0.090	−0.208*	−0.262**	−0.263**	−0.268**	−0.266**
	(0.121)	(0.096)	(0.096)	(0.096)	(0.101)	(0.095)
Donation limits (between)	0.073	−0.004	−0.023	−0.024	−0.027	−0.027
	(0.096)	(0.072)	(0.069)	(0.080)	(0.069)	(0.070)
Democracy (between)	0.087+	0.026	0.005	0.006	0.013	−0.002
	(0.045)	(0.034)	(0.040)	(0.046)	(0.047)	(0.045)
GDPpc(log) (between)	−0.253	−0.291*	−0.299**	−0.289+	−0.289**	−0.319**
	(0.159)	(0.126)	(0.114)	(0.160)	(0.109)	(0.114)
Electoral System (between)		0.597***	0.443***	0.439***	0.427***	0.487***
		(0.097)	(0.115)	(0.131)	(0.126)	(0.136)
Parliamentary (between)			0.275**	0.273*	0.267*	0.209+
			(0.105)	(0.129)	(0.105)	(0.117)
Ethnic fractionalization (between)					0.207	
					(0.449)	
Inequality (between)				0.001		
				(0.025)		
Government size % GDP (between)						0.011
						(0.010)
Num.Obs.	105	105	105	105	105	105
AIC	261.3	251.7	252.3	255.5	255.4	253.8
BIC	287.8	283.6	289.5	297.9	297.8	296.3
Log.Lik.	−120.644	−113.875	−112.162	−111.735	−111.676	−110.925
RMSE	0.76	0.72	0.70	0.70	0.70	0.70

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Table B15: The effect of DPF on political corruption: fixed-effects models with uniform lags (DPF inflation adjusted and discounted)

	Year fixed-effects		Country fixed-effects		Two-way fixed-effects	
	(1)	(2)	(3)	(4)	(5)	(6)
DPF level	−0.144*	−0.198***	−0.044	−0.007	−0.118	−0.073
	(0.058)	(0.047)	(0.120)	(0.116)	(0.102)	(0.105)
Donation limits	0.004	−0.018	−0.244*	−0.159	−0.096	−0.039
	(0.052)	(0.051)	(0.101)	(0.111)	(0.099)	(0.100)
Democracy	0.065+	−0.003	−0.137	−0.097	−0.050	−0.036
	(0.034)	(0.029)	(0.082)	(0.108)	(0.068)	(0.083)
GDPpc(log)	−0.123	−0.208	−0.418	−0.620*	−0.424	−0.497
	(0.179)	(0.149)	(0.263)	(0.286)	(0.586)	(0.574)
Electoral System		0.467**		0.392		0.374
		(0.134)		(0.257)		(0.247)
Parliamentary		0.091		−0.860*		−0.557*
		(0.127)		(0.347)		(0.260)
Government size % GDP		0.011		0.029+		0.022+
		(0.008)		(0.017)		(0.011)
Num.Obs.	132	132	132	132	132	132
R2	0.388	0.473	0.364	0.420	0.585	0.617
R2 Adj.	0.349	0.424	0.175	0.225	0.440	0.466
R2 Within	0.058	0.188	0.164	0.238	0.033	0.107
AIC	326.7	313.1	375.9	369.6	327.4	322.9
BIC	352.6	347.7	465.2	467.6	428.3	432.5
RMSE	0.78	0.72	0.79	0.76	0.64	0.62
FE: country			X	X	X	X
FE: year	X	X			X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country. Independent variable and controls are aggregated by uisng values from three years before each BEEPS wave

23

Table B16: The effect of DPF on party corruption: Within-between random-effects models with uniform lags (DPF inflation adjusted and discounted)

	(1)	(2)	(3)	(4)	(5)	(6)
DPF level (within)	−0.033	−0.038	−0.040	−0.036	−0.038	−0.004
	(0.117)	(0.115)	(0.114)	(0.123)	(0.120)	(0.119)
Donation limits (within)	−0.260**	−0.251*	−0.203+	−0.189+	−0.194+	−0.159
	(0.096)	(0.101)	(0.105)	(0.103)	(0.104)	(0.104)
Democracy (within)	−0.126	−0.145+	−0.066	−0.065	−0.098	−0.087
	(0.081)	(0.082)	(0.099)	(0.091)	(0.097)	(0.098)
GDPpc(log) (within)	−0.419	−0.447+	−0.425+	−0.448+	−0.544+	−0.614*
	(0.255)	(0.239)	(0.238)	(0.250)	(0.289)	(0.289)
Electoral System (within)		0.271	0.335	0.308	0.325	0.361
		(0.246)	(0.245)	(0.240)	(0.259)	(0.240)
Parliamentary (within)			−0.778*	−0.626+	−0.634+	−0.731*
			(0.378)	(0.321)	(0.330)	(0.288)
Ethnic fractionalization (within)					−2.384	
					(4.233)	
Inequality (within)				−0.129+	−0.115	−0.102
				(0.068)	(0.073)	(0.074)
Government size % GDP (within)						0.026
						(0.016)
DPF level (between)	−0.207*	−0.321***	−0.373***	−0.377***	−0.395***	−0.380***
	(0.104)	(0.078)	(0.072)	(0.079)	(0.084)	(0.078)
Donation limits (between)	0.021	−0.052	−0.070	−0.076	−0.086	−0.077
	(0.094)	(0.070)	(0.070)	(0.081)	(0.079)	(0.084)
Democracy (between)	0.080*	0.030	0.012	0.013	0.024	0.013
	(0.035)	(0.024)	(0.028)	(0.030)	(0.031)	(0.030)
GDPpc(log) (between)	−0.083	−0.095	−0.101	−0.071	−0.028	−0.063
	(0.214)	(0.187)	(0.165)	(0.202)	(0.191)	(0.203)
Electoral System (between)		0.565***	0.423**	0.415**	0.382**	0.424**
		(0.119)	(0.144)	(0.144)	(0.147)	(0.151)
Parliamentary (between)			0.275*	0.267*	0.247*	0.243+
			(0.113)	(0.136)	(0.121)	(0.145)
Ethnic fractionalization (between)					0.474	
					(0.451)	
Inequality (between)				0.005	0.006	0.007
				(0.024)	(0.022)	(0.026)
Government size % GDP (between)						0.003
						(0.012)
Num.Obs.	132	132	132	132	132	132
AIC	368.4	361.8	359.7	359.8	362.6	359.3
BIC	397.3	396.4	400.1	406.0	414.5	411.1
Log.Lik.	−174.223	−168.922	−165.857	−163.915	−163.281	−161.626
RMSE	0.91	0.87	0.85	0.84	0.83	0.82

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Table B17: The effect of DPF on political corruption: two-way fixed-effects models with alternative operationalization of corruption

	Corruption 2		Corruption 3	
	(1)	(2)	(3)	(4)
DPF level-inflation adjusted	−0.132+	−0.113		
	(0.064)	(0.068)		
DPF level-inflation adjusted & discounted			−0.140	−0.120
			(0.089)	(0.094)
Donation limits	−0.105	−0.053	−0.092	−0.037
	(0.102)	(0.091)	(0.105)	(0.093)
Democracy	−0.001	0.063	−0.005	0.060
	(0.091)	(0.093)	(0.093)	(0.094)
GDPpc(log)	−0.470	−0.498	−0.488	−0.507
	(0.592)	(0.648)	(0.670)	(0.712)
Electoral System		0.319		0.345
		(0.295)		(0.305)
Parliamentary		−0.683**		−0.701**
		(0.218)		(0.234)
Government size % GDP		0.020+		0.020+
		(0.010)		(0.011)
Num.Obs.	132	132	132	132
R2	0.591	0.624	0.571	0.605
R2 Adj.	0.447	0.475	0.420	0.450
R2 Within	0.047	0.124	0.037	0.115
AIC	325.7	320.6	331.9	326.9
BIC	426.6	430.2	432.8	436.4
RMSE	0.64	0.61	0.65	0.63
FE: country	X	X	X	X
FE: year	X	X	X	X

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Table entries represent unstandardised coefficients with robust standard errors clustered by country. Corruption 2 reflects the percentage of firms significantly and very significantly affected by the informal payments to political parties, legislators and central government officials. Corruption 3 reflects the percentage of firms significantly and very significantly affected by the informal payments to political parties, legislators, central and local government officials

Table B18: The effect of DPF on political corruption: within-between random-effects models with alternative operationalization of corruption

	Corruption 2		Corruption 3	
	(1)	(2)	(3)	(4)
DPF level-inflation adjusted (within)	−0.069	−0.059		
	(0.087)	(0.085)		
DPF level-inflation adjusted & discounted (within)			−0.080	−0.073
			(0.117)	(0.114)
Donation limits (within)	−0.236*	−0.166	−0.222*	−0.149
	(0.099)	(0.104)	(0.098)	(0.102)
Democracy (within)	−0.089	−0.023	−0.077	−0.009
	(0.103)	(0.125)	(0.101)	(0.120)
GDPpc(log) (within)	−0.463	−0.592+	−0.493	−0.613+
	(0.302)	(0.324)	(0.335)	(0.355)
Electoral System (within)		0.307		0.313
		(0.297)		(0.309)
Parliamentary (within)		−0.744*		−0.762*
		(0.351)		(0.318)
Government size % GDP (within)		0.027+		0.027+
		(0.014)		(0.015)
DPF level-inflation adjusted (between)	−0.169*	−0.282***		
	(0.069)	(0.046)		
DPF level-inflation adjusted & discounted (between)			−0.200*	−0.332***
			(0.086)	(0.057)
Donation limits (between)	0.045	−0.025	0.046	−0.025
	(0.088)	(0.066)	(0.091)	(0.068)
Democracy (between)	0.095*	0.010	0.096*	0.009
	(0.040)	(0.035)	(0.040)	(0.037)
GDPpc(log) (between)	−0.113	−0.150	−0.102	−0.149
	(0.199)	(0.149)	(0.196)	(0.144)
Electoral System (between)		0.460**		0.478**
		(0.148)		(0.153)
Parliamentary (between)		0.215*		0.209*
		(0.090)		(0.094)
Government size % GDP (between)		0.004		0.006
		(0.011)		(0.012)
Num.Obs.	132	132	132	132
AIC	365.0	355.8	366.2	356.3
BIC	393.8	401.9	395.0	402.4
Log.Lik.	−172.485	−161.881	−173.084	−162.141
RMSE	0.89	0.82	0.90	0.83

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Note: Corruption operationalization as for table B17.

Appendix C: Jackknife estimations

Figure C1: Sensitivity analysis: group-based Jackknife variance estimations of public funding coeffcients: fixed-effects models

A: Year fixed–effects models

B: Country fixed–effects models

C: Two–way fixed–effects models

Note: The blue line represents the public funding estimate from the main analysis and Appendix B (Table B1, Model 6 – Year fixed–effects, Table B2, Model 6 – Country fixed–effects, Table 1, Model 4 – Two–way fixed–effects). The red line indicates statistical significance for each model when the respective country is discarded. Figure entries represent unstandardised coefficients with robust standard errors clustered by country.

Figure C2: Sensitivity analysis: simple Jackknife variance estimations of public funding coeffcients: fixed-effects models

A: Year fixed−effects models

B: Country fixed−effects models

C: Two−way fixed−effects models

Public funding estimates with 90% and 95% confidence intervals

Number of estimations

Note: The dark−grey line shows the variation in public funding coeffcients when each subsequent observation is dropped from the estimation. The dark−grey and light−grey shaded areas represent the confidence intervals at 90% and 95% levels respectively. The blue line indicates the estimates from the main analysis, while the the red line shows statistical significance for each model when every subsequent observation is discarded. The plot is based on Table B1, Model 6 − Year fixed−effects, Table B2, Model 6 − Country fixed−effects, Table 1, Model 4 − Two−way fixed−effects

Figure C3: Sensitivity analysis: group- and observation-based Jackknife variance estimations of public funding coeffcients: within-between random-effects models

A: Country−based Jakknife variance estimation (Between effect)

Note: The blue line represents the public funding estimate from the main analysis (Table 2, Model 4). The red line indicates statistical significance for each model when the respective country is discarded. Figure entries represent unstandardised coefficients with robust standard errors clustered by country.

B: Observation−based Jakknife variance estimation (Between effect)

Note: The dark−grey line shows the variation in public funding coeffcients when each subsequent observation is dropped from the estimation. The dark−grey and light−grey shaded areas represent the confidence intervals at 90% and 95% levels respectively. The blue line represents the public funding estimate from the main analysis (Table 2, Model 4) The red line indicates statistical significance for each model when every subsequent observation is discarded.

Figure C4: Sensitivity analysis: BEEPS round-based Jackknife variance estimates of public funding coeffcients: all model specifications

Note: Jackknife variance estimations based on BEEPS rounds. The blue line represents the public funding estimate from the Appendix B and main analysis respectively (Table B1, Model 6 – Year fixed–effects; Table B2, Model 6 – Country fixed–effects; Table 1, Model 4 (main text) – Two–way fixed–effects; Table 2, Model 4 (main text) – Within–between random–effects). The red line indicates wether the estimates are statistically significant for each model when the respective BEEPS round is removed from the estimation. Figure entries represent unstandardised coefficients with robust standard errors clustered by country.

References appendix

Bolt, J., & Zanden, J. L. van. (2020). *Maddison style estimates of the evolution of the world economy. A new 2020 update.*

Bormann, N.-C., & Golder, M. (2013). Democratic electoral systems around the world, 1946–2011. *Electoral Studies*, *32*(2), 360369. https://doi.org/10.1016/j.electstud.2013.01.005

Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., & Teorell, J. (2021). *V-dem dataset.* https://doi.org/10.23696/VDEMDS21

Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., Altman, D., Bernhard, M., Fish, M. S., Glynn, A., Hicken, A., Lührmann, A., Marquardt, K. M., McMann, K. M., Paxton, P., Pemstein, D., Seim, B., Sigman, R., Skaaning, S.-E., Staton, J. K., . . . Ziblatt, D. (2020). *V-dem codebook V10.* https://doi.org/10.2139/ssrn.3557877

Cruz, C., Keefer, P., & Scartascini, C. (2021). *The database of political institutions 2020.* https://doi.org/10.18235/0003049

Drazanova, L. (2020). *Historical index of ethnic fractionalization dataset (HIEF).* https://doi.org/10.7910/DVN/4JQRCL

Elgie, R. (2018). *Semi-presidentialism – a new country-years dataset.* https://presidential-power.net/?p=7869

Feenstra, R. C., & Inklaar, R. (2021). *Penn world table.* https://doi.org/10.15141/S5Q94M

International IDEA. (2021). *Electoral system design database.* https://www.idea.int/data-tools/data/electoral-system-design

Lipcean, S. (2021). Dataset on direct public funding of political parties across post-communist regimes 1990-2020. *Harvard Dataverse.* https://doi.org/10.7910/DVN/TNHZML

Peterson, R. A. (2021). *{Finding optimal normalizing transformations via bestNormalize}. 13.* https://doi.org/10.32614/RJ-2021-041

Yeo, I.-K., & Johnson, R. A. (2000). A new family of power transformations to improve normality or symmetry. *Biometrika*, *87*(4), 954–959. https://www.jstor.org/stable/2673623

Session info

```
R version 4.2.3 (2023-03-15 ucrt)
Platform: x86_64-w64-mingw32/x64 (64-bit)
Running under: Windows 10 x64 (build 19044)

Matrix products: default

locale:
[1] LC_COLLATE=English_United Kingdom.utf8
[2] LC_CTYPE=English_United Kingdom.utf8
[3] LC_MONETARY=English_United Kingdom.utf8
[4] LC_NUMERIC=C
[5] LC_TIME=English_United Kingdom.utf8

attached base packages:
[1] stats     graphics  grDevices utils     datasets  methods   base

other attached packages:
 [1] kableExtra_1.3.4    ggrepel_0.9.3       corrplot_0.92
 [4] scales_1.2.1        cowplot_1.1.1       ggeffects_1.2.0
 [7] bestNormalize_1.9.0 modelsummary_1.3.0  broom_1.0.4
[10] panelr_0.7.7        lme4_1.1-32         Matrix_1.5-3
[13] geepack_1.3.9       fixest_0.11.1       haven_2.5.2
[16] lubridate_1.9.2     forcats_1.0.0       stringr_1.5.0
[19] dplyr_1.1.1         purrr_1.0.1         readr_2.1.4
[22] tidyr_1.3.0         tibble_3.2.1        ggplot2_3.4.1
[25] tidyverse_2.0.0

loaded via a namespace (and not attached):
 [1] minqa_1.2.5         colorspace_2.1-0    class_7.3-21
 [4] estimability_1.4.1  parameters_0.20.2   rstudioapi_0.14
 [7] farver_2.1.1        listenv_0.9.0       mvtnorm_1.1-3
[10] prodlim_2019.11.13  fansi_1.0.4         xml2_1.3.3
[13] codetools_0.2-19    splines_4.2.3       doParallel_1.0.17
[16] knitr_1.42          Formula_1.2-5       nloptr_2.0.3
[19] effectsize_0.8.3    compiler_4.2.3      httr_1.4.5
[22] emmeans_1.8.5       backports_1.4.1     fastmap_1.1.1
[25] cli_3.6.0           htmltools_0.5.4     tools_4.2.3
[28] coda_0.19-4         gtable_0.3.3        glue_1.6.2
[31] dreamerr_1.2.3      tables_0.9.10       doRNG_1.8.6
[34] Rcpp_1.0.10         vctrs_0.6.1         svglite_2.1.1
[37] nlme_3.1-162        iterators_1.0.14    lmtest_0.9-40
[40] insight_0.19.1      timeDate_4022.108   gower_1.0.1
[43] xfun_0.37           globals_0.16.2      rvest_1.0.3
```

```
[46] timechange_0.2.0     lifecycle_1.0.3     rngtools_1.5.2
[49] future_1.32.0        MASS_7.3-58.2       zoo_1.8-11
[52] ipred_0.9-14         hms_1.1.3           parallel_4.2.3
[55] sandwich_3.0-2       yaml_2.3.7          pander_0.6.5
[58] rpart_4.1.19         stringi_1.7.12      bayestestR_0.13.0
[61] nortest_1.0-4        foreach_1.5.2       checkmate_2.1.0
[64] butcher_0.3.2        hardhat_1.2.0       boot_1.3-28.1
[67] lava_1.7.2.1         systemfonts_1.0.4   rlang_1.1.0
[70] pkgconfig_2.0.3      evaluate_0.20       lattice_0.20-45
[73] labeling_0.4.2       recipes_1.0.5       tidyselect_1.2.0
[76] parallelly_1.35.0    magrittr_2.0.3      bookdown_0.33
[79] R6_2.5.1             generics_0.1.3      mgcv_1.8-42
[82] pillar_1.9.0         withr_2.5.0         jtools_2.2.1
[85] datawizard_0.7.0     survival_3.5-3      nnet_7.3-18
[88] performance_0.10.2   future.apply_1.10.0 crayon_1.5.2
[91] utf8_1.2.3           tzdb_0.3.0          rmarkdown_2.20
[94] grid_4.2.3           webshot_0.5.4       digest_0.6.31
[97] numDeriv_2016.8-1.1  munsell_0.5.0       viridisLite_0.4.1
```