

Corruption and support for decentralization

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Online appendix

A. Appendix on survey experiment	2
<i>Table A1- Descriptive statistics survey experiment</i>	2
<i>Table A2- Wording of treatment conditions</i>	3
<i>Table A3- Balance tests</i>	5
<i>Table A4- Ordinal logistic models predicting support for fiscal decentralization</i>	7
<i>Table A5- Sensitivity analysis for Average Causal Mediation Effects</i>	8
<i>Table A6- Interactions between corruption primes and relative regional corruption</i>	9
<i>Table A7- Frequency of cases across regions</i>	10
<i>Table A8- Replication of Table 1 with region fixed-effects</i>	11
<i>Table A9- Replication of Table 2 with region fixed-effects</i>	12
<i>Table A10- National identity mediating preferences for decentralization</i>	13
<i>Table A11- Average causal mediation effects of national identity</i>	14
<i>Figure A1- Distribution of treatment per region</i>	15
<i>Figure A2- Distribution of decentralization preferences per region</i>	16
<i>Figure A3- Average Marginal Effects of corruption primes across collective identity</i>	17
<i>Figure A4- Average Marginal Effects of corruption primes across party identification</i>	18
B. Appendix on EVS	19
<i>Table B1- Descriptive statistics</i>	19
<i>Table B2- National Quality of Government predicting support for sub-national government</i>	20
<i>Table B3- Hierarchical logit models predicting preferences for sub-national government excluding vote intention and regional GDP</i>	22

A. Appendix on survey experiment

Table A1- Descriptive statistics survey experiment

Variable	N	Mean	SD	Min	Max
Support for political decentralization	1788	2.18	1.06	1	4
Treatments	1918	2.5	1.12	1	4
Higher education (dummy)	1918	.24	.43	0	1
Age	1918	40.33	12.47	18	64
Female (dummy)	1918	.5	.5	0	1
Subjective social class	1873	2.08	.95	1	4
National identity	1763	2.6	.86	1	4
Left-right ideology	1736	3.77	2.44	0	10
PP voter	1918	.06	.25	0	1
Voter of regional incumbent party	1918	.09	.28	0	1
Relative regional corruption	1911	1	.12	.81	1.41
Satisfaction with national government	1895	2.02	2.42	0	10
Satisfaction with regional government	1888	2.68	2.53	0	10

Notes: Source: own survey experiment. Regional quality of government index (Charron et al. 2015).

Table A2- Wording of treatment conditions

Group 1	<i>Increase in regional inequality</i>
No corruption prime	<p>Regional economic inequality has considerably risen in Spain over the past few years. The gap between the richest and the poorest <i>Comunidades Autonomas</i> has widened since the start of the economic crisis.</p>
Group 2	<i>Increase in regional inequality and corruption scandals among politicians</i> <p>Regional economic inequality has considerably risen in Spain over the last years. The gap between the richest and the poorest <i>Comunidades Autonomas</i> has widened since the start of the economic crisis. Moreover, politicians have been implicated in corruption scandals. By 2014, the judiciary had dealt with many cases of politicians allegedly responsible of abuse of public funds for private use.</p>
Group 3	<i>Increase in regional inequality and corruption scandals among central government politicians</i> <p>Regional economic inequality has considerably risen in Spain over the last years. The gap between the richest and the poorest <i>Comunidades Autonomas</i> has widened since the start</p>

	<p>of the economic crisis. Moreover, politicians from the central government have been implicated in corruption scandals. By 2014, the judiciary had dealt with many cases of politicians linked to the central government allegedly responsible of abuse of public funds for private use.</p>
Group 4 Regional corruption prime	<p><i>Increase in regional inequality and corruption scandals among regional government politicians</i></p> <p>Regional economic inequality has considerably risen in Spain over the last years. The gap between the richest and the poorest <i>Comunidades Autonomas</i> has widened since the start of the economic crisis. Moreover, politicians of different regional governments have been implicated in corruption scandals. By 2014, the judiciary had dealt with many cases of politicians linked to governments of different <i>Comunidades Autonomas</i> allegedly responsible of abuse of public funds for private use.</p>

Table A3- Balance tests

	Control group	General corruption prime	Central corruption prime	Regional corruption prime
Higher education	0.226 (0.14)	-0.248 (0.14)	-0.005 (0.14)	0.012 (0.14)
Working class (ref.)				
Lower middle class	0.001 (0.15)	0.106 (0.15)	-0.016 (0.15)	-0.089 (0.15)
Middle class	0.11 (0.14)	0.208 (0.14)	-0.22 (0.14)	-0.1 (0.14)
Upper middle class	0.022 (0.28)	0.518 (0.27)	-0.313 (0.3)	-0.261 (0.29)
Regional inequality	0.43 (0.26)	0.126 (0.27)	-0.344 (0.27)	-0.215 (0.26)
Left-right ideology	0.019 (0.03)	-0.035 (0.03)	0.001 (0.03)	0.014 (0.03)
National identity	0.232 (0.16)	-0.013 (0.16)	-0.071 (0.17)	-0.166 (0.17)
Conservative voter	-0.32 (0.25)	0.431 (0.23)	-0.392 (0.26)	0.197 (0.23)
Age	-0.001 (0)	0 (0)	0.001 (0)	-0.001 (0)
Female	0.045 (0.11)	-0.06 (0.11)	-0.064 (0.11)	0.076 (0.11)
Intercept	-1.723*** (0.39)	-1.188** (0.39)	-0.673 (0.39)	-0.817* (0.38)
N	1705	1705	1705	1705
Log Likelihood	-956	-951	-945	-965
Pseudo R squared	0.006	0.006	0.005	0.002
BIC	1933.8	1983.8	1971.88	2011.8

Notes: Source: own survey experiment. *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05; standard errors between parentheses. Models shown in Table A3 predict being in one treatment group (vs all others). There is no significant relationship between the dependent and independent variables,

confirming that the likelihood of belonging to one or another treatment group does not depend on any observable included in the models below. Models control for educational attainment (a dummy for having finished higher education), gender (a dummy where 1 equals female), age, subjective social class (working class, lower-middle, middle, and upper-middle class), and regional inequality (ratio between average regional per-capita GDP in Spain and each region's per-capita GDP, higher values corresponding to poorer regions). Models account for Left-right ideology (operationalized in a 0-10 scale where 0 is extreme left), national identity (1 means feeling 'only Spanish', and 0 means feeling attached only to one's region, more to the region than to Spain, or more to Spain than to the region). This is a widely used measure of political identity (Sinnott 2005). Feeling close to Partido Popular (Spanish conservative party in power during data collection) vs. all other parties and not feeling close to any particular party controls for partisan biases in discounting corruption at the central level.

Table A4- Ordinal logistic models predicting support for fiscal decentralization

	Model 1	Model 2
No corruption	ref.	ref.
Corruption in general	0.19 (0.21)	0.16 (0.21)
Central gov. corruption	0.3* (0.14)	0.24 (0.14)
Regional gov. corruption	0.15 (0.14)	0.11 (0.15)
Lower class		ref.
Lower-middle class		0.03 (0.13)
Middle class		0.01(0.11)
Upper-middle class		-0.03 (0.25)
High education		-0.31** (0.12)
Female		0.03 (0.18)
Age		-0.01 (0.004)
Regional inequality		-1.48 (0.91)
National Spanish		-0.86*** (0.24)
attachment		
Left-right ideology		-0.18*** (0.02)
Conservative voter		0.08 (0.25)
Cut-off point 1	-0.73 (0.13)	-3.47 (1.09)
Cut-off point 2	0.55 (0.19)	-2.09 (1.1)
Cut-off point 3	1.79 (0.37)	-0.75 (1.2)
N individuals	1,409	1,409
N regions	19	19
Log-pseudolikelihood	-1914.31	-1832.59
BIC	3872.12	3781.2

Notes: Source: own survey experiment. Ordinal logit coefficients and standard errors clustered at the regional level between parentheses. *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05.

Table A5- Sensitivity analysis for Average Causal Mediation Effects

The mediation models rely on the assumption of sequential ignorability. This assumption requires the observed mediator to be generated independently from the treatment conditions and any unobserved confounder. While this assumption cannot be properly tested, Imai et al. (2011) and Imai and Yamamoto (2010) suggest some sensitivity analysis to assess the robustness of the mediation findings. This analysis relies on the correlation between the residuals of the mediator and outcome models (denoted as ρ). The stronger the correlation, the stronger the suspicion that an unobserved variable is causally related to both the mediator and the outcome. Table A5 presents the value of ρ from which the average causal mediation effects that emerged as significant would be 0. While this coefficient cannot be interpreted in absolute terms to adjudicate between right or wrong models, it is possible to compare degrees of robustness across models. As shown below, the residuals of the mediator and political decentralization models need to be correlated beyond 0.3 for the ACME to be insignificant. Hence, our political decentralization models are equally and moderately robust to unobserved variable biases.

Significant ACME reported in analysis section	ρ
Effect on political decentralization support through dissatisfaction with national government	0.3

Table A6- Interactions between corruption primes and relative regional corruption
(Status Quo = Reference category)

	One central government	More Autonomy	Possibility to secede		
Corruption in general	-1.217 (1.11)	-0.127 (1.58)	-1.965 (1.11)		
Central gov. corruption	-4.540** (1.56)	-0.994 (1.50)	-1.556 (1.82)		
Regional gov. corruption	-3.083** (1.13)	-4.492* (1.89)	-3.311 (2.05)		
Relative regional corruption	-3.244** (1.03)	0.685 (0.81)	2.739 (2.64)		
Corruption in general # Relative regional corruption	0.947 (1.05)	0.335 (1.44)	1.847 (1.06)		
Central gov. corruption # Relative regional corruption	4.494** (1.44)	1.409 (1.50)	1.608 (1.79)		
Regional gov. corruption # Relative regional corruption	2.887* (1.18)	4.632* (1.84)	3.549 (2.11)		
Constant	2.207* (0.97)	1.119 (1.38)	3.613 (2.79)		
Controls	Yes	Yes	Yes		
N	1502				

Notes: Source: own survey experiment. Multinomial logit coefficients and standard errors clustered at the regional level between parentheses. *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05.

Table A7- Frequency of cases across regions

	Frequency	Percentage sample	Percentage overall Spanish population
Andalucía	243	12.67	18.08
Aragón	77	4.01	2.86
Asturias	50	2.61	2.26
Islas Baleares	51	2.66	2.42
Islas Canarias	76	3.96	4.58
Cantabria	31	1.62	1.26
Castilla La Mancha	109	5.68	4.44
Castilla y Leon	124	6.47	5.33
Cataluña	308	16.06	15.92
Ceuta	3	0.16	0.18
Comunidad Valenciana	208	10.84	10.63
Extremadura	49	2.55	2.35
Galicia	123	6.41	5.89
Comunidad de Madrid	236	12.30	13.75
Melilla	4	0.21	0.18
Región de Murcia	75	3.91	3.15
Navarra	30	1.56	1.37
País Vasco	104	5.42	4.66
La Rioja	17	0.89	0.68

Notes: Sources: Own survey experiment; Eurostat, https://ec.europa.eu/eurostat/web/products-datasets/-/DEMO_R_D2JAN

Table A8- Replication of Table 1 with region fixed-effects

Model 1	
<i>One central government vs. status quo</i>	
No corruption prime	ref.
General corruption prime	-0.09 (0.15)
Central corruption prime	-0.04 (0.2)
Regional corruption prime	-0.14 (0.12)
Region fixed effects	YES
Intercept	-0.2* (0.1)
<i>More autonomy vs. status quo</i>	
No corruption prime	ref.
General corruption prime	0.22 (0.17)
Central corruption prime	0.37* (0.18)
Regional corruption prime	0.13 (0.18)
Region fixed effects	YES
Intercept	-0.58*** (0.11)
<i>Possibility to secede vs. status quo</i>	
No corruption prime	ref.
General corruption prime	0.09 (0.13)
Central corruption prime	0.14 (0.24)
Regional corruption prime	0.27 (0.17)
Region fixed effects	YES
Intercept	-2.41*** (0.09)
N individuals	1,788
N regions	19
Log-likelihood	-2119.06
BIC	4380.41

Notes: Source: own survey experiment. Multinomial logit coefficients and standard errors clustered at the regional level between parentheses. *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05.

Table A9- Replication of Table 2 with region fixed-effects

<i>One central government vs. status quo</i>	
No corruption prime	ref.
General corruption prime	-0.39 (1.16)
Central corruption prime	-2.19* (1.05)
Regional corruption prime	-2.35*** (0.73)
Relative regional corruption	-3.87*** (0.55)
General corruption prime x relative regional corruption	0.29 (1.13)
Central corruption prime x relative regional corruption	2.16* (0.997)
Regional corruption prime x relative regional corruption	2.21** (0.72)
Region fixed effects	YES
Intercept	3.96*** (0.57)
N individuals	1,782
N regions	17
Log-likelihood	-2110.79
BIC	4348.84

Notes: Source: own survey experiment. Multinomial logit coefficients and standard errors clustered at the regional level between parentheses. *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05.

Table A10- National identity mediating preferences for decentralization

	National corruption		Regional corruption	
	M1: logit DV: mediator	M2: ordinal logit DV: outcome	M5: logit DV: mediator	M6: ordinal logit DV: outcome
Central corruption prime	-0.16 (0.19)	0.3* (0.12)		
Regional corruption prime			-0.17 (0.19)	0.19 (0.12)
National identity		-1.07*** (0.18)		-1.28*** (0.19)
High education	0.09 (0.22)	0.09 (0.14)	0.13 (0.23)	0.04 (0.15)
Age	-0.00 (0.008)	-0.01 (0.01)	0.003 (0.01)	-0.01 (0.01)
Female	-0.2 (0.19)	0.12 (0.12)	-0.16 (0.19)	0.04 (0.12)
Intercept	-1.62*** (0.39)		-1.79*** (0.4)	
Cut-off 1		-0.81** (0.26)		-0.97*** (0.26)
Cut-off 2		0.40 (0.26)		0.33 (0.25)
Cut-off 3		1.65*** (0.27)		1.48*** (0.26)
AIC	741.59	2325.72		2317.82
N	880	880	885	885

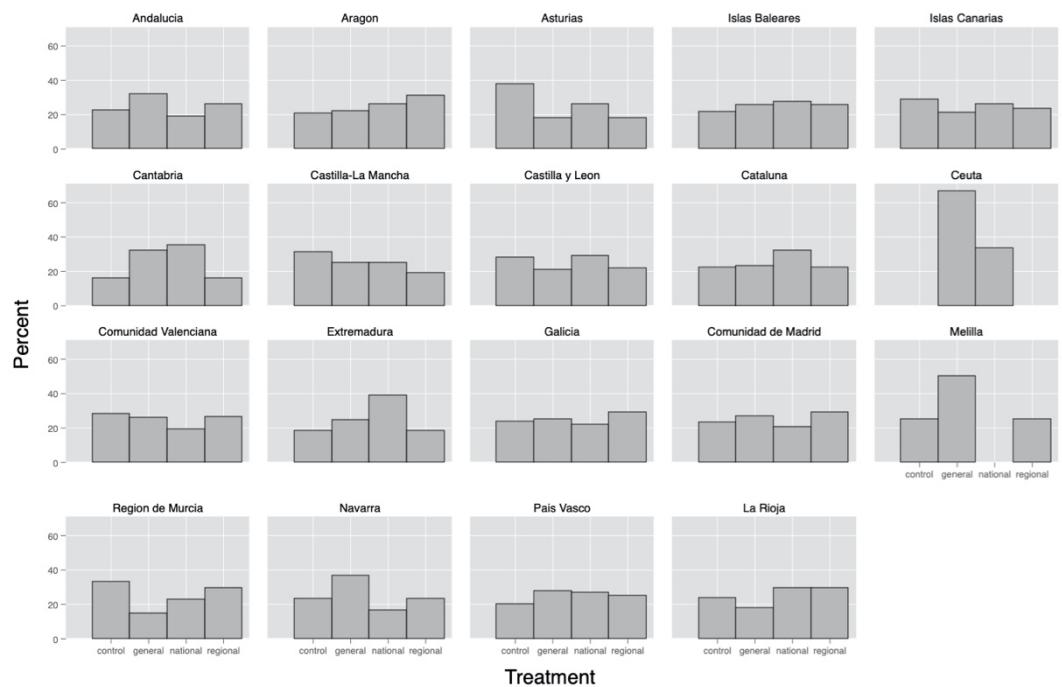
Notes: Source: own survey experiment. Models 1 and 3 predict national identity (Spanish identity vs. the rest). Models 2 and 4 predict support for political decentralization. Logit and ordinal logit coefficients, standard errors between parentheses. *** p ≤ 0.001; ** p ≤ 0.01; * p ≤ 0.05

Table A11- Average causal mediation effects of national identity

	$\Delta P(Y = \text{central state})$	$\Delta P(Y = \text{status quo})$	$\Delta P(Y = \text{more autonomy})$	$\Delta P(Y = \text{secession})$
<i>National government corruption via national identity</i>				
ACME (treated)	-0.01	0.001	0.003	0.003
Direct effect (treated)	-0.06*	-0.003	0.03*	0.04*
Total effect	-0.07*	-0.001	0.03*	0.04*
<i>Regional government corruption via national identity</i>				
ACME (treated)	-0.01	-0.001	0.002	0.002
Direct effect (treated)	-0.04	-0.0005	0.02	0.02
Total effect	-0.05	0.001	0.02	0.02

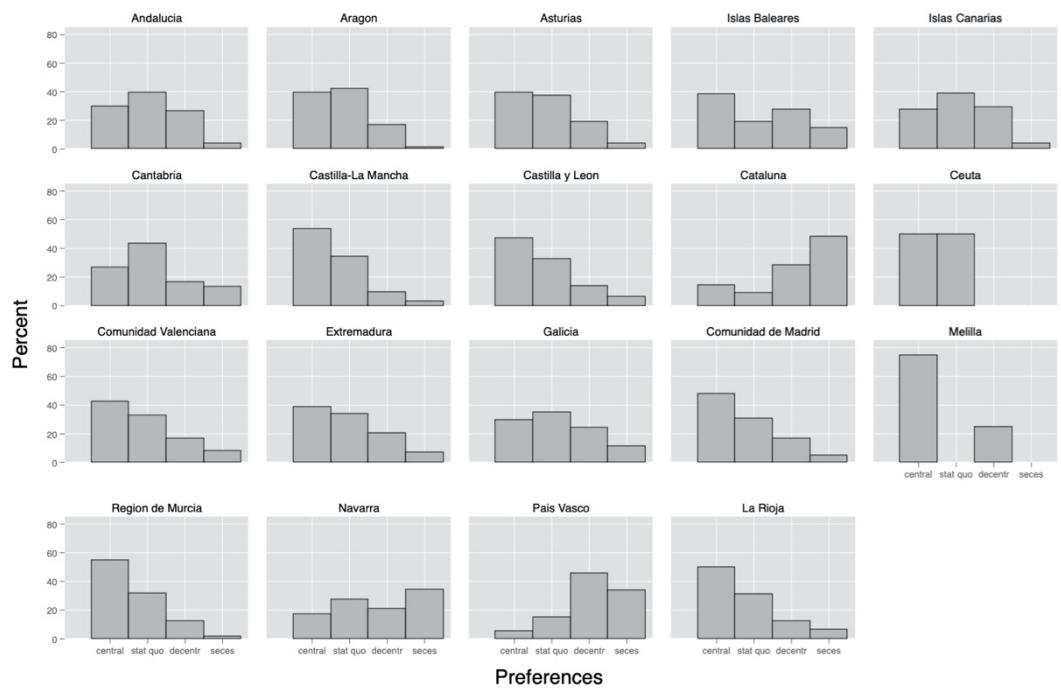
Notes: Source: own survey experiment. *** p ≤ 0.001; ** p ≤ 0.01; * p ≤ 0.05. Significance levels estimated via nonparametric bootstrapped methods (1,000 simulations).

Figure A1- Distribution of treatment per region



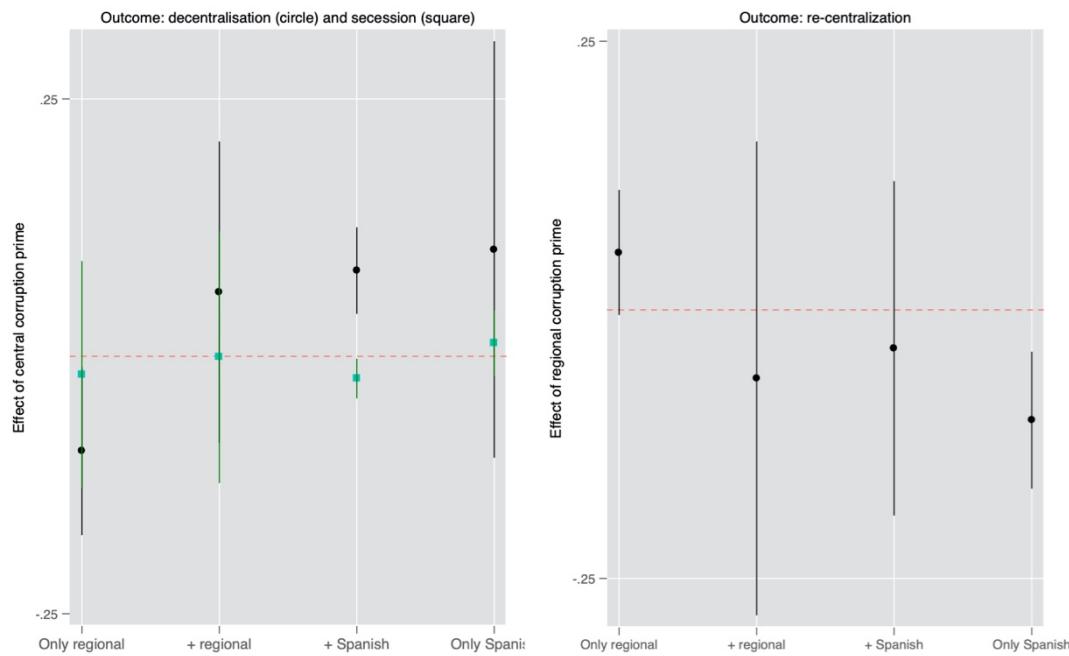
Notes: Source: own survey experiment.

Figure A2- Distribution of decentralization preferences per region



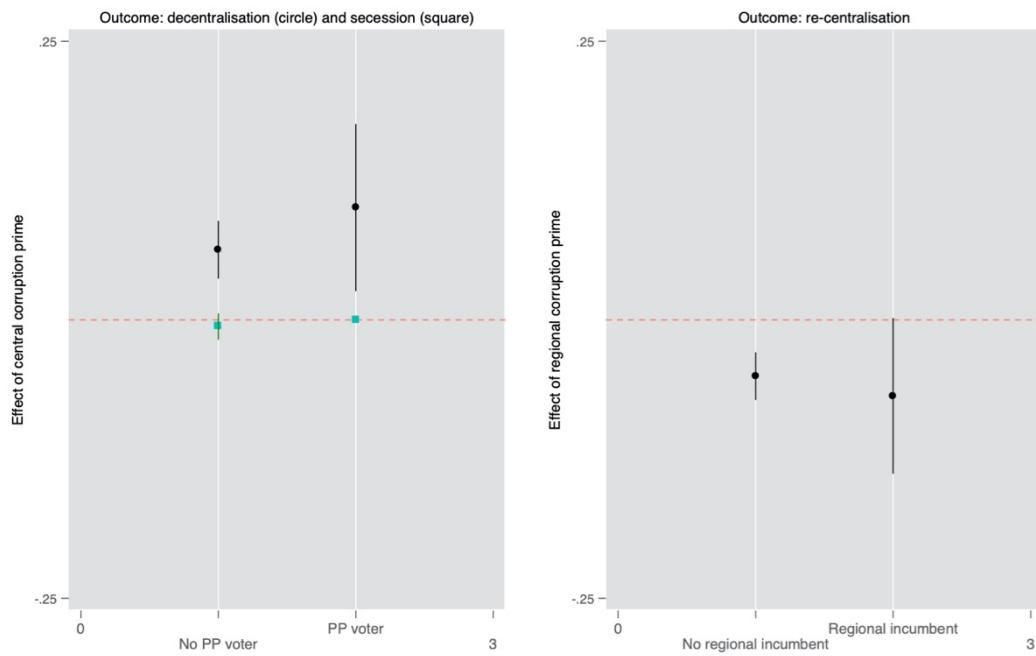
Notes: Source: own survey experiment.

Figure A3- Average Marginal Effects of corruption primes across collective identity



Notes: Source: own survey experiment. Dots refer to the Average Marginal Effect of central (left graph) and regional (right graph) corruption in a fully specified model, with 95 percent confidence intervals. The conditioning variable (X axis) is national identity, with exclusive regional identity as the reference category.

Figure A4- Average Marginal Effects of corruption primes across party identification



Notes: Source: own survey experiment. Dots refer to the Average Marginal Effect of central (left graph) and regional (right graph) corruption in a fully specified model, with 95 percent confidence intervals. The conditioning variable (X axis) is partisan identity for the national incumbent (left graph) and the regional incumbent (right graph).

B. Appendix on EVS

Table B1- Descriptive statistics

	N	Mean	SD	Min	Max
Preferences sub-national government	33,906	0.49	.5	0	1
National corruption	36,928	-5.85	2.29	-10	-2.4
Regional corruption	25,020	0.37	.24	0	1
Relative regional corruption level within country	25,020	1	.28	0	5.59
Female	37,919	0.54	.5	0	1
Age	37,803	45.01	17.14	15	101
High education	37,930	0.19	.39	0	1
Social class (ref. service class)					
Routine non-manual	26,435	0.24	.43	0	1
Self-employed	26,435	0.05	.22	0	1
Skilled manual	26,435	0.17	.38	0	1
Semi-unskilled manual	26,435	0.23	.42	0	1
National pride	35,304	0.84	.36	0	1
Left-right scale	30,260	5.37	2.06	1	10
Vote intention incumbent party	23,864	0.42	.49	0	1
Country GDP	37,930	4.85e+11	6.04e+11	6.46e+09	2.12e+12
Saliency center-periphery party system	37,930	2.72	1.61	.06	5.33
Regional GDP	28,154	18435.08	13188.43	800	52800

Table B2- National Quality of Government predicting support for sub-national government

	Model 1	Model 2
National Quality of Government	2.21** (0.83)	1.48** (0.55)
Female	-0.05 (0.04)	-0.02 (0.03)
Age	0.01*** (0.001)	0.01*** (0.001)
Higher education	0.12* (0.06)	0.04 (0.04)
Service class (ref.)		
Routine non-manual	0.09 (0.06)	0.01 (0.04)
Self-employed	0.21* (0.1)	0.19* (0.07)
Skilled manual	-0.07 (0.07)	-0.04 (0.05)
Semi-unskilled manual	0.06 (0.07)	-0.04 (0.05)
National pride	0.13* (0.06)	0.27*** (0.04)
Left-right scale	-0.002 (0.01)	0.0001 (0.01)
Support for incumbent party	0.06 (0.04)	
Country GDP p.c. (PPP)	8.27e-15 (1.99e-13)	-9.73e-14 (1.68e-13)
Salience center-periphery	-0.06 (0.07)	-0.05 (0.06)

Regional GDP p.c. (PPP)	1.76e-06	
	(3.65e-06)	
Intercept	1.4*	0.68
	(0.72)	(0.48)
 Country intercept variance	0.27***	0.23***
	(0.08)	(0.06)
<hr/> N (individuals)	10,219	18,536
N (countries)	23	28
Log Likelihood	-6677.57	-12160.37
BIC	13493.61	24448.5

Notes: Source: European Values Study (1999), National Quality of Government Index, ParlGov, CMP, World Bank, Eurostat, OECD. *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$; Standard errors between parentheses.

Table B3- Hierarchical logit models predicting preferences for sub-national government excluding vote intention and regional GDP

	Model 1	Model 2
National level of corruption	0.12** (0.04)	
Regional level of corruption		2.9** (1)
Relative regional corruption level within country		-0.06 (0.21)
Regional level of corruption x relative level within country		-1.37* (0.6)
Female	-0.03 (0.03)	-0.06 (0.04)
Age	0.01*** (0.001)	0.01*** (0.001)
Higher education	0.04 (0.04)	0.07 (0.06)
Service class (ref.)		
Routine non-manual	0.03 (0.05)	0.06 (0.06)
Self-employed	0.22** (0.07)	0.28* (0.09)
Skilled manual	-0.04 (0.05)	-0.09 (0.06)
Semi-unskilled manual	-0.03 (0.05)	-0.06 (0.06)
National pride	0.27*** (0.04)	0.13* (0.06)
Left-right scale	-0.007 (0.01)	-0.01 (0.01)
Country GDP p.c. (PPP)	-3.71e-15 (1.62e-13)	-1.03e-13 (1.93e-13)
Salience center-periphery	-0.11	-0.05

	(0.06)	(0.07)
Intercept	0.4	-0.67
	(0.33)	(0.36)
 Country intercept variance	0.2***	0.19**
	(0.06)	(0.07)
Regional intercept variance		0.09***
		(0.02)
 N (individuals)	17,919	12,280
N(countries)	27	17
N (regions)		149
Log Likelihood	-11784.88	-7979.14
BIC	23697.08	16108.93

Notes: Source: EVS 1999, regional Quality of Government dataset, Transparency International, CMP, World Bank. Coefficients of hierarchical logit random intercept models; standard errors between parentheses. *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05.

References appendix

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