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Table of Contents

A Note on the Purpose and Use of the Online Appendix

This online appendix accompanies the book *Consequences of Context. How the Social, Economic and Political Context Affects Voting* which was edited by Hermann Schmitt, Paolo Segatti and Cees van der Eijk and published by ECPR Press in the spring of 2021. It offers additional information about the analyses of the TEV Database on which the book is based. It is structured so as to mirror the sequence of the analytical chapters of the book (chapters 3 to 11). Within this structure, i.e. chapter by chapter, it does following:

- It provides additional tables and figures which were not included in the book itself but are referred to in the book. For all chapters one of these tables details the specific data from which the results of the printed chapter are derived (the countries and study years (=elections) from the TEV data base that were included in the reported analyses). Other additional information varies between the chapters and may include tables and graphs with more detail than those in the printed book.

- It also provides the setups (the syntaxes of the statistical packages) which were used by the chapter authors to perform their data analyses. This should facilitate replication and the specification of alternative models.

- Last but not least, it provides the values of the context variables whose moderating effect is pursued in the different chapters.

Some words of caution are in order with respect to the syntaxes of the analyses of the various chapters.

- Not all analyses have been performed with the same software. In many of the chapters, the authors used the R package lme4 for their multilevel analyses, but in other chapters authors may have used MLWin or Stata. Thus, users who want to replicate in, for example, MLWin analyses that were originally performed in lme4 will have to adapt the syntax so that it fits the software they want to use. Moreover, in spite of the fact that for most softweare packages newer versions are backward compatible with older versions, users are nevertheless encouraged to check themselves whether any problems of replication may be caused by their use of newer versions of software.

- In some instances, the syntaxes contain information about file names, file locations, and working directories that may have to be adapted by users. Thus, one can find in syntaxes lines referring to, for example, "C:\Program Files\MLwiN v3.05\mlwin.exe" or to "C:/Users/nsp135/Dropbox/TEV chapter/version9/". Obviously, all such references must be adapted to reflect one's own structure of folders and naming of files.
- Many scholars (including the authors of the various chapters) employ their own unique system of naming (and sometimes renaming) variables. Therefore, variable names (including names of contextual variables) may sometimes be not immediately interpretable. Where this is the case we have added a 'legend' to the tables of contextual variables that follow in order to clarify the meaning of a somewhat obscure variable name. In addition, we strongly recommend using the provided syntaxes only in parallel with reading the chapter to which they pertain.

We expect that the information provided in this Online Appendix will be of support to interested scholars who venture to replicate, amend or extend the analyses reported in the book. We expect also that this information will be sufficient to make it possible to include such replicatory analyses in teaching contexts, particularly for groups of advanced students. We hope therefore that this Online Appendix will promote further analyses of the TEV data and help to generate further insights in the consequences of context.

Hermann Schmitt

Paolo Segatti

Cees van der Eijk

Online Appendix Chapter 3

Additional Tables and Figures

Table A3.1. National election studies included in the full models predicting electoral participation and vote choice

Country	Participation models	Vote choice models
Austria	2008	
Estonia	2011	2011
Finland	2003, 2007, 2011	2003, 2007, 2011
Germany	1976, 1980, 1983, 1987, 1990, 1994, 1998, 2002, 2005,2009, 2013	1983, 1987, 1990, 1998, 2002, 2005, 2009, 2013
Greece	2009, 2013	2009, 2013
Hungary	2006	1998
Iceland	1991, 1999, 2003, 2007, 2009, 2013	1987, 1991, 1995, 1999, 2003, 2007, 2009, 2013
Ireland	2002, 2007	2002, 2007, 2011
Italy	1996, 2001, 2006, 2013	1996, 2001, 2006, 2008, 2013
Netherlands	1972, 1982, 1986, 1994, 1998, 2002, 2006	1989, 1994, 1998
Norway	1965, 1969, 1973, 1977, 1981, 1985, 1989, 1993, 1997, 2001, 2005	1981, 1985, 1989, 1993, 1997, 2001, 2005
Poland	1997, 2001, 2005, 2007, 2011	1997, 2005, 2007, 2011
Portugal	2002, 2005, 2009	2002, 2005, 2009
Romania	2008	
Spain	1993, 2008	1993, 2008
Sweden	1968, 1970, 1973, 1976, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2010	1979, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2006, 2010
Switzerland	1971, 1975, 1979, 1987, 1999, 2003, 2007, 2011	

Setups for Statistical Analyses

Micro-level models for chapter 3 were estimated in Stata 15.

Participation models

* Variables setup

mvdecode vote ssev pid lsymp lrdparty, mv (995 996 997 998 999)

recode pid (0=0 "nopid") (.05/1=1 "pid"), gen (pid0_1)

egen byte limitedV= rownonmiss(vote ssev pid lsymp lrdparty)

**** Models excluding Turkey with min valid cases across models

melogit vote ssev pid0_1 lrdparty lsymp if limitedV==5 & country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit vote ssev pid0_1 lrdparty if limitedV==5 & country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit vote ssev pid0_1 if limitedV==5 & country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult from(ssev=4.492 pid0_1=3.454)

melogit vote ssev if limitedV==5 & country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult from(ssev=4.492)

melogit vote if limitedV==5 & country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust)

**** Models excluding Turkey with variable number of valid cases

melogit vote ssev pid0_1 lrdparty lsymp if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit vote ssev pid0_1 lrdparty if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult from(ssev=4.492 pid0_1=3.454 lrdparty=-3.438)

melogit vote ssev pid0_1 if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult from(ssev=4.492 pid0_1=3.454)

melogit vote ssev if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100) from(ssev=4.492)

melogit vote if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

Vote Choice models

***** Variables setup

mvdecode turnout redu rgender RUNION1, mv(995 996 997 998 999)

mvdecode rage, mv (14 15 16 17 996 997 998 999)

recode rgender RUNION1 (1=1) (2=0), gen (RGENDER_R RUNION1_R)

recode rmarried (1 2=1) (3=0) (995 996 997 998 999=.), gen (RMARRIED_R)

gen REDU_R = (red-1)/(3-1)

gen RAGESQ=rage*rage

mvdecode RPID1 RPID2, mv(996 997 998 999)

recode RPID2 (.05/1 =1 "pid") (0=0 "no pid"), gen (RPID22)

egen byte limited1= rownonmiss(turnout RGENDER_R rage RAGESQ RMARRIED_R redu RPID22 RUNION1_R)

**** Models excluding Turkey with min valid cases

melogit turnout RGENDER_R rage RAGESQ RMARRIED_R REDU_R RPID22 RUNION1_R if limited1==8 & country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit turnout RGENDER_R rage RAGESQ RMARRIED_R REDU_R RPID22 if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit turnout RGENDER_R rage RAGESQ RMARRIED_R REDU_R if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit turnout RGENDER_R rage RAGESQ RMARRIED_R if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit turnout RGENDER_R rage RAGESQ if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit turnout RGENDER_R if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit turnout if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

****Models with variable number of OBS and excluding Turkey****

melogit turnout REDU_R RMARRIED_R RPID22 RUNION1_R rage RAGESQ RGENDER_R if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit turnout REDU_R RMARRIED_R RPID22 RUNION1_R RGENDER_R if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

melogit turnout REDU_R RGENDER_R if country!=28 || country: || rstudyid:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

Online Appendix Chapter 4

Additional Tables and Figures

Table A4.1. Mean and standard deviation of social divides in 223 elections held in 16 countries included in the CMP, 1944–2013.

Country	Period	Social class		Religion		Rural–urban		Centre–periphery	
		Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Austria	1949–2008	3.6	2.1	1.4	1.6	3.2	1.8	0.5	0.4
Germany	1949–2013	5.0	2.1	2.0	1.3	2.6	1.6	1.2	0.7
Greece	1974–2000	3.4	1.5	0.4	0.3	2.3	1.2	2.5	1.6
Hungary	1990–2010	4.0	2.4	3.0	1.1	4.1	1.8	2.9	1.1
Iceland	1946–2009	3.8	1.7	0.9	1.1	4.5	2.9	2.4	2.2
Ireland	1948–2011	3.3	2.8	0.7	1.1	6.6	3.4	1.5	1.3
Italy	1946–2013	5.0	1.2	2.3	1.1	1.7	0.7	2.4	1.7
Lithuania	1992–2004	2.6	0.3	1.9	0.9	4.6	2.1	1.8	0.6
Netherlands	1946–2010	3.4	2.0	2.6	2.1	1.8	1.2	1.7	1.0
Norway	1945–2009	5.5	2.1	2.9	1.2	3.4	1.8	3.2	1.3
Poland	1991–2007	0.9	0.5	2.0	0.9	6.7	1.6	2.2	0.7
Romania	1990–2008	3.7	1.9	0.6	0.4	3.8	2.6	2.6	1.0
Portugal	1975–2011	1.7	0.8	1.1	0.6	4.7	2.6	1.3	0.9
Spain	1977–2011	5.1	1.1	1.0	0.5	2.9	0.8	3.6	0.5
Sweden	1944–2010	1.4	1.6	1.5	0.7	2.7	3.5	1.8	1.6
Switzerland	1947–2003	4.0	1.9	2.9	1.6	3.1	1.5	2.0	0.8

Table A4.2. Mean and standard deviation of social divides in 73 elections held in 16 countries included in the participation and vote choice models, CPM, 1965–2013.

		Social class		Religion		Rural–urban		Centre–periphery	
Country	Period	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Austria	2008[a]	7.63		1.24		1.15		0.18	
Germany	1976–2013	5.88	1.62	2.41	1.21	1.95	1.13	1.16	0.78
Greece	2009–2012	5.94	2.93	0.26	0.08	2.20	0.93	1.04	0.65
Hungary	1998–2006	5.18	4.14	3.12	0.92	4.04	0.82	3.49	1.38
Iceland	2003–2013	2.24	0.07	0.50	0.42	1.70	0.39	0.85	0.84
Ireland	2002–2007	3.05	1.71	0.44	0.60	4.83	3.73	1.58	1.45
Italy	1996–2013	4.55	1.32	1.60	0.74	1.71	0.72	3.19	1.47
Lithuania	2004[a]	2.56		2.35		6.52		2.15	
Netherlands	1972–2006	5.15	1.92	1.35	1.04	1.01	0.46	2.12	0.81
Norway	1965–2005	4.16	2.04	2.58	0.97	2.57	1.36	3.89	0.96
Poland	1997–2011	0.68	0.32	2.24	1.07	6.70	1.44	1.64	0.88
Portugal	2002–2009	2.04	0.32	1.10	0.28	2.49	0.66	3.50	0.68
Romania	2008[a]	1.14		0.73		3.63		2.84	
Spain	2008[a]	4.14		0.61		2.30		3.75	
Sweden	1968–2010	2.21	2.07	1.43	0.59	0.54	0.30	1.23	0.66
Switzerland	1971–2011	3.38	1.26	2.98	1.71	1.96	0.95	1.63	1.09

[a] Standard deviation not calculated since there was only one election.

Table A4.3. Averaged mean saliency of social divides per country per election: 16 countries and 73 elections included in the participation and vote choice models, 1965–2013.

Country	Year	Social class	Religion	Rural–urban	Centre–periphery	Models
Austria	2008	7.63	1.24	1.15	0.18	Turnout
Germany	1976	1.88	0.27	1.15	0.88	Turnout and Vote
Germany	1980	4.36	4.09	1.10	0.22	Turnout
Germany	1983	7.00	0.61	0.99	1.51	Turnout and Vote
Germany	1987	5.75	1.41	4.13	0.29	Turnout and Vote
Germany	1990	6.93	3.27	3.00	0.29	Turnout and Vote
Germany	1994	6.45	3.57	3.65	0.54	Turnout
Germany	1998	8.13	2.56	1.72	2.14	Turnout and Vote
Germany	2002	5.66	2.81	2.02	1.99	Turnout and Vote
Germany	2005	6.11	3.21	1.00	1.36	Turnout and Vote
Germany	2009	6.18	2.45	1.37	1.26	Turnout and Vote
Germany	2013	6.19	2.24	1.34	2.32	Turnout and Vote
Greece	2009	3.87	0.20	2.86	1.50	Turnout and Vote
Greece	2012	8.01	0.32	1.54	0.58	Turnout and Vote
Hungary	1998	0.86	4.15	3.85	4.22	Turnout and Vote
Hungary	2002	9.11	2.81	4.93	4.36	Turnout
Hungary	2006	5.57	2.39	3.33	1.90	Turnout
Iceland	2003	2.26	0.80	1.77	2.03	Turnout and Vote
Iceland	2007	2.18	0.89	1.25	0.87	Turnout and Vote
Iceland	2009	2.34	0.00	2.20	0.23	Turnout and Vote
Iceland	2013	2.19	0.32	1.60	0.25	Turnout and Vote
Ireland	2002	1.84	0.02	7.47	0.56	Turnout and Vote
Ireland	2007	4.26	0.86	2.18	2.61	Turnout and Vote
Italy	1996	4.06	1.33	1.22	5.09	Turnout and Vote
Italy	2001	3.36	2.66	2.35	3.41	Turnout and Vote
Italy	2006	3.54	0.77	2.08	1.50	Turnout and Vote
Italy	2008	6.46	1.99	2.22	3.97	Vote
Italy	2013	5.34	1.24	0.69	1.96	Turnout and Vote
Lithuania	2004	2.56	2.35	6.52	2.15	Turnout
Netherlands	1972	1.82	2.59	0.17	1.05	Turnout
Netherlands	1982	4.17	0.15	0.79	1.85	Turnout
Netherlands	1986	5.32	0.24	1.09	3.04	Turnout
Netherlands	1989	6.01	0.86	1.73	3.57	Vote
Netherlands	1994	4.93	0.94	0.85	1.94	Turnout and Vote
Netherlands	1998	5.38	1.46	1.05	1.65	Turnout and Vote
Netherlands	2002	4.84	1.54	1.39	1.75	Turnout
Netherlands	2006	8.73	3.05	1.03	2.08	Turnout
Norway	1965	6.28	2.57	5.42	4.64	Turnout
Norway	1973	7.00	3.26	3.78	5.34	Turnout
Norway	1977	5.08	2.47	3.04	5.45	Turnout
Norway	1981	5.86	2.19	1.32	3.47	Turnout and Vote
Norway	1985	4.35	2.22	1.61	4.10	Turnout and Vote
Norway	1989	2.91	1.56	1.40	3.34	Turnout and Vote
Norway	1993	0.72	3.74	2.68	3.54	Turnout and Vote

Norway	1997	4.66	4.47	3.43	2.98	Turnout and Vote
Norway	2001	1.67	1.71	1.34	2.71	Turnout and Vote
Norway	2005	3.06	1.60	1.71	3.32	Turnout and Vote
Poland	1997	0.64	2.08	6.90	2.26	Turnout and Vote
Poland	2001	0.18	0.95	8.44	1.70	Turnout
Poland	2005	0.74	2.63	7.12	1.20	Turnout and Vote
Poland	2007	0.80	1.72	4.46	2.62	Turnout and Vote
Poland	2011	1.06	3.81	6.58	0.40	Turnout and Vote
Portugal	2002	1.69	1.27	2.57	3.60	Turnout and Vote
Portugal	2005	2.32	1.26	1.80	2.77	Turnout and Vote
Portugal	2009	2.11	0.78	3.11	4.12	Turnout and Vote
Romania	2008	1.14	0.73	3.63	2.84	Turnout
Spain	2008	4.14	0.61	2.30	3.75	Turnout and Vote
Sweden	1968	0.20	0.51	0.74	0.96	Turnout
Sweden	1985	0.09	2.36	1.10	2.47	Turnout and Vote
Sweden	1988	0.28	0.72	0.61	1.87	Turnout and Vote
Sweden	1991	4.57	1.42	0.78	0.50	Turnout and Vote
Sweden	1994	1.16	1.57	0.27	0.44	Turnout and Vote
Sweden	1998	0.76	1.25	0.13	1.66	Turnout and Vote
Sweden	2002	4.78	2.16	0.25	0.92	Turnout and Vote
Sweden	2006	4.12	1.30	0.51	1.20	Vote
Sweden	2010	3.95	1.55	0.50	1.04	Turnout and Vote
Switzerland	1971	1.91	2.06	3.32	2.52	Turnout
Switzerland	1975	3.38	1.34	1.99	3.11	Turnout
Switzerland	1995	3.92	3.04	2.44	0.54	Turnout
Switzerland	1999	3.15	2.48	2.36	1.57	Turnout
Switzerland	2003	5.67	6.60	1.19	0.95	Turnout
Switzerland	2007	3.56	3.08	2.04	2.45	Turnout
Switzerland	2011	2.05	2.24	0.37	0.26	Turnout

Table A4.4. Standard models of politicisation of social divides and electoral participation: standard models without church attendance as a separate variable [a]

Variables	Social class	Religion	Rural–urban	Centre–periphery
Age	0.065***	0.072***	0.066***	0.067***
	(0.003)	(0.003)	(0.003)	(0.003)
Age squared	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Education	0.703***	0.692***	0.717***	0.715***
	(0.093)	(0.096)	(0.093)	(0.098)
Gender (female)	-0.101***	-0.057**	-0.100***	-0.098***
	(0.017)	(0.020)	(0.017)	(0.018)
Not single	0.097	0.102	0.096	0.099
	(0.085)	(0.088)	(0.089)	(0.088)
Union member	0.344***	0.335***	0.342***	0.339***
	(0.045)	(0.045)	(0.044)	(0.043)
Partisanship	1.216***	1.227***	1.220***	1.226***
	(0.085)	(0.095)	(0.093)	(0.098)
Context [b]	-0.031	0.084	-0.181**	0.026
	(0.045)	(0.071)	(0.060)	(0.079)
Age × Context	0.002	-0.006***	0.007***	0.003
	(0.001)	(0.002)	(0.001)	(0.002)
Age squared × Context	-0.000*	0.000***	-0.000***	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
Education × Context	0.028	0.030	-0.074***	0.021
	(0.019)	(0.024)	(0.025)	(0.035)
Gender × Context	-0.001	-0.052***	-0.005	0.013
	(0.008)	(0.011)	(0.008)	(0.013)
Not single × Context	-0.020	-0.037**	0.005	0.031
	(0.015)	(0.018)	(0.022)	(0.026)
Union member × Context	0.025**	0.004	-0.026*	0.003
	(0.013)	(0.016)	(0.015)	(0.019)
Partisanship × Context	0.044***	-0.008	-0.010	0.047**
	(0.013)	(0.016)	(0.019)	(0.023)
Constant	-0.693***	-0.819***	-0.698***	-0.710***
	(0.195)	(0.198)	(0.184)	(0.199)
Number of respondents	121,462	121,462	121,462	121,462
Number of elections	70	70	70	70
Number of countries	16	16	16	16

[a] Multi-level models with random intercepts by country and election and random slopes by country, based on maximum number of available cases. Contextual factors centred around grand means. Robust standard errors in parentheses, levels of statistical significance are *p<0.1, **p<0.05, ***p<0.01.

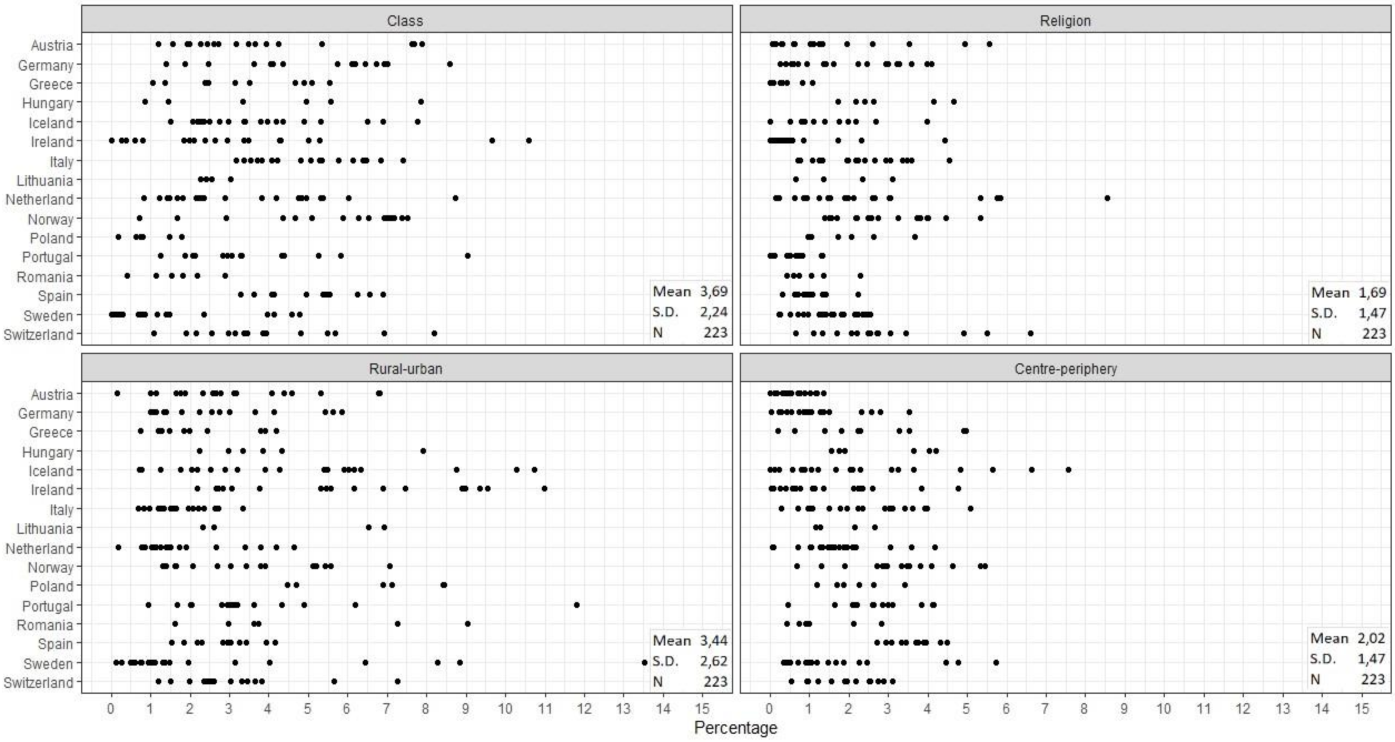
[b] Context consists of the politicisation of social class, religion, rural–urban, and centre–periphery.

Table A4.5. Standard models of politicisation of social divides and vote choice: standard models without church attendance as a separate variable [a]

Variables	Social class	Religion	Rural–urban	Centre–periphery
Social background [b]	4.694***	4.739***	4.690***	4.743***
	(0.199)	(0.170)	(0.179)	(0.176)
Partisanship	5.353***	5.365***	5.403***	5.398***
	(0.236)	(0.288)	(0.243)	(0.276)
Ideological distance	-3.135***	-3.163***	-3.157***	-3.108***
	(0.289)	(0.305)	(0.281)	(0.324)
Leader sympathy	3.360***	3.344***	3.298***	3.351***
	(0.246)	(0.253)	(0.231)	(0.247)
Context [c]	0.095**	0.171**	-0.022	-0.004
	(0.041)	(0.081)	(0.060)	(0.075)
Social background × context	0.142***	-0.074	-0.069	-0.044
	(0.025)	(0.053)	(0.047)	(0.053)
Partisanship × context	-0.168***	-0.449***	0.066	-0.127**
	(0.027)	(0.045)	(0.042)	(0.049)
Ideological distance × context	-0.060*	-0.134**	0.028	-0.309***
	(0.033)	(0.064)	(0.056)	(0.062)
Leader sympathy × context	-0.044*	-0.178***	-0.126***	-0.012
	(0.026)	(0.051)	(0.044)	(0.051)
Constant	-4.796***	-4.800***	-4.791***	-4.809***
	(0.177)	(0.210)	(0.189)	(0.179)
Number of observations	291,733	291,733	291,733	291,733
Number of elections	49	49	49	49
Number of countries	12	12	12	12

[a] Multi-level models with random intercepts by country and election and random slopes by country, based on maximum number of available cases. Contextual factors centred around grand means. Robust standard errors in parentheses, levels of statistical significance are *p<0.1, **p<0.05, ***p<0.01.
[b] Context consists of the politicisation of social class, religion, rural–urban, and centre–periphery.

Figure A4.1. Distribution of categories of social divides in 223 elections held in 16 countries included in the CMP, 1944-2013 (percentages of manifestos content devoted to each divide on each manifesto as operationalized in Table 1) [a]



[a] Dots assigned to each country denote elections held between 1944 and 2013 and whose manifestos are included in the contextual-level data set.

Source: See Figure 1.

Setups for Statistical Analyses

All models were estimated by the means of R lme4 library.

#Participation models

```
Socialclass<- glmer(TURNOUT ~ RAGE + RAGE2 + REDU_high+
                    RGENDER + NO_SINGLE + RUNIONrec + RPID1 +
                    CONTEXT_cent+RAGE*CONTEXT_cent + RAGE2*CONTEXT_cent +
                    REDU_high*CONTEXT_cent+
                    RGENDER*CONTEXT_cent + NO_SINGLE*CONTEXT_cent+
                    CONTEXT_cent*RUNIONrec + CONTEXT_cent*RPID1+
                    (1 | COUNTRY) + (1 | RSTUDYID) +
                    (REDU_high + NO_SINGLE + RUNIONrec+ RPID1 | COUNTRY),
              data=clean_dfclass,
                    family=binomial, nAGQ=0)

Religion<- glmer(TURNOUT ~ RAGE + RAGE2 + REDU_high+
                    RGENDER + NO_SINGLE + RUNIONrec +
                    RPID1 + CONTEXT_cent+RAGE*CONTEXT_cent + RAGE2*CONTEXT_cent +
                    REDU_high*CONTEXT_cent+ RGENDER*CONTEXT_cent +
                    NO_SINGLE*CONTEXT_cent+
                    CONTEXT_cent*RUNIONrec + CONTEXT_cent*RPID1+
                    (1 | COUNTRY) + (1 | RSTUDYID) +
                    (REDU_high + NO_SINGLE + RUNIONrec+ RPID1 | COUNTRY),
                    data=clean_dfrelig, family=binomial, nAGQ=0)

RuralUrban<- glmer(TURNOUT ~ RAGE + RAGE2 + REDU_high+
                    RGENDER + NO_SINGLE + RUNIONrec +
                    RPID1 + CONTEXT_cent+RAGE*CONTEXT_cent +
                    RAGE2*CONTEXT_cent + REDU_high*CONTEXT_cent+
                    RGENDER*CONTEXT_cent + NO_SINGLE*CONTEXT_cent+
                    CONTEXT_cent*RUNIONrec + CONTEXT_cent*RPID1+
                    (1 | COUNTRY) + (1 | RSTUDYID) +
                    (REDU_high + NO_SINGLE + RUNIONrec+ RPID1 | COUNTRY),
                    data=clean_dffarm,family=binomial, nAGQ=0)


CentrePeriphery<- glmer(TURNOUT ~ RAGE + RAGE2 + REDU_high+
                    RGENDER + NO_SINGLE + RUNIONrec + RPID1 +
                    CONTEXT_cent+RAGE*CONTEXT_cent + RAGE2*CONTEXT_cent +
                    REDU_high*CONTEXT_cent+ RGENDER*CONTEXT_cent +
                    NO_SINGLE*CONTEXT_cent+ CONTEXT_cent*RUNIONrec +
                    CONTEXT_cent*RPID1+
                    (1 | COUNTRY) + (1 | RSTUDYID) +
                    (REDU_high + NO_SINGLE + RUNIONrec+ RPID1 | COUNTRY), data=clean_dfcent,
                    family=binomial, nAGQ=0)
```

#Vote choice models

```
mod.class<- glmer(VOTE ~ SSEV_without_YCHURC +
             YCHURC +
             PID   +
             LRDPARTY +
             LSYMP +

             social_class_m_cent +
             social_class_m_cent:SSEV_without_YCHURC +
             social_class_m_cent:YCHURC +
             social_class_m_cent:PID +
             social_class_m_cent:LRDPARTY +
             social_class_m_cent:LSYMP +

             (1 | COUNTRY) +
             (1 | RSTUDYID)+
             (SSEV_without_YCHURC + YCHURC + PID + LRDPARTY + LSYMP | COUNTRY),

            data=TEV4, family=binomial, nAGQ=0)



mod.religion<- glmer(VOTE ~ SSEV_without_YCHURC +
            YCHURC +
            PID   +
            LRDPARTY +
            LSYMP +

            religion_m_cent +
            religion_m_cent:SSEV_without_YCHURC +
            religion_m_cent:YCHURC +
            religion_m_cent:PID +
            religion_m_cent:LRDPARTY +
            religion_m_cent:LSYMP +

            (1 | COUNTRY) +
            (1 | RSTUDYID)+
            (SSEV_without_YCHURC + YCHURC + PID + LRDPARTY + LSYMP | COUNTRY),

           data=TEV4, family=binomial, nAGQ=0)




mod.rural_urban <- glmer(VOTE ~ SSEV_without_YCHURC +
              YCHURC +
              PID   +
              LRDPARTY +
              LSYMP +
```

```
          farmers_m_cent  +
          farmers_m_cent :SSEV_without_YCHURC +
          farmers_m_cent :YCHURC +
          farmers_m_cent :PID +
          farmers_m_cent :LRDPARTY +
          farmers_m_cent :LSYMP +

          (1 | COUNTRY) +
          (1 | RSTUDYID)+
          (SSEV_without_YCHURC + YCHURC + PID + LRDPARTY + LSYMP | COUNTRY),

         data=TEV4, family=binomial, nAGQ=0)


mod.centre_periphery <- glmer(VOTE ~ SSEV_without_YCHURC +
          YCHURC +
          PID   +
          LRDPARTY +
          LSYMP +

          cent_per_m_cent +
          cent_per_m_cent:SSEV_without_YCHURC +
          cent_per_m_cent:YCHURC +
          cent_per_m_cent:PID +
          cent_per_m_cent:LRDPARTY +
          cent_per_m_cent:LSYMP +

          (1 | COUNTRY) +
          (1 | RSTUDYID)+
          (SSEV_without_YCHURC + YCHURC + PID + LRDPARTY + LSYMP | COUNTRY),

         data=TEV4, family=binomial, nAGQ=0)
```

Values of Context Variables

See Table A 4.3., p. 12.

Online Appendix Chapter 5

Additional Tables and Figures

Table A5.1. Summary statistics, turnout model

	Mean	Standard deviation	Min.	Max.
Individual-level variables				
Education	0.716	0.744	0	2
Not single	0.646	0.478	0	1
Union member	0.351	0.477	0	1
Partisanship	0.532	0.499	0	1
Age	-0.385	17.025	-32	53
Gender	0.503	0.500	0	1
Contextual variables				
Compulsory voting	0.022	0.149	0	1
Disproportionality	3.952	2.913	0.50	17.34
Effective number of electoral parties	4.603	1.256	2.79	8.95
Coalition government	0.701	0.457	0	1

Table A5.2. Summary statistics, vote choice model

	Mean	Standard deviation	Min.	Max.
Individual-level variables				
Social background	0.194	0.184	0	1
Partisanship	0.112	0.315	0	1
Ideological distance	0.294	0.245	0	1
Leader sympathy	0.519	0.285	0	1
Contextual variables				
Disproportionality	4.334	3.247	0.50	17.34
Effective number of electoral parties	4.533	1.145	2.79	8.95
Coalition government	0.689	0.467	0	1
Candidate centred electoral system	2.902	2.501	1	10

Table A5.3. National election studies included in the models predicting electoral participation and vote choice

Country	Electoral participation models	Vote choice models
Austria	2008	
Estonia	2011	2011
Finland	2003, 2007, 2011	2003, 2007, 2011
Germany	1969†, 1972, 1976, 1980, 1983, 1987, 1990, 1994, 1998, 2002, 2005,2009, 2013	1976, 1983, 1987, 1990, 1998, 2002, 2005, 2009, 2013
Greece	1985†, 1989†, 1990†, 1996†, 2009, 2012	2009, 2012
Hungary	1990†, 1994†, 1998, 2002, 2006	1998
Iceland	1983†, 1987†, 1991, 1995†, 1999, 2003, 2007, 2009, 2013	1987†, 1991, 1995†, 1999, 2003, 2007, 2009, 2013
Ireland	2002, 2007, 2011	2002, 2007, 2011
Italy	1994†, 1996, 2001, 2006, 2008†, 2013	1996, 2001, 2006, 2008, 2013
Lithuania	1992†, 2000†, 2004, 2008†	
Netherlands	1971†, 1972, 1981†, 1982, 1986, 1994, 1998, 2002, 2003†, 2006	1989, 1994, 1998
Norway	1965, 1969, 1973, 1977, 1981, 1985, 1989, 1993, 1997, 2001, 2005	1981, 1985, 1989, 1993, 1997, 2001, 2005
Poland	1997, 2001, 2005, 2007, 2011	1997, 2005, 2007, 2011
Portugal	1985†, 2002, 2005, 2009	2002, 2005, 2009
Romania	2000†, 2004†, 2008	
Spain	1982†, 1986†, 1989†, 1993, 2004, 2008	1993, 2008
Sweden	1960†, 1964†, 1968, 1970, 1973, 1976, 1979, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2010	1979, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2010
Switzerland	1971, 1975, 1979, 1987, 1991, 1995, 1999, 2003, 2007, 2011	
UK	2005	

Note: The symbol † indicates election studies that are included only in the reduced version of the turnout model.

Setups for the Statistical Analyses

Electoral Participation

```
**** Table 5.1

clear
use "c:\data\articles\2014\tev chapter\data\unstacked with macro.dta"
format turnout %9.0g

global MLwiN_path "C:\Program Files\MLwiN v3.05\mlwin.exe"

g constant=1


// change the numeric precision of the variables, to be compatible with MLWin (change as needed);
recast float ga_lsq ga_effnv, force



*** SUMMARY STATISTICS
preserve
quietly logit turnout edu married union pid age gender compvot ga_lsq ga_effnv coalition
keep if e(sample)
su edu married union pid age gender
collapse (mean) compvot ga_lsq ga_effnv coalition, by(level2_study)
su
restore



**** MODEL 1. Only main effects, random intercepts at study and country levels
sort level3 level2 level1

#delimit ;
runmlwin turnout constant edu married union pid age age2 gender compvot ga_lsq ga_effnv coalition,
level3(level3_country:cons) level2(level2_study:cons) level1(level1_resp)
discrete(distribution(binomial) link(logit) denominator(cons)) maxiterations(50) mlwinsettings(optimat)
; delimit cr



**** MODEL 2.
**** REDUCED MODEL W/O union and pid
sort level3 level2 level1

#delimit ;
```

```
runmlwin turnout constant edu married age age2 gender compvot ga_lsq ga_effnv coalition,
level3(level3_country:cons) level2(level2_study:cons) level1(level1_resp)
discrete(distribution(binomial) link(logit) denominator(cons)) maxiterations(50) mlwinsettings(optimat)
; delimit cr



**** MODEL 3
**** with random intercept and random slope for effect of education (at study level)

#delimit ;
runmlwin turnout constant edu married age age2 gender compvot ga_lsq ga_effnv coalition
edu_compvot edu_ga_lsq edu_ga_effnv edu_coalition,
level3(level3_country: constant) level2(level2_study: constant edu) level1(level1_resp)
discrete(distribution(binomial) link(logit) denominator(cons)) maxiterations(50) mlwinsettings(optimat)
; delimit cr



**** MODEL 4
**** with random intercept and random slope for effect of gender (at study level)

#delimit ;
runmlwin turnout constant edu married age age2 gender compvot ga_lsq ga_effnv coalition
gender_ga_lsq gender_ga_effnv gender_coalition ,
level3(level3_country: constant) level2(level2_study: constant gender) level1(level1_resp)
discrete(distribution(binomial) link(logit) denominator(cons)) maxiterations(50) mlwinsettings(optimat)
; delimit cr



**** MODEL 5
**** with random intercept and random slope for effect of pid (at study level)
for var compvot ga_lsq ga_effnv coalition: g pid_X=pid*X

#delimit ;
runmlwin turnout constant edu married union pid age age2 gender compvot ga_lsq ga_effnv coalition
pid_ga_lsq pid_ga_effnv pid_coalition ,
level3(level3_country: constant) level2(level2_study: constant pid) level1(level1_resp)
discrete(distribution(binomial) link(logit) denominator(cons)) maxiterations(50) mlwinsettings(optimat)
; delimit cr
```

VOTE CHOICE MODELS

```
**** Table 5.2

clear
use "c:\data\articles\2014\tev chapter\data\stacked with macro.dta"

global MLwiN_path "C:\Program Files\MLwiN v3.05\mlwin.exe"

g constant=1


// change the numeric precision of the variables, to be compatible with MLWin (change as needed);
recast float ga_lsq ga_effnv, force



**** SUMMARY STATISTICS
preserve
quietly logit vote ssev pid lrdparty lsymp ga_lsq ga_effnv coalition fmca_index
keep if e(sample)
su ssev pid lrdparty lsymp
collapse (mean) ga_lsq ga_effnv coalition fmca_index level4_country, by(level3_study)
su
corr
collapse (mean) ga_lsq ga_effnv coalition fmca_index, by(level4_country)
su
corr
restore



** MODEL 6
** no interaction effects
#delimit ;
runmlwin vote constant ssev pid lrdparty lsymp ga_lsq ga_effnv coalition fmca_index,
level4(level4_country:cons) level3(level3_study:cons) level2(level2_resp) level1(level1_row)
discrete(distribution(binomial) link(logit) denominator(cons)) maxiterations(50) mlwinsettings(optimat)
; delimit cr



** MODEL 7
for var ga_lsq ga_effnv coalition fmca_index: g ssev_X=ssev*X

#delimit ;
runmlwin vote constant ssev pid lrdparty lsymp ga_lsq ga_effnv coalition fmca_index
ssev_ga_lsq ssev_ga_effnv ssev_coalition ssev_fmca_index,
```

```
level4(level4_country: constant) level3(level3_study: constant ssev) level2(level2_resp) level1(level1_row)
discrete(distribution(binomial) link(logit) denominator(cons))  mlwinsettings(optimat)
; delimit cr



** MODEL 8
for var ga_lsq ga_effnv coalition fmca_index: g pid_X=pid*X

#delimit ;
runmlwin vote constant ssev pid lrdparty lsymp ga_lsq ga_effnv coalition fmca_index
pid_ga_lsq pid_ga_effnv pid_coalition pid_fmca_index ,
level4(level4_country: constant) level3(level3_study: constant pid) level2(level2_resp) level1(level1_row)
discrete(distribution(binomial) link(logit) denominator(cons))  mlwinsettings(optimat)
; delimit cr


** MODEL 9
for var ga_lsq ga_effnv coalition fmca_index: g lrdparty_X=lrdparty*X

#delimit ;
runmlwin vote constant ssev pid lrdparty lsymp ga_lsq ga_effnv coalition fmca_index
lrdparty_ga_lsq lrdparty_ga_effnv lrdparty_coalition lrdparty_fmca_index ,
level4(level4_country: constant) level3(level3_study: constant lrdparty) level2(level2_resp)
level1(level1_row)
discrete(distribution(binomial) link(logit) denominator(cons))  mlwinsettings(optimat)
; delimit cr


** MODEL 10
for var ga_lsq ga_effnv coalition fmca_index: g lsymp_X=lsymp*X

#delimit ;
runmlwin vote constant ssev pid lrdparty lsymp ga_lsq ga_effnv coalition fmca_index
lsymp_ga_lsq lsymp_ga_effnv lsymp_coalition lsymp_fmca_index ,
level4(level4_country: constant) level3(level3_study: constant lsymp) level2(level2_resp)
level1(level1_row)
discrete(distribution(binomial) link(logit) denominator(cons))  mlwinsettings(optimat)
; delimit cr
```

Values of Context Variables Used:

Participation Models

country	studyid	studyid	compvot	ga_lsq	ga_effnv	coalition
Austria	Austria 2008	120081	0	2.92	4.79	1
Estonia	Estonia 2011	720111	0	5.09	4.78	0
Finland	Finland 2003	820031	0	3.16	5.65	1
Finland	Finland 2007	820071	0	3.2	5.88	1
Finland	Finland 2011	820111	0	2.95	6.47	1
Germany	Germany 1972	1019721	0	0.67	2.85	1
Germany	Germany 1976	1019761	0	0.59	2.91	1
Germany	Germany 1980	1019801	0	1.41	3.1	1
Germany	Germany 1983	1019831	0	0.5	3.22	1
Germany	Germany 1987	1019871	0	0.76	3.56	1
Germany	Germany 1990	1019901	0	4.63	3.75	1
Germany	Germany 1994	1019941	0	2.22	3.75	1
Germany	Germany 1998	1019981	0	3.15	3.78	1
Germany	Germany 2002	1020021	0	4.61	4.09	1
Germany	Germany 2005	1020051	0	2.16	4.46	1
Germany	Germany 2009	1020091	0	3.4	5.58	1
Germany	Germany 2013	1020131	0	7.83	4.81	1
Greece	Greece 2009	1120091	1	7.29	3.16	0
Greece	Greece 2012	1120121	1	12.88	8.95	1
Hungary	Hungary 1998	1219981	0	10.88	5.18	1
Hungary	Hungary 2002	1220021	0	8.2	2.94	1
Hungary	Hungary 2006	1220061	0	5.13	2.8	1
Iceland	Iceland 1991	1319911	0	2.79	4.23	1
Iceland	Iceland 1999	1319991	0	1.06	3.55	1
Iceland	Iceland 2003	1320031	0	1.85	3.94	1
Iceland	Iceland 2007	1320071	0	3.49	4.06	1
Iceland	Iceland 2009	1320091	0	2.58	4.55	1
Iceland	Iceland 2013	1320131	0	6.23	5.83	1
Ireland	Ireland 2002	1420021	0	6.62	4.13	1
Ireland	Ireland 2007	1420071	0	5.85	3.77	1
Ireland	Ireland 2011	1420111	0	8.69	4.77	1
Italy	Italy 1996	1519961	0	6.91	7.17	1
Italy	Italy 2001	1520011	0	10.22	6.32	1
Italy	Italy 2006	1520061	0	3.61	5.69	1
Italy	Italy 2013	1520131	0	17.34	5.33	0
Lithuania	Lithuania 2004	1620041	0	4.4	5.78	1
Netherlands	Netherlands 1972	1719721	0	1.19	6.84	1
Netherlands	Netherlands 1982	1719821	0	1.16	4.24	1
Netherlands	Netherlands 1986	1719861	0	1.67	3.77	1
Netherlands	Netherlands 1994	1719941	0	1.08	5.72	1
Netherlands	Netherlands 1998	1719981	0	1.28	5.15	1
Netherlands	Netherlands 2002	1720021	0	0.88	6.04	1
Netherlands	Netherlands 2006	1720061	0	1.03	5.8	1
Norway	Norway 1965	1819651	0	4.23	3.82	0

Norway	Norway 1969	1819691	0	3.81	3.52	1
Norway	Norway 1973	1819731	0	5.03	5.01	1
Norway	Norway 1977	1819771	0	5.93	3.76	0
Norway	Norway 1981	1819811	0	4.94	3.87	0
Norway	Norway 1985	1819851	0	4.75	3.63	1
Norway	Norway 1989	1819891	0	3.67	4.84	0
Norway	Norway 1993	1819931	0	3.95	4.73	0
Norway	Norway 1997	1819971	0	3.44	4.94	0
Norway	Norway 2001	1820011	0	3.31	6.18	0
Norway	Norway 2005	1820051	0	2.67	5.11	1
Poland	Poland 1997	1919971	0	10.63	4.59	1
Poland	Poland 2001	1920011	0	6.33	4.5	0
Poland	Poland 2005	1920051	0	6.97	5.86	1
Poland	Poland 2007	1920071	0	4.67	3.32	1
Poland	Poland 2011	1920111	0	5.95	3.74	1
Portugal	Portugal 2002	2020021	0	4.64	3.03	0
Portugal	Portugal 2005	2020051	0	5.75	3.13	1
Portugal	Portugal 2009	2020091	0	5.63	3.83	0
Romania	Romania 2008	2120081	0	3.32	3.93	1
Spain	Spain 1993	2419931	0	7.08	3.52	0
Spain	Spain 2004	2420041	0	4.25	3	0
Spain	Spain 2008	2420081	0	4.49	2.79	0
Sweden	Sweden 1968	2519681	0	3.03	3.18	0
Sweden	Sweden 1970	2519701	0	1.61	3.48	0
Sweden	Sweden 1973	2519731	0	1.57	3.51	0
Sweden	Sweden 1976	2519761	0	1.23	3.57	0
Sweden	Sweden 1979	2519791	0	1.27	3.63	0
Sweden	Sweden 1982	2519821	0	2.4	3.39	1
Sweden	Sweden 1985	2519851	0	1.35	3.52	0
Sweden	Sweden 1988	2519881	0	2.45	3.92	0
Sweden	Sweden 1991	2519911	0	2.86	4.57	0
Sweden	Sweden 1994	2519941	0	1.18	3.65	1
Sweden	Sweden 1998	2519981	0	0.97	4.55	0
Sweden	Sweden 2002	2520021	0	1.52	4.51	0
Sweden	Sweden 2010	2520101	0	1.25	4.79	1
Switzerland	Switzerland 1971	2619711	0	2.47	6.08	1
Switzerland	Switzerland 1975	2619751	0	3.09	5.8	1
Switzerland	Switzerland 1979	2619791	0	1.73	5.51	1
Switzerland	Switzerland 1987	2619871	0	3.78	6.82	1
Switzerland	Switzerland 1991	2619911	0	2.6	7.38	1
Switzerland	Switzerland 1995	2619951	0	4.37	6.79	1
Switzerland	Switzerland 1999	2619991	0	3.17	5.87	1
Switzerland	Switzerland 2003	2620031	0	2.47	5.44	1
Switzerland	Switzerland 2007	2620071	0	2.56	5.61	1
Switzerland	Switzerland 2011	2620111	0	3.76	6.35	1

Values of Context Variables Used:
Vote Choice Models

country	rstudyid	rstudyid	ga_lsq	ga_effnv	coalition	candidate centre
Estonia	Estonia 2011	720111	5.09	4.78	0	7
Finland	Finland 2003	820031	3.16	5.65	1	7
Finland	Finland 2007	820071	3.2	5.88	1	7
Finland	Finland 2011	820111	2.95	6.47	1	7
Germany	Germany 1976	1019761	0.59	2.91	1	3
Germany	Germany 1983	1019831	0.5	3.22	1	3
Germany	Germany 1987	1019871	0.76	3.56	1	3
Germany	Germany 1990	1019901	4.63	3.75	1	3
Germany	Germany 1998	1019981	3.15	3.78	1	3
Germany	Germany 2002	1020021	4.61	4.09	1	3
Germany	Germany 2005	1020051	2.16	4.46	1	3
Germany	Germany 2009	1020091	3.4	5.58	1	3
Germany	Germany 2013	1020131	7.83	4.81	1	3
Greece	Greece 2009	1120091	7.29	3.16	0	6
Greece	Greece 2012	1120121	12.88	8.95	1	6
Hungary	Hungary 1998	1219981	10.88	5.18	1	3
Iceland	Iceland 1987	1319871	2.31	5.77	1	1
Iceland	Iceland 1991	1319911	2.79	4.23	1	1
Iceland	Iceland 1995	1319951	1.98	4.3	1	1
Iceland	Iceland 1999	1319991	1.06	3.55	1	1
Iceland	Iceland 2003	1320031	1.85	3.94	1	2
Iceland	Iceland 2007	1320071	3.49	4.06	1	2
Iceland	Iceland 2009	1320091	2.58	4.55	1	2
Iceland	Iceland 2013	1320131	6.23	5.83	1	2
Ireland	Ireland 2002	1420021	6.62	4.13	1	10
Ireland	Ireland 2007	1420071	5.85	3.77	1	10
Ireland	Ireland 2011	1420111	8.69	4.77	1	10
Italy	Italy 1996	1519961	6.91	7.17	1	3
Italy	Italy 2001	1520011	10.22	6.32	1	3
Italy	Italy 2006	1520061	3.61	5.69	1	1
Italy	Italy 2008	1520081	5.73	3.82	1	1
Italy	Italy 2013	1520131	17.34	5.33	0	1
Netherlands	Netherlands 1989	1719891	0.9	3.9	1	2
Netherlands	Netherlands 1994	1719941	1.08	5.72	1	2
Netherlands	Netherlands 1998	1719981	1.28	5.15	1	2
Norway	Norway 1981	1819811	4.94	3.87	0	1
Norway	Norway 1985	1819851	4.75	3.63	1	1
Norway	Norway 1989	1819891	3.67	4.84	0	1
Norway	Norway 1993	1819931	3.95	4.73	0	1
Norway	Norway 1997	1819971	3.44	4.94	0	1
Norway	Norway 2001	1820011	3.31	6.18	0	1
Norway	Norway 2005	1820051	2.67	5.11	1	1
Poland	Poland 1997	1919971	10.63	4.59	1	6

Poland	Poland 2005	1920051	6.97	5.86	1	6
Poland	Poland 2007	1920071	4.67	3.32	1	6
Poland	Poland 2011	1920111	5.95	3.74	1	6
Portugal	Portugal 2002	2020021	4.64	3.03	0	1
Portugal	Portugal 2005	2020051	5.75	3.13	1	1
Portugal	Portugal 2009	2020091	5.63	3.83	0	1
Spain	Spain 1993	2419931	7.08	3.52	0	1
Spain	Spain 2008	2420081	4.49	2.79	0	1
Sweden	Sweden 1979	2519791	1.27	3.63	0	1
Sweden	Sweden 1982	2519821	2.4	3.39	1	1
Sweden	Sweden 1985	2519851	1.35	3.52	0	1
Sweden	Sweden 1988	2519881	2.45	3.92	0	1
Sweden	Sweden 1991	2519911	2.86	4.57	0	1
Sweden	Sweden 1994	2519941	1.18	3.65	1	1
Sweden	Sweden 1998	2519981	0.97	4.55	0	2
Sweden	Sweden 2002	2520021	1.52	4.51	0	2
Sweden	Sweden 2006	2520061	3.02	4.66	0	2
Sweden	Sweden 2010	2520101	1.25	4.79	1	2

Legend: compvot = compulsory voting; ga_lsq = Gallagher's index of disproportionality; ga_effnv = Gallagher's effective number of electoral parties; coalition = coalition government; candidate centre = candidate centredness of the electoral system.

Online Appendix Chapter 6

Additional Tables and Figures

Table A6.1. National election studies included in the full models predicting electoral participation and vote choice

Country	Participation models	Vote choice models
Austria	2008	
Estonia		2011
Finland		2003, 2007, 2011
Germany	1972, 1976, 1980, 1983, 1987, 1990, 1994, 1998, 2002, 2005,2009, 2013	1976, 1983, 1987, 1990, 2009, 2013
Greece		1989
Hungary		1998
Iceland	2003, 2007, 2009, 2013	1987, 1991, 1995, 1999, 2003, 2007, 2009, 2013
Ireland	2002, 2007	2002, 2007, 2011
Italy	1996, 2001, 2006, 2013	1996, 2001, 2006, 2008, 2013
Netherlands	1972, 1982, 1986, 1989, 1994, 1998, 2002, 2006	1989, 1994, 1998
Norway	1965, 1973, 1977, 1981, 1985, 1993, 1997, 2001, 2005	1981, 1985, 1993, 1997, 2001, 2005
Poland	1997, 2001, 2005, 2007, 2011	1997, 2005, 2007, 2011
Portugal	2002, 2005, 2009	2002, 2005, 2009
Romania	2008	
Slovenia	2000, 2004, 2008	
Spain	2004, 2008	1993, 2008
Sweden	1968, 1985, 1988, 1991, 1994, 1998, 2002, 2006, 2010	1979, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2006, 2010
Switzerland	1971, 1975, 1999, 2003, 2007	

Setups for Statistical Analyses

All models estimated are using lme4 package in R. EU salience and polarisation variables are calculated using Comparative Manifestoes Data. See text for details and below for the values.

```
### Model syntax for Table 6.1

mod.1 <- glmer(TURNOUT ~ REDU + PID + RGENDER + RMARRIED + RCHURCHA + RUNION1 + RAGE +
    I(RAGE^2) + (1 | COUNTRY) + (1 | RSTUDYID), family=binomial, data=Merged.us, nAGQ=0)

mod.2 <- glmer(TURNOUT ~ REDU + PID + RGENDER + RMARRIED + RCHURCHA + RUNION1 + RAGE +
    I(RAGE^2) + EU.pol.wgt.cntr + EU.sal.wgt.cntr +
   (1 | COUNTRY) + (1 | RSTUDYID), family=binomial, data=Merged.us, nAGQ=0)


mod.3 <- glmer(TURNOUT ~ REDU + PID + RGENDER + RMARRIED + RCHURCHA + RUNION1 + RAGE +
    I(RAGE^2) + EU.pol.wgt.cntr + EU.sal.wgt.cntr + EU.sal.wgt.cntr:REDU + EU.pol.wgt.cntr:REDU +
    EU.sal.wgt.cntr:PID + EU.pol.wgt.cntr:PID + EU.sal.wgt.cntr:RAGE + EU.pol.wgt.cntr:RAGE +
   (1 | COUNTRY) + (1 + REDU + PID + RAGE | RSTUDYID), family=binomial, data=Merged.us, nAGQ=0)


### Model syntax for Table 6.2

mod.1 <- glmer(VOTE ~ SSEV + LRDPARTY + PID + LSYMP + EU.pty.pos + EU.pty.sal + antiEU +
   EU.pty.pos:antiEU + (1 | COUNTRY) + (1 | RSTUDYID) + (1 | CMPYEARID), data=Merged.s,
    family=binomial, nAGQ=0)


mod.2a <- glmer(VOTE ~ SSEV + LRDPARTY + PID + LSYMP + EU.pty.pos + EU.pty.sal +
   (1 | COUNTRY) + (1 | RSTUDYID) + (1 | CMPYEARID),
   data=Merged.s[Merged.s$antiEU=="Pro-EU", ], family=binomial, nAGQ=0)


mod.2b <- glmer(VOTE ~ SSEV + LRDPARTY + PID + LSYMP + EU.pty.pos + EU.pty.sal +
   (1 | COUNTRY) + (1 | RSTUDYID) + (1 | CMPYEARID),
   data=Merged.s[Merged.s$antiEU=="Anti-EU", ], family=binomial, nAGQ=0)


#### Model syntax for Table 6.3

mod.1 <- glmer(VOTE ~ SSEV + LRDPARTY + PID + LSYMP +
   (1 | COUNTRY) + (1 + SSEV + LSYMP + PID + LRDPARTY | RSTUDYID),
   data=Merged.s, family=binomial, nAGQ=0)


mod.2 <- glmer(VOTE ~ SSEV + LRDPARTY + PID + LSYMP + EU.sys.pol.wgt + EU.sys.sal.wgt +
    SSEV:EU.sys.pol.wgt + LRDPARTY:EU.sys.pol.wgt + PID:EU.sys.pol.wgt + LSYMP:EU.sys.pol.wgt +
   (1 | COUNTRY) + (1 + SSEV + LSYMP + PID + LRDPARTY | RSTUDYID), data=Merged.s, family=binomial,
    nAGQ=0)
```

```
mod.3 <- glmer(VOTE ~ SSEV + LRDPARTY + PID + LSYMP + EU.sys.pol.wgt + EU.sys.sal.wgt +
    SSEV:EU.sys.sal.wgt + LRDPARTY:EU.sys.sal.wgt + PID:EU.sys.sal.wgt + LSYMP:EU.sys.sal.wgt+
    (1 | COUNTRY) + (1 + SSEV + LSYMP + PID + LRDPARTY | RSTUDYID),
    data=Merged.s, family=binomial, nAGQ=0)

mod.4 <- glmer(VOTE ~ SSEV + LRDPARTY + PID + LSYMP + POLSAL +
    SSEV:POLSAL + LRDPARTY:POLSAL + PID:POLSAL + LSYMP:POLSAL +
    (1 | COUNTRY) + (1 + SSEV + LSYMP + PID + LRDPARTY | RSTUDYID) + (1 | CMPYEARID),
    data=Merged.s, family=binomial, nAGQ=0)
```

Values of the Context Variables Used

Turnout Models

COUNTRY	YEAR	RSTUDYID	EU Polarization (centered)	EU Salience (centered)
Austria	2008	AUS08	0.529	2.440
Germany	1972	GER72	-0.722	1.786
Germany	1976	GER76	-1.056	2.672
Germany	1980	GER80	-1.089	0.991
Germany	1983	GER83	-0.679	0.015
Germany	1987	GER87	-0.067	4.690
Germany	1990	GER90	-0.831	0.973
Germany	1994	GER94	-0.850	1.265
Germany	1998	GER98	0.034	5.043
Germany	2002	GER02	-0.606	4.342
Germany	2005	GER05	-0.604	1.860
Germany	2009	GER09	-0.342	1.010
Germany	2013	GER13	-0.312	0.703
Iceland	2003	ICE03	0.200	1.110
Iceland	2007	ICE07	-0.609	-0.586
Iceland	2009	ICE09	0.194	2.275
Iceland	2013	ICE13	-0.015	-0.352
Ireland	2002	IRE02	-0.187	1.229
Ireland	2007	IRE07	0.305	-1.165
Italy	1996	ITA96	0.107	-0.393
Italy	2001	ITA01	0.317	-0.258
Italy	2006	ITA06	0.782	0.444
Italy	2013	ITA13	0.444	2.270
Netherlands	1972	NET72	-0.738	-1.339
Netherlands	1982	NET82	-0.965	-0.071
Netherlands	1986	NET86	-0.453	0.760
Netherlands	1989	NET89	-0.644	0.699
Netherlands	1994	NET94	-0.300	0.736
Netherlands	1998	NET98	0.319	0.376
Netherlands	2002	NET02	0.355	0.644
Netherlands	2006	NET06	0.121	0.813
Norway	1965	NOR65	-0.338	-1.967
Norway	1973	NOR73	0.692	-0.855
Norway	1977	NOR77	-0.004	-1.849
Norway	1981	NOR81	0.137	-1.597

Norway	1985	NOR85	-0.325	-1.581
Norway	1993	NOR93	2.451	1.751
Norway	1997	NOR97	0.157	-1.519
Norway	2001	NOR01	1.120	-0.639
Norway	2005	NOR05	2.379	-1.042
Poland	1997	POL97	-0.620	-0.763
Poland	2001	POL01	0.542	0.360

Vote Choice Models

COUNTRY	YEAR	RSTUDYID	EU Salience	EU Polarization	POLSAL - Fixed Interaction
Estonia	2011	EST11	0.974	0.639	1.196
Finland	2003	FIN03	1.063	0.592	1.116
Finland	2007	FIN07	2.973	1.55	8.143
Finland	2011	FIN11	1.447	2.086	2.569
Germany	1976	GER76	5.046	0.289	1.344
Germany	1983	GER83	2.389	0.666	3.052
Germany	1987	GER87	7.064	1.278	7.854
Germany	1990	GER90	3.347	0.514	2.200
Germany	2009	GER09	3.384	1.003	3.669
Germany	2013	GER13	3.077	1.033	6.067
Greece	1989	GRE89	3.035	3.245	1.509
Hungary	1998	HUN98	3.364	1.122	4.083
Iceland	1987	ICE87	0	0	0.000
Iceland	1991	ICE91	5.651	2.18	14.118
Iceland	1995	ICE95	3.974	2.503	8.989
Iceland	1999	ICE99	1.592	1.371	3.532
Iceland	2003	ICE03	3.484	1.545	3.975
Iceland	2007	ICE07	1.788	0.736	1.224
Iceland	2009	ICE09	4.649	1.539	4.936
Iceland	2013	ICE13	2.022	1.33	3.411
Ireland	2002	IRE02	3.603	1.158	5.855
Ireland	2007	IRE07	1.209	1.65	2.806
Ireland	2011	IRE11	1.143	1.111	0.975
Italy	1996	ITA96	1.981	1.452	3.599
Italy	2001	ITA01	2.116	1.662	4.306
Italy	2006	ITA06	2.818	2.127	7.244
Italy	2008	ITA08	0.25	0.604	0.287
Italy	2013	ITA13	4.644	1.789	9.007
Netherlands	1989	NET89	3.073	0.701	3.314
Netherlands	1994	NET94	3.11	1.045	4.102
Netherlands	1998	NET98	2.75	1.664	5.006
Norway	1981	NOR81	0.777	1.482	0.798

Norway	1985	NOR85	0.793	1.02	0.679
Norway	1993	NOR93	4.125	3.796	11.034
Norway	1997	NOR97	0.855	1.502	1.957
Norway	2001	NOR01	1.735	2.465	4.712
Norway	2005	NOR05	1.332	3.724	4.332
Poland	1997	POL97	1.611	0.725	1.942
Poland	2005	POL05	1.355	1.26	3.161
Poland	2007	POL07	3.277	2.394	6.824
Poland	2011	POL11	1.567	2.78	2.415
Portugal	2002	POR02	2.644	1.652	4.881
Portugal	2005	POR05	2.357	1.467	5.200
Portugal	2009	POR09	1.523	2.211	4.518
Spain	1993	SPA93	3.439	0.793	5.076
Spain	2008	SPA08	2.205	1.439	4.282
Sweden	1979	SWE79	0.184	0.506	0.108
Sweden	1982	SWE82	0.212	0.53	0.108
Sweden	1985	SWE85	0.22	0.451	0.283
Sweden	1988	SWE88	1.879	1.33	3.173
Sweden	1991	SWE91	4.438	1.399	9.525
Sweden	1994	SWE94	6.506	1.936	16.196
Sweden	1998	SWE98	5.118	2.475	13.122
Sweden	2002	SWE02	2.521	1.988	7.816
Sweden	2006	SWE06	1.649	1.907	3.183
Sweden	2010	SWE10	1.294	2.064	3.615

Online Appendix Chapter 7

Additional Tables and Figures

Table A7.1. Countries and elections included in electoral participation and vote choice models

Country	Included in participation models	Included in vote choice models
Austria	2008	
Estonia	2011	2011
Finland	2003, 2007, 2011	2003, 2007, 2011
Germany	1976, 1983 1987, 1990, 1994, 1998, 2002, 2005,2009	1976, 1983 1987, 1990, 1994, 1998, 2002, 2005,2009
Greece	2009, 2012	2009
Hungary	1998, 2006	1998
Iceland	1991, 1999, 2003, 2007, 2009	1991, 1995, 1999, 2003, 2007, 2009
Ireland	2002, 2007, 2011	2002, 2007, 2011
Italy	1996, 2001, 2006	1996, 2001, 2006, 2008
Netherlands	1982, 1986, 1994, 1998, 2002, 2006	1989, 1994, 1998
Norway	1981, 1985, 1989, 1993, 1997, 2001, 2005	1981, 1985, 1989, 1993, 1997, 2001, 2005
Poland	1997, 2001, 2005, 2007, 2011	1997, 2005, 2007, 2011
Portugal	2002, 2005, 2009	2002, 2005, 2009
Romania	2008	
Spain	1993, 2008	1993, 2008
Sweden	1982, 1985, 1988, 1991, 1994, 1998, 2002, 2006, 2010	1982, 1985, 1988, 1991, 1994, 1998, 2002, 2006, 2010
Switzerland	1999, 2003, 2007, 2011	

Setups of the Statistical Analyses

R code used for models and figures in Chapter 7.

Vote models

```
data<-read.dta("10.TEV_stacked_data_ONLY R VAR 201700620_reduced.dta")
mydata<-subset(data )

#coding the Na's
mydata$VOTE[mydata$VOTE > 1] <- NA
summary(mydata$VOTE)

mydata$PID[mydata$PID > 1] <- NA
summary(mydata$PID)
mydata$SSEV[mydata$SSEV > 1] <- NA
summary(mydata$SSEV)

mydata$LSYMP[mydata$LSYMP > 1] <- NA
summary(mydata$LSYMP)

mydata$LRDPARTY[mydata$LRDPARTY > 1] <- NA
summary(mydata$LRDPARTY)

mydata$INCUMBENT[mydata$INCUMBENT > 1] <- NA
summary(mydata$INCUMBENT)
summary(mydata$pid1)

baseline<- glmer(VOTE ~1+  (1 | COUNTRY/RSTUDYID),
mydata, family=binomial,  verbose=T)

#EPI - model with random slovpes for SSEVPRTCENT and EPI2- economic performance

epi <- glmer(VOTE ~LRDPARTY + pid1 + LSYMP + SSEVPRTCENT + INCUMBENT + EPI2_CEN + GDP_CEN +
EPI2_CEN*LRDPARTY + EPI2_CEN*pid1 + EPI2_CEN*LSYMP +
EPI2_CEN*SSEVPRTCENT +
(1+SSEVPRTCENT   | RSTUDYID) +
(1+EPI2_CEN| COUNTRY),
mydata, family=binomial, verbose=T)
summary(epi)


#gini model with random slovpes for indiv level variables - income ineqaulity
```

```
gini <- glmer(VOTE ~ LRDPARTY + pid1 + LSYMP + SSEVPRTCENT + INCUMBENT + GINI_NCEN + GDP_CEN +
GINI_NCEN*LRDPARTY + GINI_NCEN*pid1 + GINI_NCEN*LSYMP + GINI_NCEN*SSEVPRTCENT +
(1+LRDPARTY+SSEVPRTCENT   | RSTUDYID)+
(1+GINI_NCEN| COUNTRY),
mydata, family=binomial, verbose=T)

#trade model with random slovpes for indiv level variables - openess to trade

trade <- glmer(VOTE ~ LRDPARTY + pid1 + LSYMP + SSEVPRTCENT + LSYMP + INCUMBENT +
TRADE_OPENCEN + GDP_CEN + TRADE_OPENCEN*LRDPARTY + TRADE_OPENCEN*pid1 +
TRADE_OPENCEN*LSYMP + TRADE_OPENCEN*SSEVPRTCENT +
(1+LRDPARTY+pid1 +SSEVPRTCENT | RSTUDYID)+
(1+TRADE_OPENCEN| COUNTRY),
mydata, family=binomial, verbose=T)
```

#TURNOUT models

```
data<-read.dta("10.TEV_unstacked_data_ONLY R VAR 201700620_reduced.dta")
mydata<-subset(data )

#coding the Na's
mydata$VOTE[mydata$VOTE > 1] <- NA
summary(mydata$VOTE)
mydata$PID[mydata$PID > 1] <- NA
summary(mydata$PID)
mydata$SSEV[mydata$SSEV > 1] <- NA
summary(mydata$SSEV)
mydata$LSYMP[mydata$LSYMP > 1] <- NA
summary(mydata$LSYMP)
mydata$LRDPARTY[mydata$LRDPARTY > 1] <- NA
summary(mydata$LRDPARTY)
mydata$INCUMBENT[mydata$INCUMBENT > 1] <- NA
summary(mydata$INCUMBENT)


baselineturn<- glmer(TURNOUT ~1+  (1 | COUNTRY/RSTUDYID), mydata, family=binomial,  verbose=T)

#EPI - economic performance and turnout.
#age2=RAGE*RAGE
#PID1=those twho identify strongly with a party.
#notsingle=
```

```
EPIturn <- glmer(TURNOUT ~ RAGE + age2 + REDU + female + notsingle + union + pid1 + EPI2_CEN +
GDP_CEN + EPI2_CEN*RAGE + EPI2_CEN*REDU +
(1+RAGE | RSTUDYID)+
(1+EPI2_CEN| COUNTRY),
mydata, family=binomial, verbose=T)

#giniturnage - income inequality and turnout

giniturn <- glmer(TURNOUT ~ RAGE + age2 + REDU + female + notsingle + union + pid1 + GINI_NCEN +
GDP_CEN + GINI_NCEN*RAGE + GINI_NCEN*REDU +
(1+RAGE   | RSTUDYID)+
(1+GINI_NCEN| COUNTRY),
mydata, family=binomial, verbose=T)


#Plots:

sjp.int(EPIturn,
type = "eff",
mdrt.values = "meansd",
swap.pred="false",
axis.title="Economic performance",
title=" ",
fill.color="white",
fill.alpha="0",
legend.title="Impact of age",
geom.colors = c("grey", "grey50", "black"))

sjp.int(EPIturn,
type = "eff",
mdrt.values = "minmax",
swap.pred="false",
axis.title="Economic performance",
title=" ",
legend.title="Impact of education",
fill.color="white",
fill.alpha="0",
geom.colors = c("grey", "grey50", "black"))
```

Values of Contextual Variables

Turnout

COUNTRY	RSTUDYID	Economic performance	Income inequality	Economic development
Austria	Austria 2008	-,65	5,46	9046,61
Estonia	Estonia 2011	4,15	-7,14	4560,61
Finland	Finland 2003	-3,39	-,44	5534,61
Finland	Finland 2007	-2,24	3,36	9042,61
Finland	Finland 2011	-2,45	1,86	7839,61
Germany	Germany 1976	-,56	-2,54	-2834,39
Germany	Germany 1983	-2,63	-4,94	-1189,39
Germany	Germany 1987	-2,36	2,96	182,61
Germany	Germany 1990	-2,16	2,56	410,61
Germany	Germany 1994	-1,63	-4,84	1509,61
Germany	Germany 1998	-1,87	-1,44	2510,61
Germany	Germany 2002	-,77	,36	3621,61
Germany	Germany 2005	-,71	-1,64	3898,61
Germany	Germany 2009	,16	-,54	4271,61
Greece	Greece 2009	4,14	-3,74	-274,39
Greece	Greece 2012	4,91	-21,64	-3572,39
Hungary	Hungary 1998	,57	-15,14	-9255,39
Hungary	Hungary 2006	-,80	2,06	-6803,39
Iceland	Iceland 1991	-5,88	-7,64	2300,61
Iceland	Iceland 1999	-6,05	10,56	4829,61
Iceland	Iceland 2003	-3,97	,46	6226,61
Iceland	Iceland 2007	-1,00	2,96	10927,61
Iceland	Iceland 2009	-3,17	-5,74	8706,61
Ireland	Ireland 2002	2,45	5,66	7152,61
Ireland	Ireland 2007	1,08	6,46	10105,61
Ireland	Ireland 2011	,25	-5,94	8888,61
Italy	Italy 1996	5,17	-5,54	1859,61
Italy	Italy 2001	4,12	-1,14	3543,61
Italy	Italy 2006	4,63	-,54	4111,61
Netherlands	Netherlands 1982	-3,92	-6,94	-1227,39
Netherlands	Netherlands 1986	-4,43	-1,64	98,61
Netherlands	Netherlands 1994	-2,77	,86	2704,61
Netherlands	Netherlands 1998	-4,33	5,06	5112,61
Netherlands	Netherlands 2002	-2,60	4,26	6772,61
Netherlands	Netherlands 2006	-1,72	4,26	8348,61
Norway	Norway 1981	-6,62	,56	-349,39
Norway	Norway 1985	-5,97	5,06	1801,61
Norway	Norway 1989	-5,38	-1,64	2638,61

Norway	Norway 1993	-4,85	3,86	4412,61
Norway	Norway 1997	-5,19	7,36	8130,61
Norway	Norway 2001	-4,82	5,16	9939,61
Norway	Norway 2005	-3,32	7,56	11839,61
Poland	Poland 1997	1,77	-17,54	-9130,39
Poland	Poland 2001	-,87	-15,54	-8119,39
Poland	Poland 2005	2,53	-9,04	-6989,39
Poland	Poland 2007	2,39	-,24	-5834,39

Vote Choice

COUNTRY	RSTUDYID	Ec performance	Income ineq	Openness to trade	Ec development
Estonia	Estonia 2011	-6,78	6,88	87,82	1332,78
Finland	Finland 2003	-,08	-,65	2,17	2306,78
Finland	Finland 2007	3,72	,49	17,13	5814,78
Finland	Finland 2011	2,22	,28	16,80	4611,78
Germany	Germany 1976	-2,18	2,17	-38,34	-6062,22
Germany	Germany 1983	-4,58	,10	-34,82	-4417,22
Germany	Germany 1987	3,32	,38	-32,35	-3045,22
Germany	Germany 1990	2,92	,58	-27,28	-2817,22
Germany	Germany 1998	-1,08	,86	-14,05	-717,22
Germany	Germany 2002	,72	1,96	-3,66	393,78
Germany	Germany 2005	-1,28	2,02	8,68	670,78
Germany	Germany 2009	-,18	2,89	13,47	1043,78
Greece	Greece 2009	-3,38	6,87	-18,91	-3502,22
Hungary	Hungary 1998	-14,78	3,30	18,58	-12483,22
Iceland	Iceland 1991	-7,28	-3,15	-11,21	-927,22
Iceland	Iceland 1995	5,52	-5,74	-10,57	-1672,22
Iceland	Iceland 1999	10,92	-3,31	-2,00	1601,78
Iceland	Iceland 2003	,82	-1,24	-1,57	2998,78
Iceland	Iceland 2007	3,32	1,74	6,87	7699,78
Iceland	Iceland 2009	-5,38	-,43	4,14	5478,78
Ireland	Ireland 2002	6,02	5,19	84,35	3924,78
Ireland	Ireland 2007	6,82	3,81	85,09	6877,78
Ireland	Ireland 2011	-5,58	2,99	103,79	5660,78
Italy	Italy 1996	-5,18	7,91	-19,27	-1368,22
Italy	Italy 2001	-,78	6,86	-15,36	315,78
Italy	Italy 2006	-,18	7,36	-14,58	883,78
Italy	Italy 2008	2,42	6,52	-14,63	713,78
Netherlands	Netherlands 1989	5,22	-,52	5,79	-2051,22
Netherlands	Netherlands 1994	1,22	-,04	15,26	-523,22
Netherlands	Netherlands 1998	5,42	-1,60	31,60	1884,78
Norway	Norway 1981	,92	-3,89	-12,45	-3577,22
Norway	Norway 1985	5,42	-3,24	-9,64	-1426,22
Norway	Norway 1989	-1,28	-2,64	-6,08	-589,22

Norway	Norway 1993	4,22	-2,12	-2,46	1184,78
Norway	Norway 1997	7,72	-2,45	3,86	4902,78
Norway	Norway 2001	5,52	-2,09	4,81	6711,78
Norway	Norway 2005	7,92	-,59	4,35	8611,78
Poland	Poland 1997	-17,18	4,50	-16,57	-12358,22
Poland	Poland 2005	-8,68	5,26	6,24	-10217,22
Poland	Poland 2007	,12	5,13	17,00	-9062,22
Poland	Poland 2011	,22	4,76	15,69	-7984,22
Portugal	Portugal 2002	2,32	,50	-8,04	-4575,22
Portugal	Portugal 2005	1,52	10,26	-4,28	-4555,22
Portugal	Portugal 2009	-1,18	9,97	-1,66	-4628,22
Spain	Spain 1993	-14,58	8,92	-36,77	-6488,22
Spain	Spain 2008	1,42	5,82	-9,94	-1012,22
Sweden	Sweden 1982	-5,58	-6,08	-23,22	-3688,22
Sweden	Sweden 1985	1,52	-6,65	-18,97	-2557,22

Online Appendix Chapter 8

Additional Tables and Figures

Table A8.1. Countries and elections included in electoral participation and vote choice models

Country	Included in electoral participation models	Included in vote choice models
Austria	2008	
Estonia	2011	2011
Finland	2003, 2007, 2011	2003, 2007, 2011
Germany	1965, 1969, 1976, 1980, 1983 1987, 1990, 1994, 1998, 2002, 2005,2009, 2013	1976, 1983 1987, 1990, 1998, 2002, 2005,2009, 2013
Greece	1985, 1996; 2009, 2012	2009 ,2012
Hungary	1994, 1998, 2002, 2006	1998
Iceland	1991, 1999, 2003, 2007, 2009	1987, 1991, 1995, 1999, 2003, 2007, 2009, 2013
Ireland	2002, 2007, 2011	2002, 2007, 2011
Italy	1996, 2001, 2006, 2013	1996, 2001, 2006, 2009,2013
Lithuania	2004	
Netherlands	1972, 1981, 1982, 1986, 1994, 1998, 2002, 2006	1989, 1994, 1998
Norway	1965, 1969, 1973, 1977, 1981, 1985, 1989, 1993, 1997, 2001, 2005	1981, 1985, 1989, 1993, 1997, 2001, 2005
Poland	1997, 2001, 2005, 2007, 2011	1997, 2005, 2007, 2011
Portugal	1985, 2002, 2005, 2009	2002, 2005, 2009
Romania	2004, 2008	
Slovenia	2000, 2004, 2008	
Spain	2008	1993, 2008
Sweden	1964, 1968, 1970, 1973, 1976, 1979, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2006, 2010	1979, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2006, 2010
Switzerland	1971, 1975, 1979, 1987, 1991, 1995, 1999, 2003, 2007, 2011	
United Kingdom	2005	

Appendix 8.1: Volatility over time

Figure A.8.1.1: Trends volatility levels across time

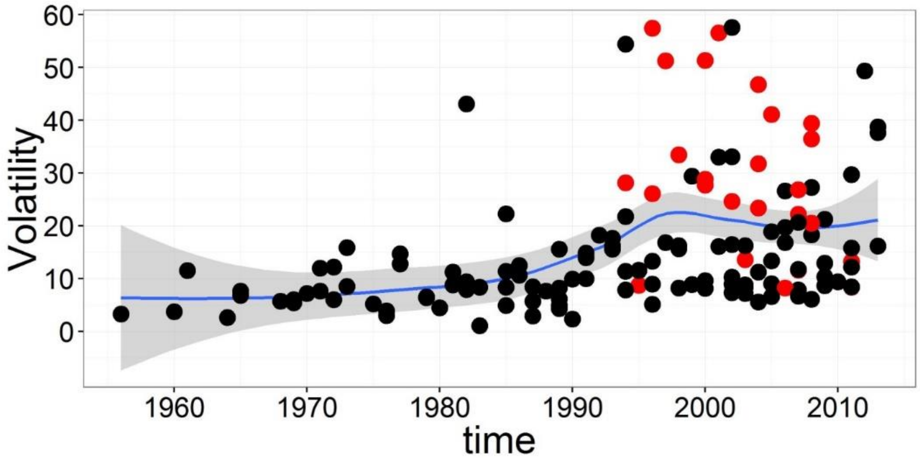
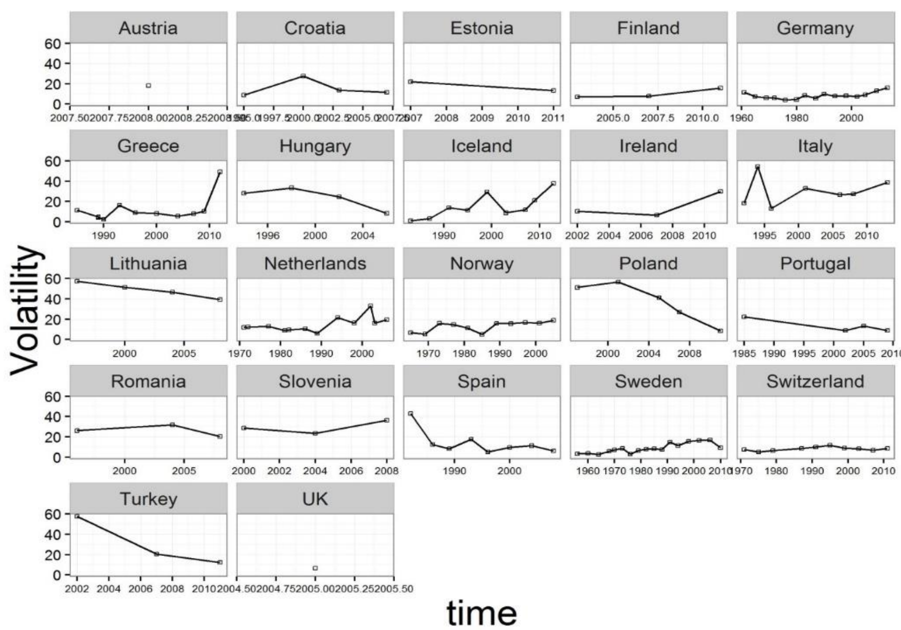


Figure A.8.1.2: Trends volatility levels across time across countries



Appendix 8.2: Distribution of mean volatility and logged mean volatility

Figure A.8.2.1: Distribution of mean volatility

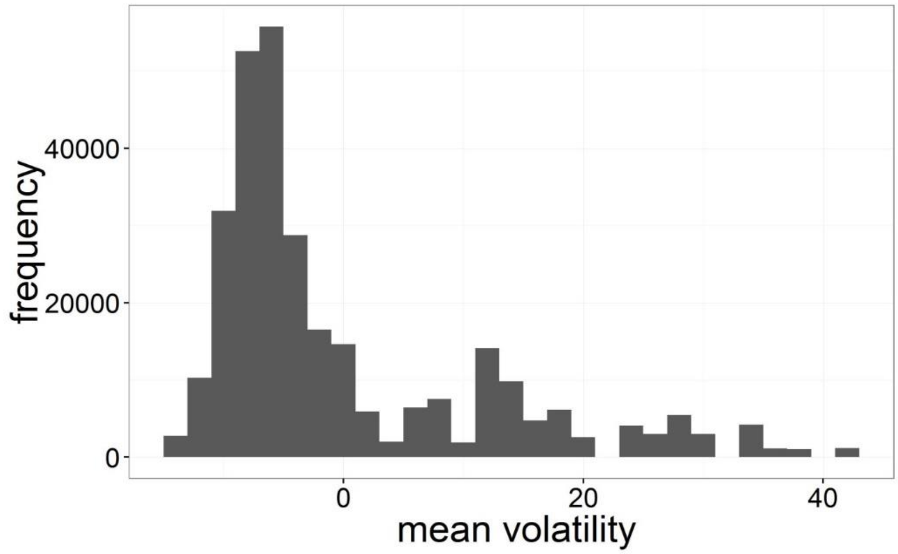
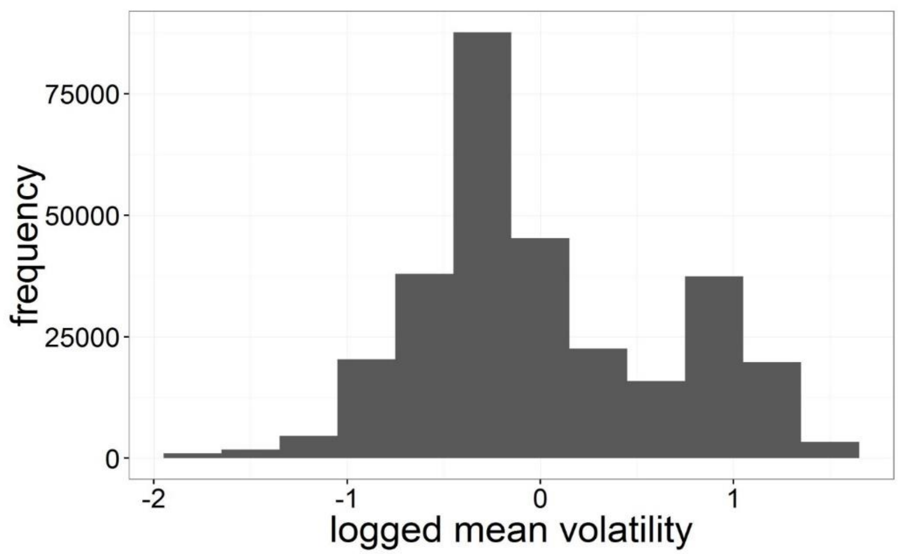


Figure A.8.2.2: Distribution of logged mean volatility



Appendix 8.3: Efect of volatility on party choice, exporatory visual analysis[1]

Figure A.8.3.1: Unconditional effect of mean volatility on electoral participation

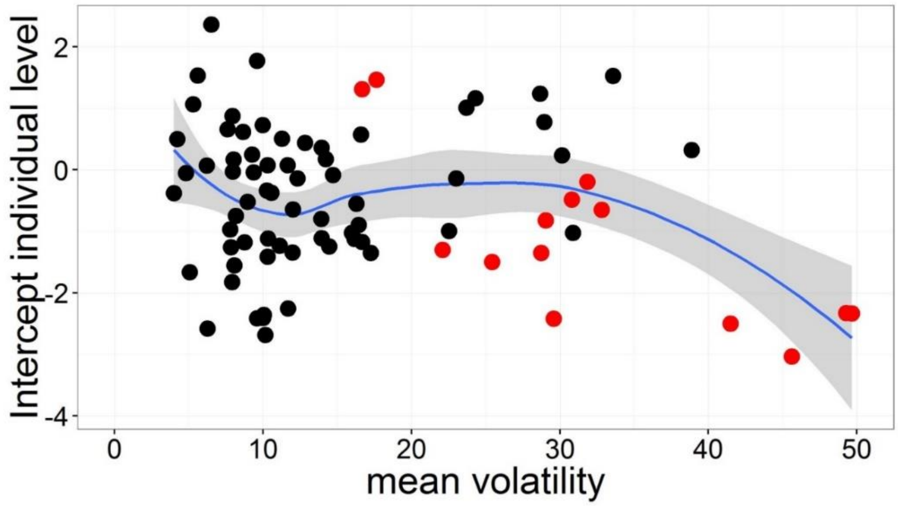
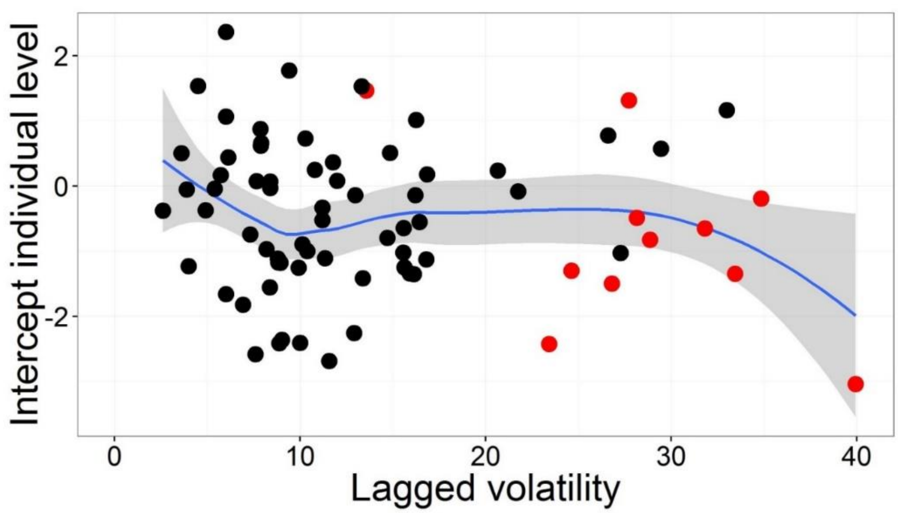


Figure A.8.3.2: Unconditional effect of lagged volatility on electoral participation



[1] Each election specific turnout models is a logistic regression having individual level turnout as a dependent variable and include the following controls: age group, education group, church attendance, marital status and party identification. Figures A8.3.1 and A8.3.2 are compiled using R ggplot2 package and use a smoothing function, shaded areas are 95% confidence intervals. In All Figures red points represent post-communist countries while black points represent West European countries.

Appendix A8.4: Moderating effect of mean volatility on party choice, exporatory visual analysis[2]

Figure A.8.4.1: Conditional effect of partisanship on party choice, election level c-logit models

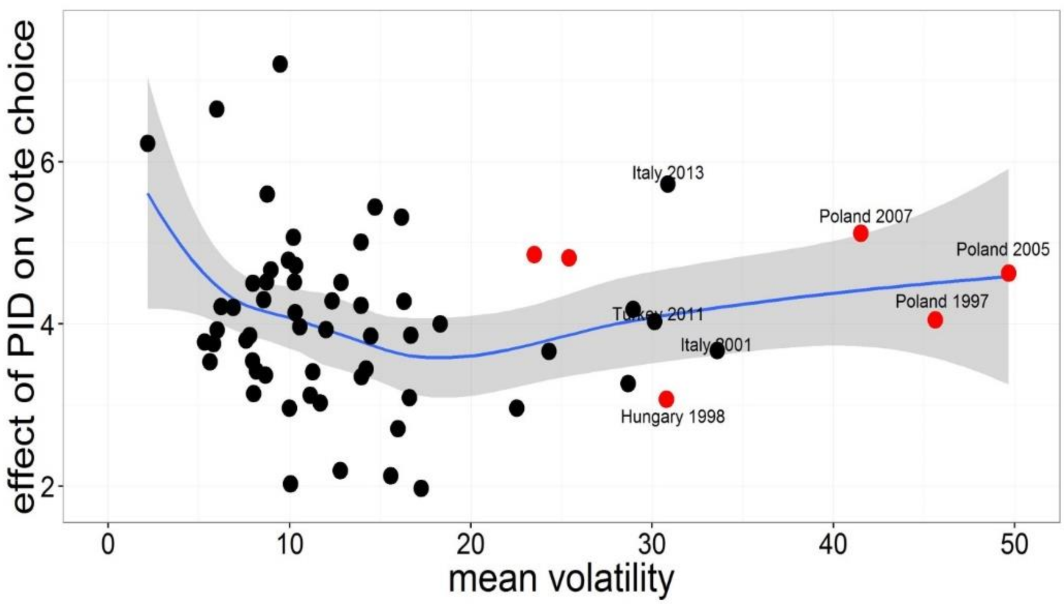
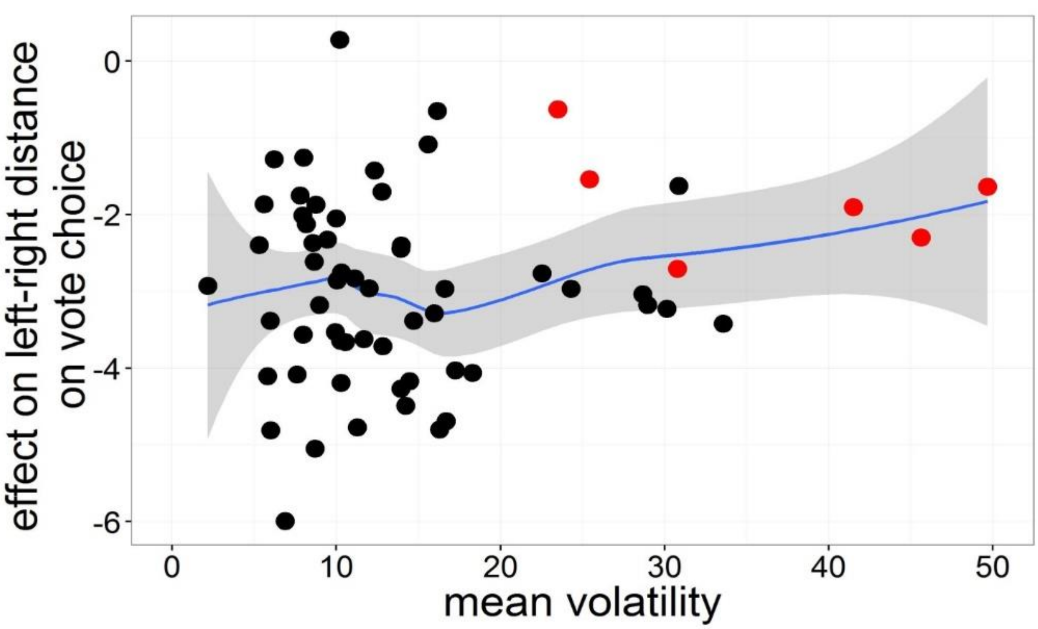
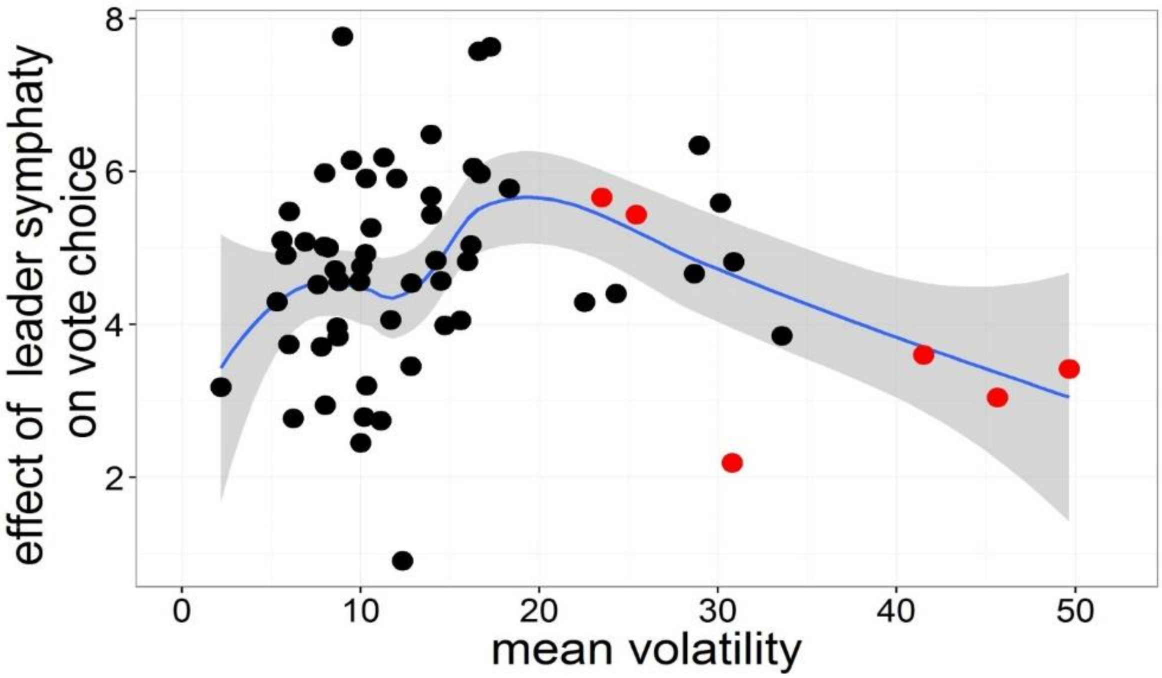


Figure A.8.4.2: Conditional effect of ideological distance on party choice, election level c-logit models



[2] Figures A8.4 to A8.5 are compiled using R ggplot2 package and use a smoothing function, shaded areas are 95% confidence intervals. The effects represent coefficients from election level conditional logit (c-logit) models. Since using the lagged volatility revealed a very similar pattern of results we only show these plots in Appendix 3.In All Figures red points represent post-communist countries while black points represent West European countries. Besides the partisanship, ideological distance and leaders sympathy the model also include a control variable for the socio economic structure (yhat).

Figure A.8.4.3 Conditional effect of leader evaluation on vote choice, election level c-logit models



Appendix A8.5: Moderating effect of lagged volatility on party choice, exporatory visual analysis

Figure A.8.5.1: Conditional effect of mean volatility on vote choice, election level c-logit models

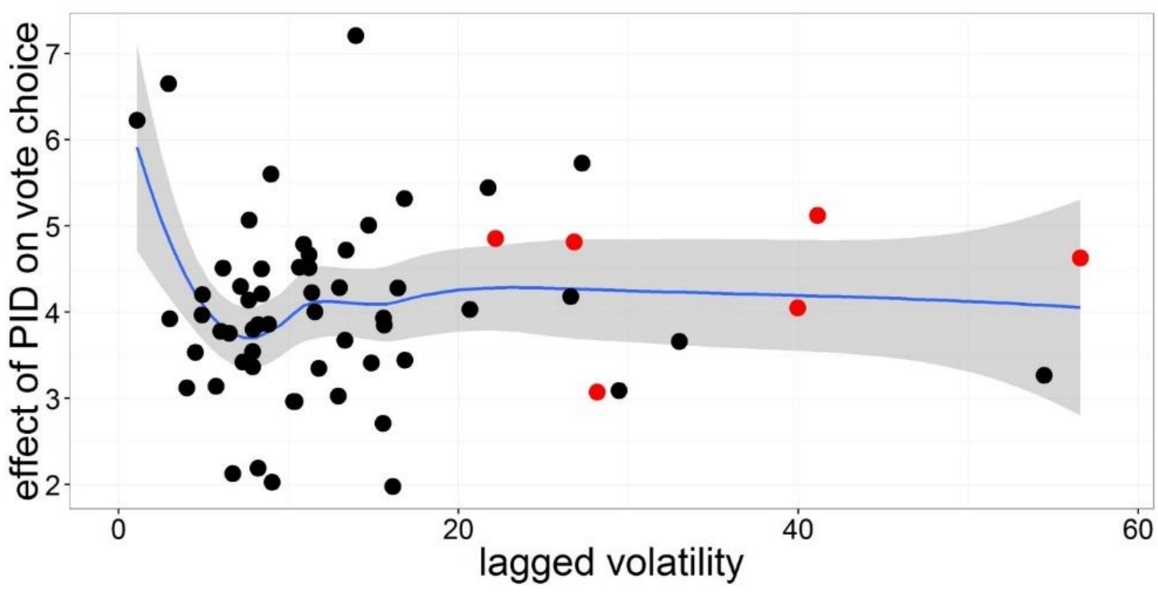


Figure A.8.5.2: Conditional effect of ideological distance on vote choice, election level c-logit models

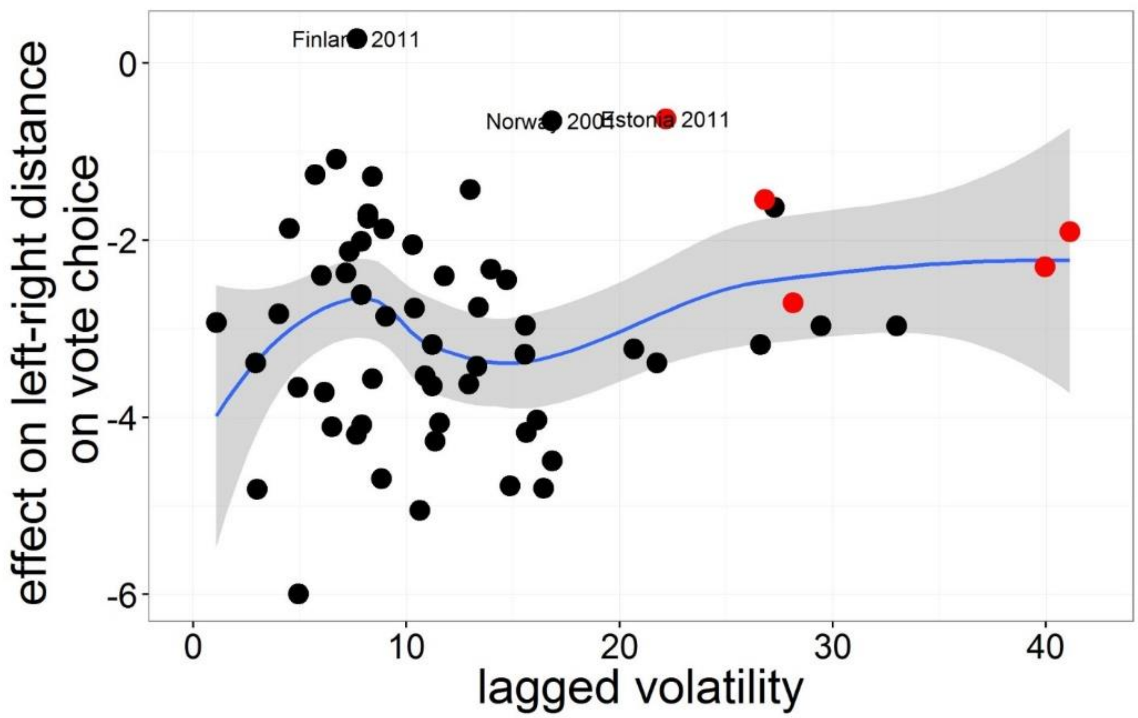
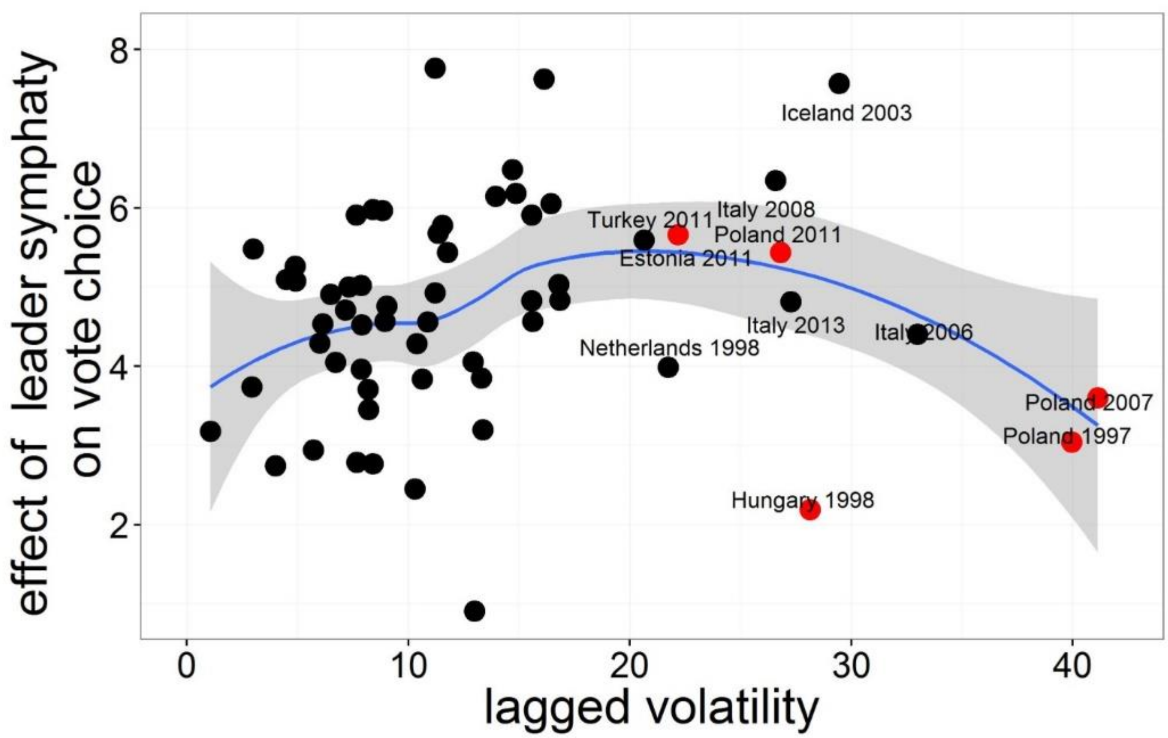


Figure A.8.5.3. Conditional effect of leader evaluation on vote choice, election level c-logit models



Setups for Statistical Analyses

R Syntax for Descriptives & Turnout

```
# Check that needed packages are installed:
want = c("tidyverse", "reshape2", "foreign", "haven", "rio",
        "lme4", "stargazer", "texreg", "MASS", "boot" ,"patchwork")
have = want %in% rownames(installed.packages())
if ( any(!have) ) { install.packages( want[!have] ) }
# load packages
junk <- lapply(want, library, character.only = TRUE)
rm(have,want,junk)

rm(list = ls())
options(scipen = 99)

library(foreign)
library(tidyverse)
setwd("C:/Users/nsp135/Dropbox/TEV chapter/version9/")
#==========================================================================================================
# FUNCTIONS
#==========================================================================================================
# Function to convert missing values (e.g. 996) to NA
mis.rm <- function(x) {
  ifelse(x <= 1, x, NA)
}

#==========================================================================================================
# READ MACRO DATA
#==========================================================================================================

macro<-read.csv("macros.csv")
summary(macro)
df <- data.frame(x = c(NA, "a?b", "a.d", "b:c"))
macro<-macro %>%
      separate( Cnt.year, c("Country","YEAR"), " ")
typeof(macro$YEAR)
macro$YEAR<-as.numeric(macro$YEAR)
table(macro$YEAR)
table(macro$postcom)



###descriptive level of volatility
time<-ggplot(macro, aes(x=YEAR, y=vol_mean))
time<-time   +stat_smooth(level=0.95)
time<-time+geom_point(aes(colour=factor(postcom), size=1.5))+
  scale_colour_manual(values = c("black","red"), name="Post-communist")+
  theme_bw()+
  scale_x_continuous(breaks=c(1960, 1970, 1980, 1990,2000,2010))+
  xlab("Time")+
  ylab("Mean volatitlity")+
  theme(plot.title = element_text(size=rel(1.9),lineheight=0.8, face="bold"))+
  theme(axis.title.x = element_text(size = rel(2)), axis.title.y = element_text(size = rel(2)))+
  theme(axis.text.x = element_text(size = rel(1.8)),axis.text.y = element_text(size = rel(1.8)))+
  theme(legend.text = element_text(size = 25))+
```

```
  theme(legend.position = "none")+
  theme(legend.title = element_text(size = 16))
time

##creatinga average volatility
vol_mean<-macro %>% select(YEAR, vol_mean)

vol_mean$Cnt<-"All Countries"
typeof(vol_mean$YEAR)

volat<-macro %>% select(YEAR, vol_mean, Cnt)
as.data.frame()
vol<-bind_rows(volat, vol_mean)

vol<-subset(vol, Cnt !='Serbia')
vol<-subset(vol, Cnt !='Turkey')
time_cnt<-ggplot(vol, aes(x=YEAR, y=vol_mean))
time_cnt<-time_cnt   +stat_smooth( se = FALSE)+geom_point(size=0.6,shape=0)
time_cnt<-time_cnt+facet_wrap( ~ Cnt)+
  theme_bw()+
  scale_x_continuous(breaks=c(1960, 1970, 1980, 1990,2000,2010))+
  xlab("Time")+
  ylab("Mean volatitlity")+
  theme(plot.title = element_text(size=rel(1),lineheight=0.8, face="bold"))+
  theme(axis.title.x = element_text(family= "Times New Roman", size = rel(2)),
       axis.title.y = element_text(family= "Times New Roman", size = rel(2)))+
  theme(axis.text.x = element_text(size = rel(0.7)),axis.text.y = element_text(size = rel(1)))+
  theme(strip.text = element_text(size=12))+
  theme(legend.text = element_text(size = 25))+
  theme(legend.position = "none")+
  theme(legend.title = element_text(size = 16))
time_cnt

ggsave(time_cnt, file="Results/Figure 8_1, volat across time .jpg",  width=8, height=6, dpi=500)


#=================================================================================================
# READ UNSTACKED DATA
#=================================================================================================
mydata<- import("9_unstacked_data_R VAR 20170210.sav")
mydata<- mydata %>%
  mutate(RSTUDYID = as.numeric(RSTUDYID)) %>%
  mutate(gender = ifelse(RGENDER <= 2, RGENDER - 1, NA),
        age = ifelse(RAGE < 110, RAGE, NA),
        edu = ifelse(REDU > 3, NA, REDU),
        union =ifelse(RUNION1 == 1, 1, ifelse(RUNION1 == 2, 0, NA)),
        age.gr =ifelse(RAGEGR <=4,RAGEGR/4, NA),
        married = ifelse(RMARRIED > 3, NA,
                    ifelse(RMARRIED == 1, 1, 0)),
        church = ifelse(RCHURCHA > 4, NA, (4 - RCHURCHA)/3),
        pid = ifelse(RPID1 <= 2, RPID1 - 1, NA),
        turn = ifelse(TURNOUT <= 1, TURNOUT, NA),
        polint = ifelse(RPOLINT <= 1, RPOLINT, NA),
        RLRSP = ifelse(RLRSP <= 1, RLRSP, NA),
        LRSP.na = ifelse(is.na(RLRSP), 1, 0))
summary(mydata$age.gr)

mydata$ch.un <- ifelse(mydata$church == 1, 1,
                  ifelse(mydata$union == 1, 1,
                        ifelse(mydata$church == 0, 0, ifelse(mydata$union == 0, 0, NA))))
```

```
mydata$soc.integ <- ifelse(mydata$RMARRIED != 996, (mydata$ch.un + mydata$married)/2, mydata$ch.un)
summary(mydata$soc.integ)


mydata<-left_join(mydata,macro, by="RSTUDYID")
summary(mydata$vol_mean)

summary(mydata$age.gr)

#==========================================================================================================
# REDUCE the DATA
#==========================================================================================================

# Make a file with all the cases we need
mydata<- mydata %>%
  filter(!is.na(turn) & !is.na(age.gr) & !is.na(edu) & !is.na(gender) & !is.na(tev_unemploy_dif) &
         !is.na(vol_mean) & !is.na(ga_effNv) & !is.na(ga_LSq)) %>%
  dplyr :: select( turn , gender , age , age.gr , edu , married , church , union ,
        pid , polint , RSTUDYID , COUNTRY , compvot ,
        vol_mean , ga_LSq , postcom , ga_effNv , tev_unemploy_dif) %>%
  filter(RSTUDYID != 2419791)
summary(mydata$ga_effNv)


mydata$logvol<-log(0.5+mydata$vol_mean)
mydata$vol_log_sqr<-mydata$logvol*mydata$logvol

mydata<- mydata %>%
 mutate(vol_mean_cent = vol_mean - mean(unique(vol_mean)),
       vol_log_cent=logvol- mean(unique(logvol)),
       vol_log_sqr_cent=vol_log_sqr- mean(unique(vol_log_sqr)),
        disprop_cent=ga_LSq-mean(unique(ga_LSq)),
        nrpart_cent=ga_effNv-mean(unique(ga_effNv)),
        unemp_dif_cent=tev_unemploy_dif-mean(unique(tev_unemploy_dif)))


hist(mydata$logvol)
summary(mydata$vol_log_cent)


mod.1<- glmer(turn ~ age.gr + edu + gender +union+married+
               #int +
               #papers + tv +
               +compvot+disprop_cent+unemp_dif_cent+
               postcom+
             (1|RSTUDYID) + (1|COUNTRY),
                data=mydata, family=binomial, nAGQ=1, verbose=T)
summary(mod.1)

##model with volatilit_ no pid
mod.2<- glmer(turn ~ age.gr + edu + gender +union+married+
                    #int +
                    #papers + tv +
                    +compvot+disprop_cent+unemp_dif_cent+postcom+
                    vol_log_cent+
                   (1|RSTUDYID) + (1|COUNTRY),
                  data= mydata, family=binomial, nAGQ=1, verbose=T)
summary(mod.2)

##including pid
```

```
mod.3<- glmer(turn ~ age.gr + edu + gender +union+married+pid+
            #int +
            #papers + tv +
            +compvot+disprop_cent+unemp_dif_cent+postcom+
            vol_log_cent+
            (1|RSTUDYID) + (1|COUNTRY),
           data= mydata, family=binomial, nAGQ=1, verbose=T)
summary(mod.3)


library("gamm4")
library("voxel")

mod.3.gam<- gamm4(turn ~ age.gr + edu + gender +union+married+pid+
               #int +
               #papers + tv +
               +compvot+disprop_cent+unemp_dif_cent+postcom+
               s(vol_log_cent),family=binomial,
              data   = mydata,
              random = list(RSTUDYID=~1,COUNTRY=~1))
summary(mod.3.gam)


##including squared term
mod.4<- glmer(turn ~ age.gr + edu + gender +union+married+pid+
            #int +
            #papers + tv +
            +compvot+disprop_cent+unemp_dif_cent+postcom+
            vol_log_cent+vol_log_sqr_cent+
            (1|RSTUDYID) + (1|COUNTRY),
           data= mydata, family=binomial, nAGQ=1, verbose=T)
summary(mod.4)
##checking for the convergence issue and it is al fine
derivs1 <- mod.4@optinfo$derivs
sc_grad1 <- with(derivs1,solve(Hessian,gradient))
max(abs(sc_grad1))


texreg::htmlreg(list(mod.1,mod.2, mod.3,mod.4, mod.5),
            digits = 3,
            dcolumn=TRUE, stars=c(.01, .05, .1),
            file = "to show/turnout/turnout no interest log vol.doc")


##interactions with PD

mod.5<- glmer(turn ~ age.gr + edu + gender +union+married+pid+
            #int +
            #papers + tv +
            +compvot+disprop_cent+unemp_dif_cent+postcom+
            vol_log_cent*pid+
            (1+pid|RSTUDYID) + (1|COUNTRY),
           data= mydata, family=binomial, nAGQ=1, verbose=T)
summary(mod.5)


texreg::htmlreg(list( mod.1, mod.2, mod.3,
                mod.4, mod.5),
            custom.model.names = c("Model 1", "Model 2",
                          "Model 3","Model 4,",
```

```
                    "Model 5"),
        digits = 3, single.row=T,
        dcolumn=TRUE, stars=c(.01, .05, 0.1),
        include.loglik = FALSE, center=T,
        custom.gof.names = c(
          "AIC",
          "BIC",
          "N (individuals)",
          "N (elections)",
          "N (countries)",
          "(Var) Intercept, country",
          "(Var) Intercept, elections",
          "(Var) PID, elections",
          "(Cov) PID, intercept"),
        custom.coef.names = c("Intercept","Age", "Education",
                    "Female","Union membership",
                    "Married",
                    "Compulsory voting",
                    "Electoral system disproportionality",
                    "Unemployment increase",
                    "CEE","Mean volatility",
                    "Partisanship","Mean volatility squared",
                    "Partisanship X Volatility"),
        file = "Results/Table 1 turnout.doc")

##plotting effects on turnout
set.seed(1234)


meanbetas.int1<-c(fixef(mod.3))
covmatrix.int1<-vcov(mod.3)
MCdata1<-mvrnorm(n=1000, meanbetas.int1, covmatrix.int1)


# start loop, let a be the modifying variable and let this run from min to max in the desired increments
sim.int<-data.frame(NULL)
summary(mydata$vol_mean)

a<-min(unique(mydata$vol_log_cent),na.rm=T)
while (a<=max(unique(mydata$vol_log_cent),na.rm=T)){
  x_betahat0<-MCdata1[,"(Intercept)"]  + a*MCdata1[,"vol_log_cent"]+
    mean(mydata$age.gr,na.rm=T)*MCdata1[,"age.gr"]+
    mean(mydata$disprop_cent,na.rm=T)*MCdata1[,"disprop_cent"]+
    mean(mydata$unemp_dif_cent,na.rm=T)*MCdata1[,"unemp_dif_cent"]

  prob0 <- inv.logit(x_betahat0)
  prob_hat0 <- mean(prob0)
  lo0 <- quantile(prob0, probs=c(0.05))
  hi0<- quantile(prob0, probs=c(0.95))

  sim.int<-rbind(sim.int, c(a, prob_hat0, lo0, hi0))
  a<-a+0.01
}



colnames(sim.int)<-c("vol", "prob_hat0", "lo0", "hi0")


vol_prob<-ggplot(sim.int, aes(vol))
```

```
vol_prob<-vol_prob+ylim(0.4, 0.9)+geom_line(aes(y=prob_hat0),lwd=1.5)+
  geom_ribbon(data=sim.int,aes(ymin=lo0,ymax=hi0),alpha=0.3)+
  scale_x_continuous(breaks = c(-1.76,0, 1.477),
                   labels= c("1.9 \n low volatility","10.8 \n mean volatility",
                             "57.4 \n high volatility "))+
  scale_y_continuous(limits = c(-0.02, 1)) +
  labs(x="Logged mean volatility",
       y="Predicted proability to vote(95% CI)",
       title    = "a. Main effect of volatility")+
  theme_bw()+guides(colour=FALSE)+theme(panel.grid.major=element_line(size=1.2))+
  theme(plot.title=element_text(family= "Times New Roman"),
        axis.title.x = element_text(family= "Times New Roman", size = rel(1.5)),
        axis.title.y = element_text(family= "Times New Roman",size = rel(1.8)),
        axis.text.x = element_text(family= "Times New Roman",size = rel(1.5), hjust=0.8),
        axis.text.y = element_text(family= "Times New Roman",size = rel(2)),
       strip.text.x = element_text(family= "Times New Roman", size = 20), strip.text.y = element_text(size = 18))

vol_prob
remove(vol_prob)
##ploting the squared polarizaztion term
meanbetas.int2<-c(fixef(mod.4))
covmatrix.int2<-vcov(mod.4)
MCdata2<-mvrnorm(n=1000, meanbetas.int2, covmatrix.int2)

# start loop, let a be the modifying variable and let this run from min to max in the desired increments
sim.int2<-data.frame(NULL)
summary(mydata$vol_log_cent)
a<-min(unique(mydata$vol_log_cent),na.rm=T)
while (a<=max(unique(mydata$vol_log_cent),na.rm=T)){
  x_betahat0<-MCdata2[,"(Intercept)"]  + a*MCdata2[,"vol_log_cent"]+
    a*a*MCdata2[,"vol_log_sqr_cent"]+
    mean(mydata$age.gr,na.rm=T)*MCdata2[,"age.gr"]+
    mean(mydata$disprop_cent,na.rm=T)*MCdata2[,"disprop_cent"]+
    mean(mydata$unemp_dif_cent,na.rm=T)*MCdata2[,"unemp_dif_cent"]

  prob0 <- inv.logit(x_betahat0)
  prob_hat0 <- mean(prob0)
  lo0 <- quantile(prob0, probs=c(0.05))
  hi0<- quantile(prob0, probs=c(0.95))

  sim.int2<-rbind(sim.int2, c(a, prob_hat0, lo0, hi0))
  a<-a+0.01
}


colnames(sim.int2)<-c("vol_sqr", "prob_hat0", "lo0", "hi0")


vol_sqr_prob<-ggplot(sim.int2, aes(vol_sqr))
vol_sqr_prob<-vol_sqr_prob+ylim(0.05, 1.05)+geom_line(aes(y=prob_hat0),lwd=1.5)+
  geom_ribbon(data=sim.int2,aes(ymin=lo0,ymax=hi0),alpha=0.3)+
  scale_x_continuous(breaks = c(-1.74,0, 1.44),
                   labels= c("1.9 \n low volatility","10.8 \n mean volatility",
                             "57.4 \n high volatility "))+
  scale_y_continuous(limits = c(-0.02, 1)) +
  labs(x="Logged mean volatility",
       y="Predicted proability to vote(95% CI)",
       title    = "b. Effect of squared volatility")+
  theme_bw()+guides(colour=FALSE)+theme(panel.grid.major=element_line(size=1.2))+
  theme(plot.title=element_text(family= "Times New Roman"),
```

```
      axis.title.x = element_text(family= "Times New Roman", size = rel(1.5)),
      axis.title.y = element_text(family= "Times New Roman",size = rel(1.8)),
      axis.text.x = element_text(family= "Times New Roman",size = rel(1.5), hjust=0.8),
      axis.text.y = element_text(family= "Times New Roman",size = rel(2)),
      strip.text.x = element_text(family= "Times New Roman", size = 20), strip.text.y = element_text(size = 18))

vol_sqr_prob


fig2<-ggarrange(vol_prob, vol_sqr_prob)

ggsave(fig2, file="Results/Figure 8_2 turnotu.jpg",  width=10, height=6, dpi=500)



###trying a GAMM model

mod.3<- glmer(turn ~ age.gr + edu + gender +union+married+pid+
             #int +
             #papers + tv +
             +compvot+disprop_cent+unemp_dif_cent+postcom+
             vol_log_cent+
             (1|RSTUDYID) + (1|COUNTRY),
           data= mydata, family=binomial, nAGQ=1, verbose=T)
summary(mod.3)




remove(mydata)
save.image("TEV_turnout_092019.RData")
```

R Syntax for Vote Choice Models

```
# Check that needed packages are installed:
want = c("tidyverse", "reshape2", "foreign", "haven", "rio",
        "lme4", "texreg", "MASS", "boot" ,"patchwork", "effects" ,
        "gridExtra","dyplyr")
have = want %in% rownames(installed.packages())
if ( any(!have) ) { install.packages( want[!have] ) }
# load packages
junk <- lapply(want, library, character.only = TRUE)
rm(have,want,junk)

rm(list = ls())
options(scipen = 99)

setwd("C:/Users/nsp135/Dropbox/TEV chapter/version9/")

library()
```

```
#==========================================================================================
=========
# LOAD STACKED DATA and POLARIZATION, MERGE, RECODE
#==========================================================================================
=========
#data <- import("9.TEV_stacked_data_ONLY R AND STACK VAR 20170210.sav")
data <- read.dta13("9.TEV_stacked_data_ONLY 24Rvar.dta", convert.factors = F, generate.factors = T)
#for spss data
#data <- data  %>%
#  mutate(rstudyid = as.numeric(rstudyid)) %>%
 # mutate(VOTE.r = ifelse(VOTE > 1, NA, VOTE),
  #      PID.r = ifelse(pid > 1, NA, PID),
   #     PID.r = ifelse(PID.r > 0, 1, PID.r),
    #    LRDPARTY.r = ifelse(LRDPARTY > 1, NA, LRDPARTY),
     #    LSYMP.r = ifelse(LSYMP > 1, NA, LSYMP),
      #   SSEV.r = ifelse(SSEV > 1, NA, SSEV),
       #  SSEVPRTCENT.r = ifelse(SSEVPRTCENT > 1, NA, SSEVPRTCENT))
summary(data$SSEV.r)
summary(data$SSEVPRTCENT.r)

#for paolo stata data
data <- data  %>%
  mutate(RSTUDYID = as.numeric(rstudyid )) %>%
  mutate(VOTE.r = ifelse(vote > 1, NA, vote),
         PID.r = ifelse(pid > 1, NA, pid),
         PID.r = ifelse(PID.r > 0, 1, PID.r),
         LRDPARTY.r = ifelse(lrdparty > 1, NA, lrdparty),
         LSYMP.r = ifelse(lsymp > 1, NA, lsymp),
         SSEV.r = ifelse(ssev > 1, NA, ssev),
         SSEVPRTCENT.r = ifelse(ssevprtcent > 1, NA, ssevprtcent))

# Make a file with all the cases we need
macro<-import("macros.csv")

mydata<-left_join(data, macro, by="RSTUDYID")

summary(mydata)

mydata <- mydata %>%
   filter(!is.na(VOTE.r) & !is.na(PID.r) & !is.na(LRDPARTY.r) & !is.na(SSEVPRTCENT.r)
         & !is.na(LSYMP.r) & !is.na(vol_mean)) %>%
  dplyr :: select( VOTE.r ,  PID.r ,  LRDPARTY.r ,  LSYMP.r  , SSEVPRTCENT.r, SSEV.r,
                rstudyid ,  country ,  year ,  country ,  stackid,
                 nstacks ,  vol_mean, postcom) %>%
  mutate(vol_mean_cent = vol_mean - mean(unique(vol_mean))) # Grand-mean center volatilit

summary(mydata$SSEV.r)



#####logged volatility

summary(mydata$vol_mean)
mydata$logvol<-log(mydata$vol_mean)
```

```
mydata$vol_log_sqr<-mydata$logvol*mydata$logvol

mydata <- mydata %>%
  mutate(logvol_cent = logvol - mean(unique(logvol)),
       logvol_sqr_cent = vol_log_sqr - mean(unique(vol_log_sqr))) # Grand-mean center logged volatilit
summary(mydata$logvol_cent)

table(mydata$country)
mydata<-subset(mydata, country!=28)
table(mydata$country)

#only pid
mod.not_show<- glmer(VOTE.r ~ SSEVPRTCENT.r +   PID.r +
                  PID.r* logvol_cent+
                  (1+PID.r| rstudyid)+(1 | country),
                 data=mydata, family=binomial, nAGQ=0,verbose=T)
summary(mod.not_show)



mod.6 <- glmer(VOTE.r ~ SSEVPRTCENT.r + PID.r + LRDPARTY.r+LSYMP.r+
                  LRDPARTY.r* logvol_cent+PID.r* logvol_cent+ LSYMP.r* logvol_cent+
                  (1+LSYMP.r+PID.r + LRDPARTY.r | rstudyid)+(1 | country),
                 data=mydata, family=binomial, nAGQ=1,verbose=T)
summary(mod.6)
ranef(mod.6)

##only low volatility


mod.7 <- glmer(VOTE.r ~ SSEVPRTCENT.r + PID.r + LRDPARTY.r+LSYMP.r+
                  LRDPARTY.r* logvol_cent+PID.r* logvol_cent+ LSYMP.r* logvol_cent+
                  (1+LSYMP.r+PID.r + LRDPARTY.r | rstudyid)+(1 | country),
                  subset(mydata,  vol_mean<20), family=binomial, nAGQ=1,verbose=T)
summary(mod.7)


##volatility squared
mod.8<- glmer( VOTE.r ~ SSEVPRTCENT.r + PID.r + LRDPARTY.r+LSYMP.r+
                  PID.r* logvol_cent+PID.r* logvol_sqr_cent+
                  LRDPARTY.r* logvol_cent+ LRDPARTY.r* logvol_sqr_cent+
                  LSYMP.r* logvol_cent+LSYMP.r* logvol_sqr_cent+
                  (1+LSYMP.r+PID.r + LRDPARTY.r | rstudyid)+(1 | country),
                  data=mydata, family=binomial, nAGQ=1,verbose=T)
summary(mod.8)

mod.8.b<- glmer( VOTE.r ~ SSEV.r + PID.r + LRDPARTY.r+LSYMP.r+
              PID.r* logvol_cent+PID.r* logvol_sqr_cent+
              LRDPARTY.r* logvol_cent+ LRDPARTY.r* logvol_sqr_cent+
              LSYMP.r* logvol_cent+LSYMP.r* logvol_sqr_cent+
              (1+LSYMP.r+PID.r + LRDPARTY.r | rstudyid)+(1 | country),
             data=mydata, family=binomial, nAGQ=0,verbose=T)
summary(mod.8.b)
```

```
ranef(mod.8)

texreg::htmlreg(list(mod.6, mod.7,mod.8),
        custom.model.names = c("Model 6", "Model 7",
                    "Model 8"),
        digits = 3, single.row=F,
        dcolumn=TRUE, stars=c(.01, .05, 0.1),
        include.loglik = FALSE, center=T,
        custom.gof.names = c(
         "AIC",
         "BIC",
         "N (individuals)",
         "N (elections)",
         "N (countries)",
         "(Var) Intercept, elections",
         "(Var) Leader, elections",
         "(Var) PID, elections",
         "(Var) LR, elections",
         "(Cov) PID, intercept",
         "(Cov) PID, intercept",
         "(Cov) PID, intercept",
         "(Cov) PID, intercept",
         "(Cov) PID, intercept", "(Cov) PID, intercept",
         "(Var) Intercept, country"),
        custom.coef.names = c("Intercept","YHAT", "PID",
                    "LR distance","Leader evaluation",
                    "Mean volatility",
                    "LR distance X volatility",
                    "PID X volatility",
                    "Leader evaluation X volatility",
                    "Mean volatility squared",
                    "PID X volatility squared",
                    "LR distance X volatility squared",
                    "Leader evaluation X volatility squared"),
        file = "Results/Table 2 votechoice.doc")

library(effects)
###plotting LR effect based on model 6
LR_frame<-effect("LRDPARTY.r:logvol_cent",mod.6,ci=0.9,
         xlevels=list(logvol_cent=seq(-1.8, 1.34, 0.1)))
LR_frame<-as.data.frame(LR_frame)

LR_frame_0<-subset(LR_frame, LR_frame$LRDPARTY.r==0)
LR_frame_1<-subset(LR_frame, LR_frame$LRDPARTY.r==1)

LR_plot<-ggplot(LR_frame_0,aes(logvol_cent,fit))+
  geom_line(lwd=1.5)+
  geom_line(data=LR_frame_1 ,aes(logvol_cent,fit),linetype="dashed", lwd=1.5)+
  geom_ribbon(data=LR_frame_0,colour=NA,alpha=0.3,aes(ymin=lower,ymax=upper))+
  geom_ribbon(data=LR_frame_1,colour=NA,alpha=0.1,aes(ymin=lower,ymax=upper))+
```

```
  scale_x_continuous(breaks = c(-1.8,0, 1.34),
                labels= c("2.2 \n low volatility","14.7 \n mean volatility",
                         "49.7 \n hyper-volatility "))+
  scale_y_continuous(limits = c(-0.05, 1))+
  annotate("text", label = "left-right distance=0", x = -1.05, y = 0.4, size = rel(6))+
  annotate("text", label = "left-right distance=1", x = -1.05, y = -0.02, size = rel(6))+
  labs(x="Logged mean volatility",
     y="Predicted proability of party choice (90% CI)",
     title    = "a. Left-right distance effect")+
  theme_bw()+guides(colour=FALSE)+theme(panel.grid.major=element_line(size=1.2))+
  theme(plot.title=element_text(family= "Times New Roman"),
      axis.title.x = element_text(family= "Times New Roman",size = rel(1.8)),
      axis.title.y = element_text(family= "Times New Roman",size = rel(1.5)))+
  theme(axis.text.x = element_text(family= "Times New Roman", size = rel(1.5), hjust=0.8)
      ,axis.text.y = element_text(family= "Times New Roman", size = rel(2)))+
  theme(strip.text.x = element_text(size = 20), strip.text.y = element_text(size = 18))
LR_plot
remove(LR_plot)

###plotting LR effect based on model &

summary(subset(mydata,  vol_mean<20)$logvol_cent)
summary(subset(mydata,  vol_mean<20)$vol_mean)


PID_frame<-effect("PID.r:logvol_cent",mod.7,
              xlevels=list(logvol_cent=seq(-1.8, 0.3, 0.1)))
PID_frame<-as.data.frame(PID_frame)

PID_frame_0<-subset(PID_frame, PID_frame$PID.r==0)
PID_frame_1<-subset(PID_frame, PID_frame$PID.r==1)

PID_plot<-ggplot(PID_frame_0,aes(logvol_cent,fit))+
   geom_line(lwd=1.5)+
   geom_line(data=PID_frame_1 ,aes(logvol_cent,fit),linetype="dashed", lwd=1.5)+
   geom_ribbon(data=PID_frame_0,colour=NA,alpha=0.3,aes(ymin=lower,ymax=upper))+
   geom_ribbon(data=PID_frame_1,colour=NA,alpha=0.1,aes(ymin=lower,ymax=upper))+
   scale_x_continuous(breaks = c(-1.8,0.3),
                labels= c("1.9 \n low volatility", "18 \n high volatility "))+
  scale_y_continuous(limits = c(-0.05, 1))+
  annotate("text", label = "PID=0", x = -1.6, y = 0.1, size = rel(6))+
  annotate("text", label = "PID=1", x = -1.6, y = 0.98, size = rel(6))+
  labs(x="Logged mean volatility",
  y="Predicted proability of party choice (95% CI)",
  title    = "b. PID effect")+
  theme_bw()+guides(colour=FALSE)+theme(panel.grid.major=element_line(size=1.2))+
   theme(plot.title=element_text(family= "Times New Roman"),
     axis.title.x = element_text(family= "Times New Roman",size = rel(1.8)),
     axis.title.y = element_text(family= "Times New Roman",size = rel(1.5)))+
  theme(axis.text.x = element_text(family= "Times New Roman", size = rel(1.5), hjust=0.8)
      ,axis.text.y = element_text(family= "Times New Roman", size = rel(2)))+
  theme(strip.text.x = element_text(size = 20), strip.text.y = element_text(size = 18))
PID_plot
remove(PID_plot)
```

```
long_term<-ggarrange(LR_plot, PID_plot)



ggsave(long_term, file="Results/Figure 8_3 long-term cond effect.jpg",  width=11, height=6, dpi=500)



meanbetas.int2<-c(fixef(mod.8))
covmatrix.int2<-vcov(mod.8)
MCdata2<-mvrnorm(n=1000, meanbetas.int2, covmatrix.int2)

# start loop, let a be the modifying variable and let this run from min to max in the desired increments
sim.int2<-data.frame(NULL)
a<-min(unique(mydata$logvol_cent),na.rm=T)
while (a<=max(unique(mydata$logvol_cent),na.rm=T)){
  x_betahat10<-MCdata2[,"(Intercept)"]  + a*MCdata2[,"logvol_cent"]+
    0*MCdata2[,"LSYMP.r"]+a*0*MCdata2[,"LSYMP.r:logvol_cent"]+
    a*a*MCdata2[,"logvol_sqr_cent"]+
    a*a*0*MCdata2[,"LSYMP.r:logvol_sqr_cent"]+
    a*mean(mydata$LRDPARTY.r,na.rm=T)*MCdata2[,"LRDPARTY.r:logvol_cent"]+
    a*a*mean(mydata$LRDPARTY.r,na.rm=T)*MCdata2[,"LRDPARTY.r:logvol_sqr_cent"]+
    mean(mydata$SSEVPRTCENT.r,na.rm=T)*MCdata2[,"SSEVPRTCENT.r"]+
    mean(mydata$LRDPARTY.r,na.rm=T)*MCdata2[,"LRDPARTY.r"]

  x_betahat11<-MCdata2[,"(Intercept)"]  + a*MCdata2[,"logvol_cent"]+
    1*MCdata2[,"LSYMP.r"]+a*1*MCdata2[,"LSYMP.r:logvol_cent"]+
    a*a*MCdata2[,"logvol_sqr_cent"]+
    a*a*1*MCdata2[,"LSYMP.r:logvol_sqr_cent"]+
    a*mean(mydata$LRDPARTY.r,na.rm=T)*MCdata2[,"LRDPARTY.r:logvol_cent"]+
    a*a*mean(mydata$LRDPARTY.r,na.rm=T)*MCdata2[,"LRDPARTY.r:logvol_sqr_cent"]+
    mean(mydata$SSEVPRTCENT.r,na.rm=T)*MCdata2[,"SSEVPRTCENT.r"]+
    mean(mydata$LRDPARTY.r,na.rm=T)*MCdata2[,"LRDPARTY.r"]

  prob10 <- inv.logit(x_betahat10)
  prob_hat10 <- mean(prob10)
  lo10 <- quantile(prob10, probs=c(0.025))
  hi10<- quantile(prob10, probs=c(0.925))


  prob11 <- inv.logit(x_betahat11)
  prob_hat11 <- mean(prob11)
  lo11 <- quantile(prob11, probs=c(0.025))
  hi11<- quantile(prob11, probs=c(0.925))


  sim.int2<-rbind(sim.int2, c(a,prob_hat10, lo10, hi10, prob_hat11, lo11, hi11))
  a<-a+0.01
}
```

```
colnames(sim.int2)<-c("vol_sqr","prob_hat10", "lo10", "hi10", "prob_hat11", "lo11", "hi11")

summary(mydata$logvol_cent)

leader_plot<- ggplot(sim.int2, aes(vol_sqr))
leader_plot<- leader_plot +geom_line(aes(y=prob_hat10),lwd=1.5)+
  geom_line(aes(y=prob_hat11),lwd=1.5,linetype='dashed')+
  geom_ribbon(data=sim.int2,aes(ymin=lo10,ymax=hi10),alpha=0.3)+
  geom_ribbon(data=sim.int2,aes(ymin=lo11,ymax=hi11),alpha=0.2)+
  scale_x_continuous(breaks = c(-1.8,0, 1.34),
                     labels= c("2.2 \n low volatility","14.7 \n mean volatility",
                               "49.7 \n hyper-volatility "))+
  scale_y_continuous(limits = c(-0.05, 1))+
  annotate("text", label = "Leader evaluation =0", x = .95, y = -0.02, size = rel(6))+
  annotate("text", label = "Leader evaluation =1", x = .95, y = 0.55, size = rel(6))+
  labs(x="Logged mean volatility",
       y="Predicted proability of party choice (95% CI)")+
  theme_bw()+guides(colour=FALSE)+theme(panel.grid.major=element_line(size=1.2))+
    theme(axis.title.x = element_text(family= "Times New Roman",size = rel(1.8)),
      axis.title.y = element_text(family= "Times New Roman",size = rel(1.5)))+
  theme(axis.text.x = element_text(family= "Times New Roman", size = rel(1.5), hjust=0.8)
        ,axis.text.y = element_text(family= "Times New Roman", size = rel(2)))+
  theme(strip.text.x = element_text(size = 20), strip.text.y = element_text(size = 18))


ggsave(leader_plot, file="Results/Figure 8_4 short-term cond effect.jpg",  width=11, height=6, dpi=500)



remove(mydata)

save.image("TEV_party choice_092019.RData")
```

Values of Context Variables Used

Turnout Models

RSTUDYID	cmp v	disprop	unemp	postcom	vol_mean	COUNTRY	YEAR
120081	0	-1.89483	-0.69813	0	0.898526	1	2008
720111	0	0.275168	-4.50813	1	7.948526	7	2011
820031	0	-1.65483	-0.16813	0	-5.61147	8	2003
820071	0	-1.61483	-0.97813	0	-6.97147	8	2007
820111	0	-1.86483	0.49187	0	-5.34147	8	2011
1019761	0	-4.22483	-0.13813	0	-10.2415	10	1976
1019801	0	-3.40483	-0.10813	0	-10.7415	10	1980
1019831	0	-4.31483	1.39187	0	-9.94147	10	1983
1019871	0	-4.05483	-0.35813	0	-9.33147	10	1987
1019901	0	-0.18483	-0.93813	0	-7.53147	10	1990
1019941	0	-2.59483	0.42187	0	-7.70147	10	1994
1019981	0	-1.66483	-0.72813	0	-6.88147	10	1998
1020021	0	-0.20483	0.62187	0	-7.75147	10	2002
1020051	0	-2.65483	0.78187	0	-7.36147	10	2005
1020091	0	-1.41483	0.11187	0	-5.49147	10	2009
1020131	0	3.015168	-0.30813	0	-3.86147	10	2013
1120091	1	2.475168	1.56187	0	-7.59147	11	2009
1120121	1	7.985168	6.59187	0	6.978526	11	2012
1219981	0	6.065168	-1.80813	1	15.24853	12	1998
1220021	0	3.385168	-2.70813	1	13.18853	12	2002
1220061	0	0.315168	0.19187	1	6.558526	12	2006
1319911	0	-2.02483	0.68187	0	-9.56147	13	1991
1319991	0	-3.75483	-0.84813	0	2.768526	13	1999
1320031	0	-2.96483	-0.00813	0	1.058526	13	2003
1320071	0	-1.32483	-0.68813	0	1.138526	13	2007
1320091	0	-2.23483	4.14187	0	-1.59147	13	2009
1420021	0	1.805168	0.50187	0	-3.21147	14	2002
1420071	0	1.035168	-0.04813	0	-5.55147	14	2007
1420111	0	3.875168	0.69187	0	0.038526	14	2011
1519961	0	2.095168	-0.09813	0	13.12853	15	1996
1520011	0	5.405168	-1.16813	0	18.03853	15	2001
1520061	0	-1.20483	-1.05813	0	8.758526	15	2006
1520131	0	12.48517	1.19187	0	15.32853	15	2013
1620041	0	-0.41483	-1.20813	1	36.28853	16	2004
1719721	0	-3.62483	0.85187	0	-3.87147	17	1972
1719821	0	-3.65483	2.81187	0	-5.21147	17	1982

1719861	0	-3.14483	-0.70813	0	-5.93147	17	1986
1719941	0	-3.73483	0.56187	0	-2.71147	17	1994
1719981	0	-3.53483	-1.30813	0	-0.83147	17	1998
1720021	0	-3.93483	0.32187	0	8.148526	17	2002
1720061	0	-3.78483	-0.92813	0	7.458526	17	2006
1819651	0	-0.58483	-0.31813	0	-11.3115	18	1965
1819691	0	-1.00483	-0.17813	0	-10.2715	18	1969
1819731	0	0.215168	-0.22813	0	-6.17147	18	1973
1819771	0	1.115168	-0.40813	0	-3.54147	18	1977
1819811	0	0.125168	0.27187	0	-1.61147	18	1981
1819851	0	-0.06483	-0.69813	0	-5.27147	18	1985
1819891	0	-1.14483	1.68187	0	-4.98147	18	1989
1819931	0	-0.86483	-0.06813	0	-3.53147	18	1993
1819971	0	-1.37483	-0.91813	0	0.438526	18	1997
1820011	0	-1.50483	0.00187	0	0.618526	18	2001
1820051	0	-2.14483	0.04187	0	1.718526	18	2005
1919971	0	5.815168	-3.20813	1	30.07853	19	1997
1920011	0	1.515168	2.09187	1	33.72853	19	2001
1920051	0	2.155168	-1.30813	1	34.11853	19	2005
1920071	0	-0.14483	-4.40813	1	25.95853	19	2007
1920111	0	1.135168	-0.10813	1	9.878526	19	2011
2020021	0	-0.17483	0.88187	0	-4.41147	20	2002
2020051	0	0.935168	0.85187	0	-6.77147	20	2005
2020091	0	0.815168	1.77187	0	-5.22147	20	2009
2120081	0	-1.49483	-0.70813	1	17.27853	21	2008
2420081	0	-0.32483	2.98187	0	-6.57147	24	2008
2519681	0	-1.78483	-0.00813	0	-11.5415	25	1968
2519701	0	-3.20483	-0.49813	0	-10.3715	25	1970
2519731	0	-3.24483	-0.33813	0	-8.41147	25	1973
2519761	0	-3.58483	-0.02813	0	-9.31147	25	1976
2519791	0	-3.54483	-0.29813	0	-9.54147	25	1979
2519821	0	-2.41483	0.65187	0	-9.74147	25	1982
2519851	0	-3.46483	-0.50813	0	-7.94147	25	1985
2519881	0	-2.36483	-0.52813	0	-7.56147	25	1988
2519911	0	-1.95483	1.34187	0	-5.24147	25	1991
2519941	0	-3.63483	0.19187	0	-4.26147	25	1994
2519981	0	-3.84483	-1.83813	0	-1.60147	25	1998
2520021	0	-3.29483	0.04187	0	-1.07147	25	2002
2520061	0	-1.79483	-0.81813	0	0.758526	25	2006
2520101	0	-3.61483	0.09187	0	-1.32147	25	2010
2619711	0	-2.34483	-0.10813	0	-10.4715	26	1971
2619751	0	-1.72483	0.20187	0	-9.27147	26	1975
2619791	0	-3.08483	-0.10813	0	-9.14147	26	1979
2619871	0	-1.03483	-0.15813	0	-8.96147	26	1987
2619911	0	-2.21483	1.25187	0	-7.36147	26	1991

2619951	0	-0.44483	-0.48813	0	-5.54147	26	1995
2619991	0	-1.64483	-0.61813	0	-5.39147	26	1999
2620031	0	-2.34483	0.88187	0	-5.93147	26	2003
2620071	0	-2.25483	-0.47813	0	-7.48147	26	2007
2620111	0	-1.21483	-0.60813	0	-7.62147	26	2011
2820111	1	2.585168	-2.10813	0	14.59853	28	2011

Legend: cmp_ = voting compulsory; disprop = disproportionality of the electoral system; Unemp = rate of unemployment; postcom = post-communist country(1); vol_mean: mean volatility.

Participation without partisanship

RSTUDYID	cmp v	disprop	unemp	postcom	vol_mean	COUNTRY	YEAR
120081	0	-1.89483	-0.69813	0	0.898526	1	2008
720111	0	0.275168	-4.50813	1	7.948526	7	2011
820031	0	-1.65483	-0.16813	0	-5.61147	8	2003
820071	0	-1.61483	-0.97813	0	-6.97147	8	2007
820111	0	-1.86483	0.49187	0	-5.34147	8	2011
1019651	0	-2.50483	-0.19813	0	-6.11147	10	1965
1019691	0	-0.89483	-0.66813	0	-7.17147	10	1969
1019761	0	-4.22483	-0.13813	0	-10.2415	10	1976
1019801	0	-3.40483	-0.10813	0	-10.7415	10	1980
1019831	0	-4.31483	1.39187	0	-9.94147	10	1983
1019871	0	-4.05483	-0.35813	0	-9.33147	10	1987
1019901	0	-0.18483	-0.93813	0	-7.53147	10	1990
1019941	0	-2.59483	0.42187	0	-7.70147	10	1994
1019981	0	-1.66483	-0.72813	0	-6.88147	10	1998
1020021	0	-0.20483	0.62187	0	-7.75147	10	2002
1020051	0	-2.65483	0.78187	0	-7.36147	10	2005
1020091	0	-1.41483	0.11187	0	-5.49147	10	2009
1020131	0	3.015168	-0.30813	0	-3.86147	10	2013
1119851	1	2.265168	-0.43813	0	4.338526	11	1985
1119961	1	4.635168	0.23187	0	-6.35147	11	1996
1120091	1	2.475168	1.56187	0	-7.59147	11	2009
1120121	1	7.985168	6.59187	0	6.978526	11	2012
1219941	0	11.36517	-1.80813	1	12.59853	12	1994
1219981	0	6.065168	-1.80813	1	15.24853	12	1998
1220021	0	3.385168	-2.70813	1	13.18853	12	2002
1220061	0	0.315168	0.19187	1	6.558526	12	2006
1319911	0	-2.02483	0.68187	0	-9.56147	13	1991
1319991	0	-3.75483	-0.84813	0	2.768526	13	1999
1320031	0	-2.96483	-0.00813	0	1.058526	13	2003
1320071	0	-1.32483	-0.68813	0	1.138526	13	2007
1320091	0	-2.23483	4.14187	0	-1.59147	13	2009
1420021	0	1.805168	0.50187	0	-3.21147	14	2002
1420071	0	1.035168	-0.04813	0	-5.55147	14	2007
1420111	0	3.875168	0.69187	0	0.038526	14	2011
1519961	0	2.095168	-0.09813	0	13.12853	15	1996
1520011	0	5.405168	-1.16813	0	18.03853	15	2001
1520061	0	-1.20483	-1.05813	0	8.758526	15	2006
1520131	0	12.48517	1.19187	0	15.32853	15	2013
1620041	0	-0.41483	-1.20813	1	36.28853	16	2004
1719721	0	-3.62483	0.85187	0	-3.87147	17	1972

1719811	0	-3.51483	2.38187	0	-4.27147	17	1981
1719821	0	-3.65483	2.81187	0	-5.21147	17	1982
1719861	0	-3.14483	-0.70813	0	-5.93147	17	1986
1719941	0	-3.73483	0.56187	0	-2.71147	17	1994
1719981	0	-3.53483	-1.30813	0	-0.83147	17	1998
1720021	0	-3.93483	0.32187	0	8.148526	17	2002
1720061	0	-3.78483	-0.92813	0	7.458526	17	2006
1819651	0	-0.58483	-0.31813	0	-11.3115	18	1965
1819691	0	-1.00483	-0.17813	0	-10.2715	18	1969
1819731	0	0.215168	-0.22813	0	-6.17147	18	1973
1819771	0	1.115168	-0.40813	0	-3.54147	18	1977
1819811	0	0.125168	0.27187	0	-1.61147	18	1981
1819851	0	-0.06483	-0.69813	0	-5.27147	18	1985
1819891	0	-1.14483	1.68187	0	-4.98147	18	1989
1819931	0	-0.86483	-0.06813	0	-3.53147	18	1993
1819971	0	-1.37483	-0.91813	0	0.438526	18	1997
1820011	0	-1.50483	0.00187	0	0.618526	18	2001
1820051	0	-2.14483	0.04187	0	1.718526	18	2005
1919971	0	5.815168	-3.20813	1	30.07853	19	1997
1920011	0	1.515168	2.09187	1	33.72853	19	2001
1920051	0	2.155168	-1.30813	1	34.11853	19	2005
1920071	0	-0.14483	-4.40813	1	25.95853	19	2007
1920111	0	1.135168	-0.10813	1	9.878526	19	2011
2019851	0	-1.18483	0.09187	0	-4.77147	20	1985
2020021	0	-0.17483	0.88187	0	-4.41147	20	2002
2020051	0	0.935168	0.85187	0	-6.77147	20	2005
2020091	0	0.815168	1.77187	0	-5.22147	20	2009
2120041	0	-1.07483	1.09187	1	19.13853	21	2004
2120081	0	-1.49483	-0.70813	1	17.27853	21	2008
2320001	0	-3.30483	-0.30813	1	16.30853	23	2000
2320041	0	-0.02483	-0.50813	1	13.49853	23	2004
2320081	0	-0.92483	-0.60813	1	14.02853	23	2008
2420081	0	-0.32483	2.98187	0	-6.57147	24	2008
2519641	0	-2.54483	-0.21813	0	-11.0115	25	1964
2519681	0	-1.78483	-0.00813	0	-11.5415	25	1968
2519701	0	-3.20483	-0.49813	0	-10.3715	25	1970
2519731	0	-3.24483	-0.33813	0	-8.41147	25	1973
2519761	0	-3.58483	-0.02813	0	-9.31147	25	1976
2519791	0	-3.54483	-0.29813	0	-9.54147	25	1979
2519821	0	-2.41483	0.65187	0	-9.74147	25	1982
2519851	0	-3.46483	-0.50813	0	-7.94147	25	1985
2519881	0	-2.36483	-0.52813	0	-7.56147	25	1988
2519911	0	-1.95483	1.34187	0	-5.24147	25	1991
2519941	0	-3.63483	0.19187	0	-4.26147	25	1994
2519981	0	-3.84483	-1.83813	0	-1.60147	25	1998

2520021	0	-3.29483	0.04187	0	-1.07147	25	2002
2520061	0	-1.79483	-0.81813	0	0.758526	25	2006
2520101	0	-3.61483	0.09187	0	-1.32147	25	2010
2619711	0	-2.34483	-0.10813	0	-10.4715	26	1971
2619751	0	-1.72483	0.20187	0	-9.27147	26	1975
2619791	0	-3.08483	-0.10813	0	-9.14147	26	1979
2619871	0	-1.03483	-0.15813	0	-8.96147	26	1987
2619911	0	-2.21483	1.25187	0	-7.36147	26	1991
2619951	0	-0.44483	-0.48813	0	-5.54147	26	1995
2619991	0	-1.64483	-0.61813	0	-5.39147	26	1999
2620031	0	-2.34483	0.88187	0	-5.93147	26	2003
2620071	0	-2.25483	-0.47813	0	-7.48147	26	2007
2620111	0	-1.21483	-0.60813	0	-7.62147	26	2011
2720051	0	11.91517	-0.09813	0	-7.18147	27	2005
2820111	1	2.585168	-2.10813	0	14.59853	28	2011

Legend: cmp_ = voting compulsory; disprop = disproportionality of the electoral system; Unemp = rate of unemployment; postcom = post-communist country (1); vol_mean_ = mean volatility.

Vote Choice Models

RSTUDYID	vol_mean_	COUNTRY	YEAR
720111	7.629508	7	2011
820031	-5.93049	8	2003
820071	-7.29049	8	2007
820111	-5.66049	8	2011
1019761	-10.5605	10	1976
1019831	-10.2605	10	1983
1019871	-9.65049	10	1987
1019901	-7.85049	10	1990
1019981	-7.20049	10	1998
1020021	-8.07049	10	2002
1020051	-7.68049	10	2005
1020091	-5.81049	10	2009
1020131	-4.18049	10	2013
1120091	-7.91049	11	2009
1120121	6.659508	11	2012
1219981	14.92951	12	1998
1319871	-13.7005	13	1987
1319911	-9.88049	13	1991
1319951	-6.39049	13	1995
1319991	2.449508	13	1999
1320031	0.739508	13	2003
1320071	0.819508	13	2007
1320091	-1.91049	13	2009
1320131	7.699508	13	2013
1420021	-3.53049	14	2002
1420071	-5.87049	14	2007
1420111	-0.28049	14	2011
1519961	12.80951	15	1996
1520011	17.71951	15	2001
1520061	8.439508	15	2006
1520081	13.08951	15	2008
1520131	15.00951	15	2013
1719891	-7.14049	17	1989
1719941	-3.03049	17	1994
1719981	-1.15049	17	1998
1819811	-1.93049	18	1981
1819851	-5.59049	18	1985
1819891	-5.30049	18	1989
1819931	-3.85049	18	1993
1819971	0.119508	18	1997
1820011	0.299508	18	2001
1820051	1.399508	18	2005
1919971	29.75951	19	1997
1920051	33.79951	19	2005
1920071	25.63951	19	2007

1920111	9.559508	19	2011
2020021	-4.73049	20	2002
2020051	-7.09049	20	2005
2020091	-5.54049	20	2009
2419931	-3.07049	24	1993
2420081	-6.89049	24	2008
2519791	-9.86049	25	1979
2519821	-10.0605	25	1982
2519851	-8.26049	25	1985
2519881	-7.88049	25	1988
2519911	-5.56049	25	1991
2519941	-4.58049	25	1994
2519981	-1.92049	25	1998
2520021	-1.39049	25	2002
2520061	0.439508	25	2006
2520101	-1.64049	25	2010
2820111	14.27951	28	2011

Legend: vol_mean_ = mean volatility.

Online Appendix Chapter 9

Additional Tables and Figures

Table A9.1. Countries and elections included in electoral participation and vote choice models

Country	Included in electoral participation models	Included in vote choice models
Austria	2008	2008
Estonia	2011	2011
Finland	2003, 2007, 2011	2003, 2007, 2011
Germany	1976, 1983 1987, 1990, 1998, 2002, 2005, 2009, 2013	1976, 1983, 1987, 1990, 1998, 2002, 2005, 2009, 2013
Greece	2012	2009, 2012
Hungary	1998, 2006	1998, 2002
Iceland	1983, 1987, 1991, 1995, 1999, 2003, 2007, 2009, 2013	1983, 1987, 1991, 1995, 1999, 2003, 2007, 2009, 2013
Ireland	2011	2002, 2007, 2011
Italy	1996, 2001, 2006, 2008, 2013	1972, 1996, 2001, 2006, 2008, 2013
Netherlands	1982, 1986, 1994, 1998, 2002	1982, 1986, 1989, 1994, 1998
Norway	1977, 1981, 1985, 1989, 1993, 1997, 2001, 2005	1977, 1981, 1985, 1989, 1993, 1997, 2001, 2005
Poland	1997, 2001, 2005, 2007, 2011	1997, 2001, 2005, 2007, 2011
Portugal	2002, 2005, 2009	2002, 2005, 2006, 2009
Romania		2004
Spain	1993, 2008	1993, 2000, 2008
Sweden	1979, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2010	1979, 1982, 1985, 1988, 1991, 1994, 1998, 2002, 2006, 2010
Switzerland	1971, 1995, 1999, 2003, 2007, 2011	1971, 1999, 2003, 2007, 2011

Setups for Statistical Analyses

Computing left-right party polarization

```
# Check that needed packages are installed:
want = c("tidyverse", "reshape2", "foreign", "haven", "rio", "extrafont")
have = want %in% rownames(installed.packages())
if ( any(!have) ) { install.packages( want[!have] ) }
# Load packages
junk <- lapply(want, library, character.only = TRUE)
rm(have,want,junk)
font_import()

rm(list = ls())
setwd("FOLDER PATH")

#==========================================================================
# FUNCTIONS
#==========================================================================
# Function to convert missing values (e.g. 996) to NA
mis.rm <- function(x) {
  ifelse(x <= 1, x, NA)
}

# Function for calculating polarization
polar <- function(x, y) {
  round(sum(abs(x - sum(x * y, na.rm = T)) * y, na.rm = T)/0.5, 3)
}

# Effective number of electoral parties
enep <- function(w) {
  round(1 / sum(w^2, na.rm = T), 3)
}

#==========================================================================
# READ UNSTACKED DATA
#==========================================================================
full.dat <- import("9_unstacked_data_R VAR 20170210.sav")
# Keep only variables of interest
pos <- paste0("RLRPP", 1:13) # RLRPP14 and RLRPP15 are all NA
tokeep <- c("COUNTRY","YEAR","RSTUDYID", pos, "RPID1")
full.dat <- full.dat[full.dat$COUNTRY != 28, tokeep]

# Convert missing values (e.g. 996) to NA
full.dat <- full.dat %>%
  mutate_at(.vars = vars(pos),
            .funs = funs(mis.rm)) %>%
  mutate(RPID1 = ifelse(RPID1 < 3, RPID1 - 1, NA))

#==========================================================================
# Compute mean party positions
#==========================================================================
lrp.pos <- full.dat[, c("RSTUDYID", "COUNTRY", "YEAR", pos)] %>%
  group_by(RSTUDYID) %>%
  summarize_all(funs(mean(., na.rm = T)))

# Restructure the data
lrp.melt <- melt(lrp.pos, id.vars = c("COUNTRY", "YEAR", "RSTUDYID"))
lrp.melt$STACKID <- as.numeric(
```

```
  gsub("RLRPP", "", as.character(lrp.melt$variable))
)
lrp.melt <- na.omit(lrp.melt)

#==========================================================================
# LOAD STACKED DATA and generate data with party identifiers
#==========================================================================
stack <- import("9.TEV_stacked_data_ONLY R AND STACK VAR 20170210.sav")
stack <- stack[stack$COUNTRY != 28,
               c("RSTUDYID", "STACKID", "CMPSTACK", "PRTEVIDSTACK")]
stack <- unique(stack)
# Write in a file
export(stack,"TEV_party_IDs.csv", row.names = F)
stack <- import("TEV_party_IDs.csv")

#==========================================================================
# MERGE with CMP
#==========================================================================
codes <- lrp.melt %>%
  left_join(stack, by = c("RSTUDYID","STACKID"))

# CHECK, Austria (for example)
codes[codes$RSTUDYID == 120081,]
lrp.melt[lrp.melt$RSTUDYID == 120081,]
# It's ok, we lose 2 parties though. This is a problem with using CMP data.

# Which countries have a double entry?
unique(codes[which(codes$RSTUDYID %% 10 == 2 & !is.na(codes$value)),]$RSTUDYID)
# Greece has a double entry for 1989, and since we don't have RSTUDYID
# in the CMP data, we need a trick
# TRICK for Greece, 1
codes$YEAR <- (codes$YEAR*100) + 1
codes[codes$RSTUDYID == 1119892,]$YEAR <- 198902
# Load CMP data, and get vote and seat shares
# (and remove vote shares for June 2012 in Greece and keep only May)
cmp <- import("MPDataset_MPDS2015a.dta") %>%
  filter(!(countryname == "Greece" & date == 201206)) %>%
  select(party, date, pervote, absseat, totseats) %>%
  mutate(CMPSTACK = as.numeric(party))

# TRICK for Greece, 2
cmp$YEAR <- round(cmp$date/100,0)
cmp$YEAR <- (cmp$YEAR*100) + 1
cmp[cmp$date == 198911,]$YEAR <- 198902
macro <- codes %>%
  left_join(cmp %>%
              select(-date, -party),
            by = c("CMPSTACK", "YEAR"))
# TRICK for Greece, 3
macro$YEAR <- round(macro$YEAR/100,0)
macro$votshare <- macro$pervote/100



#==========================================================================
# Check if we have elections where all vote shares are missing
#==========================================================================
mis.sh <- macro %>%
  group_by(RSTUDYID) %>%
  summarize(sh = sum(is.na(votshare))/length(votshare))
mis.sh[mis.sh$sh == 1, ]
```

```
rm(mis.sh)
# In Portugal 2006 there are no vote shares
# Add them by hand in this case (tricky because it's a presidential election)
macro$votshare <- ifelse(macro$RSTUDYID == 2020061 & macro$CMPSTACK == 35211,
                         0.053, macro$votshare) # Left Bloc
macro$votshare <- ifelse(macro$RSTUDYID == 2020061 & macro$CMPSTACK == 35311,
                         0.143, macro$votshare) # Socialist Party
macro$votshare <- ifelse(macro$RSTUDYID == 2020061 & macro$CMPSTACK == 35313,
                         0.505, macro$votshare) # Social Democratic Party
# In Spain in 1979, there is no vote share for Democratic Coalition
macro$votshare <- ifelse(macro$RSTUDYID == 2419791 & macro$CMPSTACK == 99991,
                         0.061, macro$votshare)
# In Spain in 1986, there is no vote share for People's Coalition
# (second largest party)
macro$votshare <- ifelse(macro$RSTUDYID == 2419861 & macro$CMPSTACK == 99991,
                         0.26, macro$votshare)
# In Italy in 2002, there is no vote share for Left Rainbow
macro$votshare <- ifelse(macro$RSTUDYID == 1520081 & macro$CMPSTACK == 99900,
                         0.031, macro$votshare)
# In Slovenia 2000 a few parties are missing
macro$votshare <- ifelse(macro$RSTUDYID == 2320001 & macro$CMPSTACK == 97330,
                         0.158, macro$votshare) # Slovenian Democratic Party
macro$votshare <- ifelse(macro$RSTUDYID == 2320001 & macro$CMPSTACK == 97521,
                         0.095, macro$votshare) # Slovenian Peoples Party
# In Slovenia 2004, United List of Social Democrats (ZLSD) is missing
macro$votshare <- ifelse(macro$RSTUDYID == 2320041 & macro$CMPSTACK == 97321,
                         0.10, macro$votshare)
# In Hungary in 1998 there's no vote share for FIDESZ/MDF alliance
# (use vote share of FIDESZ)
macro$votshare <- ifelse(macro$RSTUDYID == 1219981 & macro$CMPSTACK == 86429,
                         0.28, macro$votshare)
# In Greece May 2012 there's no vote share for SYRIZA
macro$votshare <- ifelse(macro$RSTUDYID == 1120121 & macro$CMPSTACK == 34212,
                         0.168, macro$votshare)

# What is left?

export(macro[macro$CMPSTACK >= 99900 | is.na(macro$CMPSTACK), ],
       "TEV_noID.csv", row.names = F)

#===========================================================================
# Total vote share
#===========================================================================
macro <- macro %>%
  group_by(RSTUDYID) %>%
  mutate(totshare = sum(votshare, na.rm = T))
# Checks
max(macro$totshare, na.rm = T) # Looks right
min(macro$totshare, na.rm = T) # Not optimal

macro[macro$totshare == min(macro$totshare, na.rm = T), ]
# Divide shares by their country total
macro$weshare <- macro$votshare / macro$totshare

#===========================================================================
# Compute POLARIZATION
#===========================================================================
macro <- macro %>%
  group_by(RSTUDYID) %>%
  mutate(polar = polar(value, weshare),
         enep = enep(weshare))
```

```r
min(macro$polar, na.rm = T) # This is problematic
macro[macro$polar == min(macro$polar, na.rm = T), ]
# Norway 1973 has always the same position for all parties
macro[macro$RSTUDYID == 1819731, "polar"] <- NA

min(macro$enep, na.rm = T) # Looks right

pol.data <- unique(macro[!is.na(macro$polar),
                         c("RSTUDYID", "COUNTRY", "YEAR", "polar", "enep")])
names(pol.data) <- c("RSTUDYID","COUNTRY","YEAR","PI_VOT", "ENEP")

# Add country names
cname <- import("~/Dropbox/TEV Full Data/TEV_CNAME_converter.csv")
pol.data <- pol.data %>%
  left_join(cname, by = "COUNTRY") %>%
  arrange(RSTUDYID)

#===========================================================================
# Central-Eastern Europe Dummy
#===========================================================================
cee <- c(3, 4, 7, 12, 16, 19, 21, 22, 23)
pol.data$CEE <- ifelse(pol.data$COUNTRY %in% cee, 1, 0)

#===========================================================================
# Compulsory voting
#===========================================================================
pol.data$COMPV <- ifelse(pol.data$COUNTRY == 2 | pol.data$COUNTRY == 11, 1, 0)

# Write in a file
export(pol.data,"PI_VOTERS.csv", row.names = F)
length(unique(pol.data$RSTUDYID[!is.na(pol.data$PI_VOT)]))
#===========================================================================
# PLOT
#===========================================================================
pol.data <- import("PI_VOTERS.csv")


quartz(file = "ch_polar_figure_1.jpg",
       type = "jpg", width = 9, height = 8, dpi = 400)
ggplot(pol.data, aes(x = YEAR, y = PI_VOT)) +
  geom_point() + geom_line() +
  facet_wrap(~CNAME) +
  scale_x_continuous(breaks = seq(1970, 2015, by = 10)) +
  scale_y_continuous(breaks = seq(0, 1, by = 0.1)) +
  xlab("Year") + ylab("Party polarisation (0 = min; 1 = max)") +
  theme_bw() +
  theme(text = element_text(family = "TimesNewRomanPSMT"),
        axis.text.x = element_text(hjust = 0.3))
dev.off()
```

Turnout Models

```r
# Check that needed packages are installed:
want = c("tidyverse", "reshape2", "foreign", "haven", "rio",
         "lme4", "stargazer", "extrafont")
have = want %in% rownames(installed.packages())
if ( any(!have) ) { install.packages( want[!have] ) }
# Load packages
```

```
junk <- lapply(want, library, character.only = TRUE)
rm(have,want,junk)
font_import()

rm(list=ls())
options(scipen = 99)
setwd("FOLDER PATH")

#==========================================================================
# FUNCTIONS
#==========================================================================
# Function to extract random effects from outputs
extract <- function(x) {
  obj <- sapply(VarCorr(x), "[")
  if(is.list(obj)){
    nam <- names(obj)
    eff <- NULL
    for (i in nam){
      std <- attributes(obj[[i]])$stddev
      names(std)[which(names(std) == "(Intercept)")] <- i
      eff <- c(eff, std)
    }
    data.frame(t(eff))
  } else data.frame(t(obj))
}

#==========================================================================
# LOAD UNSTACKED DATA and POLARIZATION, MERGE, RECODE
#==========================================================================
data <- import("9_unstacked_data_R VAR 20170210.sav") %>%
  filter(COUNTRY != 28) %>%
  mutate(RSTUDYID = as.numeric(RSTUDYID)) %>%
  left_join(import("./data/PI_VOTERS.csv") %>%
              select(RSTUDYID, PI_VOT, ENEP, CEE, COMPV),
            by = "RSTUDYID") %>%
  mutate(RGENDER.r = ifelse(RGENDER <= 2, RGENDER - 1, NA),
         RAGE.r = ifelse(RAGE < 110, RAGE, NA),
         REDU.r = ifelse(REDU > 3, NA, REDU),
         MAR.r = ifelse(RMARRIED > 3, NA,
                        ifelse(RMARRIED == 1, 1, 0)),
         CHURCH = ifelse(RCHURCHA > 4, NA, (4 - RCHURCHA)/3),
         PID.r = ifelse(RPID1 <= 2, RPID1 - 1, NA),
         TURNOUT.r = ifelse(TURNOUT <= 1, TURNOUT, NA),
         RPOLINT.r = ifelse(RPOLINT <= 1, RPOLINT, NA),
         RLRSP = ifelse(RLRSP <= 1, RLRSP, NA),
         LRSP.na = ifelse(is.na(RLRSP), 1, 0)) %>%
  group_by(RSTUDYID) %>%
  mutate(
    LREXT = ifelse(RLRSP <= quantile(RLRSP, na.rm = T, probs = 0.25) |
                     RLRSP >= quantile(RLRSP, na.rm = T, probs = 0.75),
                   1, 0)
  ) %>%
  ungroup() %>%
  mutate(LREXT = ifelse(is.na(LREXT), 0, LREXT))


#==========================================================================
# REDUCE the DATA
#==========================================================================
tokeep <- c("TURNOUT.r", "RGENDER.r", "RAGE.r", "REDU.r", "MAR.r", "CHURCH",
            "PID.r", "RPOLINT.r", "RSTUDYID", "COUNTRY", "YEAR",
```

```
            "PI_VOT", "ENEP", "CEE", "COMPV", "LRSP.na", "LREXT")
# Make a file with all the cases we need
data.m <- data %>%
  filter(!is.na(RGENDER.r) & !is.na(RAGE.r) & !is.na(REDU.r) &
           !is.na(PID.r) & !is.na(TURNOUT.r) & !is.na(PI_VOT)) %>%
  select(one_of(tokeep)) %>%
  filter(RSTUDYID != 2419791) %>% # Remove Spain 1979, where TURNOUT is all 0
  mutate( # Grand-mean center polarization
    PI_VOT_c = PI_VOT - mean(unique(PI_VOT))
  ) %>%
  group_by(COUNTRY) %>%
  mutate( # Group-mean center polarization
    PI_VOT_gc = PI_VOT - mean(unique(PI_VOT))
  ) %>%
  ungroup() %>%
  mutate( # Grand-mean center the number of electoral parties
    ENEP_c = ENEP - mean(unique(ENEP))
  )

# Where is compulsory voting?
data.m %>%
  select(COUNTRY, COMPV) %>%
  unique() %>%
  print(n = 100)


#==========================================================================
# First, plot country averages for PID with POLARIZATION
#==========================================================================
polar.pid <- data.m %>%
  group_by(RSTUDYID) %>%
  summarize(PID = mean(PID.r, na.rm = T),
            TURN = mean(TURNOUT.r, na.rm = T)) %>%
  left_join(import("./data/PI_VOTERS.csv") %>%
              select(RSTUDYID, CNAME, YEAR, PI_VOT, ENEP),
            by = "RSTUDYID")
with(polar.pid, cor.test(PI_VOT, PID))

excl <- c("Austria", "Estonia", "Greece", "Spain")
quartz(file = "~/Dropbox/TEV_polarization/figures/ch_polar_figure_2.jpg",
       type = "jpg", width = 9, height = 6, dpi = 400)
ggplot(subset(polar.pid, !CNAME %in% excl), aes(x = PI_VOT, y = PID)) +
  geom_smooth(se = F, colour = "gray60", method = "lm") +
  geom_point(colour = "gray30") +
  facet_wrap(~CNAME, ncol = 4) +
  scale_y_continuous(breaks = seq(0, 1, by = 0.1),
                     labels = scales::percent_format(accuracy = 1)) +
  xlab("Party polarisation (0 = min; 1 = max)") +
  ylab("Share of respondents identifying with a party") +
  theme_bw() +
  theme(text = element_text(family = "TimesNewRomanPSMT"),
        axis.text.x = element_text(hjust = 0.7))
dev.off()

#==========================================================================
# Models TURNOUT
#==========================================================================
data.m <- data.m %>%
  filter(!is.na(RPOLINT.r) & !is.na(LRSP.na) & !is.na(LREXT))

# No interactions
```

```r
m.f.1 <- glmer(TURNOUT.r ~ RGENDER.r + RAGE.r + REDU.r + RPOLINT.r +
                 PID.r +
                 CEE + COMPV + ENEP_c +
                 PI_VOT_c +
                 (1|RSTUDYID) + (1|COUNTRY),
               data = data.m, family = binomial, nAGQ=0)
summary(m.f.1)

# Interaction Polarization*PID
m.i.1 <- glmer(TURNOUT.r ~ RGENDER.r + RAGE.r + REDU.r + RPOLINT.r +
                 PID.r +
                 CEE + COMPV + ENEP_c +
                 PI_VOT_c +
                 PI_VOT_c:PID.r +
                 (1 + PID.r|RSTUDYID) + (1|COUNTRY),
               data = data.m, family = binomial, nAGQ=0)
summary(m.i.1) # Main effect of polarization holds

# Interaction Polarization*POLINT
m.i.2 <- glmer(TURNOUT.r ~ RGENDER.r + RAGE.r + REDU.r + RPOLINT.r +
                 PID.r +
                 CEE + COMPV + ENEP_c +
                 PI_VOT_c +
                 PI_VOT_c:RPOLINT.r +
                 (1 + RPOLINT.r|RSTUDYID) + (1|COUNTRY),
               data = data.m, family = binomial, nAGQ=0)
summary(m.i.2) # Main effect of polarization holds

#===========================================================================
# TABLES
#===========================================================================
labs <- c("Gender (Female)", "Age", "Education",
          "Political Interest", "Is Party Identifier",
          "CEE Country", "Compulsory Vote",
          "Effective N of Parties", "Polarization",
          "Is Party Identifier*Polarization",
          "Political Interest*Polarization")


r.eff <- bind_rows(lapply(c(m.f.1, m.i.1, m.i.2), extract))

stargazer(m.f.1, m.i.1, m.i.2,
          type = "html",
          dep.var.labels = "Electoral Participation",
          covariate.labels = labs,
          no.space = T,
          star.cutoffs = c(0.05, 0.01, 0.001),
          #notes = c("[0.*]", "[0.**]", "[0.***]"),
          add.lines = list(
            c("SD (Elections)", round(r.eff$RSTUDYID, 3)),
            c("SD (Party Identifier:Elections)", round(r.eff$PID.r, 3)),
            c("SD (Political Interest:Elections)", round(r.eff$RPOLINT.r, 3)),
            c("SD (Countries)", round(r.eff$COUNTRY, 3))
          ),
          out = "table_turnout.doc")

rm(r.eff)
```

Vote Choice Models

```
# Check that needed packages are installed:
want = c("tidyverse", "reshape2", "foreign", "haven", "rio",
         "lme4", "stargazer")
have = want %in% rownames(installed.packages())
if ( any(!have) ) { install.packages( want[!have] ) }
# Load packages
junk <- lapply(want, library, character.only = TRUE)
rm(have,want,junk)

rm(list=ls())
options(scipen = 99)
setwd("FOLDER PATH")

#===========================================================================
# FUNCTIONS
#===========================================================================
# Function to extract random effects from outputs
extract <- function(x) {
  obj <- sapply(VarCorr(x), "[")
  if(is.list(obj)){
    nam <- names(obj)
    eff <- NULL
    for (i in nam){
      std <- attributes(obj[[i]])$stddev
      names(std)[which(names(std) == "(Intercept)")] <- i
      eff <- c(eff, std)
    }
    data.frame(t(eff))
  } else data.frame(t(obj))
}

#===========================================================================
# LOAD STACKED DATA and POLARIZATION, MERGE, RECODE
#===========================================================================
data <- import("9.TEV_stacked_data_ONLY R AND STACK VAR 20170210.sav") %>%
  filter(COUNTRY != 28) %>%
  mutate(RSTUDYID = as.numeric(RSTUDYID)) %>%
  left_join(import("./data/PI_VOTERS.csv") %>%
              select(RSTUDYID, PI_VOT, ENEP, CEE, COMPV),
            by = "RSTUDYID") %>%
  mutate(VOTE.r = ifelse(VOTE > 1, NA, VOTE),
         PID.r = ifelse(PID > 1, NA, PID),
         PID.r = ifelse(PID.r > 0, 1, PID.r),
         LRDPARTY.r = ifelse(LRDPARTY > 1, NA, LRDPARTY),
         LSYMP.r = ifelse(LSYMP > 1, NA, LSYMP),
         SSEVPRTCENT.r = ifelse(SSEVPRTCENT > 1, NA, SSEVPRTCENT))

#===========================================================================
# REDUCE the DATA
#===========================================================================
tokeep <- c("VOTE.r", "PID.r", "LRDPARTY.r", "LSYMP.r", "SSEVPRTCENT.r",
            "RSTUDYID", "COUNTRY", "YEAR", "RRESPID", "STACKID",
            "NSTACKS", "PI_VOT", "ENEP", "CEE", "COMPV")
# Make a file with all the cases we need
data.m <- data %>%
  filter(!is.na(VOTE.r) & !is.na(PID.r) & !is.na(LRDPARTY.r) &
           !is.na(SSEVPRTCENT.r) & !is.na(PI_VOT)) %>%
  select(one_of(tokeep)) %>%
```

```r
  mutate(
    PI_VOT_c = PI_VOT - mean(unique(PI_VOT)), # Grand-mean center polarization
    ENEP_c = ENEP - mean(unique(ENEP))  # Grand-mean center number of parties
  )
rm(data)

#==========================================================================
# MODELS
#==========================================================================
# Simple model with individual predictors only
m.b.0 <- glmer(VOTE.r ~ SSEVPRTCENT.r +
                 PID.r + LRDPARTY.r +
                 (1|RSTUDYID) + (1|COUNTRY),
               data = data.m, family = binomial, nAGQ=0)
summary(m.b.0)

# Full model 1: PID interacted with polarization
m.f.1 <- glmer(VOTE.r ~ SSEVPRTCENT.r +
                 PID.r + LRDPARTY.r +
                 PI_VOT_c +
                 PI_VOT_c:PID.r +
                 (1 + PID.r|RSTUDYID) + (1|COUNTRY),
               data = data.m, family = binomial, nAGQ=0)
summary(m.f.1)

# Full model 2: LRDPARTY interacted with polarization
m.f.2 <- glmer(VOTE.r ~ SSEVPRTCENT.r +
                 PID.r + LRDPARTY.r +
                 PI_VOT_c +
                 PI_VOT_c:LRDPARTY.r +
                 (1 + LRDPARTY.r|RSTUDYID) + (1|COUNTRY),
               data = data.m, family = binomial, nAGQ=0)
summary(m.f.2)

#==========================================================================
# TABLES
#==========================================================================
labs <- c("Social Structure Y-hat", "Party Identification",
          "Left-Right Distance", "Party Polarization",
          "Polarization*Party Identification", "Polarization*L-R Distance")
r.eff <- bind_rows(lapply(c(m.b.0, m.f.1, m.f.2), extract))

stargazer(m.b.0, m.f.1, m.f.2,
          type = "html",
          dep.var.labels = "Vote Choice",
          covariate.labels = labs,
          no.space = T,
          star.cutoffs = c(0.05, 0.01, 0.001),
          add.lines = list(
            c("Var (Elections)", round(r.eff$RSTUDYID, 3)),
            c("Var (PID:Elections)", round(r.eff$PID.r, 3)),
            c("Var (LRD:Elections)", round(r.eff$LRDPARTY.r, 3)),
            c("Var (Countries)", round(r.eff$COUNTRY, 3))
          ),
          out = "table_vote.doc")
```

Values of the Context Variables Used

Turnout Models

RSTUDYID	COUNTRY	YEAR	PI_VOT	PI_VOT_c	CEE	COMPV	ENEP	ENEP_c
1019981	10	1998	0,231	-0,14567	0	0	2,647	-1,1364
1020021	10	2002	0,358	-0,01867	0	0	2,793	-0,9904
1020051	10	2005	0,289	-0,08767	0	0	2,967	-0,8164
1819771	18	1977	0,367	-0,00967	0	0	3,351	-0,4324
2020091	20	2009	0,241	-0,13567	0	0	3,074	-0,7094
2519791	25	1979	0,458	0,081329	0	0	3,477	-0,3064
2519821	25	1982	0,506	0,129329	0	0	3,142	-0,6414
2519851	25	1985	0,491	0,114329	0	0	3,375	-0,4084
2519881	25	1988	0,425	0,048329	0	0	3,653	-0,1304
120081	1	2008	0,171	-0,20567	0	0	4,277	0,493597
720111	7	2011	0,366	-0,01067	1	0	3,408	-0,3754
820031	8	2003	0,242	-0,13467	0	0	5,178	1,394597
820071	8	2007	0,307	-0,06967	0	0	5,644	1,860597
820111	8	2011	0,272	-0,10467	0	0	6,215	2,431597
1019761	10	1976	0,478	0,101329	0	0	2,317	-1,4664
1019831	10	1983	0,444	0,067329	0	0	2,527	-1,2564
1019871	10	1987	0,504	0,127329	0	0	2,796	-0,9874
1019901	10	1990	0,339	-0,03767	0	0	2,467	-1,3164
1020091	10	2009	0,336	-0,04067	0	0	4,126	0,342597
1020131	10	2013	0,301	-0,07567	0	0	3,108	-0,6754
1120121	11	2012	0,445	0,068329	0	1	6,065	2,281597
1219981	12	1998	0,364	-0,01267	1	0	3,792	0,008597
1220061	12	2006	0,677	0,300329	1	0	2,319	-1,4644
1319831	13	1983	0,591	0,214329	0	0	3,267	-0,5164
1319871	13	1987	0,419	0,042329	0	0	5,299	1,515597
1319911	13	1991	0,429	0,052329	0	0	3,876	0,092597
1319951	13	1995	0,398	0,021329	0	0	4,136	0,352597
1319991	13	1999	0,404	0,027329	0	0	3,494	-0,2894
1320031	13	2003	0,355	-0,02167	0	0	3,825	0,041597
1320071	13	2007	0,351	-0,02567	0	0	3,812	0,028597
1320091	13	2009	0,354	-0,02267	0	0	4,313	0,529597
1320131	13	2013	0,354	-0,02267	0	0	4,611	0,827597
1420111	14	2011	0,243	-0,13367	0	0	3,439	-0,3444
1519961	15	1996	0,603	0,226329	0	0	5,609	1,825597
1520011	15	2001	0,53	0,153329	0	0	3,747	-0,0364
1520061	15	2006	0,565	0,188329	0	0	3,992	0,208597
1520081	15	2008	0,405	0,028329	0	0	3,011	-0,7724
1520131	15	2013	0,42	0,043329	0	0	4,322	0,538597
1719821	17	1982	0,465	0,088329	0	0	3,246	-0,5374
1719861	17	1986	0,512	0,135329	0	0	3,16	-0,6234
1719941	17	1994	0,306	-0,07067	0	0	4,214	0,430597
1719981	17	1998	0,298	-0,07867	0	0	4,362	0,578597
1720021	17	2002	0,331	-0,04567	0	0	5,577	1,793597

1819811	18	1981	0,356	-0,02067	0	0	3,742	-0,0414
1819851	18	1985	0,317	-0,05967	0	0	3,305	-0,4784
1819891	18	1989	0,295	-0,08167	0	0	4,354	0,570597
1819931	18	1993	0,373	-0,00367	0	0	4,401	0,617597
1819971	18	1997	0,302	-0,07467	0	0	4,745	0,961597
1820011	18	2001	0,39	0,013329	0	0	5,548	1,764597
1820051	18	2005	0,397	0,020329	0	0	4,799	1,015597
1919971	19	1997	0,51	0,133329	1	0	3,547	-0,2364
1920011	19	2001	0,446	0,069329	1	0	3,735	-0,0484
1920051	19	2005	0,321	-0,05567	1	0	4,689	0,905597
1920071	19	2007	0,246	-0,13067	1	0	3,045	-0,7384
1920111	19	2011	0,235	-0,14167	1	0	3,434	-0,3494
2020021	20	2002	0,294	-0,08267	0	0	2,558	-1,2254
2020051	20	2005	0,262	-0,11467	0	0	2,591	-1,1924
2419931	24	1993	0,443	0,066329	0	0	2,565	-1,2184
2420081	24	2008	0,417	0,040329	0	0	2,382	-1,4014
2519911	25	1991	0,406	0,029329	0	0	3,712	-0,0714
2519941	25	1994	0,429	0,052329	0	0	3,488	-0,2954
2519981	25	1998	0,428	0,051329	0	0	4,313	0,529597
2520021	25	2002	0,395	0,018329	0	0	4,238	0,454597
2520101	25	2010	0,447	0,070329	0	0	4,202	0,418597
2619711	26	1971	0,262	-0,11467	0	0	3,771	-0,0124
2619951	26	1995	0,229	-0,14767	0	0	4,389	0,605597
2619991	26	1999	0,266	-0,11067	0	0	4,362	0,578597
2620031	26	2003	0,324	-0,05267	0	0	4,367	0,583597
2620071	26	2007	0,321	-0,05567	0	0	4,409	0,625597
2620111	26	2011	0,374	-0,00267	0	0	4,666	0,882597

Legend: PI_VOT = icdeological polarisation index; PI_VOT_C = centered ideological polarisation index; CEE = Central Eastern Europe (postcommunist countries); COMPV = voting compulsory; ENEP = effective number of electoral parties; ENEP_C = centered effective number of electoral parties.

Vote Choice Models

RSTUDYID	COUNTRY	YEAR	PI_VOT	PI_VOT_c
1019981	10	1998	0,231	-0,14346
1020021	10	2002	0,358	-0,01646
1020051	10	2005	0,289	-0,08546
2020091	20	2009	0,241	-0,13346
2519791	25	1979	0,458	0,083536
2519821	25	1982	0,506	0,131536
2519851	25	1985	0,491	0,116536
2519881	25	1988	0,425	0,050536
2619711	26	1971	0,262	-0,11246
120081	1	2008	0,171	-0,20346
720111	7	2011	0,366	-0,00846
820031	8	2003	0,242	-0,13246

820071	8	2007	0,307	-0,06746
820111	8	2011	0,272	-0,10246
1019761	10	1976	0,478	0,103536
1019831	10	1983	0,444	0,069536
1019871	10	1987	0,504	0,129536
1019901	10	1990	0,339	-0,03546
1020091	10	2009	0,336	-0,03846
1020131	10	2013	0,301	-0,07346
1120091	11	2009	0,312	-0,06246
1120121	11	2012	0,445	0,070536
1219981	12	1998	0,364	-0,01046
1220021	12	2002	0,607	0,232536
1319831	13	1983	0,591	0,216536
1319871	13	1987	0,419	0,044536
1319911	13	1991	0,429	0,054536
1319951	13	1995	0,398	0,023536
1319991	13	1999	0,404	0,029536
1320031	13	2003	0,355	-0,01946
1320071	13	2007	0,351	-0,02346
1320091	13	2009	0,354	-0,02046
1320131	13	2013	0,354	-0,02046
1420021	14	2002	0,198	-0,17646
1420071	14	2007	0,186	-0,18846
1420111	14	2011	0,243	-0,13146
1519721	15	1972	0,366	-0,00846
1519961	15	1996	0,603	0,228536
1520011	15	2001	0,53	0,155536
1520061	15	2006	0,565	0,190536
1520081	15	2008	0,405	0,030536
1520131	15	2013	0,42	0,045536
1719821	17	1982	0,465	0,090536
1719861	17	1986	0,512	0,137536
1719891	17	1989	0,433	0,058536
1719941	17	1994	0,306	-0,06846
1719981	17	1998	0,298	-0,07646
1819771	18	1977	0,367	-0,00746
1819811	18	1981	0,356	-0,01846
1819851	18	1985	0,317	-0,05746
1819891	18	1989	0,295	-0,07946
1819931	18	1993	0,373	-0,00146
1819971	18	1997	0,302	-0,07246
1820011	18	2001	0,39	0,015536
1820051	18	2005	0,397	0,022536
1919971	19	1997	0,51	0,135536
1920011	19	2001	0,446	0,071536
1920051	19	2005	0,321	-0,05346
1920071	19	2007	0,246	-0,12846
1920111	19	2011	0,235	-0,13946

2020021	20	2002	0,294	-0,08046
2020051	20	2005	0,262	-0,11246
2020061	20	2006	0,364	-0,01046
2120041	21	2004	0,275	-0,09946
2419931	24	1993	0,443	0,068536
2420001	24	2000	0,358	-0,01646
2420081	24	2008	0,417	0,042536
2519911	25	1991	0,406	0,031536
2519941	25	1994	0,429	0,054536
2519981	25	1998	0,428	0,053536
2520021	25	2002	0,395	0,020536
2520061	25	2006	0,425	0,050536
2520101	25	2010	0,447	0,072536
2619991	26	1999	0,266	-0,10846
2620031	26	2003	0,324	-0,05046
2620071	26	2007	0,321	-0,05346
2620111	26	2011	0,374	-0,00046

Legend: PI_VOT = ideological polarisation index; PI_VOT_c = centered ideological polarisation index.

Online Appendix Chapter 10

Additional Tables and Figures

Table A10.1 National election studies included in models predicting electoral participation and vote choice

Country	Year	Models of electoral participation		Models of vote choice	
		Model 1	Models 2-3	Models 4-7	Models 8-11
Austria	2008	✓	✓	✓	
Belgium	2011			✓	✓
Bulgaria	2003			✓	✓
Bulgaria	2007			✓	✓
Estonia	2011	✓	✓		
Finland	2003	✓	✓		
Finland	2007	✓	✓		
Finland	2011	✓			
Germany	1976	✓	✓	✓	✓
Germany	1980	✓			
Germany	1983	✓	✓	✓	✓
Germany	1987	✓	✓	✓	✓
Germany	1990	✓	✓	✓	✓
Germany	1994	✓			
Germany	1998	✓	✓	✓	✓
Germany	2002	✓	✓	✓	✓
Germany	2005	✓	✓	✓	✓
Germany	2009	✓	✓	✓	✓
Germany	2013	✓			
Greece	1985			✓	
Greece	1989			✓	
Greece	1989			✓	
Greece	1990			✓	
Greece	1993			✓	
Greece	1996			✓	
Greece	2004			✓	
Greece	2009	✓	✓	✓	✓
Greece	2012	✓	✓	✓	✓
Hungary	1998			✓	

Hungary	2006	✓	✓		
Iceland	1983			✓	
Iceland	1987			✓	✓
Iceland	1991	✓	✓	✓	✓
Iceland	1995			✓	✓
Iceland	1999	✓	✓	✓	✓
Iceland	2003	✓	✓	✓	✓
Iceland	2007	✓	✓	✓	✓
Iceland	2009	✓	✓	✓	✓
Iceland	2013	✓			
Ireland	2002	✓			
Ireland	2007	✓	✓	✓	✓
Italy	1972			✓	
Italy	1996	✓	✓	✓	✓
Italy	2001	✓	✓	✓	✓
Italy	2006	✓	✓	✓	✓
Italy	2008			✓	✓
Italy	2013	✓			
Lithuania	1996			✓	
Netherlands	1972	✓			
Netherlands	1981			✓	
Netherlands	1982	✓	✓	✓	
Netherlands	1986	✓	✓	✓	
Netherlands	1989			✓	✓
Netherlands	1994	✓	✓	✓	✓
Netherlands	1998	✓	✓	✓	✓
Netherlands	2002	✓	✓	✓	
Netherlands	2003			✓	
Netherlands	2006	✓			
Norway	1965	✓			
Norway	1969	✓			
Norway	1973	✓	✓	✓	
Norway	1977	✓	✓	✓	
Norway	1981	✓	✓	✓	✓
Norway	1985	✓	✓	✓	✓
Norway	1989	✓	✓	✓	✓
Norway	1993	✓	✓	✓	✓
Norway	1997	✓	✓	✓	✓
Norway	2001	✓	✓	✓	✓
Norway	2005	✓	✓	✓	✓

Poland	1997	✓	✓	✓	✓
Poland	2001	✓	✓	✓	
Poland	2005	✓	✓	✓	✓
Poland	2007	✓	✓	✓	✓
Poland	2011	✓	✓	✓	✓
Portugal	2002	✓	✓	✓	✓
Portugal	2005	✓	✓	✓	✓
Portugal	2006			✓	
Portugal	2009	✓	✓	✓	✓
Romania	2004			✓	
Romania	2008	✓			
Slovenia	2000			✓	
Slovenia	2004			✓	
Slovenia	2008			✓	
Spain	1979			✓	
Spain	1982			✓	
Spain	1986			✓	
Spain	1989			✓	
Spain	1993	✓	✓	✓	✓
Spain	2000			✓	
Spain	2004			✓	✓
Spain	2008	✓	✓	✓	✓
Sweden	1968	✓			
Sweden	1970	✓			
Sweden	1973	✓			
Sweden	1976	✓			
Sweden	1979	✓	✓	✓	✓
Sweden	1982	✓	✓	✓	✓
Sweden	1985	✓	✓	✓	✓
Sweden	1988	✓	✓	✓	✓
Sweden	1991	✓	✓	✓	✓
Sweden	1994	✓	✓	✓	✓
Sweden	1998	✓	✓	✓	✓
Sweden	2002	✓	✓	✓	✓
Sweden	2006			✓	✓
Sweden	2010	✓			
Switzerland	1971	✓	✓	✓	
Switzerland	1975	✓			
Switzerland	1979	✓			
Switzerland	1987	✓			
Switzerland	1995			✓	

Switzerland	1999	✓	✓	✓
Switzerland	2003	✓	✓	✓
Switzerland	2007	✓		
Switzerland	2011	✓		
UK	2005			✓

Setup for Statistical Analyses

Participation Models

```
*** Stata syntax relating to analyses published in Ch.10 of Consequences of Context
*** (eds. Schmitt, Segatti, Van der Eijk), published by ECPR Press / Rowman&Littlefield,
*** London, 2021.
*** This file contains the syntax for replicating multilevel analyses of electoral
*** participation published in Table 10.1 (p. 193).

*** The analyses build upon the base model reported in Chapter 3.
*** The contextual variable that is used in these analyses is Perceptual Agreement
*** (see Chapter 10, pp. 190-192).

***the following command replicates Table 3.1 Chapter 3
display c(current_time)
melogit TURNOUT RGENDER_R RAGE RAGESQ RMARRIED_R REDU_R  RPID22 RUNION1_R if limited1==8 & COUNTRY!=28  || COUNTRY: || RSTUDYID:, intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)
display c(current_time)
est store model1
estat icc
estat ic

***add effect of level2 characteristic agreement (agreement in the population on L-R location of political parties)
display c(current_time)
melogit TURNOUT RGENDER_R RAGE RAGESQ RMARRIED_R REDU RPID22 RUNION1_R agreement if limited1==8 & COUNTRY!=28  || COUNTRY: || RSTUDYID: , intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)
est store model2
estat icc
```

estat ic

display c(current_time)

*** add cross-level interaction of the context variable (agreement) and the level-1 variable age

melogit TURNOUT RGENDER RAGESQ RPID22 RMARRIED_R REDU RUNION1_R c.agreement##c.RAGE if limited1==8 & COUNTRY!=28 || COUNTRY: || RSTUDYID: , intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

est store model3

estat icc

estat ic

*** add cross-level interaction of the context variable (agreement) and the level-1 variable RMARRIED_R

melogit TURNOUT RGENDER RAGE RAGESQ RPID22 REDU RUNION1_R c.agreement##c.RMARRIED_R if limited1==8 & COUNTRY!=28 || COUNTRY: || RSTUDYID: , intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

est store model4

estat icc

estat ic

*** add cross-level interaction of the context variable (agreement) and the level-1 variable REDU

melogit TURNOUT RGENDER RAGE RAGESQ RPID22 RMARRIED_R   RUNION1_R c.agreement##c.REDU if limited1==8 & COUNTRY!=28 || COUNTRY: || RSTUDYID: , intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

est store model5

estat icc

estat ic

*** add cross-level interaction of the context variable (agreement) and the level-1 variable RPID22

melogit TURNOUT RGENDER RAGE RAGESQ RMARRIED_R REDU RUNION1_R c.agreement##c.RPID22 if limited1==8 & COUNTRY!=28 || COUNTRY: || RSTUDYID: , intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

est store model6

estat icc

estat ic

*** add cross-level interaction of the context variable (agreement) and the level-1 variable RUNION1_R

melogit TURNOUT RGENDER RAGE RAGESQ RPID22 RMARRIED_R REDU c.agreement##c.RUNION1_R if limited1==8 & COUNTRY!=28 || COUNTRY: || RSTUDYID: , intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

est store model7

estat icc

estat ic

*** add cross-level interaction of the context variable (agreement) and the level-1 variable RGENDER

melogit TURNOUT   RAGE RAGESQ RPID22 RMARRIED_R REDU RUNION1_R c.agreement##c.RGENDER if limited1==8 & COUNTRY!=28 || COUNTRY: || RSTUDYID: , intmethod(laplace) vce(robust) difficult technique(bhhh 300 nr 100)

est store model8

estat icc

estat ic

lrtest model1 model2, force

lrtest model1 model3, force

lrtest model1 model4, force

lrtest model1 model5, force

lrtest model1 model6, force

lrtest model1 model7, force

lrtest model1 model8, force

Vote Choice Models

```
# Syntax for multilevel logistic regression analyses of vote choice
# reported in Chapter 10 of Consequences of Context (eds. Schmitt,
# Segatti and Van der Eijk), published in London by
# ECPR Press/Rowman & Littlefield, 2021.
# These analyses are conducted with the R package lme4, and are reported
# in Tables 10.2, 10.3 and 10.4.
library(foreign)
library(lme4)
# the next line command reads the datafile. The location of the datafile
# should be specified by the user. The data consists of the stacked version of the latest release of the
TEV data (in Chapter 10 release 9
# was used) into which the contextual variable has to be included. In
# this syntax, the contextual variable (agreement about the left-right
# positions of political parties) is named systemA).
# This syntax assumes that basic data management –particularly
# declaration of missing values— has been completed for all variables
# included in these analyses prior to conducting # the multilevel
# logistic regressions specified in this syntax.
TEV <- read.spss("specify filename", to.data.frame=TRUE, use.value.labels=FALSE)
TEV$year_c <- TEV$YEAR - 1956

# systemA to be centered at the context level
mean(unique(TEV$systemA), na.rm=TRUE)
TEV$systemA_c <- TEV$systemA - 0.5707702

# the next lines in this syntax remove any possibly still remaining
# out-of-range values in the data.

TEV <- TEV %>% mutate(VOTE = replace(VOTE, which(VOTE>1), NA))

TEV <- TEV %>% mutate(LRDPARTY = replace(LRDPARTY, which(LRDPARTY>1), NA))
TEV <- TEV %>% mutate(PID = replace(PID, which(PID>1), NA))
TEV <- TEV %>% mutate(SSEV = replace(SSEV, which(SSEV>900), NA))
TEV <- TEV %>% mutate(LSYMP = replace(LSYMP, which(LSYMP>900), NA))

# recoding PID: anything above 0 becomes 1
TEV <- TEV %>% mutate(PID = replace(PID, which(PID>0), 1))
table(TEV$PID)

TEV$level4_country <- TEV$COUNTRY
TEV$level3_study <- TEV$RSTUDYID

TEVsubset<-subset(TEV, (!is.na(TEV$VOTE)) &
            (!is.na(TEV$SSEV)) &
            (!is.na(TEV$LRDPARTY)) &
            (!is.na(TEV$PID)) &
            (!is.na(TEV$LSYMP)) &
            (!is.na(TEV$systemA_c))
           )
```

```
TEVsubset679K<-subset(TEV, (!is.na(TEV$VOTE)) &
                  (!is.na(TEV$LRDPARTY)) &
                  (!is.na(TEV$systemA_c))
          )

# the next line sets a working directory, to be specified by user.
setwd("specify wd")

wr <- function(model) {
  cat("***", deparse(substitute(model)), "***\r\n\r\n",file="models_ch10.txt", append=TRUE)
  capture.output(summary(model),file="models_ch10.txt", append=TRUE)
  cat("\r\n\r\n",file="models_ch10.txt", append=TRUE)
}

# Table 10.2
# Effect of left/right distance on vote choice
# with and without contextual moderation by systemA
# Models in the following lines are named M1 to M4, which correspond to
# what are labelled Model 4 to Model 7 in Table 10.2.
# (M1 to M4 are all based on the same n, which is 679364].

# M1.   Multi-level model without random intercepts (RI) or RS, without cross-level interaction
# and without main effect of Agreement – This is Model 4 in Table 10.2.

M1 <- glm(VOTE ~ LRDPARTY, data=TEVsubset679K, family=binomial)
wr(M1)
rm(M1)

# M2.   Multi-level model with cross level interaction (and with main
# effect of Agreement), but without random intercepts (RI) or random
# slopes (RS). # This is Model 5 in Table 10.2.

M2 <- glm(VOTE ~ LRDPARTY + systemA_c + LRDPARTY:systemA_c, data=TEVsubset679K,
family=binomial)
wr(M2)
rm(M2)

# M3.   Multi-level model with cross level interaction (and with main
# effect of Agreement), with RI. This is Model 6 in Table 10.2

M3 <- glmer(VOTE ~ LRDPARTY + systemA_c + LRDPARTY:systemA_c +
          (1 | level4_country) + (1 | level3_study)
         , data=TEVsubset679K, family=binomial, nAGQ=0)
wr(M3)
rm(M3)

# M4.   Multi-level model with cross level interaction (and with main
# effect of Agreement), with RI and RS. # This is model 7 in Table 10.2.

M4 <- glmer(VOTE ~ LRDPARTY + systemA_c + LRDPARTY:systemA_c +
           (1 | level4_country) + (1 + LRDPARTY | level3_study)
           , data=TEVsubset679K, family=binomial, nAGQ=0)
```

```
wr(M4)
rm(M4)

# M2a (same as previous M2, but on reduced number of cases)
# This model is not reported in the tables of Chapter 10, but is referred
# to in footnote 17 on p. 197.
M2a <- glm(VOTE ~ LRDPARTY + systemA_c + LRDPARTY:systemA_c, data=TEVsubset,
family=binomial)
wr(M2a)
rm(M2a)

# Next two models (M6 and M6.RS) are reported in Table 10.3, where they are
# named Model 8 and Model 9 respectively. They are based on the same
# number of cases, which is 335934].

# M6: this is model specifies # random slopes for the effects of LRDPARTY. This is Model 9 # in Table
10.3.

M6 <- glmer(VOTE ~ LRDPARTY + systemA_c + LRDPARTY:systemA_c + SSEV + PID + LSYMP +
        (1 | level4_country) + (1 | level3_study)
       , data=TEVsubset, family=binomial, nAGQ=0)
wr(M6)
rm(M6)

# M6.RS is like M6 but also specifies random slopes.
M6.RS <- glmer(VOTE ~ LRDPARTY + systemA_c + LRDPARTY:systemA_c + SSEV + PID + LSYMP +
        (1 | level4_country) + (1 + LRDPARTY | level3_study)
       , data=TEVsubset, family=binomial, nAGQ=0)
wr(M6.RS)
rm(M6.RS)

# The following two models (M7 and M7.RS are reported in Table 10.4.
# They specify the # effects of # micro-level determinants on vote
# choice; each with # contextual moderation by systemA [n, is 335934].
# M7 is specified with random intercepts (RI), and M7.RS is specified
# with random intercepts as well as random slopes.

M7 <- glmer(VOTE ~ LRDPARTY + systemA_c + LRDPARTY:systemA_c + SSEV + PID + LSYMP +
        SSEV:systemA_c + PID:systemA_c + LSYMP:systemA_c +
        (1 | level4_country) + (1 | level3_study)
       , data=TEVsubset, family=binomial, nAGQ=0)
wr(M7)
rm(M7)

# RS version of M7 is reported in Table 10.4 as Model 11.

M7.RS <- glmer(VOTE ~ LRDPARTY + systemA_c + LRDPARTY:systemA_c + SSEV + PID + LSYMP +
        SSEV:systemA_c + PID:systemA_c + LSYMP:systemA_c +
        (1 | level4_country) + (1 + LRDPARTY + SSEV + PID + LSYMP | level3_study)
       , data=TEVsubset, family=binomial, nAGQ=0)
wr(M7.RS)
rm(M7.RS)
```

Setup for Imputing Contextual Variables

```
**** Stata syntax relating to analyses reported in Ch.10 of
**** "Consequences of Context", ed. by Hermann Schmitt, Paolo Segatti and
**** Cees van der Eijk, published by ECPR Press / Rowman & Littlefield,
**** London, 2021.
**** This syntax specifies the definition and inclusion of two contextual
**** variables in a Stata file containing the TEV data.
**** The new variable "agreement" is the value of Van der Eijk's agreement
**** coefficient A applied to perceptions of left-right positions of political
**** parties. For details, see Chapter 10 of the book, pp. 190-192.
**** The new variable "percentina" (read as: percent-included-in-A) reflects
**** the sum of the percentages of the votes obtained in the election at hand by
**** parties for who left-right percentions are available in the TEV data.
**** Agreement is defined as '9' and percentina as '0' if left-right perceptions
**** for political parties were not asked in the respective survey.
**** This syntax assumes that the user has already opened the TEV data
**** in Stata.

gen agreement=9
gen percentina=0
replace percentina= 93.910000000000000 if COUNTRY== 1 & RSTUDYID== 120081
replace percentina= 0.000000000000000 if COUNTRY== 4 & RSTUDYID== 419951
replace percentina= 0.000000000000000 if COUNTRY== 4 & RSTUDYID== 420001
replace percentina= 0.000000000000000 if COUNTRY== 4 & RSTUDYID== 420031
replace percentina= 0.000000000000000 if COUNTRY== 4 & RSTUDYID== 420071
replace percentina= 0.000000000000000 if COUNTRY== 7 & RSTUDYID== 720071
replace percentina= 95.400000000000000 if COUNTRY== 7 & RSTUDYID== 720111
replace percentina= 95.600000000000000 if COUNTRY== 8 & RSTUDYID== 820031
replace percentina= 98.080000000000000 if COUNTRY== 8 & RSTUDYID== 820071
replace percentina= 0.000000000000000 if COUNTRY== 8 & RSTUDYID== 820111
replace percentina= 0.000000000000000 if COUNTRY== 10 & RSTUDYID== 1019611
replace percentina= 0.000000000000000 if COUNTRY== 10 & RSTUDYID== 1019651
replace percentina= 0.000000000000000 if COUNTRY== 10 & RSTUDYID== 1019691
replace percentina= 99.110000000000000 if COUNTRY== 10 & RSTUDYID== 1019761
replace percentina= 0.000000000000000 if COUNTRY== 10 & RSTUDYID== 1019801
replace percentina= 99.490000000000000 if COUNTRY== 10 & RSTUDYID== 1019831
replace percentina= 98.670000000000000 if COUNTRY== 10 & RSTUDYID== 1019871
replace percentina= 89.510000000000000 if COUNTRY== 10 & RSTUDYID== 1019901
replace percentina= 0.000000000000000 if COUNTRY== 10 & RSTUDYID== 1019941
replace percentina= 94.120000000000000 if COUNTRY== 10 & RSTUDYID== 1019981
replace percentina= 92.960000000000000 if COUNTRY== 10 & RSTUDYID== 1020021
replace percentina= 96.080000000000000 if COUNTRY== 10 & RSTUDYID== 1020051
replace percentina= 93.990000000000000 if COUNTRY== 10 & RSTUDYID== 1020091
replace percentina= 0.000000000000000 if COUNTRY== 10 & RSTUDYID== 1020131
replace percentina= 96.550000000000000 if COUNTRY== 11 & RSTUDYID== 1119851
replace percentina= 83.410000000000000 if COUNTRY== 11 & RSTUDYID== 1119891
replace percentina= 96.540000000000000 if COUNTRY== 11 & RSTUDYID== 1119892
replace percentina= 95.780000000000000 if COUNTRY== 11 & RSTUDYID== 1119901
replace percentina= 95.590000000000000 if COUNTRY== 11 & RSTUDYID== 1119931
replace percentina= 94.780000000000000 if COUNTRY== 11 & RSTUDYID== 1119961
replace percentina= 0.000000000000000 if COUNTRY== 11 & RSTUDYID== 1120001
replace percentina= 95.160000000000000 if COUNTRY== 11 & RSTUDYID== 1120041
replace percentina= 0.000000000000000 if COUNTRY== 11 & RSTUDYID== 1120071
replace percentina= 95.170000000000000 if COUNTRY== 11 & RSTUDYID== 1120091
```

```
replace percentina=  94.010000000000000  if  COUNTRY==  11  &  RSTUDYID==  1120121
replace percentina=  0.000000000000000  if  COUNTRY==  12  &  RSTUDYID==  1219901
replace percentina=  0.000000000000000  if  COUNTRY==  12  &  RSTUDYID==  1219941
replace percentina=  91.220000000000000  if  COUNTRY==  12  &  RSTUDYID==  1219981
replace percentina=  0.000000000000000  if  COUNTRY==  12  &  RSTUDYID==  1220021
replace percentina=  99.830000000000000  if  COUNTRY==  12  &  RSTUDYID==  1220061
replace percentina=  85.910000000000000  if  COUNTRY==  13  &  RSTUDYID==  1319831
replace percentina=  95.660000000000000  if  COUNTRY==  13  &  RSTUDYID==  1319871
replace percentina=  95.660000000000000  if  COUNTRY==  13  &  RSTUDYID==  1319911
replace percentina=  98.130000000000000  if  COUNTRY==  13  &  RSTUDYID==  1319951
replace percentina=  99.160000000000000  if  COUNTRY==  13  &  RSTUDYID==  1319991
replace percentina=  98.550000000000000  if  COUNTRY==  13  &  RSTUDYID==  1320031
replace percentina=  96.730000000000000  if  COUNTRY==  13  &  RSTUDYID==  1320071
replace percentina=  97.190000000000000  if  COUNTRY==  13  &  RSTUDYID==  1320091
replace percentina=  0.000000000000000  if  COUNTRY==  13  &  RSTUDYID==  1320131
replace percentina=  0.000000000000000  if  COUNTRY==  14  &  RSTUDYID==  1420021
replace percentina=  96.730000000000000  if  COUNTRY==  14  &  RSTUDYID==  1420071
replace percentina=  0.000000000000000  if  COUNTRY==  14  &  RSTUDYID==  1420111
replace percentina=  95.970000000000000  if  COUNTRY==  15  &  RSTUDYID==  1519721
replace percentina=  0.000000000000000  if  COUNTRY==  15  &  RSTUDYID==  1519921
replace percentina=  0.000000000000000  if  COUNTRY==  15  &  RSTUDYID==  1519941
replace percentina=  87.100000000000000  if  COUNTRY==  15  &  RSTUDYID==  1519961
replace percentina=  70.860000000000000  if  COUNTRY==  15  &  RSTUDYID==  1520011
replace percentina=  82.990000000000000  if  COUNTRY==  15  &  RSTUDYID==  1520061
replace percentina=  88.500000000000000  if  COUNTRY==  15  &  RSTUDYID==  1520081
replace percentina=  0.000000000000000  if  COUNTRY==  15  &  RSTUDYID==  1520131
replace percentina=  0.000000000000000  if  COUNTRY==  16  &  RSTUDYID==  1619921
replace percentina=  67.390000000000000  if  COUNTRY==  16  &  RSTUDYID==  1619961
replace percentina=  0.000000000000000  if  COUNTRY==  16  &  RSTUDYID==  1620001
replace percentina=  0.000000000000000  if  COUNTRY==  16  &  RSTUDYID==  1620041
replace percentina=  0.000000000000000  if  COUNTRY==  16  &  RSTUDYID==  1620081
replace percentina=  0.000000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719711
replace percentina=  0.000000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719721
replace percentina=  0.000000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719771
replace percentina=  87.480000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719811
replace percentina=  87.130000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719821
replace percentina=  91.400000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719861
replace percentina=  93.720000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719891
replace percentina=  85.110000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719941
replace percentina=  91.830000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719981
replace percentina=  95.970000000000000  if  COUNTRY==  17  &  RSTUDYID==  1720021
replace percentina=  97.260000000000000  if  COUNTRY==  17  &  RSTUDYID==  1720031
replace percentina=  0.000000000000000  if  COUNTRY==  17  &  RSTUDYID==  1720061
replace percentina=  0.000000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819651
replace percentina=  0.000000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819691
replace percentina=  95.670000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819731
replace percentina=  97.760000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819771
replace percentina=  98.300000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819811
replace percentina=  98.390000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819851
replace percentina=  97.780000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819891
replace percentina=  96.360000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819931
replace percentina=  96.690000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819971
replace percentina=  94.560000000000000  if  COUNTRY==  18  &  RSTUDYID==  1820011
replace percentina=  96.900000000000000  if  COUNTRY==  18  &  RSTUDYID==  1820051
replace percentina=  87.200000000000000  if  COUNTRY==  19  &  RSTUDYID==  1919971
replace percentina=  95.870000000000000  if  COUNTRY==  19  &  RSTUDYID==  1920011
replace percentina=  88.780000000000000  if  COUNTRY==  19  &  RSTUDYID==  1920051
replace percentina=  95.680000000000000  if  COUNTRY==  19  &  RSTUDYID==  1920071
```

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replace percentina=  95.690000000000000  if  COUNTRY==  19  &  RSTUDYID==  1920111
replace percentina=  0.000000000000000  if  COUNTRY==  20  &  RSTUDYID==  2019851
replace percentina=  98.330000000000000  if  COUNTRY==  20  &  RSTUDYID==  2020021
replace percentina=  97.810000000000000  if  COUNTRY==  20  &  RSTUDYID==  2020051
replace percentina=  99.550000000000000  if  COUNTRY==  20  &  RSTUDYID==  2020061
replace percentina=  96.200000000000000  if  COUNTRY==  20  &  RSTUDYID==  2020091
replace percentina=  0.000000000000000  if  COUNTRY==  21  &  RSTUDYID==  2119961
replace percentina=  0.000000000000000  if  COUNTRY==  21  &  RSTUDYID==  2119962
replace percentina=  0.000000000000000  if  COUNTRY==  21  &  RSTUDYID==  2120001
replace percentina=  87.390000000000000  if  COUNTRY==  21  &  RSTUDYID==  2120041
replace percentina=  0.000000000000000  if  COUNTRY==  21  &  RSTUDYID==  2120081
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2219901
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2219921
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2219931
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2219971
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220001
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220021
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220022
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220031
replace percentina=  0.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220041
replace percentina=  91.870000000000000  if  COUNTRY==  23  &  RSTUDYID==  2320001
replace percentina=  88.270000000000000  if  COUNTRY==  23  &  RSTUDYID==  2320041
replace percentina=  95.750000000000000  if  COUNTRY==  23  &  RSTUDYID==  2320081
replace percentina=  82.800000000000000  if  COUNTRY==  24  &  RSTUDYID==  2419791
replace percentina=  89.430000000000000  if  COUNTRY==  24  &  RSTUDYID==  2419821
replace percentina=  96.270000000000000  if  COUNTRY==  24  &  RSTUDYID==  2419861
replace percentina=  90.860000000000000  if  COUNTRY==  24  &  RSTUDYID==  2419891
replace percentina=  91.770000000000000  if  COUNTRY==  24  &  RSTUDYID==  2419931
replace percentina=  92.440000000000000  if  COUNTRY==  24  &  RSTUDYID==  2420001
replace percentina=  93.760000000000000  if  COUNTRY==  24  &  RSTUDYID==  2420041
replace percentina=  95.520000000000000  if  COUNTRY==  24  &  RSTUDYID==  2420081
replace percentina=  0.000000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519561
replace percentina=  0.000000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519601
replace percentina=  0.000000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519641
replace percentina=  0.000000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519681
replace percentina=  0.000000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519701
replace percentina=  0.000000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519731
replace percentina=  0.000000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519761
replace percentina=  97.850000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519791
replace percentina=  96.190000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519821
replace percentina=  98.010000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519851
replace percentina=  96.350000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519881
replace percentina=  99.020000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519911
replace percentina=  97.730000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519941
replace percentina=  97.400000000000000  if  COUNTRY==  25  &  RSTUDYID==  2519981
replace percentina=  96.880000000000000  if  COUNTRY==  25  &  RSTUDYID==  2520021
replace percentina=  94.320000000000000  if  COUNTRY==  25  &  RSTUDYID==  2520061
replace percentina=  0.000000000000000  if  COUNTRY==  25  &  RSTUDYID==  2520101
replace percentina=  76.260000000000000  if  COUNTRY==  26  &  RSTUDYID==  2619711
replace percentina=  0.000000000000000  if  COUNTRY==  26  &  RSTUDYID==  2619751
replace percentina=  0.000000000000000  if  COUNTRY==  26  &  RSTUDYID==  2619791
replace percentina=  0.000000000000000  if  COUNTRY==  26  &  RSTUDYID==  2619871
replace percentina=  0.000000000000000  if  COUNTRY==  26  &  RSTUDYID==  2619911
replace percentina=  76.760000000000000  if  COUNTRY==  26  &  RSTUDYID==  2619951
replace percentina=  83.040000000000000  if  COUNTRY==  26  &  RSTUDYID==  2619991
replace percentina=  83.050000000000000  if  COUNTRY==  26  &  RSTUDYID==  2620031
replace percentina=  0.000000000000000  if  COUNTRY==  26  &  RSTUDYID==  2620071
replace percentina=  0.000000000000000  if  COUNTRY==  26  &  RSTUDYID==  2620111
```

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replace percentina=  89.600000000000000  if COUNTRY== 27  &  RSTUDYID== 2720051
replace percentina=  0.000000000000000  if COUNTRY== 28  &  RSTUDYID== 2820021
replace percentina=  0.000000000000000  if COUNTRY== 28  &  RSTUDYID== 2820071
replace percentina=  0.000000000000000  if COUNTRY== 28  &  RSTUDYID== 2820111
replace percentina=  92.187356915931400  if COUNTRY== 19  &  RSTUDYID== 1906136
replace agreement=  0.252902779256735  if COUNTRY== 1  &  RSTUDYID== 120081
replace agreement=  9.000000000000000  if COUNTRY== 4  &  RSTUDYID== 419951
replace agreement=  9.000000000000000  if COUNTRY== 4  &  RSTUDYID== 420001
replace agreement=  9.000000000000000  if COUNTRY== 4  &  RSTUDYID== 420031
replace agreement=  9.000000000000000  if COUNTRY== 4  &  RSTUDYID== 420071
replace agreement=  9.000000000000000  if COUNTRY== 7  &  RSTUDYID== 720071
replace agreement=  0.450954926624738  if COUNTRY== 7  &  RSTUDYID== 720111
replace agreement=  0.524065899581590  if COUNTRY== 8  &  RSTUDYID== 820031
replace agreement=  0.566425367047308  if COUNTRY== 8  &  RSTUDYID== 820071
replace agreement=  9.000000000000000  if COUNTRY== 8  &  RSTUDYID== 820111
replace agreement=  9.000000000000000  if COUNTRY== 10  &  RSTUDYID== 1019611
replace agreement=  9.000000000000000  if COUNTRY== 10  &  RSTUDYID== 1019651
replace agreement=  9.000000000000000  if COUNTRY== 10  &  RSTUDYID== 1019691
replace agreement=  0.564055090303703  if COUNTRY== 10  &  RSTUDYID== 1019761
replace agreement=  9.000000000000000  if COUNTRY== 10  &  RSTUDYID== 1019801
replace agreement=  0.596807719368781  if COUNTRY== 10  &  RSTUDYID== 1019831
replace agreement=  0.575646093037397  if COUNTRY== 10  &  RSTUDYID== 1019871
replace agreement=  0.584307898558820  if COUNTRY== 10  &  RSTUDYID== 1019901
replace agreement=  9.000000000000000  if COUNTRY== 10  &  RSTUDYID== 1019941
replace agreement=  0.484241393965151  if COUNTRY== 10  &  RSTUDYID== 1019981
replace agreement=  0.586525387263339  if COUNTRY== 10  &  RSTUDYID== 1020021
replace agreement=  0.586820358034971  if COUNTRY== 10  &  RSTUDYID== 1020051
replace agreement=  0.659909564847324  if COUNTRY== 10  &  RSTUDYID== 1020091
replace agreement=  9.000000000000000  if COUNTRY== 10  &  RSTUDYID== 1020131
replace agreement=  0.651482133609529  if COUNTRY== 11  &  RSTUDYID== 1119851
replace agreement=  0.586174319625944  if COUNTRY== 11  &  RSTUDYID== 1119891
replace agreement=  0.539440646364201  if COUNTRY== 11  &  RSTUDYID== 1119892
replace agreement=  0.584846523282522  if COUNTRY== 11  &  RSTUDYID== 1119901
replace agreement=  0.640954074694006  if COUNTRY== 11  &  RSTUDYID== 1119931
replace agreement=  0.626105718506014  if COUNTRY== 11  &  RSTUDYID== 1119961
replace agreement=  9.000000000000000  if COUNTRY== 11  &  RSTUDYID== 1120001
replace agreement=  0.589180327868852  if COUNTRY== 11  &  RSTUDYID== 1120041
replace agreement=  9.000000000000000  if COUNTRY== 11  &  RSTUDYID== 1120071
replace agreement=  0.584633813176421  if COUNTRY== 11  &  RSTUDYID== 1120091
replace agreement=  0.514218700138283  if COUNTRY== 11  &  RSTUDYID== 1120121
replace agreement=  9.000000000000000  if COUNTRY== 12  &  RSTUDYID== 1219901
replace agreement=  9.000000000000000  if COUNTRY== 12  &  RSTUDYID== 1219941
replace agreement=  0.445760798070599  if COUNTRY== 12  &  RSTUDYID== 1219981
replace agreement=  9.000000000000000  if COUNTRY== 12  &  RSTUDYID== 1220021
replace agreement=  0.682991084844235  if COUNTRY== 12  &  RSTUDYID== 1220061
replace agreement=  0.746534745664067  if COUNTRY== 13  &  RSTUDYID== 1319831
replace agreement=  0.653947313401631  if COUNTRY== 13  &  RSTUDYID== 1319871
replace agreement=  0.627947940623040  if COUNTRY== 13  &  RSTUDYID== 1319911
replace agreement=  0.618903495363293  if COUNTRY== 13  &  RSTUDYID== 1319951
replace agreement=  0.634334409035902  if COUNTRY== 13  &  RSTUDYID== 1319991
replace agreement=  0.641337392186707  if COUNTRY== 13  &  RSTUDYID== 1320031
replace agreement=  0.606287604672801  if COUNTRY== 13  &  RSTUDYID== 1320071
replace agreement=  0.590808725177487  if COUNTRY== 13  &  RSTUDYID== 1320091
replace agreement=  9.000000000000000  if COUNTRY== 13  &  RSTUDYID== 1320131
replace agreement=  9.000000000000000  if COUNTRY== 14  &  RSTUDYID== 1420021
replace agreement=  0.473497363796133  if COUNTRY== 14  &  RSTUDYID== 1420071
replace agreement=  9.000000000000000  if COUNTRY== 14  &  RSTUDYID== 1420111
replace agreement=  0.663079087214755  if COUNTRY== 15  &  RSTUDYID== 1519721
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replace agreement=  9.000000000000000  if  COUNTRY==  15  &  RSTUDYID==  1519921
replace agreement=  9.000000000000000  if  COUNTRY==  15  &  RSTUDYID==  1519941
replace agreement=  0.671057405281286  if  COUNTRY==  15  &  RSTUDYID==  1519961
replace agreement=  0.632579734688117  if  COUNTRY==  15  &  RSTUDYID==  1520011
replace agreement=  0.625580190384384  if  COUNTRY==  15  &  RSTUDYID==  1520061
replace agreement=  0.553079096045198  if  COUNTRY==  15  &  RSTUDYID==  1520081
replace agreement=  9.000000000000000  if  COUNTRY==  15  &  RSTUDYID==  1520131
replace agreement=  9.000000000000000  if  COUNTRY==  16  &  RSTUDYID==  1619921
replace agreement=  0.641221249443538  if  COUNTRY==  16  &  RSTUDYID==  1619961
replace agreement=  9.000000000000000  if  COUNTRY==  16  &  RSTUDYID==  1620001
replace agreement=  9.000000000000000  if  COUNTRY==  16  &  RSTUDYID==  1620041
replace agreement=  9.000000000000000  if  COUNTRY==  16  &  RSTUDYID==  1620081
replace agreement=  9.000000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719711
replace agreement=  9.000000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719721
replace agreement=  9.000000000000000  if  COUNTRY==  17  &  RSTUDYID==  1719771
replace agreement=  0.549823959762232  if  COUNTRY==  17  &  RSTUDYID==  1719811
replace agreement=  0.530833237690807  if  COUNTRY==  17  &  RSTUDYID==  1719821
replace agreement=  0.336539387308534  if  COUNTRY==  17  &  RSTUDYID==  1719861
replace agreement=  0.548384549722578  if  COUNTRY==  17  &  RSTUDYID==  1719891
replace agreement=  0.552456820585125  if  COUNTRY==  17  &  RSTUDYID==  1719941
replace agreement=  0.551873026244147  if  COUNTRY==  17  &  RSTUDYID==  1719981
replace agreement=  0.585771595290195  if  COUNTRY==  17  &  RSTUDYID==  1720021
replace agreement=  0.595239564055110  if  COUNTRY==  17  &  RSTUDYID==  1720031
replace agreement=  9.000000000000000  if  COUNTRY==  17  &  RSTUDYID==  1720061
replace agreement=  9.000000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819651
replace agreement=  9.000000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819691
replace agreement=  0.660000000000000  if  COUNTRY==  18  &  RSTUDYID==  1819731
replace agreement=  0.569154050736498  if  COUNTRY==  18  &  RSTUDYID==  1819771
replace agreement=  0.561577822990844  if  COUNTRY==  18  &  RSTUDYID==  1819811
replace agreement=  0.662709624961886  if  COUNTRY==  18  &  RSTUDYID==  1819851
replace agreement=  0.625387604827163  if  COUNTRY==  18  &  RSTUDYID==  1819891
replace agreement=  0.568206724782067  if  COUNTRY==  18  &  RSTUDYID==  1819931
replace agreement=  0.576802151204882  if  COUNTRY==  18  &  RSTUDYID==  1819971
replace agreement=  0.602189086294416  if  COUNTRY==  18  &  RSTUDYID==  1820011
replace agreement=  0.621176470588235  if  COUNTRY==  18  &  RSTUDYID==  1820051
replace agreement=  0.586042431192661  if  COUNTRY==  19  &  RSTUDYID==  1919971
replace agreement=  0.549992698445812  if  COUNTRY==  19  &  RSTUDYID==  1920011
replace agreement=  0.419635052939851  if  COUNTRY==  19  &  RSTUDYID==  1920051
replace agreement=  0.435408653846154  if  COUNTRY==  19  &  RSTUDYID==  1920071
replace agreement=  0.366864876162608  if  COUNTRY==  19  &  RSTUDYID==  1920111
replace agreement=  9.000000000000000  if  COUNTRY==  20  &  RSTUDYID==  2019851
replace agreement=  0.584510322383810  if  COUNTRY==  20  &  RSTUDYID==  2020021
replace agreement=  0.460940599120744  if  COUNTRY==  20  &  RSTUDYID==  2020051
replace agreement=  0.551582119537921  if  COUNTRY==  20  &  RSTUDYID==  2020061
replace agreement=  0.405959459459459  if  COUNTRY==  20  &  RSTUDYID==  2020091
replace agreement=  9.000000000000000  if  COUNTRY==  21  &  RSTUDYID==  2119961
replace agreement=  9.000000000000000  if  COUNTRY==  21  &  RSTUDYID==  2119962
replace agreement=  9.000000000000000  if  COUNTRY==  21  &  RSTUDYID==  2120001
replace agreement=  0.265737498569630  if  COUNTRY==  21  &  RSTUDYID==  2120041
replace agreement=  9.000000000000000  if  COUNTRY==  21  &  RSTUDYID==  2120081
replace agreement=  9.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2219901
replace agreement=  9.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2219921
replace agreement=  9.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2219931
replace agreement=  9.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2219971
replace agreement=  9.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220001
replace agreement=  9.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220021
replace agreement=  9.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220022
replace agreement=  9.000000000000000  if  COUNTRY==  22  &  RSTUDYID==  2220031
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replace agreement= 9.000000000000000 if COUNTRY== 22 & RSTUDYID== 2220041
replace agreement= 0.341959290301513 if COUNTRY== 23 & RSTUDYID== 2320001
replace agreement= 0.361465956723689 if COUNTRY== 23 & RSTUDYID== 2320041
replace agreement= 0.368300783289817 if COUNTRY== 23 & RSTUDYID== 2320081
replace agreement= 0.918605072463768 if COUNTRY== 24 & RSTUDYID== 2419791
replace agreement= 0.690138655932014 if COUNTRY== 24 & RSTUDYID== 2419821
replace agreement= 0.684957930819570 if COUNTRY== 24 & RSTUDYID== 2419861
replace agreement= 0.645928901606868 if COUNTRY== 24 & RSTUDYID== 2419891
replace agreement= 0.513088155170535 if COUNTRY== 24 & RSTUDYID== 2419931
replace agreement= 0.600700995240156 if COUNTRY== 24 & RSTUDYID== 2420001
replace agreement= 0.595357295221843 if COUNTRY== 24 & RSTUDYID== 2420041
replace agreement= 0.596356783919598 if COUNTRY== 24 & RSTUDYID== 2420081
replace agreement= 9.000000000000000 if COUNTRY== 25 & RSTUDYID== 2519561
replace agreement= 9.000000000000000 if COUNTRY== 25 & RSTUDYID== 2519601
replace agreement= 9.000000000000000 if COUNTRY== 25 & RSTUDYID== 2519641
replace agreement= 9.000000000000000 if COUNTRY== 25 & RSTUDYID== 2519681
replace agreement= 9.000000000000000 if COUNTRY== 25 & RSTUDYID== 2519701
replace agreement= 9.000000000000000 if COUNTRY== 25 & RSTUDYID== 2519731
replace agreement= 9.000000000000000 if COUNTRY== 25 & RSTUDYID== 2519761
replace agreement= 0.689618804292284 if COUNTRY== 25 & RSTUDYID== 2519791
replace agreement= 0.698974945420522 if COUNTRY== 25 & RSTUDYID== 2519821
replace agreement= 0.687682889501071 if COUNTRY== 25 & RSTUDYID== 2519851
replace agreement= 0.671845355474831 if COUNTRY== 25 & RSTUDYID== 2519881
replace agreement= 0.638674005251464 if COUNTRY== 25 & RSTUDYID== 2519911
replace agreement= 0.657283331627954 if COUNTRY== 25 & RSTUDYID== 2519941
replace agreement= 0.647374743326489 if COUNTRY== 25 & RSTUDYID== 2519981
replace agreement= 0.624770850536746 if COUNTRY== 25 & RSTUDYID== 2520021
replace agreement= 0.626210771840543 if COUNTRY== 25 & RSTUDYID== 2520061
replace agreement= 9.000000000000000 if COUNTRY== 25 & RSTUDYID== 2520101
replace agreement= 0.475426173616575 if COUNTRY== 26 & RSTUDYID== 2619711
replace agreement= 9.000000000000000 if COUNTRY== 26 & RSTUDYID== 2619751
replace agreement= 9.000000000000000 if COUNTRY== 26 & RSTUDYID== 2619791
replace agreement= 9.000000000000000 if COUNTRY== 26 & RSTUDYID== 2619871
replace agreement= 9.000000000000000 if COUNTRY== 26 & RSTUDYID== 2619911
replace agreement= 0.446152944241793 if COUNTRY== 26 & RSTUDYID== 2619951
replace agreement= 0.516520953757225 if COUNTRY== 26 & RSTUDYID== 2619991
replace agreement= 0.536954846478025 if COUNTRY== 26 & RSTUDYID== 2620031
replace agreement= 9.000000000000000 if COUNTRY== 26 & RSTUDYID== 2620071
replace agreement= 9.000000000000000 if COUNTRY== 26 & RSTUDYID== 2620111
replace agreement= 0.551520089285714 if COUNTRY== 27 & RSTUDYID== 2720051
replace agreement= 9.000000000000000 if COUNTRY== 28 & RSTUDYID== 2820021
replace agreement= 9.000000000000000 if COUNTRY== 28 & RSTUDYID== 2820071
replace agreement= 9.000000000000000 if COUNTRY== 28 & RSTUDYID== 2820111
replace agreement= 0.582068517001539 if COUNTRY== 19 & RSTUDYID== 1906136

Values of Context Variables Used

TEV - STUDY ID	TEV - COUNTRY	rstudyid	perceptual agreement at system level for left-right positions of parties -van der Eijk A coefficient	sum of vote shares of parties involved in calculation of systemAGRM
Austria 2008	1.00	120081.00	0.252902779257	93.9100
Estonia 2011	7.00	720111.00	0.450954926625	95.4000
Finland 2003	8.00	820031.00	0.524065899582	95.6000
Finland 2007	8.00	820071.00	0.566425367047	98.0800
Germany 1976	10.00	1019761.00	0.564055090304	99.1100
Germany 1983	10.00	1019831.00	0.596807719369	99.4900
Germany 1987	10.00	1019871.00	0.575646093037	98.6700
Germany 1990	10.00	1019901.00	0.584307898559	89.5100
Germany 1998	10.00	1019981.00	0.484241393965	94.1200
Germany 2002	10.00	1020021.00	0.586525387263	92.9600
Germany 2005	10.00	1020051.00	0.586820358035	96.0800
Germany 2009	10.00	1020091.00	0.659909564847	93.9900
Greece 1985	11.00	1119851.00	0.651482133610	96.5500
Greece 1989a	11.00	1119891.00	0.586174319626	83.4100
Greece 1989b	11.00	1119892.00	0.539440646364	96.5400
Greece 1990	11.00	1119901.00	0.584846523283	95.7800
Greece 1993	11.00	1119931.00	0.640954074694	95.5900
Greece 1996	11.00	1119961.00	0.626105718506	94.7800
Greece 2004	11.00	1120041.00	0.589180327869	95.1600
Greece 2009	11.00	1120091.00	0.584633813176	95.1700
Greece 2012	11.00	1120121.00	0.514218700138	94.0100
Hungary 1998	12.00	1219981.00	0.445760798071	91.2200
Hungary 2006	12.00	1220061.00	0.682991084844	99.8300
Iceland 1983	13.00	1319831.00	0.746534745664	85.9100
Iceland 1987	13.00	1319871.00	0.653947313402	95.6600
Iceland 1991	13.00	1319911.00	0.627947940623	95.6600
Iceland 1995	13.00	1319951.00	0.618903495363	98.1300
Iceland 1999	13.00	1319991.00	0.634334409036	99.1600
Iceland 2003	13.00	1320031.00	0.641337392187	98.5500
Iceland 2007	13.00	1320071.00	0.606287604673	96.7300
Iceland 2009	13.00	1320091.00	0.590808725177	97.1900
Ireland 2007	14.00	1420071.00	0.473497363796	96.7300
Italy 1972	15.00	1519721.00	0.663079087215	95.9700
Italy 1996	15.00	1519961.00	0.671057405281	87.1000
Italy 2001	15.00	1520011.00	0.632579734688	70.8600
Italy 2006	15.00	1520061.00	0.625580190384	82.9900
Italy 2008	15.00	1520081.00	0.553079096045	88.5000
Lithuania 1996	16.00	1619961.00	0.641221249444	67.3900
Netherlands 1981	17.00	1719811.00	0.549823959762	87.4800
Netherlands 1982	17.00	1719821.00	0.530833237691	87.1300
Netherlands 1986	17.00	1719861.00	0.336539387309	91.4000
Netherlands 1989	17.00	1719891.00	0.548384549723	93.7200
Netherlands 1994	17.00	1719941.00	0.552456820585	85.1100
Netherlands 1998	17.00	1719981.00	0.551873026244	91.8300
Netherlands 2002	17.00	1720021.00	0.585771595290	95.9700
Netherlands 2003	17.00	1720031.00	0.595239564055	97.2600
Norway 1973	18.00	1819731.00	0.660000000000	95.6700

Norway 1977	18.00	1819771.00	0.569154050736	97.7600
Norway 1981	18.00	1819811.00	0.561577822991	98.3000
Norway 1985	18.00	1819851.00	0.662709624962	98.3900
Norway 1989	18.00	1819891.00	0.625387604827	97.7800
Norway 1993	18.00	1819931.00	0.568206724782	96.3600
Norway 1997	18.00	1819971.00	0.576802151205	96.6900
Norway 2001	18.00	1820011.00	0.602189086294	94.5600
Norway 2005	18.00	1820051.00	0.621176470588	96.9000
Poland 1997	19.00	1919971.00	0.586042431193	87.2000
Poland 2001	19.00	1920011.00	0.549992698446	95.8700
Poland 2005	19.00	1920051.00	0.419635052940	88.7800
Poland 2007	19.00	1920071.00	0.435408653846	95.6800
Poland 2011	19.00	1920111.00	0.366864876163	95.6900
Portugal 2002	20.00	2020021.00	0.584510322384	98.3300
Portugal 2005	20.00	2020051.00	0.460940599121	97.8100
Portugal 2006	20.00	2020061.00	0.551582119538	99.5500
Portugal 2009	20.00	2020091.00	0.405959459459	96.2000
Romania 2004	21.00	2120041.00	0.265737498570	87.3900
Slovenia 2000	23.00	2320001.00	0.341959290302	91.8700
Slovenia 2004	23.00	2320041.00	0.361465956724	88.2700
Slovenia 2008	23.00	2320081.00	0.368300783290	95.7500
Spain 1979	24.00	2419791.00	0.918605072464	82.8000
Spain 1982	24.00	2419821.00	0.690138655932	89.4300
Spain 1986	24.00	2419861.00	0.684957930820	96.2700
Spain 1989	24.00	2419891.00	0.645928901607	90.8600
Spain 1993	24.00	2419931.00	0.513088155171	91.7700
Spain 2000	24.00	2420001.00	0.600700995240	92.4400
Spain 2004	24.00	2420041.00	0.595357295222	93.7600
Spain 2008	24.00	2420081.00	0.596356783920	95.5200
Sweden 1979	25.00	2519791.00	0.689618804292	97.8500
Sweden 1982	25.00	2519821.00	0.698974945421	96.1900
Sweden 1985	25.00	2519851.00	0.687682889501	98.0100
Sweden 1988	25.00	2519881.00	0.671845355475	96.3500
Sweden 1991	25.00	2519911.00	0.638674005251	99.0200
Sweden 1994	25.00	2519941.00	0.657283331628	97.7300
Sweden 1998	25.00	2519981.00	0.647374743326	97.4000
Sweden 2002	25.00	2520021.00	0.624770850537	96.8800
Sweden 2006	25.00	2520061.00	0.626210771841	94.3200
Switzerland 1971	26.00	2619711.00	0.475426173617	76.2600
Switzerland 1995	26.00	2619951.00	0.446152944242	76.7600
Switzerland 1999	26.00	2619991.00	0.516520953757	83.0400
Switzerland 2003	26.00	2620031.00	0.536954846478	83.0500
UK 2005	27.00	2720051.00	0.551520089286	89.6000

Online Appendix Chapter 11

Additional Tables and Figures

Table A11.1. Countries, elections and parties included in the analyses

Country	Number of Elections	Elections/number of parties analysed in given elections	Number of party-specific populism scores for given country over years of the study
Austria	1 (2)	(2006), 2008[a]/5	5
Finland	3 (4)	(1995), 2003[acd]/8, 2007[abcd]/5, 2011[acd]/8	21
Germany	10 (11)	(1972) , 1976[ab]/3, 1980[a]/4, 1983[ab]/4, 1987[ab]/4, 1990[ab]/4, 1994[a]/4, 1998[ab]/4, 2002[ab]/4, 2005[ab]/5, 2009[ab]/5	41
Ireland	3 (4)	(1997), 2002[ab]/6, 2007[ab]/6, 2011[ab]/5	17
Italy	4 (5)	(1994), 1996[ab]/7, 2001[ab]/3, 2008[b]/3, 2013[ab]/7	20
Netherlands	7 (8)	(1981) 1982[a]/5, 1986[a]/7, 1989[b]/8, 1994[ab]/9, 1998[ab]/10, 2002[a]/9, 2006[a]/8	56
Norway	11 (12)	(1961), 1965[a]/6, 1969[a]/6, 1973[a]/6, 1977[a]/7, 1981[ab]/7, 1985[ab]/6, 1989[ab]/6, 1993[ab]/7, 1997[ab]/7, 2001[ab]/7, 2005[ab]/7	72
Portugal	3 (4)	(1985), 2002[ab]/6, 2005[ab]/6, 2009[ab]/6	18
Spain	1 (2)	(2004) 2008[ab]/5	5
Sweden	14 (15)	(1964) 1968[a]/5, 1970[a]/5, 1973[a]/5, 1976[a]/5, 1979[ab]/5, 1982[ab]/5, 1985[ab]/5, 1988[ab]/6, 1991[ab]/7, 1994[ab]/7, 1998[abcd]/7, 2002[ab]/7, 2006[b]/6, 2010[ab]/8	83
Switzerland	9 (11)	(1967), 1971[a]/5, 1975[a]/5, 1979[a]/4, 1987[a]/5, (1983), 1991[a]/5, 1995[a]/5, 1999[a]/5, 2003[a]/5, 2007[a]/5	44 (French/German)
Total	66 (78)		382

Note: Years in parenthesis refer to election year used (when available) to calculate the lagged party size and lagged party populism level in Model 1 and 2 and to calculate confidence in institutions' mean and lagged macro partisanship in Model 3.

[a] Elections included in Models 4, 5, 6.

[b] Elections included in Model 7.

Setups Used for Statistical Analyses

```
##Models 1-3##

library(haven)
Model1 <- read_dta("Populism_level_data.dta")

library(tidyverse)
library(sandwich)
library(lmtest)

Model1$election<-Model1$country*10000+Model1$year

summary(Model1)
model1<-lm(diff_popul~popul_lag+prshare2_lag*extr3+elecTime2b+LRdum3,data=Model1)
coeftest(model1,vcovCL,cluster=Model1$election)

model3<-
lm(diff_popul~popul_lag+prshare2_lag*extr3+elecTime2b+LRdum3+Confid+Partisan,data=Model1)
coeftest(model3,vcovCL,cluster=Model1$election)

model2<-lm(diff_popul~popul_lag+prshare2_lag*extr3+elecTime2b+LRdum3,data=model3$model)
coeftest(model2,vcovCL,cluster=Model1$election)

## Models 4-6

library(foreign)
library(car)
library(lme4)
rm(list=ls())
```

```
Data.turn<-read.spss('8_0123.TEV_unstacked_data_R VAR 20160930.sav',to.data.frame = T,use.value.labels = F)

Data.turn.lab<-read.spss('8_0123.TEV_unstacked_data_R VAR 20160930.sav',to.data.frame = T,use.value.labels = T)

names(Data.turn.lab)[1]<-'COUNTRY.LAB'

Data.turn<-cbind(Data.turn, Data.turn.lab[,c(1,8)])

names(Data.turn)[223]<-'COUNTRY.LAB'

names(Data.turn)[224]<-'RSTUDYID.LAB'

Data.turn$COUNTRY.LAB<-factor(Data.turn$COUNTRY.LAB)

Data.turn$RSTUDYID.LAB<-factor(Data.turn$RSTUDYID.LAB)

Data.polar<-read.spss('PopulismTEV_polarisation_aggr_all cases.sav',to.data.frame = T)

Data.polar<-Data.polar[,-c(5,7)]

names(Data.polar)<-toupper(names(Data.polar))

Data.polar$POLAR1C<-Data.polar$POLAR1-mean(Data.polar$POLAR1,na.rm = T)

Data.polar$POLAR2C<-Data.polar$POLAR2-mean(Data.polar$POLAR2,na.rm = T)

Data.turn<-merge(Data.turn,Data.polar,by=c('COUNTRY','YEAR'))

Data.turn$ELECTION<-factor(Data.turn$ELECTION)

Data.turn$RAGE[Data.turn$RAGE>100]<-NA

Data.turn$RAGE[Data.turn$RAGE<18]<-NA

Data.turn$RAGESQR<-Data.turn$RAGE^2

Data.turn$RAGEGR4<-car::recode(Data.turn$RAGEGR,"1='18-29';2='30-45';3='46-59';4='60+';else=NA", as.factor = T,as.numeric = F)

Data.turn$RGENDER[Data.turn$RGENDER>2]<-NA

Data.turn$RGENDER<-recode(Data.turn$RGENDER,"1=0;2=1")

Data.turn$REDU[Data.turn$REDU>3]<-NA

Data.turn$NSINGLE<-recode(Data.turn$RMARRIED,"1=1;2:3=0;else=NA")

Data.turn$RUNION<-recode(Data.turn$RUNION1,"1=1;2=0;else=NA")

Data.turn$RPID<-recode(Data.turn$RPID1,"1=0;2=1;else=NA")

Data.turn$TURNOUT[Data.turn$TURNOUT>1]<-NA

Data.turn$RAGE2<-recode(Data.turn$RAGE,"18:23='18-23';24:35='24-35';36:50='36-50';51:65='51-65';66:100='66-100';else=NA",

                as.factor=T,as.numeric=F)
```

```
Data.turn$COUNTRY.LAB<-factor(Data.turn$COUNTRY.LAB)

Data.turn$RSTUDYID.LAB<-factor(Data.turn$RSTUDYID.LAB)


Model.4 <- glmer(TURNOUT ~
RAGE2*POLAR1C+RGENDER*POLAR1C+REDU*POLAR1C+NSINGLE*POLAR1C

          +RUNION +RPID+

           (1+RAGE2+RGENDER+REDU+NSINGLE| RSTUDYID.LAB)+(1|COUNTRY.LAB),

          data = Data.turn,family = binomial, nAGQ = 0)


Model.5 <- glmer(TURNOUT ~
RAGE2*POLAR1C+RGENDER*POLAR1C+REDU*POLAR1C+NSINGLE*POLAR1C

          +RUNION*POLAR1C +RPID+

           (1+RAGE2+RGENDER+REDU+NSINGLE+RUNION| RSTUDYID.LAB)+(1|COUNTRY.LAB),

          data = Data.turn,family = binomial,

          nAGQ =0,control=glmerControl(optCtrl=list(maxfun=20000)) )


Model.6 <- glmer(TURNOUT ~
RAGE2*POLAR1C+RGENDER*POLAR1C+REDU*POLAR1C+NSINGLE*POLAR1C

          +RUNION*POLAR1C +RPID*POLAR1C+

           (1+RAGE2+RGENDER+REDU+NSINGLE+RUNION+RPID| RSTUDYID.LAB)+(1|COUNTRY.LAB),

          data = Data.turn,family = binomial, nAGQ =
0,control=glmerControl(optCtrl=list(maxfun=20000)) )


## Models 7


library(foreign)

library(car)

library(xtable)

library(lme4)

library(plyr)

rm(list=ls())
```

```
Data.pc<-read.spss('8_0123.TEV_stacked_data_ONLY STACK VAR 20160930.sav',to.data.frame =
T,use.value.labels = F)

Data.pc.lab<-read.spss('8_0123.TEV_stacked_data_ONLY STACK VAR 20160930.sav',to.data.frame =
T,use.value.labels = T)

names(Data.pc.lab)[1]<-'COUNTRY.LAB'

names(Data.pc.lab)[3]<-'RSTUDYID.LAB'

Data.pc<-cbind(Data.pc, Data.pc.lab[,c(1,3)])

Data.pc$COUNTRY.LAB<-factor(Data.pc$COUNTRY.LAB)

Data.pc$RSTUDYID.LAB<-factor(Data.pc$RSTUDYID.LAB)

Data.pc$SSEV[Data.pc$SSEV==999]<-NA

Data.pc$PID[Data.pc$PID>1]<-NA

Data.pc$LRDPARTY[Data.pc$LRDPARTY>1]<-NA

Data.pc$LSYMP[Data.pc$LSYMP>1]<-NA

Data.pc$VOTE[Data.pc$VOTE>1]<-NA

Data.polar<-read.spss('PopulismTEV_polarisation_aggr_all cases.sav',to.data.frame = T)


Data.polar<-Data.polar[,-c(5,7)]

names(Data.polar)<-toupper(names(Data.polar))

Data.polar$POLAR1C<-Data.polar$POLAR1-mean(Data.polar$POLAR1,na.rm = T)

Data.polar$POLAR2C<-Data.polar$POLAR2-mean(Data.polar$POLAR2,na.rm = T)

Data.pc<-merge(Data.pc,Data.polar,by=c('COUNTRY','YEAR'))

Data.pc<-Data.pc[which(Data.pc$COUNTRY!=7),]

Data.pc$COUNTRY.LAB<-factor(Data.pc$COUNTRY.LAB)

Data.pc$RSTUDYID.LAB<-factor(Data.pc$RSTUDYID.LAB)


Model.7<-glmer(VOTE ~ SSEV*POLAR1C+PID*POLAR1C+LRDPARTY*POLAR1C +LSYMP*POLAR1C + (1
+ SSEV+PID+LRDPARTY+ LSYMP | RSTUDYID.LAB) + (1 | COUNTRY.LAB), data = Data.pc,

        family = binomial, nAGQ = 0)
```

Values of Contextual Variables

RSTUDYID	RSTUDYID	COUNTRY	Pop_polar_cent	Model
120081	Austria 2008	Austria	-0.082818793	2
820031	Finland 2003	Finland	0.026985207	1
820071	Finland 2007	Finland	-0.090240584	1
820111	Finland 2011	Finland	0.145827808	1
1019761	Germany 1976	Germany	0.102488859	1
1019801	Germany 1980	Germany	0.075974914	2
1019831	Germany 1983	Germany	-0.092464051	1
1019871	Germany 1987	Germany	-0.081757874	1
1019901	Germany 1990	Germany	0.01211657	1
1019941	Germany 1994	Germany	-0.001825934	2
1019981	Germany 1998	Germany	-0.089188853	1
1020021	Germany 2002	Germany	-0.122894297	1
1020051	Germany 2005	Germany	0.00484279	1
1020091	Germany 2009	Germany	-0.081092408	1
1420021	Ireland 2002	Ireland	-0.061187784	1
1420071	Ireland 2007	Ireland	-0.064984543	1
1420111	Ireland 2011	Ireland	-0.076323362	1
1519961	Italy 1996	Italy	-0.10921804	1
1520011	Italy 2001	Italy	-0.191122842	1
1520131	Italy 2013	Italy	0.000817493	1
1719821	Netherlands 1982	Netherlands	-0.008464629	2
1719861	Netherlands 1986	Netherlands	-0.08115578	2
1719941	Netherlands 1994	Netherlands	-0.122189008	1
1719981	Netherlands 1998	Netherlands	-0.075911353	1
1720021	Netherlands 2002	Netherlands	-0.043280738	2
1720061	Netherlands 2006	Netherlands	-0.026088314	2
1819651	Norway 1965	Norway	0.102230882	2
1819691	Norway 1969	Norway	-0.024146191	2
1819731	Norway 1973	Norway	-0.034039181	2
1819771	Norway 1977	Norway	-0.019336347	2
1819811	Norway 1981	Norway	-0.015360883	1
1819851	Norway 1985	Norway	0.050529142	1
1819891	Norway 1989	Norway	0.038559814	1
1819931	Norway 1993	Norway	0.046274332	1
1819971	Norway 1997	Norway	0.006375503	1
1820011	Norway 2001	Norway	-0.030345383	1
1820051	Norway 2005	Norway	-0.00513579	1
2020021	Portugal 2002	Portugal	0.018441095	1
2020051	Portugal 2005	Portugal	-0.086026835	1
2020091	Portugal 2009	Portugal	-0.065386651	1
2420081	Spain 2008	Spain	-0.016385075	1
2519681	Sweden 1968	Sweden	0.19462005	2
2519701	Sweden 1970	Sweden	0.122701282	2
2519731	Sweden 1973	Sweden	0.029279331	2
2519761	Sweden 1976	Sweden	0.053519096	2
2519791	Sweden 1979	Sweden	0.129758101	1
2519821	Sweden 1982	Sweden	0.180028224	1

Model=1 both models;
ModelModel=2 only participation models
Model=3 only party choice model

2519851	Sweden 1985	Sweden	0.195205343	1
2519881	Sweden 1988	Sweden	0.060439602	1
2519911	Sweden 1991	Sweden	0.135624893	1
2519941	Sweden 1994	Sweden	0.084647936	1
2519981	Sweden 1998	Sweden	0.004929349	1
2520021	Sweden 2002	Sweden	-0.001889571	1
2520101	Sweden 2010	Sweden	0.143688571	1
2619711	Switzerland 1971	Switzerland	-0.007643773	2
2619751	Switzerland 1975	Switzerland	-0.043685355	2
2619791	Switzerland 1979	Switzerland	0.040850996	2
2619871	Switzerland 1987	Switzerland	-0.067948309	2
2619911	Switzerland 1991	Switzerland	-0.020763701	2
2619951	Switzerland 1995	Switzerland	0.046108132	2
2619991	Switzerland 1999	Switzerland	-0.134302619	2
2620031	Switzerland 2003	Switzerland	-0.016463598	2
2620071	Switzerland 2007	Switzerland	-0.014104516	2
1520081	Italy 2008	Italy	-0.000913033	3
1719891	Netherlands 1989	Netherlands	0.051170054	3
2520061	Sweden 2006	Sweden	-0.03253074	3

Legend: Pop_polar_cent = index of populist polarisation (centred)