

Web Appendix for “Not Always Second Order: Subnational Elections, National-level Vote Intentions, and Volatility Spillovers in a Multilevel Electoral System”

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This appendix contains additional information about the data and results from several robustness and alternative tests.

Table 1 shows when elections took place in the German states from 1992 to 2007. This information was used to create the subnational election campaign variables.

1 Preestimation Diagnostics

Table 2 reports summary statistics for the dependent variables and table 3 presents result from autocorrelation tests.

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Table 1: State Elections in Germany by State, 1992-2007

No	State	Election Date
1	Baden-Wuerttemberg	05.04.1992
2	Baden-Wuerttemberg	24.03.1996
3	Baden-Wuerttemberg	25.03.2001
4	Baden-Wuerttemberg	26.03.2006
5	Bayern	25.09.1994
6	Bayern	13.09.1998
7	Bayern	21.09.2003
8	Berlin	22.10.1995
9	Berlin	10.10.1999
10	Berlin	21.10.2001
11	Berlin	17.09.2006
12	Brandenburg	11.09.1994
13	Brandenburg	05.09.1999
14	Brandenburg	19.09.2004
15	Bremen	14.05.1995
16	Bremen	06.06.1999
17	Bremen	25.05.2003
18	Bremen	13.05.2007
19	Hamburg	19.09.1993
20	Hamburg	21.09.1997
21	Hamburg	23.09.2001
22	Hamburg	29.02.2004
23	Hessen	19.02.1995
24	Hessen	07.02.1999
25	Hessen	02.02.2003
26	Mecklenburg-Vorpommern	16.10.1994
27	Mecklenburg-Vorpommern	27.09.1998
28	Mecklenburg-Vorpommern	22.09.2002
29	Mecklenburg-Vorpommern	17.09.2006
30	Niedersachsen	13.03.1994
31	Niedersachsen	01.03.1998
32	Niedersachsen	02.02.2003
33	Nordrhein-Westfalen	14.05.1995
34	Nordrhein-Westfalen	14.05.2000
35	Nordrhein-Westfalen	22.05.2005
36	Rheinland-Pfalz	24.03.1996
37	Rheinland-Pfalz	25.03.2001
38	Rheinland-Pfalz	26.03.2006
39	Saarland	16.10.1994
40	Saarland	05.09.1999
41	Saarland	05.09.2004
42	Sachsen	11.09.1994
43	Sachsen	19.09.1999
44	Sachsen	19.09.2004
45	Sachsen-Anhalt	26.06.1994
46	Sachsen-Anhalt	26.04.1998
47	Sachsen-Anhalt	21.04.2002
48	Sachsen-Anhalt	26.03.2006
49	Schleswig-Holstein	05.04.1992
50	Schleswig-Holstein	24.03.1996
51	Schleswig-Holstein	27.02.2000
52	Schleswig-Holstein	20.02.2005
53	Thuringen	16.10.1994
54	Thuringen	12.09.1999
55	Thuringen	13.06.2004

Table 2: Descriptive Statistics for Federal-level Vote Intentions

	CDU	SPD	FDP	Greens
Mean	29.8	28.4	3.9	6.7
Std. dev.	6.0	5.7	1.9	1.9
Skewness	-.2	.0	.8	.0
Kurtosis	2.2	2.2	3.3	2.1
N	831	831	831	831

Table 3: Pre-estimation Diagnostics: Testing for Volatility Clustering in Vote Intention Series

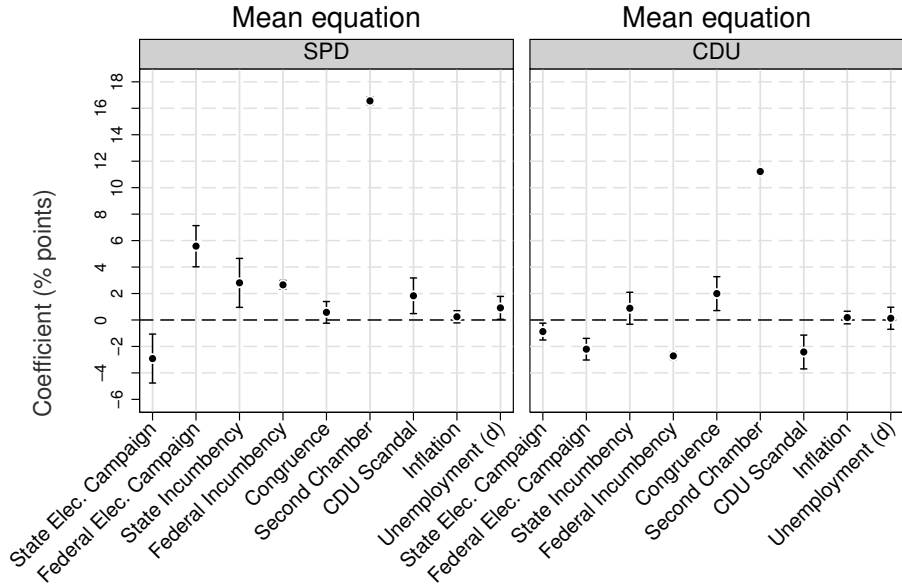
	CDU	SPD	FDP	Greens
Residuals				
Lag				
1	766***	754***	717***	669***
2	1508***	1474***	1403***	1311***
3	2227***	2164***	2068***	1934***
4	2920***	2817***	2716***	2539***
5	3586***	3440***	3362***	3128***
Squared residuals				
Lag				
1	612***	622***	570***	371***
2	1156***	1137***	1081***	672***
3	1635***	1594***	1564***	955***
4	2048***	1964***	2006***	1191***
5	2410***	2291***	2456***	1422***
ARCH-LM(1)	610***	620***	568***	370***

Notes: Cell entries are results from Ljung-Box-Portmanteau tests for serial correlation. ARCH-LM(1) is the Lagrange multiplier test for first order autoregressive conditional heteroskedasticity. * p<.10, ** <.05, *** p<.01.

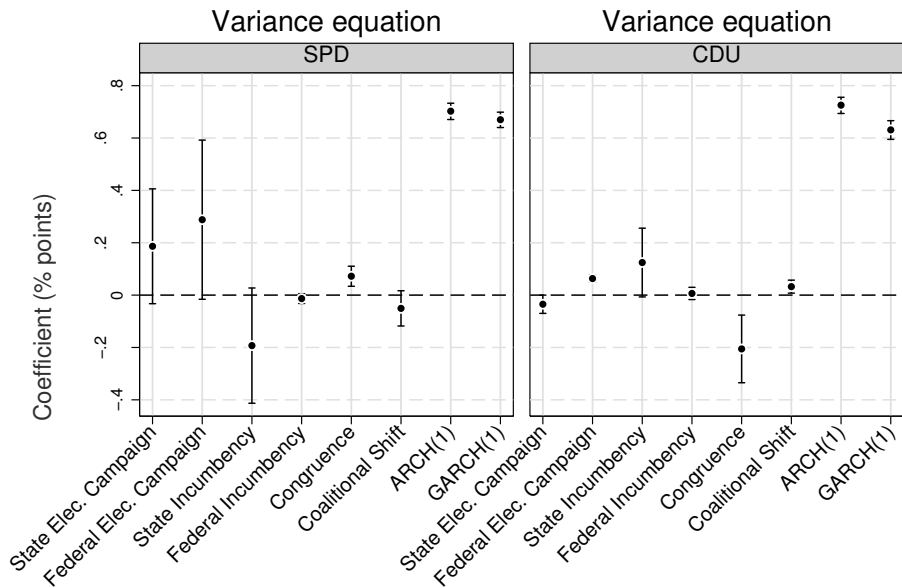
2 Additional Results

I reestimated all models using a three weeks campaign window. Figures 1, 2, and 3 report the results.

Figure 1: GARCH(1,1) Estimates of Vote Intentions: CDU and SPD, 1992-2007 (three weeks campaign window)



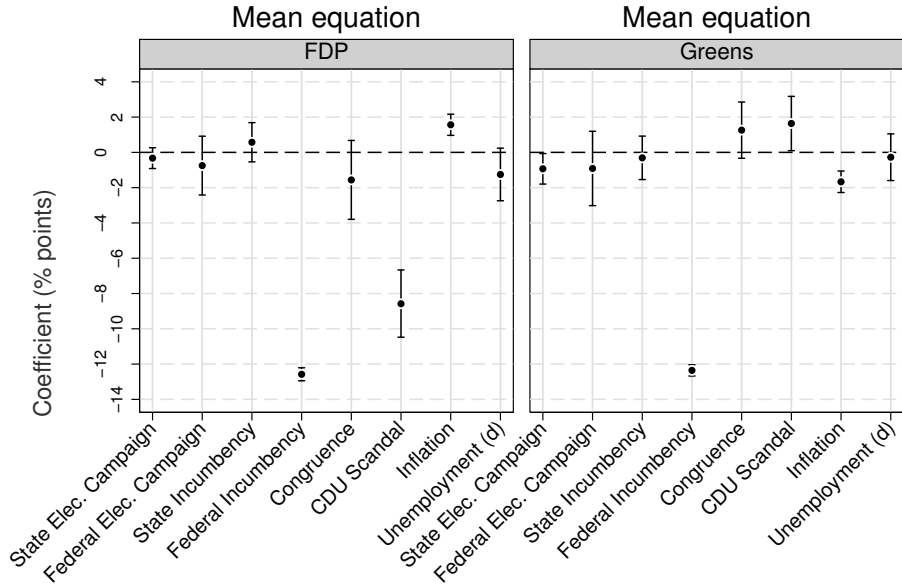
Graphs by party



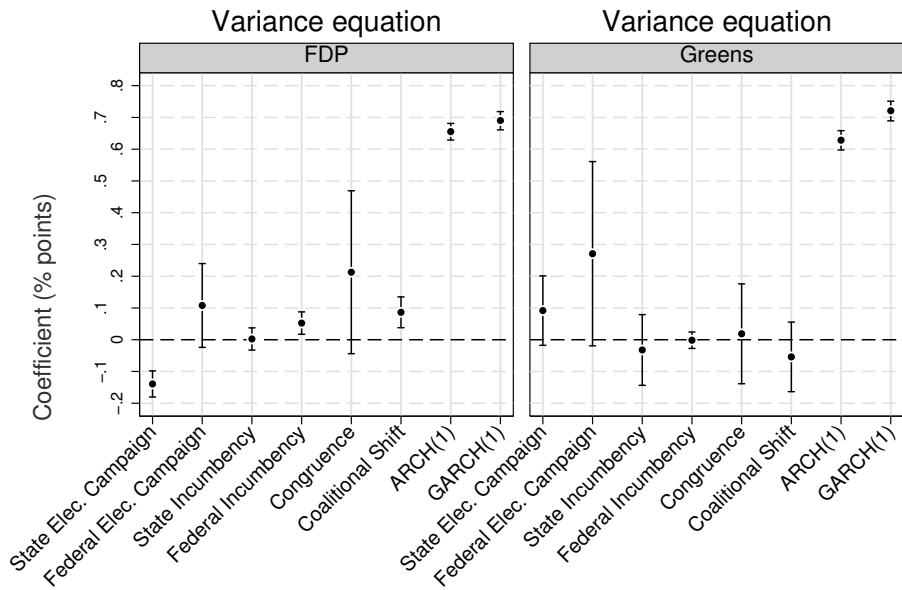
Graphs by party

Note: The upper two panels are mean equation results. The lower two panels report results for the variance equation (left panels: SPD, right panels: CDU). Dots represent GARCH(1,1) point estimates, vertical lines depict 90% confidence intervals. Constant in mean and variance equation included, but not reported. * $p < .10$, ** $p < .05$, *** $p < .01$.

Figure 2: GARCH(1,1) Estimates of Vote Intentions: FDP and Greens, 1992-2007 (three weeks campaign window)



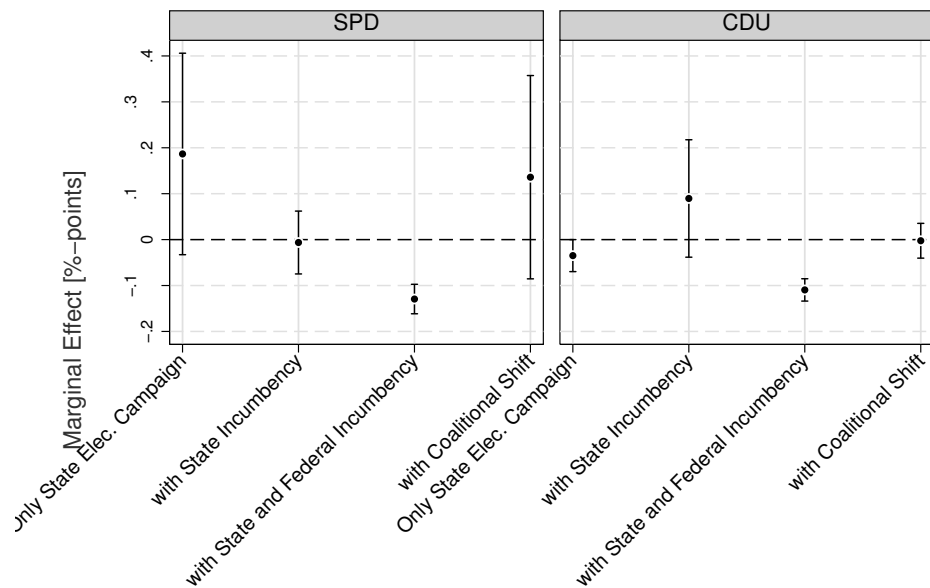
Graphs by party



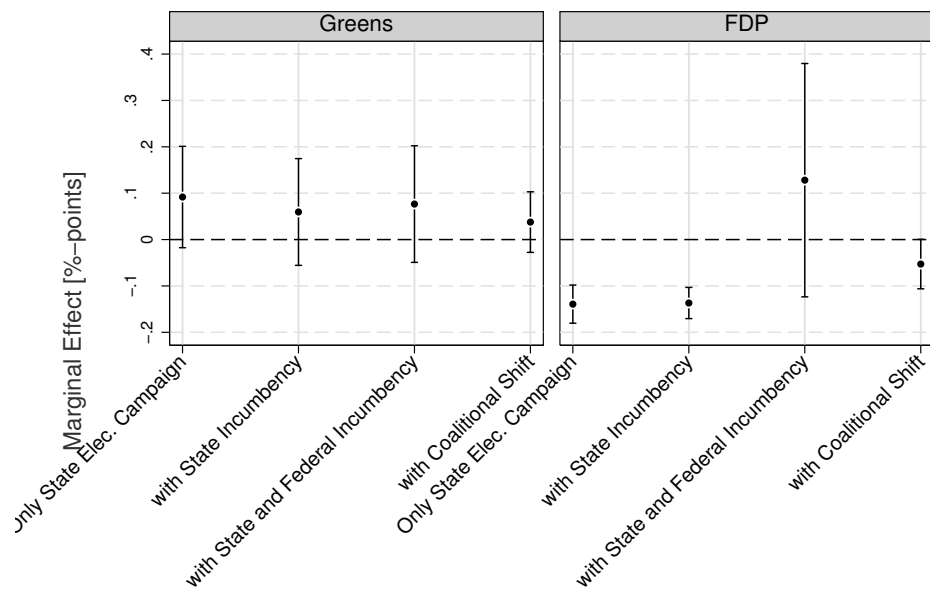
Graphs by party

Note: The upper two panels are mean equation results. The lower two panels report results for the variance equation (left panels: FDP, right panels: Greens). Dots represent GARCH(1,1) point estimates, vertical lines depict 90% confidence intervals. Constant in mean and variance equation included, but not reported. * $p < .10$, ** $p < .05$, *** $p < .01$.

Figure 3: Marginal Volatility Spillover Effects (three weeks campaign window)



Graphs by party



Graphs by party

Note: Dots represent marginal effects computed from GARCH(1,1) point estimates. Vertical lines depict 90% confidence intervals based on Bollerslev-Wooldridge semi-robust standard errors.