

# SUPPLEMENTARY MATERIALS

to

## The Neglected Role and Variability of Party Intercepts in the Spatial Valence Approach, *Political Analysis*

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### A Operationalization

The nominal response variable party choice is operationalized by the stated vote choice for one of the five major German parties in 1998, using the second vote. These parties are the Christian Democrats (CDU/CSU)<sup>1</sup>, the Social Democratic Party (SPD), the Liberal Party (FDP), the Greens (Gre), and the Left Party (PDS). In the 1998 German parliamentary election, the parties received the following vote shares: CDU/CSU 35.1%; SPD 40.9%; FDP 6.2%; Greens 6.7%; PDS 5.1%; Others 5.9%. The 1998 German national election study<sup>2</sup> (Falter, Gabriel and Rattinger 2012) contains three policy issues (immigration, nuclear energy, and European unification) and the ideological Left-Right dimension on which respondents positioned themselves and the parties.<sup>3</sup> These placements are the basis for the spatial proximity variables [imm\_, ne\_, eu\_, lr\_]. As voter-specific nonpolicy attributes, I incorporate six standard cleavage variables and sociodemographics into the voter choice model. To account for differences in voting behavior along the lines of social class, two class-related variables are used: working class, and union membership. Besides the cleavage along the line of social class, religion is traditionally considered as a central cleavage variable that determines electoral choices in Germany. Finally, the models account for the effects of standard demographic voter attributes on party choice, including

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<sup>1</sup>For voters in Bavaria, the CSU instead of the CDU is used.

<sup>2</sup>The entries in square brackets show the abbreviation of the variables in the replication files.

<sup>3</sup>The scale end-points are as follows: Immigration: 1 Immigration should be facilitated, 7 Immigration should be restricted; Nuclear Energy: 1 Continued development of nuclear power, 7 Immediate shut-down of all nuclear power plants; European Unification: 1 Speed up the European unification, 7 European unification already goes too far; 1 Left, 11 Right.

age, gender, and region. Since East/West Germany constituted for a long time a major explanation for differences in voting behavior in Germany, the models control for this east-west divide. The cleavage variables and standard demographic voter attributes are coded as follows:

- (a) Worker or working class: 1 (worker), 0 (otherwise) [work]; reversed coding: [work2]
- (b) Union membership: 1 (union members), 0 (otherwise) [union]; reversed coding: [union2]
- (c) Religious denomination: 1 (catholic), 0 (otherwise) [relig]
- (d) Age: centered around the sample mean, measured in decades (metric) [age]
- (e) Gender: 1 (female), 0 (male) [sex]; reversed coding: [sex2]
- (f) Region: 1 (West Germany), 0 (East Germany) [west]; reversed coding: [west2].

For simplicity, the models use only information on the subset of respondents that placed both themselves and the five parties on the issues and have no missing values on voter attributes. Also, no sample weights are applied. To correct for oversampling in former East Germany, I randomly dropped observations from East Germany to ensure an empirical population ratio of about 1:4 between East and West German respondents.

## B Policy-Only Model

Table A1: Policy-only voter choice model (CDU as reference party)

<i>Spatial Proximities</i>	<i>Party</i>	<i>Parameter</i>	
Immigration		0.077	(0.043)
EU		0.193	(0.050)
Nuclear Energy		0.351	(0.040)
Left-Right		0.403	(0.033)
<i>Intercept</i>	CDU	-	
	SPD	-0.137	(0.111)
	FDP	-2.228	(0.197)
	Greens	-1.444	(0.160)
	Left	-1.526	(0.171)

*Note:* N=715, df=8, AIC=1460.17, BIC=1496.75, LogL=-722.08.  
Conditional logit model of party choice. Numbers in parentheses show standard errors.

## C Fully Specified Models: Additional Tables

Table A2: Ordering and values of valence terms based on different reference parties

Reference	$\hat{\beta}_0^T = (\hat{\beta}_{[p]0}, \dots, \hat{\beta}_{[1]0})$	$\Lambda$
CDU	$(\hat{\beta}_{C0}, \hat{\beta}_{S0}, \hat{\beta}_{L0}, \hat{\beta}_{F0}, \hat{\beta}_{G0})$ (0, -0.06, -0.37, -1.73, -2.44)	1.90
SPD	$(\hat{\beta}_{C0}, \hat{\beta}_{S0}, \hat{\beta}_{L0}, \hat{\beta}_{F0}, \hat{\beta}_{G0})$ (0.06, 0, -0.31, -1.67, -2.38)	1.90
FDP	$(\hat{\beta}_{C0}, \hat{\beta}_{S0}, \hat{\beta}_{L0}, \hat{\beta}_{F0}, \hat{\beta}_{G0})$ (1.73, 1.67, 1.36, 0, -0.71)	1.90
Greens	$(\hat{\beta}_{C0}, \hat{\beta}_{S0}, \hat{\beta}_{L0}, \hat{\beta}_{F0}, \hat{\beta}_{G0})$ (2.44, 2.38, 2.07, 0.71, 0)	1.90
Left	$(\hat{\beta}_{C0}, \hat{\beta}_{S0}, \hat{\beta}_{L0}, \hat{\beta}_{F0}, \hat{\beta}_{G0})$ (0.37, 0.31, 0, -1.36, -2.07)	1.90

Table A3: Fully specified voter choice models

		SPD reference party		FDP reference party	
<i>Spatial Proximities</i>	Party	Parameter		Parameter	
Immigration		0.09	(0.05)	0.09	(0.05)
EU		0.20	(0.06)	0.20	(0.06)
Nuclear Energy		0.31	(0.04)	0.31	(0.04)
Left-Right		0.39	(0.03)	0.39	(0.03)
<i>Voter Attributes</i>					
<i>Intercept</i>	CDU	0.06	(0.28)	1.73	(0.57)
	SPD	-		1.67	(0.57)
	FDP	-1.67	(0.56)	-	
	Greens	-2.38	(0.54)	-0.71	(0.75)
	Left	-0.31	(0.31)	1.36	(0.61)
Trade Union	CDU	-0.91	(0.38)	-0.55	(0.64)
	SPD	-		0.36	(0.60)
	FDP	-0.36	(0.60)	-	
	Greens	0.22	(0.39)	0.58	(0.68)
	Left	0.56	(0.43)	0.92	(0.71)
Worker	CDU	-0.21	(0.24)	1.45	(0.65)
	SPD	-		1.66	(0.64)
	FDP	-1.66	(0.64)	-	
	Greens	-1.19	(0.43)	0.47	(0.75)
	Left	-0.74	(0.38)	0.91	(0.73)
Catholic	CDU	0.64	(0.25)	0.98	(0.48)
	SPD	-		0.34	(0.49)
	FDP	-0.34	(0.49)	-	
	Greens	0.03	(0.34)	0.37	(0.56)
	Left	-0.21	(0.61)	0.13	(0.76)
Age	CDU	0.20	(0.07)	0.17	(0.13)
	SPD	-		-0.03	(0.13)
	FDP	0.03	(0.13)	-	
	Greens	-0.65	(0.13)	-0.68	(0.18)
	Left	-0.01	(0.10)	-0.04	(0.16)
Female	CDU	0.19	(0.22)	1.53	(0.49)
	SPD	-		1.34	(0.49)
	FDP	-1.34	(0.49)	-	
	Greens	-0.31	(0.30)	1.03	(0.55)
	Left	0.26	(0.34)	1.60	(0.58)
West Germany	CDU	-0.18	(0.28)	-0.67	(0.60)
	SPD	-		-0.48	(0.59)
	FDP	0.48	(0.59)	-	
	Greens	0.97	(0.52)	0.49	(0.76)
	Left	-2.37	(0.40)	-2.86	(0.69)

Note: N=715, df=32, AIC=1332.64, BIC=1478.95, LogL=-634.32.

Conditional logit models of party choice. Numbers in parentheses show standard errors.

Table A4: Fully specified voter choice models (cont.)

<i>Spatial Proximities</i>	Party	Greens reference party		Left reference party	
		Parameter		Parameter	
Immigration		0.09	(0.05)	0.09	(0.05)
EU		0.20	(0.06)	0.20	(0.06)
Nuclear Energy		0.31	(0.04)	0.31	(0.04)
Left-Right		0.39	(0.03)	0.39	(0.03)
<i>Voter Attributes</i>					
Intercept	CDU	2.44	(0.58)	0.37	(0.38)
	SPD	2.38	(0.54)	0.31	(0.31)
	FDP	0.71	(0.75)	-1.36	(0.61)
	Greens	-		-2.07	(0.58)
	Left	2.07	(0.58)	-	
Trade Union	CDU	-1.13	(0.51)	-1.47	(0.54)
	SPD	-0.22	(0.39)	-0.56	(0.43)
	FDP	-0.58	(0.68)	-0.92	(0.71)
	Greens	-		-0.33	(0.54)
	Left	0.33	(0.54)	-	
Worker	CDU	0.98	(0.47)	0.53	(0.42)
	SPD	1.19	(0.43)	0.74	(0.38)
	FDP	-0.47	(0.75)	-0.91	(0.73)
	Greens	-		-0.45	(0.55)
	Left	0.45	(0.55)	-	
Catholic	CDU	0.61	(0.38)	0.85	(0.63)
	SPD	-0.03	(0.34)	0.21	(0.61)
	FDP	-0.37	(0.56)	-0.13	(0.76)
	Greens	-		0.24	(0.66)
	Left	-0.24	(0.66)	-	
Age	CDU	0.86	(0.14)	0.21	(0.11)
	SPD	0.65	(0.13)	0.01	(0.10)
	FDP	0.68	(0.18)	0.04	(0.16)
	Greens	-		-0.64	(0.16)
	Left	0.64	(0.16)	-	
Female	CDU	0.50	(0.34)	-0.07	(0.38)
	SPD	0.31	(0.30)	-0.26	(0.34)
	FDP	-1.03	(0.55)	-1.60	(0.58)
	Greens	-		-0.57	(0.42)
	Left	0.57	(0.42)	-	
West Germany	CDU	-1.16	(0.56)	2.19	(0.45)
	SPD	-0.97	(0.52)	2.37	(0.40)
	FDP	-0.49	(0.76)	2.86	(0.69)
	Greens	-		3.34	(0.61)
	Left	-3.34	(0.61)	-	

Note: N=715, df=32, AIC=1332.64, BIC=1478.95, LogL=-634.32.

Conditional logit models of party choice. Numbers in parentheses show standard errors.

## D Reversed Coding of Voter Attributes

Table A5: Fully specified voter choice model (CDU as reference party): Coding of the variable gender reversed

<i>Party Intercepts and Voter Attributes</i>											
Party	Intercept	Trade Union	Worker	Catholic	Age	<b>Female</b>	West Ger.				
CDU	-	-	-	-	-	-	-				
SPD	-0.06 (0.28)	0.91 (0.38)	0.21 (0.24)	-0.64 (0.25)	-0.20 (0.07)	-0.19 (0.22)	0.18 (0.28)				
FDP	-1.73 (0.57)	0.55 (0.64)	-1.45 (0.65)	-0.98 (0.48)	-0.17 (0.13)	-1.53 (0.49)	0.67 (0.60)				
Gre	-2.44 (0.58)	1.13 (0.51)	-0.98 (0.47)	-0.61 (0.38)	-0.86 (0.14)	-0.50 (0.34)	1.16 (0.56)				
Left	-0.37 (0.38)	1.47 (0.54)	-0.53 (0.42)	-0.85 (0.63)	-0.21 (0.11)	0.07 (0.38)	-2.19 (0.45)				
Party	Intercept	Trade Union	Worker	Catholic	Age	<b>Male</b>	West Ger.				
CDU	-	-	-	-	-	-	-				
SPD	-0.25 (0.28)	0.91 (0.38)	0.21 (0.24)	-0.64 (0.25)	-0.20 (0.07)	0.19 (0.22)	0.18 (0.28)				
FDP	-3.26 (0.67)	0.55 (0.64)	-1.45 (0.65)	-0.98 (0.48)	-0.17 (0.13)	1.53 (0.49)	0.67 (0.60)				
Gre	-2.94 (0.58)	1.13 (0.51)	-0.98 (0.47)	-0.61 (0.38)	-0.86 (0.14)	0.50 (0.34)	1.16 (0.56)				
Left	-0.30 (0.35)	1.47 (0.54)	-0.53 (0.42)	-0.85 (0.63)	-0.21 (0.11)	-0.07 (0.38)	-2.19 (0.45)				

*Note:* N=715, df=32, AIC=1332.64, BIC=1478.95, LogL=-634.32. Since spatial proximities are unaffected, they are not reported (see Section 4 in the main text). Numbers in parentheses show standard errors.

Table A6: Fully specified voter choice model (CDU as reference party): Coding of the variable worker reversed

<i>Party Intercepts and Voter Attributes</i>											
Party	Intercept	Trade Union	<b>Worker</b>	Catholic	Age	Female	West Ger.				
CDU	-	-	-	-	-	-	-				
SPD	-0.06 (0.28)	0.91 (0.38)	0.21 (0.24)	-0.64 (0.25)	-0.20 (0.07)	-0.19 (0.22)	0.18 (0.28)				
FDP	-1.73 (0.57)	0.55 (0.64)	-1.45 (0.65)	-0.98 (0.48)	-0.17 (0.13)	-1.53 (0.49)	0.67 (0.60)				
Gre	-2.44 (0.58)	1.13 (0.51)	-0.98 (0.47)	-0.61 (0.38)	-0.86 (0.14)	-0.50 (0.34)	1.16 (0.56)				
Left	-0.37 (0.38)	1.47 (0.54)	-0.53 (0.42)	-0.85 (0.63)	-0.21 (0.11)	0.07 (0.38)	-2.19 (0.45)				
Party	Intercept	Trade Union	<b>Otherwise</b>	Catholic	Age	Female	West Ger.				
CDU	-	-	-	-	-	-	-				
SPD	0.15 (0.29)	0.91 (0.38)	-0.21 (0.24)	-0.64 (0.25)	-0.20 (0.07)	-0.19 (0.22)	0.18 (0.28)				
FDP	-3.17 (0.77)	0.55 (0.64)	1.45 (0.65)	-0.98 (0.48)	-0.17 (0.13)	-1.53 (0.49)	0.67 (0.60)				
Gre	-3.42 (0.64)	1.13 (0.51)	0.98 (0.47)	-0.61 (0.38)	-0.86 (0.14)	-0.50 (0.34)	1.16 (0.56)				
Left	-0.90 (0.42)	1.47 (0.54)	0.53 (0.42)	-0.85 (0.63)	-0.21 (0.11)	0.07 (0.38)	-2.19 (0.45)				

*Note:* N=715, df=32, AIC=1332.64, BIC=1478.95, LogL=-634.32. Since spatial proximities are unaffected, they are not reported (see Section 4 in the main text). Numbers in parentheses show standard errors.

Table A7: Fully specified voter choice model (CDU as reference party): Coding of the variable West Germany reversed

Party Intercepts and Voter Attributes													
Party	Intercept		Trade Union		Worker		Catholic		Age		Female		West Ger.
CDU	-		-		-		-		-		-		-
SPD	-0.06	(0.28)	0.91	(0.38)	0.21	(0.24)	-0.64	(0.25)	-0.20	(0.07)	-0.19	(0.22)	0.18 (0.28)
FDP	-1.73	(0.57)	0.55	(0.64)	-1.45	(0.65)	-0.98	(0.48)	-0.17	(0.13)	-1.53	(0.49)	0.67 (0.60)
Gre	-2.44	(0.58)	1.13	(0.51)	-0.98	(0.47)	-0.61	(0.38)	-0.86	(0.14)	-0.50	(0.34)	1.16 (0.56)
Left	-0.37	(0.38)	1.47	(0.54)	-0.53	(0.42)	-0.85	(0.63)	-0.21	(0.11)	0.07	(0.38)	-2.19 (0.45)
Party	Intercept		Trade Union		Worker		Catholic		Age		Female		East Ger.
CSU	-		-		-		-		-		-		-
SPD	0.12	(0.21)	0.91	(0.38)	0.21	(0.24)	-0.64	(0.25)	-0.20	(0.07)	-0.19	(0.22)	-0.18 (0.28)
FDP	-1.06	(0.31)	0.55	(0.64)	-1.45	(0.65)	-0.98	(0.48)	-0.17	(0.13)	-1.53	(0.49)	-0.67 (0.60)
Gre	-1.28	(0.34)	1.13	(0.51)	-0.98	(0.47)	-0.61	(0.38)	-0.86	(0.14)	-0.50	(0.34)	-1.16 (0.56)
Left	-2.56	(0.44)	1.47	(0.54)	-0.53	(0.42)	-0.85	(0.63)	-0.21	(0.11)	0.07	(0.38)	2.19 (0.45)

*Note:* N=715, df=32, AIC=1332.64, BIC=1478.95, LogL=-634.32. Since spatial proximities are unaffected, they are not reported (see Section 4 in the main text). Numbers in parentheses show standard errors.

Table A8: Fully specified voter choice model (CDU as reference party): Coding of the variable trade union reversed

<i>Party Intercepts and Voter Attributes</i>													
Party	Intercept		<b>Trade Union</b>		Worker		Catholic		Age		Female		West Ger.
CDU	-		-		-		-		-		-		-
SPD	-0.06	(0.28)	0.91	(0.38)	0.21	(0.24)	-0.64	(0.25)	-0.20	(0.07)	-0.19	(0.22)	0.18 (0.28)
FDP	-1.73	(0.57)	0.55	(0.64)	-1.45	(0.65)	-0.98	(0.48)	-0.17	(0.13)	-1.53	(0.49)	0.67 (0.60)
Gre	-2.44	(0.58)	1.13	(0.51)	-0.98	(0.47)	-0.61	(0.38)	-0.86	(0.14)	-0.50	(0.34)	1.16 (0.56)
Left	-0.37	(0.38)	1.47	(0.54)	-0.53	(0.42)	-0.85	(0.63)	-0.21	(0.11)	0.07	(0.38)	-2.19 (0.45)
Party	Intercept		<b>Otherwise</b>		Worker		Catholic		Age		Female		West Ger.
CDU	-		-		-		-		-		-		-
SPD	0.85	(0.46)	-0.91	(0.38)	0.21	(0.24)	-0.64	(0.25)	-0.20	(0.07)	-0.19	(0.22)	0.18 (0.28)
FDP	-1.18	(0.82)	-0.55	(0.64)	-1.45	(0.65)	-0.98	(0.48)	-0.17	(0.13)	-1.53	(0.49)	0.67 (0.60)
Gre	-1.31	(0.74)	-1.13	(0.51)	-0.98	(0.47)	-0.61	(0.38)	-0.86	(0.14)	-0.50	(0.34)	1.16 (0.56)
Left	1.10	(0.61)	-1.47	(0.54)	-0.53	(0.42)	-0.85	(0.63)	-0.21	(0.11)	0.07	(0.38)	-2.19 (0.45)

*Note:* N=715, df=32, AIC=1332.64, BIC=1478.95, LogL=-634.32. Since spatial proximities are unaffected, they are not reported (see Section 4 in the main text). Numbers in parentheses show standard errors.

## References

Falter, J. W., O. W. Gabriel, and H. Rattinger. 2012. "Political Attitudes, Political Participation and Voter Conduct in United Germany 1998." ZA3066, Data file Version 3.0.0. Cologne, Germany: GESIS Data Archive. doi:10.4232/1.11461.