Supplementary Material:

Community size and electoral preferences:

Evidence from post-WWII Baden-Württemberg

October 20, 2023

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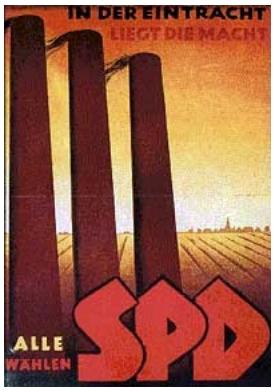
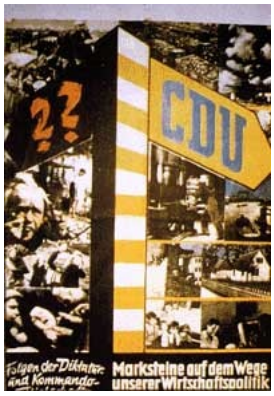
A Appendix Figures

SPD



SPD

CDU



CDU/CSU

Figure A1: Campaign posters from 1949 (retrieved from Bundeszentrale für Politische Bildung, 2014). The first SPD poster (top left) reads: "There is power in unity." The second SPD poster (top right) reads "All millionaires vote for CDU-FDP. All other millions of Germans [vote for] the SPD." The first CDU poster (bottom left) reads: "Landmarks in the way of our economic policy." The second CDU poster (bottom right), advertised by the CSU, the Bavarian arm of the CDU, reads "1947 – Hunger! Distress! Misery! 1949 – Forward! Upwards! The success of the CSU."

B Appendix Tables

Table B1: Variable means for municipalities on the French and U.S. sides.

Side of border:	French ($n = 459$)	U.S. ($n = 365$)	Difference	(p-value) Difference
Panel A: dependent variables				
% SPD	16.85	20.45	3.60	(0.000)
% CDU	64.14	40.60	-23.54	(0.000)
Panel B: variables of interest				
Population	1,294	2,270	975	(0.001)
Population density	1.20	2.13	0.93	(0.000)
Population growth	0.14	0.39	0.24	(0.000)
Panel C: instrumental variables				
U.S.	0	1	1	
Distance	10.88	10.22	0.67	(0.233)
Panel D: control variables				
% females	53.60	53.44	-0.16	(0.223)
% Catholic	47.29	35.87	-11.42	(0.000)
% Protestant	52.09	63.28	11.18	(0.000)
% Protestant / % Catholic	20.84	3.63	-17.21	(0.000)
Unemployment rate	13.05	13.60	0.56	(0.055)
Apartments per capita	0.24	0.21	-0.02	(0.000)
Municipality area	1,012	981	-31	(0.564)
% turnout	63.13	69.01	5.88	(0.000)

Table B2: Summary statistics of additional variables.

Variable	Mean	(Std. Dev.)	Min.	(Max.)	N	Source	Description
Alternative outcome variable							
% FDP	12.96	(11.21)	0.20	(72.00)	805	Land BW (2020)	FDP vote share (1949)
Additional control variables							
% SPD in 1932	10.17	(10.08)	0.20	(53)	727	Land BW (2020)	SPD vote share (1932)
Share of agricultural land	0.09	(0.06)	0	(0.36)	727	Schumann (2014)	Share of municipality area used to grow forage crops
Households per capita	0.14	(0.05)	0.05	(1.10)	727	Land BW (2020)	Households per capita
% of single-people households	0.04	(0.02)	0	(0.24)	727	Land BW (2020)	Share of people living by themselves
Real estate tax multiplier	135.05	(39.46)	0	(312)	727	Schumann (2014)	Real estate tax rate multiplier (1950)
Share of expellees	0.15	(0.08)	0.01	(0.37)	824	Statistisches Landesamt Baden-Württemberg	Share of expellees in municipality (1950)
Distance to highway	19.09	(13.74)	0.04	(57.90)	824	Schumann (2014)	Distance to highway in km
Distance to Stuttgart	49.84	(21.87)	7.37	(110.19)	824	Schumann (2014)	Distance to Stuttgart
State-level elections 1952							
% SPD	23.57	(15.27)	0.80	(79.70)	821	Land BW (2020)[a]	SPD vote share (1952)
% CDU	46.45	(24.85)	2.80	(97.00)	824	Land BW (2020)[a]	CDU vote share (1952)

[a] Initially from Statistisches Landesamt Baden-Württemberg (1952).

Table B3: Main results including the display of control variables, predicting vote shares in the 1949 national elections.

Dependent variable:	% SPD			% CDU		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: OLS results						
Ln(population)	5.283***	7.265***	2.642***	-11.472***	-17.255***	-8.495***
	(0.395)	(0.712)	(0.598)	(0.683)	(1.199)	(1.411)
% females		0.000	-0.182		-0.775**	0.028
		(0.191)	(0.188)		(0.359)	(0.357)
$\frac{Protestants}{Catholics}$		0.014***	0.010***		-0.006	-0.010
		(0.004)	(0.004)		(0.009)	(0.009)
Unemployment rate		0.180**	-0.052		-0.359*	-0.135
		(0.077)	(0.068)		(0.186)	(0.157)
Municipality area		-0.005***	-0.002***		0.010***	0.006***
		(0.001)	(0.001)		(0.002)	(0.002)
Apartments per capita		104.311***	52.488***		13.441	61.457*
		(14.440)	(14.468)		(24.200)	(35.234)
% turnout		-0.203***	-0.161***		0.670***	0.536***
		(0.020)	(0.020)		(0.038)	(0.041)
% SPD in 1932			0.724***			-0.917***
			(0.048)			(0.089)
Share of agricultural land			-11.305**			-12.709
			(5.017)			(9.846)
Households per capita			17.047			-42.984
			(16.928)			(67.332)
% of single-people households			-20.016			-212.260***
			(20.293)			(46.263)
Real estate tax multiplier			-0.007			0.111***
			(0.009)			(0.019)
Panel B: 2^{nd} stage results (IV)						
Ln(population)	10.095***	12.013***	6.472***	-40.350***	-38.478***	-37.584***
	(1.211)	(0.821)	(1.436)	(3.749)	(1.948)	(3.575)
% females		-0.108	-0.102		-0.291	-0.581
		(0.219)	(0.195)		(0.521)	(0.574)
$\frac{Protestants}{Catholics}$		0.021***	0.013***		-0.037	-0.032
		(0.008)	(0.005)		(0.028)	(0.023)
Unemployment rate		0.061	-0.064		0.175	-0.049
		(0.082)	(0.070)		(0.230)	(0.235)
Municipality area		-0.008***	-0.004***		0.024***	0.023***
		(0.002)	(0.001)		(0.004)	(0.005)
Apartments per capita		75.406***	50.254***		142.626***	78.423**
		(15.076)	(13.600)		(33.405)	(35.342)
% turnout		-0.228***	-0.185***		0.781***	0.717***
		(0.021)	(0.021)		(0.051)	(0.056)
% SPD in 1932			0.603***			0.007
			(0.067)			(0.152)
Share of agricultural land			-13.044**			0.503
			(5.477)			(15.899)
Households per capita			19.626**			-62.566***
			(9.286)			(23.797)
% of single-people households			-71.384**			177.836*
			(30.260)			(105.225)
Real estate tax multiplier			-0.008			0.121***
			(0.008)			(0.023)
N	824	824	727	824	824	727
R^2 (OLS)	0.155	0.400	0.615	0.195	0.473	0.635
R^2 (IV)	0.067	0.325	0.581	0.283	0.585	0.697

Notes: Robust standard errors are displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B4: Robustness checks, predicting voting behavior in 1949. All models include the benchmark set of covariates from columns (2) and (5) in Table 2.

	Estimation method	(1) Only within 10km of border	(2) Remove 2 biggest counties[a]	(3) Binary instrument only	(4) Only linear IVs[c]	(5) All Ba-Wü[b]	(6)	(7)	(8) Predicting CDU+FDP vote shares	(9) Including 1932 elections[d]	(10) Controlling for distances to highway and capital[e]
Panel A: predicting % SPD											
Ln(population)	[OLS]	8.251***	7.119***	7.265***	7.265***	5.464***				7.098***	5.291***
		(0.804)	(0.768)	(0.712)	(0.712)	(0.286)				(0.571)	(0.781)
Population density	[OLS]						2.532***				
							(0.567)				
Population growth (from 1939)	[OLS]							21.801***			
								(2.110)			
Ln(population)	[IV]	12.873***	9.553***	11.686***	12.013***	6.050***			14.562***	3.598**	
		(2.010)	(0.858)	(0.916)	(0.821)	(0.696)			(3.036)	(1.540)	
Population density	[IV]						7.076***				
							(0.749)				
Population growth (from 1939)	[IV]							42.688***			
								(3.725)			
F-test 1^{st} stage		12.306***	55.490***	272.271***	71.744***	391.111***	38.340***	119.371***		10.363***	20.188***
N		444	645	824	824	3,180	824	824		1,476	824
Panel B: predicting % CDU (except column 7; see headline)											
Ln(population)	[OLS]	-15.325***	-15.775***	-17.255***	-17.255***	-12.868***			-16.551***		-5.856***
		(1.421)	(1.191)	(1.199)	(1.199)	(0.555)			(1.345)		(0.950)
Population density	[OLS]						-6.066***				
							(1.187)				
Population growth (from 1939)	[OLS]							-88.005***			
								(4.111)			
Ln(population)	[IV]	-55.308***	-32.716***	-43.461***	12.013***	-50.902***			-40.449***		-21.499***
		(6.313)	(2.034)	(2.403)	(0.821)	(2.553)			(2.028)		(2.801)
Population density	[IV]						-22.909***				
							(2.130)				
Population growth (from 1939)	[IV]							-158.336***			
								(7.090)			
F-test 1^{st} stage		12.306***	55.490***	272.271***	71.744***	394.796***	38.340***	119.371***	66.911***		20.188***
N		444	645	824	824	3,209	824	824	805		824

Notes: Robust standard errors are displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. [a] Excludes municipalities located in the counties of Calw (85 municipalities; French side) and Biberach (87 municipalities; French side). [b] Uses only the binary indicator of being located on the U.S. side of the border as instrument because of limited data availability on distance variables. [c] Only the binary U.S. indicator, border distance, and the interaction term between both variables are included as instrumental variables. [d] Includes data for 1932 and 1949 elections (see equations 3 and 4). [e] Includes linear and squared variables for distances to the highway and to the state capital Stuttgart.

Table B5: Main results, predicting vote shares in the 1949 national elections and including the share of expellees recorded in each municipality.

Dependent variable:	% SPD			% CDU		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: OLS results						
Ln(population)	5.320***	6.967***	2.581***	-11.278***	-14.371***	-7.721***
	(0.392)	(0.738)	(0.583)	(0.665)	(1.051)	(1.009)
Expellees/population	-15.735***	15.437***	9.677	-83.175***	-149.707***	-124.158***
	(5.052)	(5.123)	(5.984)	(8.772)	(8.264)	(11.138)
Control variables I[a]		✓	✓		✓	✓
Control variables II[b]			✓			✓
Panel B: 2^{nd} stage results (IV)						
Ln(population)	10.773***	11.500***	5.276***	-26.835***	-27.516***	-24.455***
	(0.937)	(0.908)	(1.365)	(1.942)	(1.655)	(2.771)
Expellees/population	-17.661***	4.104	7.549	-77.681***	-116.841***	-110.943***
	(5.675)	(5.464)	(5.594)	(11.062)	(10.169)	(11.877)
Control variables I[a]		✓	✓		✓	✓
Control variables II[b]			✓			✓
Panel C: econometric statistics from IV						
F-test 1^{st} stage	46.743***	70.056***	19.305***	46.743***	70.056***	19.305***
N	824	824	727	824	824	727

Notes: Robust standard errors are displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. [a]Includes % females, $\frac{Protestants}{Catholics}$, % unemployed, apartments per capita, municipality area, and % turnout. [b]Includes the 1932 SPD vote share, the share of the municipality area used to grow forage crops, the share of single-people households, households per capita and the municipal real estate tax rate multiplier, while excluding apartments per capita.

Table B6: Summary statistics of variables for all Baden-Württemberg (used for estimation in column 3 of Table B4).

Variable	Mean	(Std. Dev.)	Min.	(Max.)	N	Source	Description
% SPD	16.58	(12.10)	0.30	(74.70)	3,180	Land BW (2020)	SPD vote share (1949)
% CDU	52.63	(25.75)	1.10	(100)	3,209	Land BW (2020)	CDU vote share (1949)
Population	1,969	(11,374)	102	(497,677)	3,209	Land BW (2020)	Population size (1950)
% turnout	68.35	(15.77)	8.80	(123.60)[a]	3,209	Land BW (2020)	Turnout in % (1949)
% females	53.11	(2.21)	41.48	(78.91)	3,209	Land BW (2020)	Share of females (1950)
$\frac{Protestants}{Catholics}$	6.95	(31.23)	0	(999)	3,209	Land BW (2020)	Share of Protestants divided by share of Catholics
% unemployed	13.52	(5.30)	-59.17[b]	(57.93)	3,209	Land BW (2020)	Share of unemployed people in the total population (1950)
Apartments per capita	0.22	(0.03)	0.08	(0.52)	3,209	Land BW (2020)	Number of apartments divided by population size (1950)
Municipality area	1,084	(972)	29	(20,769)	3,209	Land BW (2020)	Land size in hectare (1950)

Notes: [a]Nine municipalities are listed with what seems to be reporting errors in turnout rates above 100%. Regression results are virtually identical when excluding these municipalities. [b]Nine municipalities are listed with what seems to be reporting errors in employment rates above 100%. Regression results are virtually identical when excluding these municipalities.

Table B7: Partial effects from fractional response regressions, predicting SPD vote share in the national elections held in August 1949.

Dependent variable:	% SPD		% CDU	
	(1)	(2)	(3)	(4)
Ln(population)	0.079***	0.130***	-0.112***	-0.238***
	(0.007)	(0.012)	(0.007)	(0.000)
Control variables[a]	✓	✓	✓	✓
Endogeneity		✓		✓

Notes: Robust standard errors are displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. [a]Control variables include % females, $\frac{Protestants}{Catholics}$, % Protestant, % employed, apartments per capita, municipality area, and % turnout.

Table B8: Predicting vote shares in the 1952 state-level elections.

Dependent variable:	% SPD			% CDU		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: OLS results						
Ln(population)	6.467***	10.125***	4.395***	-10.828***	-15.849***	-8.216***
	(0.484)	(0.915)	(0.856)	(0.734)	(1.219)	(1.389)
Control variables I[a]		✓	✓		✓	✓
Control variables II[b]			✓			✓
Panel B: 2nd stage results (IV)						
Ln(population)	19.369***	20.370***	19.231***	-31.204***	-32.188***	-31.111***
	(1.912)	(1.131)	(2.186)	(3.146)	(1.763)	(3.201)
Control variables I[a]		✓	✓		✓	✓
Control variables II[b]			✓			✓
Panel C: econometric statistics from OLS						
Sensitivity analysis[c]	30.69	42.24	18.53	31.72	43.26	21.93
Oster test (δ)[d]		2.772	0.611		2.449	0.672
Panel D: econometric statistics from IV						
Endogeneity test (p-value)	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
F-test 1st stage	20.873***	71.442***	16.177***	21.209***	71.744***	16.318***
Effective F-statistic[e]	22.977**	74.122**	20.115*	23.337**	74.486**	20.269*
Weak IV test (Wald, p-value)[f]	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
N	821	821	725	824	824	727
R^2 (OLS)	0.160	0.399	0.593	0.170	0.472	0.583
R^2 (IV)	0.168	0.435	0.633	0.166	0.511	0.614

Notes: Robust standard errors are displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. [a]Includes % females, $\frac{Protestants}{Catholics}$, % unemployed, apartments per capita, municipality area, and % turnout. [b]Includes the share of the municipality area used to grow forage crops, the SPD vote share from 1932, the share of single-people households, households per capita and the municipal real estate tax rate multiplier, while excluding apartments per capita. [c]We apply Cinelli and Hazlett's (2020) sensitivity test to capture the percentage of the residual variance of both the treatment and the outcome that would be strong enough to bring the estimate related to population size to a range where it is no longer 'statistically different' at the 5% level (RV_{qa}). [d]We apply Oster's (2019) test to explore the degree of selection on unobservables relative to observables that would be necessary to explain away the result (δ). We assume a maximum R^2 of 0.8. [e]First-stage effective F-statistics are computed using a robust F-test procedure for weak instruments proposed by Olea and Pflueger (2013) and Pflueger and Wang (2015). [f]Following Magnusson (2010) and Finlay et al. (2013), we apply the $weakiv$ command in Stata to test for weak instruments.

Table B9: Predicting FDP vote shares in the 1949 national and the 1952 state-level elections.

Dependent variable:	% FDP (1949)			% FDP (1952)		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: OLS results						
Ln(population)	0.325	0.292	0.723	1.435***	1.461***	1.728***
	(0.356)	(0.424)	(0.507)	(0.396)	(0.459)	(0.561)
Control variables I[a]		✓	✓		✓	✓
Control variables II[b]			✓			✓
Panel B: 2^{nd} stage results (IV)						
Ln(population)	-5.151***	-1.656**	-3.562**	-2.928**	0.130	-0.104
	(1.439)	(0.776)	(1.536)	(1.425)	(0.864)	(1.657)
Control variables I[a]		✓	✓		✓	✓
Control variables II[b]			✓			✓
Panel C: econometric statistics from OLS						
Sensitivity analysis[c]	–	–	–	3.34	2.62	2.41
Oster test (δ)[d]		0.709	108.917		0.619	0.721
Panel D: econometric statistics from IV						
Endogeneity test (p-value)	0.000***	0.004***	0.001***	0.001***	0.080*	0.229
F-test 1^{st} stage	18.862***	66.911***	15.927***	19.193***	65.983***	17.009***
Effective F-statistic[e]	20.948**	68.781**	19.480**	21.337**	68.742**	19.618*
Weak IV test (Wald, p-value)[f]	0.000***	0.033**	0.020**	0.040**	0.880	0.950
N	805	805	715	777	777	686
R^2	0.001	0.377	0.391	0.011	0.288	0.317
R^2 (IV)	0.020	0.380	0.394	0.006	0.281	0.310

Notes: Robust standard errors are displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. [a]Includes % females, $\frac{Protestants}{Catholics}$, % unemployed, apartments per capita, municipality area, and % turnout. [b]Includes the share of the municipality area used to grow forage crops, the SPD vote share from 1932, the share of single-people households, households per capita and the municipal real estate tax rate multiplier, while excluding apartments per capita. [c]We apply Cinelli and Hazlett's (2020) sensitivity test to capture the percentage of the residual variance of both the treatment and the outcome that would be strong enough to bring the estimate related to population size to a range where it is no longer 'statistically different' at the 5% level (RV_{qa}). [d]We apply Oster's (2019) test to explore the degree of selection on unobservables relative to observables that would be necessary to explain away the result (δ). We assume a maximum R^2 of 0.8. [e]First-stage effective F-statistics are computed using a robust F-test procedure for weak instruments proposed by Olea and Pflueger (2013) and Pflueger and Wang (2015). [f]Following Magnusson (2010) and Finlay et al. (2013), we apply the $weakiv$ command in Stata to test for weak instruments.

C Expellee Voting/Party Membership

Overall, there appears a consensus among historians that, in general, the CDU was successfully able to integrate expellees politically due to a combination of the successful economic policies of Konrad Adenauer (including the *Wirtschaftswunder*) and widespread anti-communist feelings of the 1950s (Bösch, 2016, p. 153). Some of the rationale for expellee voting preferences being attributed to the CDU was due to public statements made by Adenauer in support of a return to the 1937 borders (Alrich, 2003, p. 343). Additionally, the SPD's organizational structure prevented effective representation for expellees (Lee, 1999, p. 137).

There is less definitive evidence that the CDU *prior to the 1950s* was the more appealing party to expellees, however. As Bösch (2016, p. 154) argues, "[t]his initially close relationship between Social Democrats and expellees has often been overlooked due to the close ties between leading Christian Democrats and representatives of expellee organizations that developed starting in the 1970s." This is not to say that expellees fled from the CDU but rather that both parties enjoyed rapid increases in membership in the early years after the war (Bösch, 2016, p. 154).

The reason for such disparate party affiliation among expellees has been attributed to the manner in which West Germany sought the political integration of expellees. The West German model of political integration was to take a permissive stance on autonomous expellee representation (Ahonen, 2005, p. 3). This led to a diverse range of political groups in the early years of the West German republic, which is echoed in Lee (1999, p. 137): "Refugees put down roots in many political parties and factions and they developed a network of communications which is hard to overestimate. They were represented in the CDU/CSU as much as in the FDP and the SPD..."

Another feature we emphasize is the key role that religious affiliation played in voting. Bösch (2016, p. 155) finds that "[i]n more Catholic states such as North Rhine-Westphalia and

Rhineland-Palatinate, or in Catholic regions such as southern Baden or southern Oldenburg, the CDU was clearly the party of the locals." He also notes that expellees who were Protestant living in predominantly Catholic areas did not integrate into the CDU due to long-standing denominational prejudices. At the same time, however, expellees also preferred the CDU in Protestant regions, while expellees in rural Catholic areas tended to join the SPD (Bösch, 2016, pp. 155-156).

If we look at our data there is no clear denominational persuasion. The 25^{th} percentile of Catholic (Protestant) shares is 10% (11%), while the 75^{th} percentile is 88% (89%). Further, the OLS and IV estimates control for religious shares, so whatever political preferences might exist for one party based on religious denomination is explicitly filtered out.

D Expellee Voting

D.1 Theoretical Background

We can write β_1, the change in a community's SPD vote share given a change in log population, as:

$$\beta_1 = \frac{\partial s^{SPD}}{\partial \ln(POP)} = \overbrace{\frac{\partial s^{SPD}}{\partial s^E}}^{Composition} \underbrace{\frac{\partial s^E}{\partial \ln(POP)}}_{PureSize}, \tag{1}$$

where the first component constitutes the change in SPD vote share as the share of expellees changes, and the second component captures the change in the share of expellees as the population changes (if expellees were the same as natives, this is the population effect). To better delineate both terms, recall that votes (V) in a given municipality are equal to population (POP) times turnout (T). We denote natives and expellees with the superscripts N and E, respectively. The issue of compositional effects takes place between the vote share for the SPD of natives ($s^{N,SPD}$) and expellees ($s^{E,SPD}$). Overall, the SPD vote share can be written as:

$$s^{SPD} = \frac{V^{SPD}}{V} = \omega s^{E,SPD} + (1-\omega)s^{N,SPD} = s^{N,SPD} + \omega(s^{E,SPD} - s^{N,SPD}), \tag{2}$$

where:

$$\omega = \frac{POP^E T^E}{POP^N T^N + POP^E T^E} = \frac{1}{1+\alpha} \tag{3}$$

and $\alpha = \frac{POP^N T^N}{POP^E T^E} = V^N/V^E$. We can interpret α as the relative proportion of native voters to expellee voters. From here, we can describe the change in SPD vote share as a consequence of a change in the number of expellees as:

$$\frac{\partial s^{SPD}}{\partial s^E} = \frac{\partial \omega}{\partial s^E}(s^{E,SPD} - s^{N,SPD}). \tag{4}$$

Expressing ω as a function of s^E, we arrive at:[1]

$$\omega = \frac{1}{1+\alpha} = \frac{1}{1+\delta\frac{1-s^E}{s^E}}, \tag{5}$$

where $\delta = T^N/T^E$ stands for the relative turnout rate between natives and expellees. This expression allows us to investigate the derivative of ω with respect to the share of expellees:

$$\frac{\partial\omega}{\partial s^E} = \frac{\delta + (1-\delta)s^E \cdot (1) - s^E(1-\delta)}{(\delta+(1-\delta)s^E)^2} = \frac{\delta}{(\delta+(1-\delta)s^E)^2}. \tag{6}$$

This derivative is always positive. Moreover, when $\delta = 1$ (turnouts for natives and expellees are the same), we find $\frac{\partial\omega}{\partial s^E} = \frac{1}{1} = 1$. The second piece of equation (1) is

$$\frac{\partial s^E}{\partial \ln(POP)} = \frac{\partial s^E}{\partial POP^E}\frac{\partial POP^E}{\partial \ln(POP)} = \frac{1-s^E}{POP}\cdot POP = 1 - s^E, \tag{7}$$

which simply describes the share of natives.[2]

D.2 Empirical Implications

A municipality's SPD vote share (s^{SPD}) can be broken down into natives' and expellees' SPD vote shares ($s^{N,SPD}$ and $s^{E,SPD}$) with population totalling $POP^N + POP^E$. Assuming x^{SPD} to be the factor by which the expellees' SPD voting share would have had to differ from natives',

[1] To write ω as a function of s^E, we need to write α as a function of s^E. We have $\alpha = \frac{POP^N T^N}{POP^E T^E} = s^N \cdot T^N \cdot \frac{1}{s^E T^E} = \frac{(1-s^E)T^N}{s^E T^E}$, which, substituted into equation (3), produces equation (5).

[2] Note that we have

$$\frac{\partial s^E}{\partial POP^E} = \frac{POP^E + POP^N - POP^E}{(POP^E + POP^N)^2} = \frac{POP^N}{POP^2} = \frac{POP^N}{POP}\frac{1}{POP} = \frac{1-s^E}{POP}.$$

we obtain:

$$s^{SPD} = s^{N,SPD}\frac{POP^N}{POP^N + POP^E} + s^{N,SPD}x^{SPD}\frac{POP^E}{POP^N + POP^E}. \tag{8}$$

Further, using the results from Panel B of column (2) in Table 2 and assuming (i) all population growth came from expellees, while (ii) natives did not adjust their voting behavior at all, implies:

$$s^{SPD} = s^{N,SPD} + \frac{POP^E}{POP^N}(12.013). \tag{9}$$

Since we can observe overall SPD vote share (s^{SPD}) as well as population numbers (POP^E and POP^N), we are left with two equations (in equations 8 and 9) and two unknowns: the natives' SPD vote share ($s^{N,SPD}$) and the factor by which expellees' voting differs from natives' (x^{SPD}).

For each municipality, we then solve the system of two equations to derive the factor by which expellees would have to differ in their SPD vote share (x^{SPD}) and their implied SPD vote share ($s^{E,SPD}$). Finally, we follow the same procedure to calculate CDU vote shares, where equation (8) simply uses CDU instead of SPD superscripts, and equation (9) changes to:

$$s^{CDU} = s^{N,CDU} - \frac{POP^E}{POP^N}(38.478), \tag{10}$$

following the IV results from Panel B in column (5) of Table 2 with an estimated coefficient of -38.478.

Note that these calculations assume both that the entire population is eligible to vote and that everybody turned out to vote. If either are violated, the suggested expellee voting shares would be further skewed towards higher (lower) SPD (CDU) preferences. In fact, the share of expellees eligible to vote (i.e., aged 21 or above) was systematically lower than the share of natives (Braun and Franke, 2020), which further stacks the deck against the hypothesis of

expellee voting explaining our results.[3]

The results from the above exercise pertaining to SPD voting imply that, on average, expellees would have had to be 9.6 times more likely to vote SPD than natives to explain our SPD voting results from column (2) of Table 2. Thus, if, say, 10% of the natives voted SPD, 96% of the expellees would have had to vote SPD to produce our result. Such numbers, while theoretically possible, appear unlikely.

Turning to CDU voting, the corresponding results then further alleviate concerns about expellee voting being able to explain our results. Here, we find that, on average, the expellees' CDU vote share would have to be approximately one tenth of the natives' CDU vote share. Thus, if, say, 40% of the natives voted CDU, we would need only 4% of the expellees voting CDU. In fact, for 273 of the 824 municipalities, we derive a value of $s^{E,CDU}$ that is *negative*, i.e., we would impossibly need a negative CDU vote share from the expellees to explain the derived results. These results, along with the historical evidence laid out in Section 5.1 suggest it unlikely that the results we derive can be explainable by expellee voting alone.

Finally, severe turnout differences between expellees and natives could potentially absorb our result by lowering the needed differences in SPD and CDU vote shares implied in this exercise. However, looking at historical documentation on turnout (or political engagement), we find no evidence to suggest higher or lower turnout for expellees. Ahonen (2016) notes that expellees in more industrialized regions demonstrated a stronger tendency to integrate politically than those in agrarian areas. Lee (1999, p. 136) mentions expellees, as newcomers, were largely apolitical.[4]

[3]The corresponding shares of natives and expellees above 21 years of age are derived at the district (*Regierungsbezirk*) level, i.e., one unit above counties and two units above municipalities (Braun and Franke, 2020). In our setting, all but one of the counties on the French side show 65.8% of natives were above 21 years of age, but only 61.3% of expellees. In the remaining county of Reutlingen, 65.8% of natives and 63.6% of expellees were eligible. On the U.S. side, data for 6 of 8 counties show 67.2% of natives and 67.0% of expellees were eligible, while in the remaining two counties of Karlsruhe and Pforzheim, these numbers were 68.5% and 66.5%.

[4]Lee (1999) attributes this to the fact that in the early years after the war expellees were more focused on survival than political activities.

Given our sample region is predominantly rural, this would suggest, at best, that turnout for expellees is no greater than that for natives – a result which implies expellees would have had to have an even higher political preference for the SPD over the CDU to explain our findings. In addition, Lee (1999) reports that the experience of flight and expulsion had left the majority of expellees with a pronounced sense of anti-socialism – another reason expellees may have preferred the CDU over the SPD, if anything. In sum, no conclusive evidence is presently available to suggest expellees systematically preferred the SPD over the CDU on the order necessary to eliminate our results.

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