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Does Immigration Reduce the Support for Welfare Spending? A Cautionary Tale on Spatial Panel Data Analysis (A comment on A. W. Schmidt-Catran and D. C. Spies: “Immigration and Welfare Support,” ASR, April 2016)

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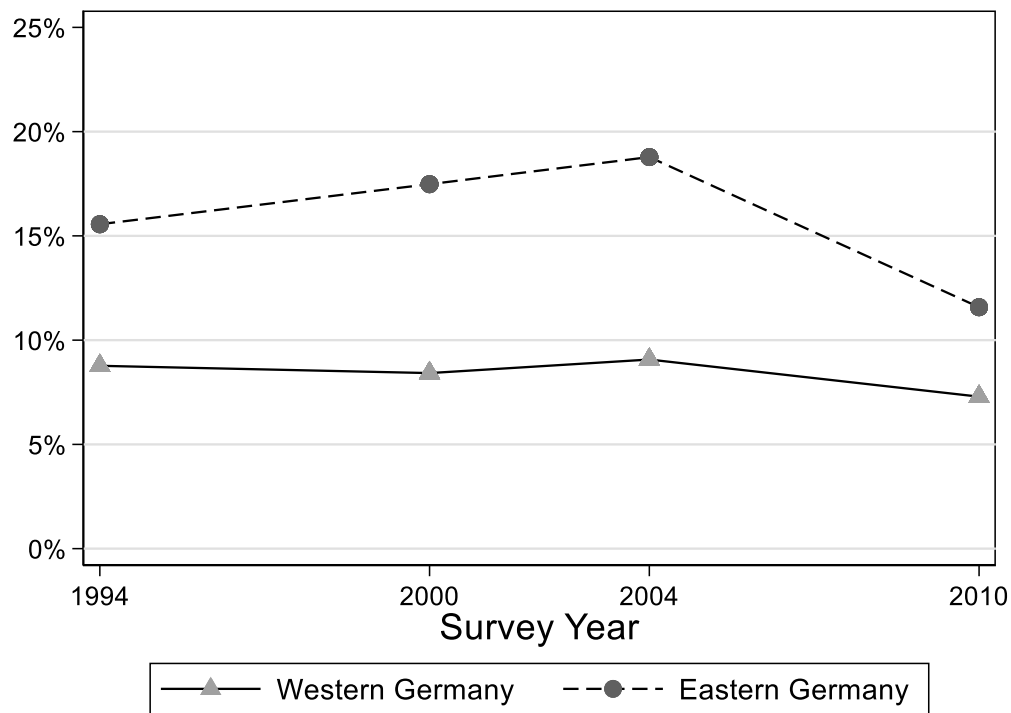
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Part A: Data Descriptions

Figure A1. Proportion of Unemployed by Eastern and Western Germany



Note: For the data source see Table A1. This figure shows the mean of the proportion unemployed in the federal states in Western and Eastern Germany. Federal state Berlin excluded because it spans territory of both Western and Eastern Germany.

Table A1. Descriptive Statistics: Proportion of Foreigners, Proportion of Unemployed, and Proportion of Respondents Favoring Expansion of Welfare Benefits by Year and Federal State

	Proportion of foreigners (%)					Proportion of unemployed (%)					Proportion of respondents in favor of expanding welfare (%)				
	1994	2000	2004	2010	Total	1994	2000	2004	2010	Total	1994	2000	2004	2010	Total
Eastern Germany															
Thuringia	1.0	1.8	2.0	2.2	1.7	15.6	15.4	16.7	9.8	14.4	54.5	30.2	20.3	32.6	37.1
Mecklenb.-Vorp.	1.3	1.9	2.3	2.4	2.0	16.2	17.8	20.4	12.7	16.8	75.3	44.9	46.8	42.5	52.6
Saxony-Anhalt	1.4	1.7	1.9	1.9	1.7	16.7	20.2	20.3	12.5	17.4	60.3	39.2	37.7	34.1	43.1
Saxony	1.7	2.4	2.8	2.7	2.4	14.8	17.0	17.8	11.8	15.4	53.9	29.2	27.5	35.7	36.7
Brandenburg	1.8	2.4	2.6	2.7	2.4	14.5	17.0	18.7	11.1	15.3	62.8	43.3	39.8	37.5	45.9
Overall Eastern-G.	1.4	2.0	2.3	2.4	2.0	15.6	17.5	18.8	11.6	15.9	59.2	35.7	33.3	36.0	41.6
Western Germany															
Schleswig-Holstein	4.9	5.4	5.3	5.1	5.2	8.1	8.5	9.8	7.5	8.5	28.9	24.5	17.5	29.3	25.2
Lower Saxony	6.6	6.6	6.7	6.7	6.6	9.6	9.3	9.6	7.5	9.0	28.9	24.1	14.3	37.8	26.8
Rhineland Palatinate	7.2	7.5	7.7	7.7	7.5	7.5	7.3	7.7	5.7	7.1	28.1	12.3	20.9	26.2	22.2
Saarland	7.6	8.2	8.4	8.4	8.2	11.2	9.8	9.2	7.5	9.4	52.5	53.3	- ^b	15.4	40.8
Bavaria	9.3	9.3	9.4	9.5	9.4	6.1	5.5	6.9	4.5	5.8	21.1	15.8	12.5	26.3	19.3
North Rhine Westph.	11.0	11.1	10.8	10.5	10.9	9.8	9.2	10.2	8.7	9.5	23.4	19.2	16.0	29.1	22.0
Hesse	12.6	11.9	11.4	11.1	11.8	7.3	7.3	8.2	6.4	7.3	23.9	17.6	16.1	20.7	19.5
Baden-Wuerttemberg	12.9	12.2	12.0	11.9	12.2	6.7	5.4	6.2	4.9	5.8	13.2	15.9	14.9	22.0	16.4
Bremen	13.1	11.9	12.8	12.5	12.6	12.7	13.0	13.2	12.0	12.7	33.3	17.6	16.7	36.4	26.1
Hamburg	14.6	15.3	14.1	13.6	14.4	8.7	8.9	9.7	8.2	8.9	8.1	8.7	14.3	20.8	12.2
Overall Western-G.	10.0	9.9	9.9	9.7	9.9	8.8	8.4	9.1	7.3	8.4	23.4	18.2	15.3	27.1	21.2
Berlin^a	11.7	12.8	13.4	13.7	12.9	12.1	15.8	17.7	13.6	14.8	46.7	34.4	18.0	43.1	36.5

Note: State-level data (German Federal Statistical Office) and GGSS 1994, 2000, 2004, 2010. Federal states are sorted according to their proportion of foreigners in 1994.

^a Separately listed, because Berlin spans territory of the former West and East Germany.

^b Not reported due to the low number of cases ($N < 10$).

Part B: Regression Tables: (1) Comparison with SCS's Original Results, (2) Full Results

In the main text we use a slightly modified specification compared to SCS. Therefore, our results differ (marginally) from theirs. SCS de-meaned the regional variables after merging the regional data to the individual-level dataset, which means the overall mean is affected by the number of respondents observed in a given region-year. We argue that de-meaning should be performed on the level where the fixed effects are specified. Therefore, we de-meaned all region variables on the regional level before merging them to the individual data.

Table B1 reprints SCS's original results (Panel 1). In Panel 2 we tried to reproduce SCS as closely as possible by also de-meaning on the individual level. We were able to reproduce SCS almost perfectly. (We were not able to resolve the reason for the remaining small differences.) Finally, Panel 3 gives the results where we de-mean on the regional level. This specification is used in the main text. Not surprisingly, results differ somewhat more, but are still very close to the results reported by SCS.

Our analysis is based on 267 ROR-years. The theoretical number of ROR-years is 384 (96 RORs x 4 years). We lose four ROR-years because in 1994 no data are available for four Eastern German RORs. We lose 113 ROR-years because SCS decided to drop all ROR-years with fewer than 10 respondents (from these 70 had no respondent at all).

Table B1. Comparing SCS's Original Results and Our Reproduction

	(1) SCS's original results Models 2 – 4 in their Table 2			(2) Our reproduction of SCS			(3) Our favored specification		
	Model 2	Model 3	Model 4	Model 1a	Model 1b	Model 1c	Model 1a	Model 1b	Model 1c
Proportion foreigners	–.164***	–.521***	–.032	–.163***	–.519***	–.031	–.162***	–.455***	–.016
Proportion foreigners ²		.019***			.019***			.015**	
Prop. foreigners x Prop. unempl.			–.009**			–.009**			–.010***
<i>N</i> respondents	7,816	7,816	7,816	7,816	7,816	7,816	7,816	7,816	7,816
<i>N</i> ROR-years	267	267	267	267	267	267	267	267	267
<i>N</i> RORs	94	94	94	94	94	94	94	94	94

Note: GGSS 1994, 2000, 2004, 2010. Panel 1 reprints the results as presented in SCS (they present no SEs). Panel 2 is our reproduction of SCS's estimates (de-meaning on individual level). Models in Panel 3 give the results with our favored specification (de-meaning on regional level) as presented in Panel 1 in Table 1 in the main text (without heterogeneous time trends).

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

Table B2. Hybrid Ordinal Probit Regressions of Welfare Attitudes (SEs in Parentheses)

	(1)			(2)			(3)		
	Replicating SCS's analyzes			With heterogeneous time trends			Excluding year 1994		
	Model 1a	Model 1b	Model 1c	Model 2a	Model 2b	Model 2c	Model 3a	Model 3b	Model 3c
<i>Respondents' characteristics</i>									
Male	-.1697*** (.0275)	-.1685*** (.0275)	-.1686*** (.0275)	-.1686*** (.0275)	-.1680*** (.0275)	-.1686*** (.0275)	-.1489*** (.0319)	-.1483*** (.0320)	-.1489*** (.0320)
Age	-.0072*** (.0010)	-.0073*** (.0010)	-.0073*** (.0010)	-.0073*** (.0010)	-.0073*** (.0010)	-.0073*** (.0010)	-.0070*** (.0012)	-.0070*** (.0012)	-.0071*** (.0012)
Married	.0017 (.0286)	-.0006 (.0286)	.0002 (.0286)	-.0002 (.0286)	-.0015 (.0286)	-.0001 (.0286)	-.0163 (.0336)	-.0180 (.0336)	-.0163 (.0336)
Education									
Low	.0975** (.0346)	.0976** (.0346)	.0975** (.0346)	.0985** (.0346)	.0985** (.0346)	.0986** (.0346)	.1095** (.0410)	.1100** (.0410)	.1096** (.0410)
Medium	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
High	-.2012*** (.0373)	-.2030*** (.0373)	-.2013*** (.0373)	-.1995*** (.0372)	-.2007*** (.0372)	-.1995*** (.0372)	-.2277*** (.0424)	-.2292*** (.0424)	-.2271*** (.0424)
Employment Status									
Employed	-.1201*** (.0349)	-.1213*** (.0348)	-.1220*** (.0348)	-.1239*** (.0348)	-.1242*** (.0348)	-.1240*** (.0348)	-.1088** (.0404)	-.1080** (.0405)	-.1095** (.0404)
Unemployed	.2582*** (.0602)	.2568*** (.0602)	.2538*** (.0602)	.2525*** (.0601)	.2523*** (.0601)	.2508*** (.0601)	.2621*** (.0693)	.2648*** (.0693)	.2590*** (.0693)
Not in labor force	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Left-Right	-.0946*** (.0081)	-.0944*** (.0081)	-.0945*** (.0081)	-.0943*** (.0081)	-.0942*** (.0081)	-.0943*** (.0081)	-.0899*** (.0094)	-.0898*** (.0094)	-.0899*** (.0094)
Equiv. HH-Income (in 1,000€)	-.1096*** (.0179)	-.1080*** (.0179)	-.1093*** (.0179)	-.1096*** (.0178)	-.1088*** (.0179)	-.1096*** (.0178)	-.0940*** (.0196)	-.0937*** (.0196)	-.0940*** (.0196)
Community Size									
< 1,999	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2,000 – 4,999	.0285 (.0604)	.0341 (.0599)	.0387 (.0600)	.0426 (.0589)	.0453 (.0589)	.0461 (.0590)	.0161 (.0672)	.0130 (.0673)	.0258 (.0675)
5,000 – 19,999	.0336 (.0561)	.0350 (.0557)	.0366 (.0557)	.0408 (.0545)	.0407 (.0545)	.0433 (.0545)	.0041 (.0632)	-.0004 (.0634)	.0074 (.0633)

20,000 – 49,999	.1379*	.1341*	.1496*	.1509*	.1479*	.1558**	.1314	.1272	.1395*
	(.0611)	(.0605)	(.0607)	(.0592)	(.0591)	(.0593)	(.0690)	(.0691)	(.0691)
50,000 – 99,999	.2029**	.2037**	.2012**	.1968**	.1985**	.1981**	.1951*	.1951*	.1981*
	(.0770)	(.0762)	(.0763)	(.0747)	(.0745)	(.0747)	(.0842)	(.0843)	(.0840)
100,000 – 499,999	.1129	.1061	.1238*	.1084	.1048	.1163	.0605	.0508	.0724
	(.0606)	(.0605)	(.0606)	(.0591)	(.0594)	(.0595)	(.0682)	(.0687)	(.0689)
>= 500,000	.1258	.1199	.1443	.1375	.1324	.1554	.1458	.1348	.1739
	(.0794)	(.0794)	(.0819)	(.0778)	(.0782)	(.0808)	(.0892)	(.0898)	(.0942)
Context characteristics									
Proportion foreigners (between)	-.0132	.0132	-.0057	-.0152	.0040	-.0041	-.0159	.0198	-.0052
	(.0089)	(.0299)	(.0169)	(.0086)	(.0291)	(.0166)	(.0089)	(.0313)	(.0162)
Proportion foreigners (within)	-.1620***	-.4550***	-.0162	-.0536	-.2112	-.0248	-.0401	-.0086	-.0113
	(.0416)	(.1011)	(.0583)	(.0450)	(.1173)	(.0580)	(.0639)	(.1806)	(.0720)
Proportion unemployed (between)	.0068	.0099	.0131	.0104	.0118	.0176	.0061	.0076	.0131
	(.0090)	(.0091)	(.0128)	(.0087)	(.0089)	(.0126)	(.0092)	(.0091)	(.0123)
Proportion unemployed (within)	.0378**	.0407**	.0645***	.0183	.0179	.0284	.0799***	.0800***	.0847***
	(.0132)	(.0126)	(.0149)	(.0194)	(.0191)	(.0234)	(.0137)	(.0138)	(.0145)
Proportion foreigners ² (between)		-.0016			-.0011			-.0020	
		(.0016)			(.0016)			(.0017)	
Proportion foreigners ² (within)		.0153**			.0074			-.0014	
		(.0049)			(.0051)			(.0081)	
Prop. foreign. x Prop. unempl. (betw.)			-.0007			-.0010			-.0010
			(.0013)			(.0013)			(.0012)
Prop. foreign. x Prop. unempl. (within)			-.0103***			-.0026			-.0036
			(.0029)			(.0033)			(.0039)
GDP/C (in 1,000€) (between)	.0039	.0066	.0026	.0036	.0054	.0024	.0016	.0044	.0002
	(.0057)	(.0063)	(.0058)	(.0055)	(.0061)	(.0057)	(.0051)	(.0056)	(.0054)
GDP/C (in 1,000€) (within)	.0052	.0143	-.0008	.0091	.0121	.0078	.0476**	.0480**	.0428**
	(.0133)	(.0132)	(.0130)	(.0126)	(.0127)	(.0127)	(.0160)	(.0160)	(.0165)
East Germany	.4719***	.5088***	.4328***	.7228***	.7093***	.6699***	.3176***	.3865***	.2812**
	(.0860)	(.1000)	(.0949)	(.1091)	(.1226)	(.1186)	(.0950)	(.1116)	(.1012)
Year									
1994	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.			

2000	-.3462*** (.0532)	-.3274*** (.0513)	-.3992*** (.0535)	-.2871*** (.0612)	-.2891*** (.0604)	-.3047*** (.0649)	Ref.	Ref.	Ref.
2004	-.4850*** (.0690)	-.4524*** (.0671)	-.4623*** (.0676)	-.4294*** (.0667)	-.4264*** (.0659)	-.4262*** (.0669)	-.2617*** (.0549)	-.2667*** (.0580)	-.2255*** (.0667)
2010	.0376 (.1100)	.0580 (.1058)	.0009 (.1077)	0.1362 (.1038)	.1300 (.1026)	.1195 (.1058)	.2682** (.0864)	.2609** (.0880)	.2777** (.0865)
Interactions: East Germany x									
2000				-.2966** (.1126)	-.2485* (.1156)	-.2762* (.1163)			
2004				-.2482 (.1360)	-.1794 (.1422)	-.2462 (.1361)			
2010				-.6021*** (.1095)	-.5308*** (.1182)	-.5509*** (.1306)			
Cut1	-2.2830*** (.1871)	-2.0780*** (.2628)	-2.2683*** (.1974)	-2.2250*** (.1831)	-2.0970*** (.2559)	-2.1792*** (.1952)	-2.0603*** (.1913)	-1.8503*** (.2590)	-2.0023*** (.1990)
Cut2	-.3288 (.1853)	-.1249 (.2619)	-.3145 (.1956)	-.2735 (.1813)	-.1457 (.2549)	-.2279 (.1935)	-.1807 (.1892)	.0298 (.2579)	-.1230 (.1970)
<i>N</i> respondents	7,816	7,816	7,816	7,816	7,816	7,816	5,575	5,575	5,575
<i>N</i> ROR-years	267	267	267	267	267	267	199	199	199
<i>N</i> RORs	94	94	94	94	94	94	89	89	89
AIC	13,231.34	13,225.32	13,222.82	13,209.49	13,211.05	13,212.25	9,748.19	9,750.70	9,750.65
BIC	13,433.30	13,441.20	13,438.70	13,432.34	13,447.82	13,449.02	9,933.72	9,949.48	9,949.43

Note: GGSS 1994, 2000, 2004, 2010. The treatment effect (effect of proportion foreigners) and its interaction effects are gray shaded. Panel 1 closely replicates SCS's analyses. Panel 2 allows for heterogeneous time trends in Western and Eastern Germany; Panel 3 shows results when excluding the survey year 1994.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

Part C: Conditional Effect Plots to Display Interaction Effects

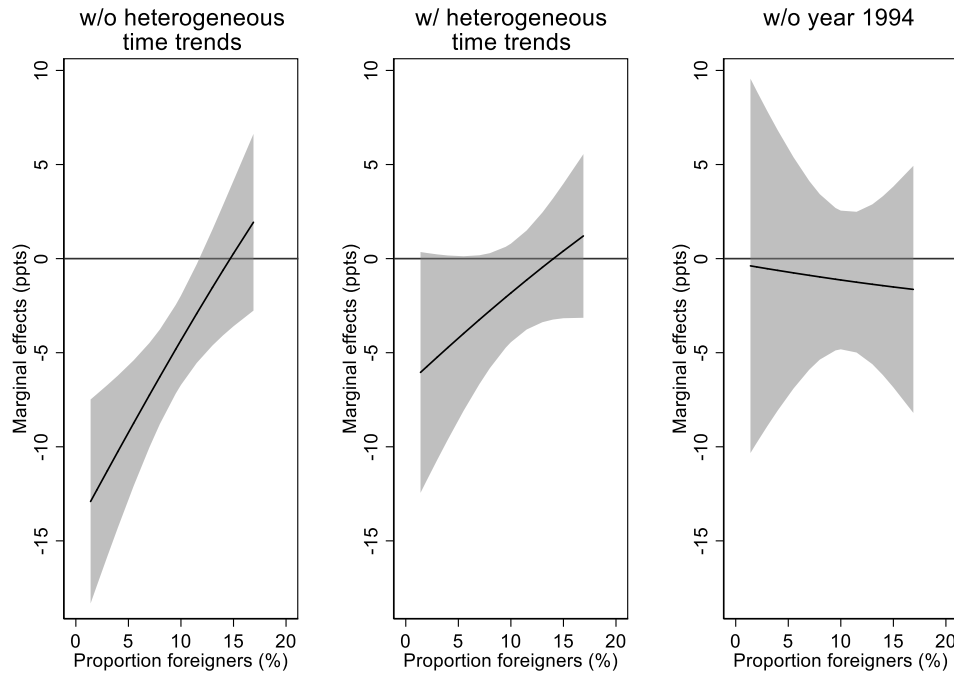
Besides regression tables, SCS provide several conditional effect plots to test their moderator hypotheses. Here we replicate SCS's Figures 2 and 3, with small adjustments:

1. SCS did not calculate marginal effects on the dependent variable, but instead marginal effects on the linear predictor (the continuous latent variable supposed to underlie the response behavior in ordinal probit regressions). They therefore treated the dependent variable as a metric variable and ignored the nonlinear transformations done by the probit link function. (They do not describe this in their article, but one can see this from their Stata code; note also that the formula for the ordered probit on page 246 of their article is incomplete.)
2. SCS labeled the y-axis incorrectly. Their conditional effects are not percentage effects, given that they estimated marginal effects on a latent variable with unknown scale.
3. SCS estimated interaction effects in the classical way by introducing a product term of moderator and treatment variable. As Giesselmann and Schmidt-Catran (2018) show, this specification mixes within- and between-variation. We therefore use an alternative specification (as discussed by Giesselmann and Schmidt-Catran 2018) that estimates how the within effect of proportion foreigners varies with the average proportion foreigners/unemployment rate in a region (see the discussion in Part D2).

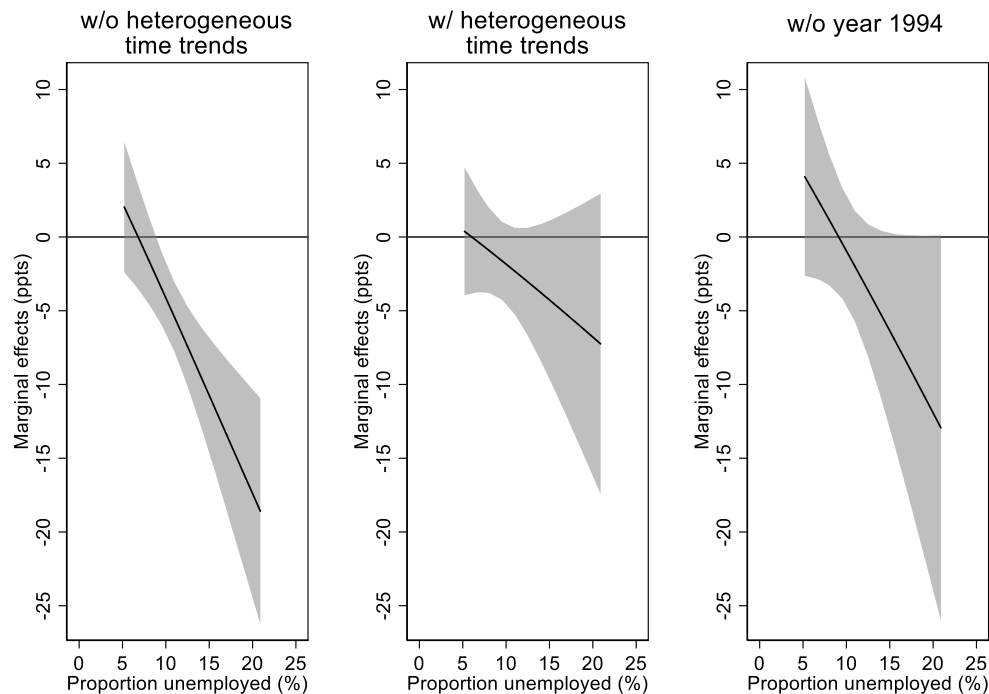
In ordinal regressions, marginal effects depend on the categories of the dependent variable. In Figure C1 we plot conditional effects for the last outcome of the dependent variable, which is the probability that respondents support an *increase* of welfare benefits. Panel A displays the effects conditional on the proportion of foreigners living in a region; Panel B shows the effects conditional on the proportion of unemployed.

Figure C1. Conditional Effect Plots: Marginal Effects of the Proportion of Foreigners on Support for Increasing Welfare Benefits with 95 Percent Confidence Intervals

A. Marginal Effects Conditional on the Mean Proportion of Foreigners Living in an ROR



B. Marginal Effects Conditional on the Mean Proportion of Unemployed in an ROR



Note: These figures show marginal effects of the proportion of foreigners (within change) conditional on the regional mean proportion of foreigners (Panel A) and mean proportion of unemployed (Panel B). Figures on the left are based on models with homogeneous time trends in Western and Eastern Germany. Figures in the middle are based on models that allow for heterogeneous time trends. Figures on the right are based on models that exclude the year 1994. For the underlying regression estimates see Table D2.

Part D: Robustness Checks

D1. Using a Less Restrictive Sample and Excluding Respondents with No Opinion

In their analyses, SCS excluded all ROR-years with fewer than 10 respondents, which means they dropped randomly drawn sample points that might have led to sample selection bias. In addition, there could be an attenuation bias, because SCS imputed the 17 percent of respondents in the analysis sample who said they had “no opinion” on welfare spending. To keep these respondents in the analysis, SCS arbitrarily imputed the value 2 (welfare benefits should stay about the same). In our opinion, this might have lowered statistical efficiency by adding some random noise.

Therefore, we estimated models where we both include all ROR-years and exclude respondents with no opinion (Table D1). We find the same patterns as reported in Table 1. Thus, we again find no negative effect of proportion foreigners on welfare support once allowing for heterogeneous trends.

Table D1. Hybrid Ordinal Probit Regressions of Welfare Attitudes on the Proportion of Foreigners, Based on all RORs and Excluding Respondents with No Opinion (Only Within Effects Reported; SEs in Parentheses)

	(1) Replicating SCS's analyses			(2) With heterogeneous time trends			(3) Excluding year 1994		
	Model 1a	Model 1b	Model 1c	Model 2a	Model 2b	Model 2c	Model 3a	Model 3b	Model 3c
Proportion foreigners	−.1751*** (.0438)	−.5307*** (.1064)	0.0004 (.0613)	−.0445 (.0464)	−.2257 (.1227)	.0066 (.0599)	−.0310 (.0641)	.0085 (.1821)	.0335 (.0731)
Proportion foreigners ²		.0184*** (.0051)			.0084 (.0053)			−.0019 (.0082)	
Prop. foreign. x Prop. unempl.			−.0125*** (.0031)			−.0045 (.0034)			−.0078 (.0041)
<i>N</i> respondents	6,751	6,751	6,751	6,751	6,751	6,751	4,880	4,880	4,880
<i>N</i> ROR years	309	309	309	309	309	309	237	237	237

Note: GGSS 1994, 2000, 2004, 2010. Panel 1 replicates SCS's regression models with only small modifications (using a less restrictive sample and excluding respondents with no opinion), Models in Panel 2 allow for heterogeneous time trends in Western and Eastern Germany. Models 3 are estimated without the survey year 1994.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

D2. Alternative Specification of Interaction Effects

Following standard literature, SCS assumed rising proportions of foreigners would undermine welfare support only in regions with relatively high unemployment rates:¹ “the higher the unemployment rate, the more negative is the effect of foreigners on natives’ attitude toward providing welfare” (SCS:242). Given their wording, one would expect them to model an interaction of the de-meaned proportion of foreigners (within term) x mean proportion of unemployed in a region (between term):

$$(pf_{jt} - \overline{pf_j}) \times \bar{u}_j \quad (1)$$

pf : proportion foreigners, u : proportion unemployed, j : region index, t : time index.

This would answer the question whether the within effect of proportion foreigners differs across regions with different levels of unemployment (within effects are conditional on the average proportion of unemployment found in a region).

However, they do not use this specification. Instead they use the de-meaned product of both variables:

$$pf_{jt} \times u_{jt} - \overline{(pf \times u)}_j \quad (2)$$

This is a classical interaction term. Nevertheless, with panel data, such a term mixes both within and between interactions (Giesselmann and Schmidt-Catran 2018). This could be a problem if within and between interactions differ. Their wording suggests they intend to estimate (1). Therefore, to be on the safe side, one should use specification (1).

In Table 1 in the main text we presented results obtained with SCS’s specification (2). In the following we present results obtained with the alternative specification (1), which is probably much closer to SCS’s rationale for the moderator hypothesis. In fact, as can be seen from Table D2, results differ somewhat. However, our general conclusion—that moderator effects vanish when allowing for heterogeneous trends—holds also with this specification.

¹ The argumentation for the interaction of proportion of foreigners with itself (squared term) is analogous.

Table D2. Hybrid Ordinal Probit Regressions of Welfare Attitudes on the Proportion of Foreigners, Alternative Specification of Interaction Effects (Only Within Effects Reported; SEs in Parentheses)

	(1)		(2)		(3)	
	Replicating SCS's analyses		With heterogeneous time trends		Excluding year 1994	
	Model 1b	Model 1c	Model 2b	Model 2c	Model 3b	Model 3c
Proportion foreigners	-.4535*** (.1016)	.2902* (.1325)	-.2120 (.1167)	.0933 (.1405)	-.0078 (.1817)	.3257 (.2107)
Prop foreigners x ROR-specific mean prop. foreigner	.0309** (.0099)		.0151 (.0102)		-.0031 (.0163)	
Prop. foreigners x ROR-specific mean prop. unempl.		-.0426*** (.0119)		-.0154 (.0140)		-.0357 (.0196)
<i>N</i> respondents	7,816	7,816	7,816	7,816	5,575	5,575
<i>N</i> ROR-years	267	267	267	267	199	199

Note: GGSS 1994, 2000, 2004, 2010. Panel 1 replicates SCS's regression models with only small modifications (using a less restrictive sample and excluding respondents with no opinion), Models in Panel 2 allow for heterogeneous time trends in Western and Eastern Germany. Models 3 are estimated without the survey year 1994.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

D3. Analyses on the Level of Federal States

Table D3 repeats the analyses shown in Table 1 in the main text on the level of federal states. Effects on this less fine-grained regional level are even more pronounced (see Models 1a to 1c; also SCS found stronger effects on this level).² However, these results also break down to non-significant effects once heterogeneous time trends are allowed or the idiosyncratic survey year 1994 is excluded (see Panels 2 and 3).

Table D3. Hybrid Ordinal Probit Regressions of Welfare Attitudes on the Proportion of Foreigners, State-Level (Only Within Effects Reported; SEs in Parentheses)

	(1)			(2)			(3)		
	Replicating SCS's analyses			With heterogeneous time trends			Excluding year 1994		
	Model 1a	Model 1b	Model 1c	Model 2a	Model 2b	Model 2c	Model 3a	Model 3b	Model 3c
Proportion foreigners	-.255*** (.040)	-.507*** (.087)	-.164** (.057)	-.107 (.057)	-.198 (.189)	-.084 (.067)	.025 (.084)	.065 (.266)	.032 (.087)
Proportion foreigners ²		.0157** (.005)			.004 (.008)			-.002 (.012)	
Prop. foreigners x Prop. unempl.			-.006* (.003)			-.002 (.003)			-.001 (.005)
<i>N</i> respondents ^a	8,245	8,245	8,245	8,245	8,245	8,245	5,817	5,817	5,817
<i>N</i> state-years	64	64	64	64	64	64	48	48	48

Note: GGSS 1994, 2000, 2004, 2010. Panel 1 closely replicates SCS's regression models (Models 2, 3, and 4 in their Table OA5 in the online appendix). Models in Panel 2 allow for heterogeneous time trends in Western and Eastern Germany. Panel 3 re-runs Panel 1, but without data from the survey year 1994.

^a The number of respondents is larger than in the analyses on the ROR-level because SCS dropped ROR-years with fewer than 10 respondents.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

² In two respects we deviate here from SCS: SCS did not use a multilevel model to estimate the regressions on the state level (they simply used the command 'oprobit' in Stata). Their reasons for this are unknown (one can only see this from their Stata files). We decided to use multilevel models (command 'meglm') throughout to ensure a better comparability across different regional levels. However, models that include random effects on the state-year level did not converge. Therefore, we dropped these from the models. A drawback of this strategy might be an underestimation of standard errors of covariates on the state-year level, including our treatment variable (for a simulation study, see Schmidt-Catran and Fairbrother 2016). Therefore, results on the state level might be biased in favor of the conflict hypothesis. Furthermore, SCS aggregated the proportion of foreigners in the RORs to the state-level. There they made a mistake when imputing a value of zero for some missing information on the ROR-level. To avoid the latter problem, we used official statistics on the level of the federal states (provided by the German Federal Statistical Office).

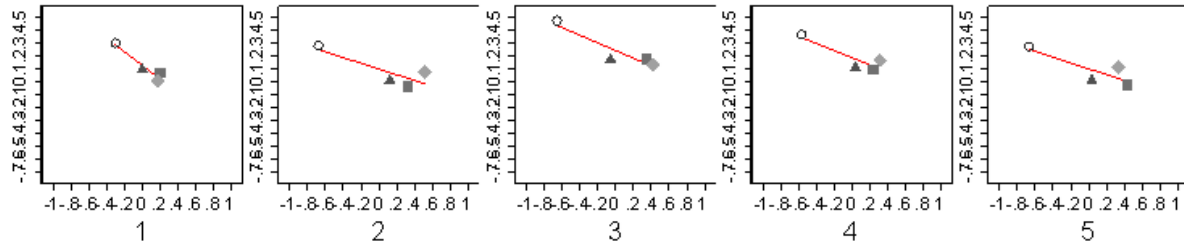
D4. Time Trends Estimated Separately for Federal States

The different East/West development paths can also be observed if we produce scatterplots for each federal state separately (Figure D1). Each scatterplot gives on the y-axis the residual in welfare attitudes that is left when one controls in regression estimates for individual-level but no context variables (see the figure notes for more details). Controlling only for individual characteristics nets out variance in attitudes that might have been caused by changing compositions of inhabitants (respondents) in these regions, but it does not net out effects of other idiosyncrasies of the regional units, such as (changing) proportions of foreigners. On the x-axis, we plot the within variation in the proportion of foreigners that SCS used to test the conflict thesis. The first panel shows the five federal states in Eastern Germany. In Eastern Germany, there was a consistent Goodbye Lenin effect: in all five federal states we see a steeply declining regression line that most likely is not due to the operation of a conflict mechanism but to the strong drop in welfare support that happened shortly after German reunification. In contrast, in the ten Western German states we do not see any consistent trend pattern. Taken together, time trends in Eastern and Western Germany are quite different.

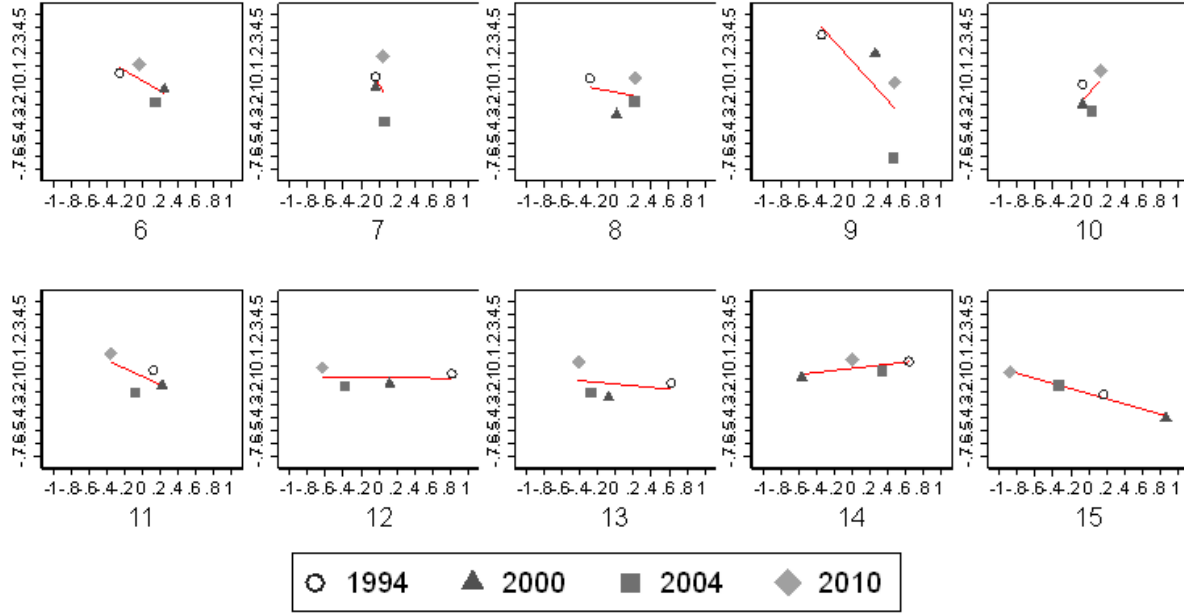
One might argue that the pattern in Figure D1 is nevertheless in line with SCS's assumption, as they supposed the conflict hypothesis to hold mainly in regions where the share of foreigners is still low (SCS 2016:246, 254). Despite the fact that it would be desirable to specify theoretical mechanisms to justify those threshold effects (the authors only provide vague ideas of respondents getting more familiar with foreigners), there are also empirical reasons to believe those threshold effects do not exist. First, the drop in welfare support (and parallel increase in foreigners) happened only after the first survey year, and hence in the period shortly after German reunification. Second, in Eastern Germany the drop in welfare support is not related to any consistent threshold. For instance, in Thuringia the share of foreigners increased from 1 percent in 1994 to 1.8 percent in 2000 (see Table A1). The latter number is exactly the level that Brandenburg already reached in 1994. If the decline in support really was consistently related to specific thresholds in the proportion of foreigners, one would not observe simultaneous trends in all federal states, but instead patterns that somewhat shift in time.

Figure D1. Residuals in Support for Welfare Spending (y-Axis) by Within Variance in the Proportion of Foreigners (x-Axis) in 15 Federal States

Eastern Germany



Western Germany



Note: GGSS 1994, 2000, 2004, 2010. These figures plot for the four different survey years the residuals in support for welfare spending when one only controls for respondents' but no context characteristics (y-axis) against the within variance in the proportion of foreigners (x-axis). Technically, the y-axis plots the mean residuals of hybrid linear regressions without controls for years or context characteristics.

The federal states are sorted according to the mean proportion of foreigners. Eastern Germany: (1) Saxony-Anhalt; (2) Thuringia; (3) Mecklenburg-Vorpommern; (4) Brandenburg; (5) Saxony. Western Germany: (6) Schleswig-Holstein; (7) Lower Saxony; (8) Rhineland Palatine; (9) Saarland; (10) Bavaria; (11) North Rhine Westphalia; (12) Hesse; (13) Baden-Wuerttemberg; (14) Bremen; (15) Hamburg.

D5. Separate Regressions for Eastern and Western Germany

To allow for even more heterogeneous effects, we also estimated regressions (on the ROR-level) separately for Western and Eastern Germany. For Western Germany the effect of proportion foreigners again vanishes completely ($-.05$; $p = .31$), for Eastern Germany it is still sizeable ($-.12$) but no longer statistically significant ($p = .58$) (results not shown but available on request).

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