Scared Straight? Threat and Assimilation of Refugees in Germany

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Motivation

- Refugee migration on the rise across the world
    - More than 6 million refugees from Ukraine in the last 7 weeks
    - Over 70 million forcibly displaced individuals in the world today
    - Climate change induced refugees projected to 1 billion by 2050

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- Debate on the forces that favor or hinder refugees' assimilation
  - Large literature on government (forced) assimilation policies (Bandiera et al., 2019; Abdelgadir&Fouka, 2020; Dahl et al., 2021)
  - Less is known about local environment (e.g., natives' openness)

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- Construct a cultural similarity index at the local level
    - Novel survey data on refugees' preferences and habits over time
    - Risk attitudes; reciprocity; type and frequency of leisure; trust; etc.
    - Comparable measures of cultural preferences for natives at baseline
    - Consider also questions on "core traits" available only for refugees

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- Use standard proxies for economic assimilation
  - Labor force participation and wages
  - Validate survey responses with administrative data

Preview of Empirical Strategy

- Exploit quasi-random variation across NUTS-2 regions over time
  - Use region of assignment to derive an intention to treat (ITT)

- Construct a "threat index" combining multiple dimensions of hostility
  - Attacks against mosques; support for anti-immigrant parties
  - Natives' attitudes towards openness and diversity
  - Historical pogroms; support for Nazi Party

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- Estimate individual level regressions that account for
    - District and survey wave fixed effects
    - Refugees' characteristics (including year of arrival)

- Compare cultural and economic assimilation of refugees
    - Arrived at different points in time
    - Assigned to regions with different levels of hostility

- Refugees converge to local culture and assimilate economically

Preview of Results

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- Faster cultural convergence in regions with higher hostility
  - Effects also on "core" traits (women's rights; support for democracy)

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- Cultural convergence
  - Only when natives' cooperation is not needed
  - Driven by vulnerable refugees and towards employed natives
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- Refugees trigger natives' hostility in high-threat regions
  - Despite faster cultural assimilation in these areas

Road Map

Road Map
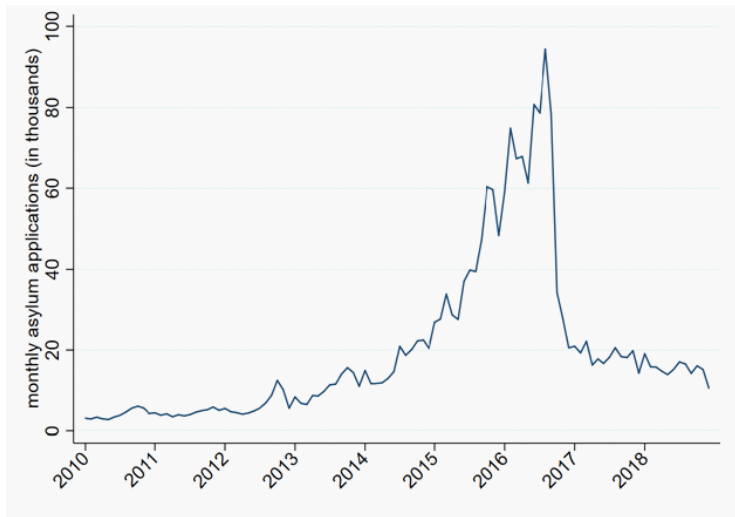
From 2015 to 2018, 1.6M refugees

Allocation of Refugees Across Regions

- Three largest sending countries account for 85% of all refugees
  - Syria, Afghanistan, and Iraq
- *Königsteiner Schlüssel* to allocate refugees across states
  - Economic capacity (tax revenues)
  - Population
- Within states, indipendent but similar criteria
- Allocation depended on availability of local housing
- Pace of inflows forced states to resort to alternative solutions
  - Hotels, vacant houses, old schools
  - Military barracks, improvised container colonies and tents

Concerns About Refugees' Assimilation

Every immigrant has an indispensable obligation to integrate; he must adapt to his new homeland, not vice versa.

AfD Manifesto

...A large part of the refugees are unlikely to be integrated...in the foreseeable future. [T]he majority of refugees come from countries whose prevailing societal images deviate significantly from our Western values.

Open letter of CDU members to Angela Merkel

Data

- IAB-BAMF-SOEP survey of refugees
  - Representative sample of around 8,000 asylum seekers in Germany
  - Conducted in 2016, 2017, and 2018
  - Demographic and economic characteristics; attitudes and preferences

- German Socio-Economic Panel (SOEP)
  - Representative longitudinal study of 34,000 private households
  - Large sample size allows to measure regional heterogeneity in attitudes

- Regional and district level characteristics from German Federal Statistical Office

- Data on local threat and hostility from multiple sources

Preferences   Characteristics   Other Data
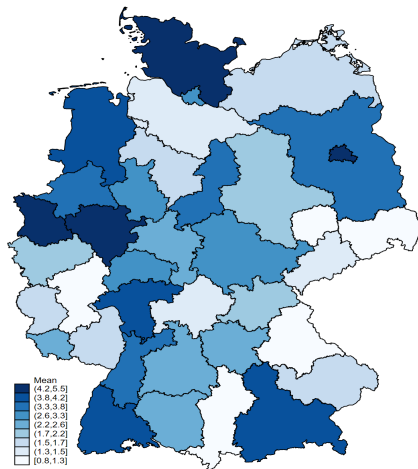
Refugees in Germany

Measuring Assimilation

Index of cultural similarity between refugees and locals

- Same set of preferences and beliefs for the two groups
    - Risk attitudes; reciprocity; generalized trust; locus of control; leisure (type and frequency); interest in politics; views over fairness

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- Compute Euclidean distance

$$D_{ir} = \sqrt{\sum_j \left(p_{irj} - \overline{p_{rj}} \right)^2}$$

    - p_{irj}: preference of refugee i assigned to region r over issue j
    - $\overline{p_{rj}}$: average (baseline) preferences over issue j among locals
    - Invert so that higher values refer to higher similarity

- Robust to other measures of cultural similarity (Canberra index)

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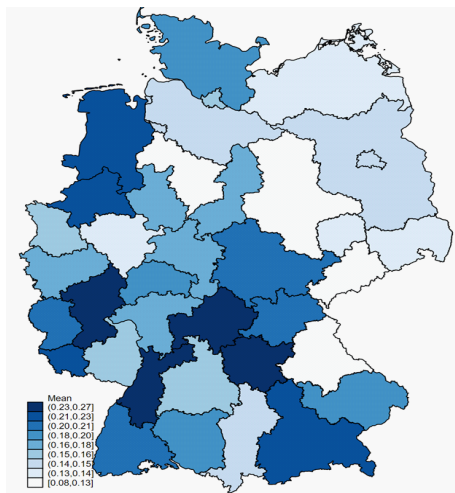Standard outcomes for economic assimilation

- Labor force participation and wages at time of the interview

Cultural Similarity Index (2016-2018)
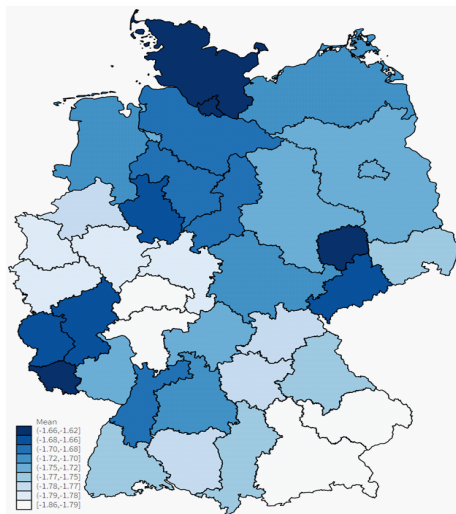
Darker color $\implies$ higher cultural similarity

Self-Reported Employment of Refugees (2016-2018)

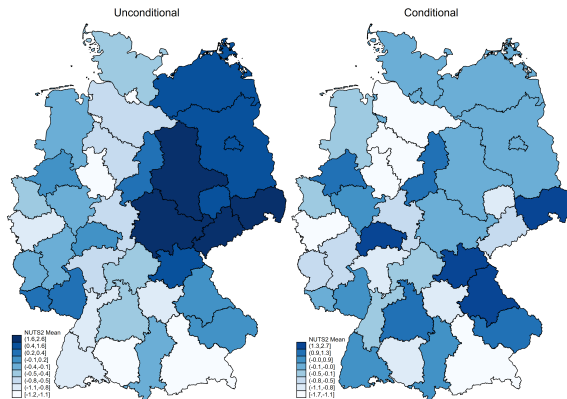Darker colors $\implies$ higher employment

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- Multiple proxies for local threat
    - Attacks against mosques (2001-2011)
    - Vote share for NPD (2013) far-right marches (2005-2012)
    - Historical pogroms and vote share for Nazis in 1933
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    - Historical pogroms and vote share for Nazis in 1933
    - Attitudes of locals taken from ALLBUS and personality traits (Big-5)

- Validation: $\uparrow$ threat $\implies$ refugees more worried about xenophobia

Darker colors $\implies$ higher threat

Road Map

Estimating Equation

- Estimate individual level regressions of the form

$$y_{irdt} = \alpha_d + \gamma_t + \beta_1 MSA_{it} + \beta_2 \left(MSA_{it} \times T_r \right) + \mathbf{W}_{dt} + \mathbf{X}_{it} + u_{irdt}$$

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- y_{irdt}: assimilation of refugee i in district d of region r in survey year t
- MSA_{it}: months spent in Germany by refugee i in year t
- T_r: threat index in region r
- α_d and γ_t: district and survey year fixed effects
- $\mathbf{X}_{it}$ and $\mathbf{W}_{dt}$: individual and district level controls

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- $\mathbf{X}_{it}$ and $\mathbf{W}_{dt}$: individual and district level controls

- β_2: effect of one extra month spent in a region with higher threat
  - $\beta_2 > 0 \implies$ threat increases assimilation

- Key assumption: no change in allocation process over time
  - Conduct several robustness checks

Identifying Assumption

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  - Conduct several robustness checks

Ex-ante selection

- No change in probability of assignment to regions over time
  - Based on pre-entry characteristics
  - Across regions with different characteristics, including threat
- No change in cultural composition of refugees over time

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Ex-post sorting

- ITT: use region of assignment rather than region of residence
- Replicate results exploiting residency obligation policy
  - A subset of refugees in the sample prohibited from relocating
- Test for "selected" out-migration of locals or relocation of refugees
- No differential attrition across regions

Road Map

Refugees Converge to Local Culture

	(1)	(2)	(3)	(4)	(5)	(6)
	Dep. variable: *Cultural similarity index (mean: -1.905)*					
MSA	**0.081****					
	(0.040)					
Person-Year observations	12,334					
Person observations	6,691					
R2 adjusted	0.344					
Individual controls	Yes					
Fixed Effects						
Federal-State	No					
NUTS-2	No					
District	No					
District controls * survey year	No					

Refugees converge culturally as they spend time in Germany

Refugees Converge to Local Culture

	(1)	(2)	(3)	(4)	(5)	(6)
	Dep. variable: *Cultural similarity index (mean: -1.905)*					
MSA	0.081**	0.076*	0.094**	0.113***	**0.118***	
	(0.040)	(0.042)	(0.041)	(0.041)	**(0.042)**	
Person-Year observations	12,334	12,334	12,334	12,334	12,334	
Person observations	6,691	6,691	6,691	6,691	6,691	
R2 adjusted	0.344	0.347	0.368	0.374	0.392	
Individual controls	Yes	Yes	Yes	Yes	Yes	
Fixed Effects						
Federal-State	No	No	Yes	No	No	
NUTS-2	No	No	No	Yes	No	
District	No	No	No	No	Yes	
District controls * survey year	No	Yes	Yes	Yes	Yes	

1 extra year in Germany $\implies$ 3% $\uparrow$ cultural similarity

Refugees Assimilate Economically

	(1)	(2)	(3)	(4)	(5)	(6)
	Dep. variable: *Refugees' relative employment (mean: -0.504)*					
MSA	0.778***	0.757***	0.760***	0.776***	**0.771*****	
	(0.029)	(0.042)	(0.041)	(0.041)	**(0.042)**	
Person-Year observations	12,334	12,334	12,334	12,334	12,334	
Person observations	6,691	6,691	6,691	6,691	6,691	
R2 adjusted	0.155	0.161	0.172	0.181	0.196	
Individual controls	Yes	Yes	Yes	Yes	Yes	
Fixed Effects						
Federal-State	No	No	Yes	No	No	
NUTS-2	No	No	No	Yes	No	
District	No	No	No	No	Yes	
District controls * survey year	No	Yes	Yes	Yes	Yes	

1 extra year in Germany $\implies$ 20% ↓ (relative) employment gap

Faster Cultural Convergence in High-Threat Regions

	(1)	(2)	(3)	(4)	(5)	(6)
	Dep. variable: *Cultural similarity index (mean: -1.905)*					
MSA	0.081**	0.076*	0.094**	0.113***	0.118***	0.125***
	(0.040)	(0.042)	(0.041)	(0.041)	(0.042)	(0.042)
MSA * Threat						**0.075****
						(0.032)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.344	0.347	0.368	0.374	0.392	0.392
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects						
Federal-State	No	No	Yes	No	No	No
NUTS-2	No	No	No	Yes	No	No
District	No	No	No	No	Yes	Yes
District controls * survey year	No	Yes	Yes	Yes	Yes	Yes

Moving from 25th to 75th pctile of threat $\implies$ cultural convergence $\uparrow$ 70%

No Differential Effect on Economic Assimilation

	(1)	(2)	(3)	(4)	(5)	(6)
	Dep. variable: *Refugees' relative employment (mean: -0.504)*					
MSA	0.778***	0.757***	0.760***	0.776***	0.771***	0.772***
	(0.029)	(0.042)	(0.041)	(0.041)	(0.042)	(0.042)
MSA * Threat						**0.016**
						(0.032)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.155	0.161	0.172	0.181	0.196	0.195
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects						
Federal-State	No	No	Yes	No	No	No
NUTS-2	No	No	No	Yes	No	No
District	No	No	No	No	Yes	Yes
District controls * survey year	No	Yes	Yes	Yes	Yes	Yes

Higher threat $\implies$ no differential economic convergence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dep. variable: *Cultural similarity index (mean: -1.905)*							
MSA	0.111***	0.101**	0.105**	0.103**	0.115**	0.105**	0.106**	0.095**
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
MSA * Threat	0.069**							**0.093****
	(0.032)							**(0.040)**
MSA * Network size		0.043						0.090***
		(0.032)						(0.034)
MSA * Network employment			0.018					0.106***
			(0.029)					(0.033)
MSA * Task diversity				0.016				0.085**
				(0.028)				(0.033)
MSA * Skill complexity					0.089***			0.156***
					(0.028)			(0.036)
MSA * Local cultural distinctiveness						-0.017		-0.034
						(0.027)		(0.028)
MSA * Local cultural dispersion							0.008	0.016
							(0.027)	(0.028)
R2 adjusted	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.393
Person-Year observations	12,053	12,053	12,053	12,053	12,053	12,053	12,053	12,053
Person observations	6,528	6,528	6,528	6,528	6,528	6,528	6,528	6,528
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects								
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls * survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Additional Robustness Checks

Road Map

- Refugees converge to local culture and assimilate economically

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- Local threat associated with faster cultural convergence

- No differential effect for economic assimilation

Interpretation of Results

- Refugees converge to local culture and assimilate economically

- Local threat associated with faster cultural convergence

- No differential effect for economic assimilation

- Our interpretation
  - Higher threat $\implies$ higher effort among refugees
  - But, successful assimilation also depends on locals' acceptance
  - Level of effort needed to assimilate higher in more hostile regions

Convergence only for One-Sided Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Voluntary integration course	Mandatory integration course	Language skills (1 bad - 5 good)	Time spent with Germans (1 never - 6 daily)	Partner German born (among females)	Partner German born (among males)	Headscarf (1 never 4 always)
MSA	0.507***	0.619***	3.296***	2.291***	0.380*	0.278*	-1.713***
	(0.061)	(0.056)	(0.128)	(0.203)	(0.216)	(0.144)	(0.622)
MSA * Threat	**0.090****	0.021	0.048	0.041	0.075	-0.079	0.126
	(0.042)	(0.040)	(0.100)	(0.157)	(0.112)	(0.074)	(0.718)
Person-Year obs.	12,101	12,243	12,334	12,302	773	1,398	823
Person obs.	6,605	6,665	6,691	6,683	440	734	823
R2 adjusted	0.117	0.211	0.299	0.117	0.498	0.478	0.167
Dep. var. mean	0.556	0.534	3.012	3.721	0.173	0.121	2.463
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects							
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District cntrls * survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Convergence Driven by More Vulnerable Refugees

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Baseline	Gender		Age		Child in household		Education abroad	
		Female	Male	18-30	> 30	**Yes**	No	**Non-certified**	Certified
MSA	0.125***	0.144**	0.096*	0.123*	0.105*	0.087	0.149**	0.059	0.106*
	(0.042)	(0.064)	(0.058)	(0.067)	(0.056)	(0.056)	(0.070)	(0.065)	(0.058)
MSA * Threat	0.075**	**0.126****	0.032	0.076	0.074*	**0.094****	0.046	**0.091***	0.054
	(0.032)	**(0.053)**	(0.040)	(0.048)	(0.043)	**(0.044)**	(0.050)	**(0.051)**	(0.041)
Person-Year observations	12,334	4,719	7,615	5,175	7,159	7,074	5,007	5,449	6,830
Person observations	6,691	2,663	4,028	3,107	3,830	4,015	2,888	3,026	3,636
R2 adjusted	0.392	0.396	0.389	0.378	0.408	0.391	0.391	0.415	0.376
Dep. var. mean	-1.905	-1.945	-1.880	-1.885	-1.920	-1.929	-1.876	-1.943	-1.875
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects									
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls * survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Group-Specific Convergence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Baseline	Gender		Age		**Employment of locals**	
		Own group	Other group	Own group	Other group	**Yes**	No
MSA	0.125***	0.111***	0.138***	0.119***	0.129***	0. 130***	0.109***
	(0.042)	(0.043)	(0.044)	(0.044)	(0.042)	(0.043)	(0.040)
MSA * Threat	0.075**	0.076**	0.074**	0.082**	0.072**	**0.090***	0.041
	(0.032)	(0.033)	(0.032)	(0.034)	(0.032)	**(0.033)**	(0.030)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.392	0.376	0.395	0.366	0.394	0.379	0.421
Dep. var. mean	-1.905	-1.900	-1.897	-1.895	-1.906	-1.895	-1.922
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects							
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls * survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Effects also for Deep-Rooted Preferences

	(1)	(2)	(3)	(4)
	Women's rights	Importance of democracy	Importance of religion (1 low – 4 very important)	Freq. church and relig. (1 never – 5 daily)
MSA	0.442***	0.303*	-0.247	0.392***
	(0.143)	(0.166)	(0.153)	(0.137)
MSA * Threat	**0.223***	**0.460****	**0.039**	**-0.211˙**
	(0.132)	**(0.156)**	**(0.145)**	**(0.120)**
Person-Year observations	5,925	4,737	4,954	8,004
Person observations	5,925	4,737	4,954	5,127
R2 adjusted	0.075	0.079	0.085	0.176
Individual controls	Yes	Yes	Yes	Yes
Fixed Effects				
District	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes

Natives' Attitudes

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Conclusions

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  - Assimilation process likely to be two-sided (effort vs success)
  - Refugees can exert effort, but locals must be willing to accept them

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  - Refugees can exert effort, but locals must be willing to accept them

- Many questions ahead
  - What are the long run effects of threat-induced cultural convergence?
  - Does refugees' backlash arise after a threshold value of threat?

BACK-UP SLIDES

Cultural Preferences of Locals and Refugees

	Mean	Std. deviation	Min.	Max.	Observations
Panel A. Refugees					
Risk preferences (0 low - 10 high)	3.94	3.42	0	10	12122
Negative reciprocity (1 low - 7 high)	1.77	1.26	1	7	6399
Positive reciprocity (1 low - 7 high)	6.68	0.62	1	7	6526
Positive self-attitude (1 disagree - 7 agree)	6.29	1.19	1	7	6333
General trust (1 low - 4 high)	2.17	0.59	1	4	3417
Locus of control (1 low - 7 high)	4.46	0.86	1	7	3884
Social inclusion (1 incl. - 5 excl.)	2.57	1.09	1	5	6748
Society exploit-selfish (=1), fair-helpful (=2)	1.57	0.43	1	2	3307
Interest in politics (1 not at all - 4 very strong)	1.66	0.87	1	4	12525
Leisure and cultural activ. (1 never - 5 daily)	1.78	0.63	1	4	8273
Satisfaction with life, health, flat (0 low - 10 high)	7.23	1.94	0	10	12681
Worries: econ., health (1 low - 3 high)	1.83	0.58	1	3	12607
Panel B. Locals					
Risk preferences (0 low - 10 high)	4.86	2.26	0	10	27903
Negative reciprocity (1 low - 7 high)	3.04	1.42	1	7	18720
Positive reciprocity (1 low - 7 high)	5.84	0.91	1	7	18764
Positive self-attitude (1 disagree - 7 agree)	5.58	1.28	1	7	18817
General trust (1 low - 4 high)	2.37	0.53	1	4	25756
Locus of control (1 low - 7 high)	4.61	0.73	1	7	18868
Social inclusion (1 incl. - 5 excl.)	2.02	0.75	1	5	25767
Society exploit-selfish (=1), fair-helpful (=2)	1.52	0.42	1	2	25618
Interest in politics (1 not at all - 4 very strong)	2.35	0.81	1	4	20773
Leisure and cultural activ. (1 never - 5 daily)	2.14	0.63	1	5	25790
Satisfaction with life, health, flat (0 low - 10 high)	7.24	1.48	0	10	26772
Worries: econ., health (1 low - 3 high)	1.91	0.61	1	3	27886

Cultural Preferences of Refugees, by Threat

	Mean	Std. deviation	Min.	Max.	Observations
Panel A. Refugees in low threat regions					
Risk preferences (0 low - 10 high)	3.96	3.37	0	10	5793
Negative reciprocity (1 low - 7 high)	1.77	1.26	1	7	3075
Positive reciprocity (1 low - 7 high)	6.70	0.61	2	7	3159
Positive self-attitude (1 disagree - 7 agree)	6.32	1.16	1	7	3075
General trust (1 low - 4 high)	2.21	0.61	1	4	1678
Locus of control (1 low - 7 high)	4.47	0.86	1	7	1666
Social inclusion (1 incl. - 5 excl.)	2.54	1.09	1	5	3255
Society exploit-selfish (=1), fair-helpful (=2)	1.61	0.43	1	2	1626
Interest in politics (1 not at all - 4 very strong)	1.70	0.88	1	4	5993
Leisure and cultural activ. (1 never - 5 daily)	1.80	0.64	1	4	4123
Satisfaction with life, health, flat (0 low - 10 high)	7.24	1.93	0	10	6066
Worries: econ., health (1 low - 3 high)	1.83	0.59	1	3	6037
Panel B. Refugees in high threat regions					
Risk preferences (0 low - 10 high)	3.93	3.46	0	10	6329
Negative reciprocity (1 low - 7 high)	1.76	1.26	1	7	3324
Positive reciprocity (1 low - 7 high)	6.66	0.63	1	7	3367
Positive self-attitude (1 disagree - 7 agree)	6.26	1.22	1	7	3258
General trust (1 low - 4 high)	2.14	0.57	1	4	1739
Locus of control (1 low - 7 high)	4.46	0.87	1	7	2218
Social inclusion (1 incl. - 5 excl.)	2.60	1.10	1	5	3493
Society exploit-selfish (=1), fair-helpful (=2)	1.53	0.44	1	2	1681
Interest in politics (1 not at all - 4 very strong)	1.63	0.86	1	4	6532
Leisure and cultural activ. (1 never - 5 daily)	1.75	0.62	1	4	4150
Satisfaction with life, health, flat (0 low - 10 high)	7.22	1.94	0	10	6615
Worries: econ., health (1 low - 3 high)	1.84	0.58	1	3	6570

Cultural Preferences of Locals, by Threat

|	Mean	Std. deviation	Min.	Max.	Observations
Panel A. Locals in low threat regions					
Risk preferences (0 low - 10 high)	4.83	2.29	0	10	12277
Negative reciprocity (1 low - 7 high)	3.01	1.43	1	7	7779
Positive reciprocity (1 low - 7 high)	5.83	0.91	1	7	7803
Positive self-attitude (1 disagree - 7 agree)	5.58	1.29	1	7	7825
General trust (1 low - 4 high)	2.41	0.53	1	4	11315
Locus of control (1 low - 7 high)	4.63	0.74	1	7	7845
Social inclusion (1 incl. - 5 excl.)	2.00	0.75	1	5	11319
Society exploit-selfish (=1), fair-helpful (=2)	1.54	0.42	1	2	11255
Interest in politics (1 not at all - 4 very strong)	2.40	0.81	1	4	8894
Leisure and cultural activ. (1 never - 5 daily)	2.19	0.62	1	5	11326
Satisfaction with life, health, flat (0 low - 10 high)	7.34	1.47	0	10	11732
Worries: econ., health (1 low - 3 high)	1.88	0.62	1	3	12280
Panel B. Locals in high threat regions					
Risk preferences (0 low - 10 high)	4.88	2.23	0	10	15626
Negative reciprocity (1 low - 7 high)	3.07	1.42	1	7	10941
Positive reciprocity (1 low - 7 high)	5.84	0.91	1	7	10961
Positive self-attitude (1 disagree - 7 agree)	5.59	1.26	1	7	10992
General trust (1 low - 4 high)	2.34	0.54	1	4	14441
Locus of control (1 low - 7 high)	4.60	0.72	1	7	11023
Social inclusion (1 incl. - 5 excl.)	2.03	0.76	1	5	14448
Society exploit-selfish (=1), fair-helpful (=2)	1.50	0.43	1	2	14363
Interest in politics (1 not at all - 4 very strong)	2.31	0.81	1	4	11879
Leisure and cultural activ. (1 never - 5 daily)	2.10	0.63	1	4	14464
Satisfaction with life, health, flat (0 low - 10 high)	7.17	1.48	0	10	15040
Worries: econ., health (1 low - 3 high)	1.94	0.61	1	3	15606

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Respondents' Characteristics

	All					Threat below median					Threat above median				
	mean	sd	N	min	max	mean	sd	N	min	max	mean	sd	N	min	max
Refugees															
Months since arrival to Germany	29.56	16.23	12,681	0	392	30.37	16.22	6,066	0	392	28.81	16.21	6,615	0	282
Age (in years)	34.09	10.22	12,681	18	66	34.02	10.47	6,066	18	66	34.15	9.98	6,615	18	66
Gender: female	0.382	0.486	12,681	0	1	0.400	0.490	6,066	0	1	0.366	0.482	6,615	0	1
Years of work exp. before arrival	7.35	9.23	11,920	0	48	7.28	9.25	5,783	0	48	7.42	9.22	6,137	0	47
Finished educ. before arrival: No	0.445	0.497	12,622	0	1	0.458	0.498	6,042	0	1	0.434	0.496	6,580	0	1
with school leaving certificate	0.238	0.426	12,622	0	1	0.225	0.418	6,042	0	1	0.249	0.433	6,580	0	1
with secondary school leaving certificate	0.317	0.465	12,622	0	1	0.317	0.465	6,042	0	1	0.317	0.465	6,580	0	1
No Partner	0.334	0.472	12,681	0	1	0.335	0.472	6,066	0	1	0.333	0.471	6,615	0	1
lives in household	0.576	0.494	12,681	0	1	0.576	0.494	6,066	0	1	0.577	0.494	6,615	0	1
elsewhere in Germany	0.013	0.112	12,681	0	1	0.013	0.111	6,066	0	1	0.013	0.112	6,615	0	1
not in Germany	0.061	0.240	12,681	0	1	0.059	0.235	6,066	0	1	0.064	0.244	6,615	0	1
Nationality: Germany	0.000	0.000	12,681	0	0	0.000	0.000	6,066	0	0	0.000	0.000	6,615	0	0
Syria	0.522	0.500	12,681	0	1	0.497	0.500	6,066	0	1	0.545	0.498	6,615	0	1
Afghanistan	0.129	0.335	12,681	0	1	0.132	0.338	6,066	0	1	0.126	0.331	6,615	0	1
Iraq	0.130	0.336	12,681	0	1	0.146	0.353	6,066	0	1	0.115	0.319	6,615	0	1
Africa	0.083	0.275	12,681	0	1	0.090	0.286	6,066	0	1	0.076	0.266	6,615	0	1
Western Balkans	0.025	0.156	12,681	0	1	0.023	0.151	6,066	0	1	0.026	0.160	6,615	0	1
Other	0.112	0.316	12,681	0	1	0.113	0.316	6,066	0	1	0.112	0.315	6,615	0	1
Natives															
Age (in years)	51.66	18.52	61,265	17	103	51.37	18.70	26,337	17	99	51.91	18.36	34,928	17	103
Gender: female	0.510	0.500	63,161	0	1	0.509	0.500	27,248	0	1	0.510	0.500	35,913	0	1
Finished educ.: No	0.102	0.302	80,770	0	1	0.118	0.322	35,636	0	1	0.088	0.283	45,134	0	1
with school leaving certificate	0.010	0.101	80,770	0	1	0.011	0.102	35,636	0	1	0.010	0.100	45,134	0	1
with secondary school leaving certificate	0.888	0.315	80,770	0	1	0.872	0.335	35,636	0	1	0.902	0.297	45,134	0	1
Nationality: Germany	0.913	0.282	80,131	0	1	0.902	0.297	35,131	0	1	0.922	0.268	45,000	0	1
Africa	0.002	0.046	80,131	0	1	0.002	0.049	35,131	0	1	0.002	0.043	45,000	0	1
Western Balkans	0.008	0.092	80,131	0	1	0.007	0.081	35,131	0	1	0.010	0.099	45,000	0	1
Poland	0.004	0.059	80,131	0	1	0.005	0.073	35,131	0	1	0.002	0.044	45,000	0	1
Turkey	0.018	0.134	80,131	0	1	0.022	0.148	35,131	0	1	0.015	0.120	45,000	0	1
Italy	0.010	0.098	80,131	0	1	0.010	0.098	35,131	0	1	0.010	0.098	45,000	0	1
Other	0.044	0.205	80,131	0	1	0.050	0.218	35,131	0	1	0.039	0.194	45,000	0	1

Regional Variables

	mean	sd	N	min	max
District-level controls, measured in 2012					
Unemployment rate	6.84	2.98	12,681	1	16
Population density	955	1,105	12,681	38	4,468
Share of refugees	0.74	0.37	12,681	0	2.35
Mediator variables (at NUTS2-level):					
Local-national cultural distance (Euclidean)	0.41	0.18	12,681	0.19	1.29
Local cultural dispersion (within-region sd)	0.79	0.02	12,681	0.75	0.84
First threat PC (AfD, NPD, crimes)	0.00	1.64	12,681	-1.48	6.96
Right-wing vote (AfD 2017) (percentage)	12.31	4.52	12,681	7.80	29.66
Right-wing vote (NPD 2013) (percentage)	1.26	0.70	12,681	0.50	3.65
Hate crimes against refugees (per 100k inhabitants)	1.95	2.23	12,681	0.16	12.70
Share of refugees (percentage)	0.68	0.25	12,681	0.28	1.44
Immigrants from origin region (percentage)	0.67	0.61	12,117	0.05	4.44
Refugees' cultural similarity	-1.75	0.13	12,681	-1.97	-1.45
Employment rate of immigrants from origin region	18.06	6.46	12,117	2.73	54.19
Gross wage of immigrants from origin region (Euro)	1,087	235	12,117	426	1,526

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Locals' Views: Refugees' Impact on Culture
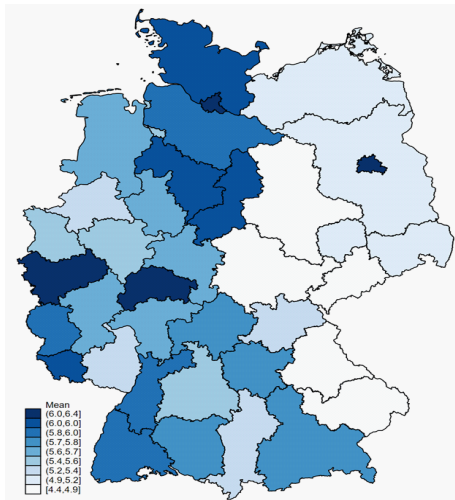
Darker colors $\implies$ more positive views
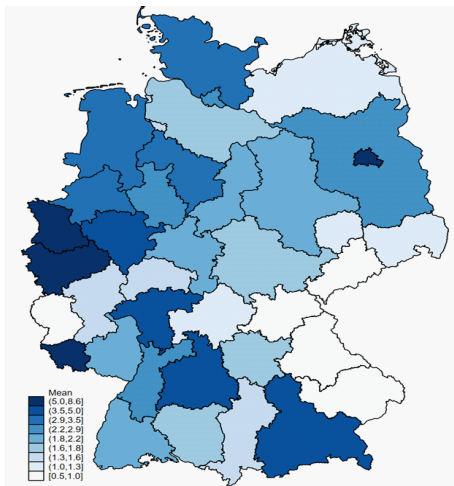
Summary of Robustness Checks

- Rule out ex-ante selection and ex-post sorting

- Include economic controls potentially correlated with threat

- No differential attrition
  - In more hostile regions
  - For refugees with different baseline levels of cultural distance

- Results robust to
  - Clustering standard errors at different levels
  - Using different measures of cultural distance
  - Focusing on different levels of geography

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Locals' Attitudes Deteriorate in High Treat Regions

	(1)	(2)	(3)	(4)	(5)
		Impact of refugees on		Refugee risk or chance	
	Economy (1 bad – 11 good)	Cultural life (1 undermine – 11 enrich)	Germany as a place to live (1 worse – 11 better)	Short-run (1 risk – 11 chance)	Long-run (1 risk -11 chance)
Refugee share	2.308	-4.330	-4.561	0.823	5.156
	(5.070)	(5.062)	(4.569)	(4.702)	(5.114)
Refugee share * Threat	**-13.223***	**-8.023***	**-11.812***	**-11.172***	**-7.499**
	(2.933)	**(2.974)**	**(2.774)**	**(2.823)**	**(3.063)**
Person-Year observations	39,287	39,287	39,287	39,287	39,287
Person observations	25,009	25,009	25,009	25,009	25,009
R2 adjusted	0.114	0.128	0.114	0.059	0.140
Dep. var. mean	5.571	5.580	5.081	3.922	5.403
Individual controls	Yes	Yes	Yes	Yes	Yes
Fixed Effects					
District	Yes	Yes	Yes	Yes	Yes
District controls * survey year	Yes	Yes	Yes	Yes	Yes

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