Attitudes toward Refugees in Contemporary Europe: A Longitudinal Perspective on Cross-national Differences

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Appendix

Note: All code provided at https://dx.doi.org/10.17605/OSF.IO/RPN92

Figure A1: Trends of country-level predictors

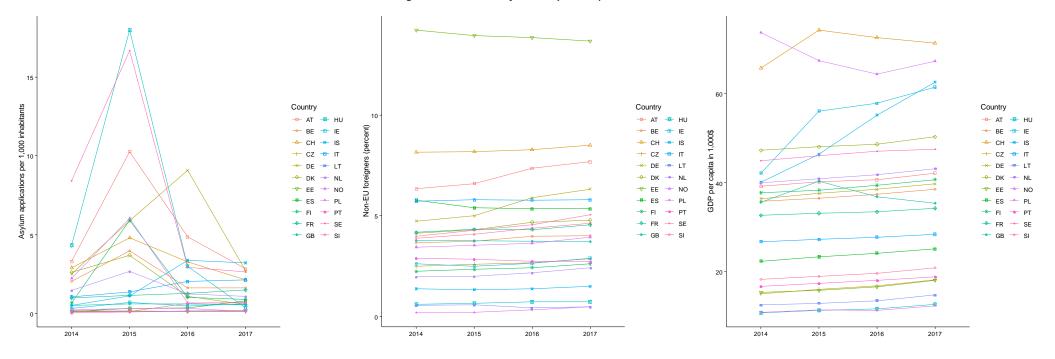


Figure A2: Aggregate trends of individual-level moderators (standardized)

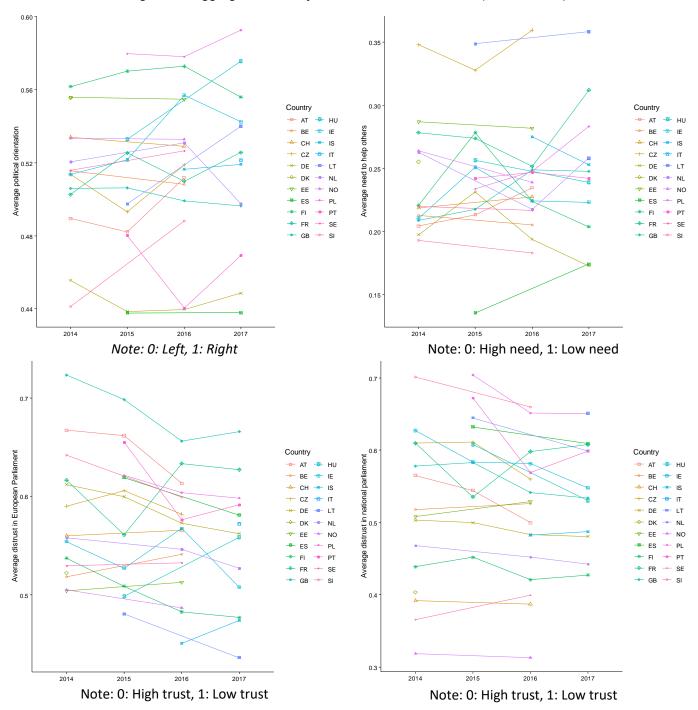


Table A1: Correlations between variables

	Outcome Country level variables				Individual level variables												
_													Trust				
Outcome		Refugee		Asyl	Foreign	Foreign	GDP			LR-	Help	Trust	Nat				
		attitude	Asyl WE	BE	WE	BE	WE	GDP BE	Election	scale	People	EP	Parl	Income	Unempl	Educ	Age
me	Refugee																
	attitude	1	-0,041	0,099	0,085	0,099	0,026	-0,102	-0,047	0,16	0,086	0,152	0,116	0,077	-0,018	0,069	0,007
_	Asyl WE		1	0	0,072	0	0,013	0	0,249	-0,024	0,009	-0,026	0,022	0,018	0,012	-0,001	-0,019
CO	Asyl BE			1	0	0,081	0	0,13	0,041	-0,021	-0,065	0,001	-0,114	-0,064	-0,038	0,027	0,015
ntr	Foreign																
Country level	WE				1	0	0,253	0	-0,014	0,008	-0,004	-0,033	-0,026	-0,026	-0,004	-0,017	0,003
	Foreign																
	BE					1	0	0,144	-0,211	-0,035	-0,045	0,029	-0,073	-0,083	-0,005	-0,007	-0,017
ria	GDP WE						1	0	0,021	0,016	0,012	-0,024	-0,037	-0,032	-0,008	-0,03	-0,005
variables	GDP BE							1	-0,192	0,007	-0,082	-0,042	-0,278	-0,288	-0,024	-0,036	0
0,	Election								1	0,003	-0,013	0,022	0,112	0,072	0,006	0,036	-0,001
	LR-scale									1	0,048	-0,042	-0,087	-0,059	-0,037	0,007	0,023
	Help																
Ind	People										1	0,011	0,015	0,045	-0,008	0,011	0,013
•	Trust EP											1	0,553	0,141	0,033	0,138	0,136
leve	Trust																
va	Nat Parl												1	0,261	0,064	0,17	0,036
variables	Income													1	0,181	0,219	0,043
es	Unempl														1	0,036	-0,107
	Educ															1	0,174
	Age																1

Table A2: Interactions (terms of interest in bold)

Interaction models of negative attitude toward refugees

	LR scale interaction	Need to help interaction	Trust European Parliament interaction	Trust national parliament interaction
Country				
variables	0.00	0.00	4.46	0.55
Foreigner	0.26	0.03	-1.46	-0.66
share (WE)	(1.02)	(0.70)	(1.23)	(0.68)
Foreigner	0.06	0.06 *	0.06	0.05
share (BE)	(0.03)	(0.03)	(0.03)	(0.03)
GDP/c (WE)	-0.00	-0.00	-0.00	-0.00
CDD/- (DE)	(0.01)	(0.01)	(0.01)	(0.01)
GDP/c (BE)	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.02 * (0.01)
Individual				
variables				
LR scale (WE)	0.52 *** (0.04)			
LR scale (BE)	2.87			
oca.e (2_)	(2.46)			
Need to help	(=:)	0.30 ***		
others (WE)		(0.04)		
Need to help		2.73		
others (BE)		(2.01)		
Trust EP (WE)		,	0.74 ***	
,			(0.03)	
Trust EP (BE)			-1.73 (1.58)	
Trust national			(=:55)	0.45 ***
parl. (WE)				(0.04)
Trust national				-1.99
parl. (BE)				(1.36)
Individual level				(/
controls	✓	✓	✓	✓
Foreigner	0.61 ***			
share (WE) X LR scale (WE)	(0.10)			
Foreigner	0.09 ***			
share (BE) X LR	(0.01)			
scale (WE)	(0.01)			
Foreigner	0.03			
share (WE) X	(2.16)			
LR scale (BE)	` ,			
Foreigner		-0.28 [*]		
share (WE) X		(0.11)		
Need to help		` '		
(WE)				
Foreigner		0.01		
share (BE) X		(0.01)		
Need to help				
(WE)		4.34		
Foreigner		1.24		
share (WE) X		(3.29)		
Need to help				
(BE)				

Foreigner share (WE) X			0.24 ** (0.09)	
Trust EP (WE) Foreigner share (BE) X			0.01 (0.01)	
Trust EP (WE) Foreigner share (WE) X			2.97 (2.07)	
Trust EP (BE) Foreigner share (WE) X Trust national				0.02 (0.09)
parl. (WE) Foreigner share (BE) X Trust national				0.04 *** (0.01)
parl. (WE) Foreigner share (WE) X Trust national				1.86
parl. (BE)				(1.32)
Time trend	✓	✓	✓	(=·=-, ✓
Intercept	1.22	1.98 **	3.81 ***	4.15 ***
•	(1.29)	(0.59)	(0.95)	(0.97)
Random Effects				
σ^2	1.07	1.10	1.07	1.08
τ ₀₀	0.02 year:Country	0.02 year:Country	0.01 year:Country	0.02 year:Country
	0.16 Country	0.15 Country	0.16 Country	0.15 Country
N (countries)	22	22	22	22
N (country- years)	57	57	57	57
N	50933	50933	50933	50933
(respondents)				
AIC	148209.867	149683.594	148317.490	148995.010
* n<0.0	05 ** n>0 01 **	* n<0.001 All cou		

^{*} p<0.05 ** p<0.01 *** p<0.001. All continuous individual-level variables standardized to range from 0 to 1

Table A3: Number of observations per country and year of maximum sample

	2014	2015	2016	2017
AT	189	1032	1396	0
BE	1236	39	1198	72
CH	745	41	752	38
CZ	447	969	1782	0
DE	1811	427	1864	227
DK	1163	19	0	0
EE	919	0	1009	96
ES	0	1266	0	1302
FI	1652	141	1381	330
FR	1064	209	998	422
GB	1071	400	1174	109
HU	0	1133	0	1044
IE	1116	324	107	1490
IS	0	0	170	427
IT	0	0	0	1426
LT	0	1161	0	1224
NL	1301	60	1119	149
NO	1035	0	1092	1
PL	0	1089	997	233
PT	0	903	171	791
SE	1231	9	1002	80
SI	688	19	825	6

Table A4: Selected robustness checks

Predictors of negative attitude toward refugees

	(1) ordered logit RE (Ors)	(2) incl < 100 interviews	(3) excl < 200 interviews	(4) w/o DE	(5) w/o AT	(6) w/o SE	(7) w/o DE, AT & SE	(8) 2 waves	(9) w/o 2015	(10) parallel trends (DE split)
Country										
variables										
Asylum appl.	0.97 *	-0.01	-0.02	-0.01	-0.02 *	-0.02 *	-0.02 *	-0.02	-0.01	0.01
(WE)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.02)
Asylum appl.	1.09	0.04	0.05	0.04	0.05	0.06	0.08	0.05	0.05	-0.38
(BE)	(0.05)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.05)	(0.06)	(0.04)	(1.98)
Foreigner	1.66 ***	0.20 *	0.29 **	0.31 *	0.28 **	0.31 **	0.39	0.46 **	0.30 **	0.86 **
share (WE)	(0.15)	(0.09)	(0.11)	(0.14)	(0.10)	(0.10)	(0.21)	(0.16)	(0.11)	(0.27)
Foreigner	1.09	0.06 *	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.55
share (BE)	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(1.30)
GDP/c (WE)	1.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.01	-0.00	0.19
, , ,	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.29)
GDP/c (BE)	`0.99 [°]	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.05
, , ,	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.39)
National	0.99	0.04	-0.06	-0.01	0.01	-0.00	0.02	(/	0.05	-0.36
election	(0.09)	(0.05)	(0.07)	(0.06)	(0.06)	(0.06)	(0.07)		(0.08)	(0.22)
Individual	(5:55)	(5:55)	(0.0.7)	(0.00)	(0.00)	(0.00)	(5.5.7)		(5:55)	(/
variables										
Income satisfac	tion (ref.: living	comfortably)								
Coping	1.11 ***	0.05 ***	0.05 ***	0.05 ***	0.05 ***	0.06 ***	0.04 **	0.05 ***	0.06 ***	0.05 ***
1- 0	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Difficult	1.23 ***	0.12 ***	0.12 ***	0.11 ***	0.11 ***	0.12 ***	0.10 ***	0.12 ***	0.13 ***	0.11 ***
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Very difficult	1.57 ***	0.25 ***	0.25 ***	0.22 ***	0.24 ***	0.25 ***	0.21 ***	0.25 ***	0.28 ***	0.24 ***
- ,	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Unemployed	0.87 **	-0.08 **	-0.09 ***	-0.08 **	-0.09 ***	-0.08 **	-0.08 **	-0.08 ***	-0.10 ***	-0.09 ***
5	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Education (ref.:	, ,		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	1.24 ***	0.12 ***	0.13 ***	0.14 ***	0.13 ***	0.12 ***	0.13 ***	0.13 ***	0.12 ***	0.13 ***

Medium (ISCED 4)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)
Medium	1.43 ***	0.21 ***	0.21 ***	0.20 ***	0.19 ***	0.20 ***	0.17 ***	0.21 ***	0.21 ***	0.21 ***
(ISCED 3)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Low (<=	1.35 ***	0.18 ***	0.18 ***	0.19 ***	0.18 ***	0.17 ***	0.18 ***	0.18 ***	0.15 ***	0.18 ***
ISCED 2)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Age	0.97	-0.01	-0.03	-0.01	-0.03	-0.01	-0.04	-0.01	0.00	-0.02
7.80	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Time trend	(0.0.1)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
2015	1.08	0.04	0.01	0.04	0.02	0.05	0.00			-0.22
	(0.11)	(0.06)	(80.0)	(80.0)	(0.07)	(0.07)	(0.09)			(0.47)
2016	1.37 ***	0.22 ***	0.16 *	0.19 **	0.18 **	0.20 ***	0.18 **		0.18 **	-0.56
	(0.09)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)		(0.06)	(0.73)
2017	Jan 29	0.14	0.12	0.15	0.13	0.15	0.10		0.12	-0.71
	(0.13)	(0.08)	(0.09)	(0.09)	(0.08)	(0.08)	(0.10)		(0.10)	(1.01)
Intercept	Cutoffs	2.63 ***	2.69 ***	2.65 ***	2.67 ***	2.61 ***	2.65 ***	2.77 ***	2.69 ***	0.34
	skipped	(0.23)	(0.23)	(0.24)	(0.24)	(0.23)	(0.24)	(0.23)	(0.24)	(11.05)
Country		, ,	, ,	, ,	, ,	. ,	. ,	, ,	` '	, ,
dummies X										
year										
dummies										✓
Random Effect	ts									
σ^2	3.29	1.10	1.10	1.10	1.09	1.12	1.09	1.10	1.13	1.10
τ ₀₀	0.04 year:Countr	0.02 year:Countr	0.02 year:Countr	0.02 year:Countr	0.02 year:Countr	0.01 year:Countr	0.02 year:Countr	0.04 essround:Countr	0.02 year:Countr	1.19 Country2
	у	у	у	у	у	у	у	у	у	
	0.37 Country	0.15 Country	0.14 Country	0.16 Country	0.16 Country	0.14 Country	0.16 Country	0.16 Country	0.16 Country	0.02 year
N (countries)	22	22	22	21	21	21	19	22	22	23
N (country-	57	69	50	53	54	55	48	41	45	61
years)	37	09	30	33	34	33	40	41	43	01
N	50933	51413	49897	46604	48316	48700	41754	51413	41879	50724
(respondents										
)										
AIC	144435913	151295288	146854960	136938341	141480138	143911071	122570892	151303492	124290135	14915891
										7

^{*} p < 0.05 ** p < 0.01 *** p < 0.001, two-sided tests. All continuous variables standardized to range from 0 to 1

Table A5: Conservation value models

Country variables				
Foreigner share (WE)	0.29 **	-1.21		
	(0.10)	(1.31))		
Foreigner share (BE)	0.05	-0.01		
	(0.03)	(0.03)		
GDP/c (WE)	-0.00	-0.00		
	(0.01)	(0.01)		
GDP/c (BE)	-0.01	-0.01		
	(0.00)	(0.01)		
Individual variables				
Conservation value (WE)	0.51 ***	0.10		
	(0.03)	(0.05)		
Conservation (BE)		0.54		
		(2.04)		
Individual level controls	✓	✓		
Time trend	✓	✓		
Foreigner share (WE) X conservation (WE)		0.34 *		
, ,		(0.13)		
Foreigner share (BE) X conservation		0.10 ***		
(WE)		(0.01)		
Foreigner share (WE) X conservation		1.98		
(BE)		(2.02)		
Intercept	2.39 ***	2.28		
	(0.23)	(1.47)		
Random Effects				
σ^2	1.10	1.10		
τ ₀₀	0.02 year:Country	0.02 year:Country		
	0.16 Country	0.17 Country		
N (countries)	22	22		
N (country-years)	57	57		
N (respondents)	50094	50094		
AIC	147130.514	147049.145		

^{*} p<0.05 ** p<0.01 *** p<0.001. All continuous individual-level variables standardized to range from 0 to 1