

# The Determinants of Refugees' Destinations: Where do refugees locate within the EU?

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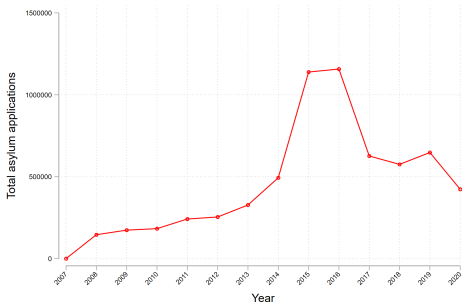
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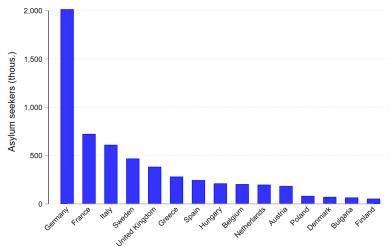
- The **large inflows of asylum seekers** has been a challenge for European countries

**Figure:** Trend of annual first time asylum applications in the EU, 2007-2020, in thousands

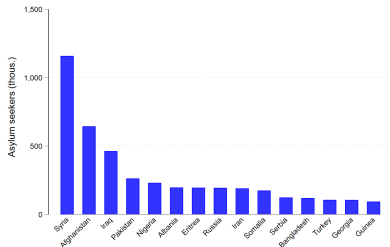


**Source:** Eurostat data on asylum protection and managed migration, years 2007-2020. **Notes:** The Figure shows the trend for the total annual number of asylum applications received by EU countries.

Figure: Top 15 destinations and countries of origin, total 2008-2019



(a) Destinations of Asylum Flows



(b) Origins of Asylum Flows

**Source:** Authors' calculations based on Eurostat data on asylum protection and managed migration. **Notes:** The Figure refers to the total value in the considered time span (2008-2019). The values are expressed in thousands.

# Aims

- This paper examines the **pull factors** that drive asylum seekers to go to particular destinations within the EU.
- We study the determinants of the destination location of **first time non-EU asylum seekers, between 2008-2020** and aim to distinguish and measure the role of several factors.
- We control for the **traditional pull factors** such as economic factors (income and unemployment), geography (proximity and distance), and culture (language, and colonial ties). In addition, we include various measures to capture the **asylum applications' process**, the generosity of the **welfare system**, the role of asylum seekers' **employment rights** and **social networks**.
- To our knowledge, no study has attempted to **distinguish between all these various drivers** of the destination choice of asylum seekers at the same time.

## Previous Literature

- Not much literature on the determinants of refugee flows. Hatton (2004) finds that **economic factors are important determinants** of asylum flows to the EU in the 1980s and 1990s.
- A small literature investigating the role of the welfare magnet in attracting migrants, but not focusing on refugees. Hatton (2009) Hatton and Moloney (2017) use a broad measure of "welfare" policy find that it **does not have a significant effect** on asylum applications.
- A new strand on the determinants of asylum flows and the **role of asylum policies**, Andersson and Jutvik (2022); Bertoli et al. (2022)
- The **role of social networks** in influencing destination choice of migrants, e.g. Beine et al. (2011); Munshi (2020).
- Related: The **integration of refugees in the labour market** e.g. Fasani et al. (2021a); Clemens et al. (2018)

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# Data

- An asylum seeker is defined as a third-country national (non-EU citizen) **applying for international protection** in an EU member State.
- Our dependent variable is defined as the **number of first time asylum applications** from citizens of country  $o$  to destination country  $d$  in a quarter year, based on Eurostat (2021).
- The **main sample** of analysis consists of 28 EU destination countries observed for up to 44 quarters within the time span 2008-2020 and up to 193 non-EU countries of origin. The unit of observation is the origin-destination-time i.e. dyad in a quarter year. Our sample is comprised of 27,476 observations.



# Variables

- **Asylum applications' processes and outcome** based on Eurostat: processing time (quarterly), recognition rate (quarterly) and repatriation risk (yearly) at origin-destination-time level.
- **Generosity of the welfare system**: total social spending in the destination country as % of GDP, and we build an index that accounts for changes related to access to social protection targeted to asylum seekers, at the destination-year level (DEMIG-QuantMig database).
- Number of **months of ban from employment** at the destination-year level (DEMIG-QuantMig database).
- The **role of social networks**: the cumulative sum of asylum applications from country  $o$  in destination  $d$  from the first quarter of the analysis up to one year before the quarter of interest; i.e. cumulative sum of applications up to the previous year similar to Hatton (2004, 2009), based on Eurostat.
- **Quarter yearly unemployment rate** from EUROSTAT, and **quarter yearly real GDP per- capita** from OECDStat.Geographical/cultural variables based on CEPII Gravity database.

**Table:** Descriptive statistics, first time asylum seekers applications to the EU, average for 2008-2020

Variable	mean	sd	min	max	obs
Asylum applications	170.771	1397.044	0	97975	27,476
Access to social security	0.169	2.414	-4	11.5	27,476
Months of ban	7.185	4.588	0	39	27,476
Total social spending (GDP %)	28.106	4.569	13.6	34.5	27,476
Cumulative sum of asylum appl.	3936.176	19413.69	0	656660	27,476
Recognition rate (%)	17.342	27.377	0	100	27,476
Processing time (months)	8.039	6.992	0	40	27,476
Repatriation risk	7.352	30.923	0	782	27,476
Contiguity	0.007	0.085	0	1	27,476
Common language	0.137	0.356	0	1	27,476
Colony ties	0.110	0.356	0	1	27,476
Distance between capitals (ln)	8.341	0.607	4.765	9.700	27,476
Unemployment rate (%)	8.179	4.206	2	26.3	27,476
Real GDP per capita (ln)	10.657	0.258	9.699	11.676	27,476

**Notes:** The unit of observation is the number of the dyadic first time asylum applications measured quarter yearly. The mean is the average of all observations for the period 2008-2020. Source: Authors' calculations based on EUROSTAT (2021), years 2008-2020; DEMIG-Quantmig data, years 2007-2019; Eurostat data on social spending, years 2007-2019; CEPII GeoDist database; World Bank data on Unemployment rate and real GDP per capita, years 2007-2019.

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# Empirical Methodology

- We estimate a **Gravity model** including drivers that are specific to asylum seekers. Use **PPML** to include zeros.
- We **minimise the potential reverse causality** by lagging most of our variables as follow.
- We **cluster standard errors** at the **country-pair** level.
- We control for **Multilateral Resistance to Migration** using origin-time FE: which also controls for the push factors.

$$\begin{aligned} \text{Asylum\_appl}_{o,d,t} = & \alpha_{o,d} + \beta_1 \ln(\text{GDP})_{d,t-4} + \beta_2 \text{Unempl}_{d,t-4} + \beta_3 X_{d,o} \\ & + \beta_4 \text{Soc\_spend}_{d,t-4} + \beta_5 \text{Acc\_soc\_sec}_{d,t-4} + \beta_6 \text{Months\_ban}(\ln)_{d,t-4} \\ & + \beta_7 \text{Cum\_sum\_asy\_appl}(\ln)_{d,t-4} + \beta_8 \text{Recognition}_{d,o,t} \\ & + \beta_9 \text{Processing\_time}(\ln)_{d,o,t} + \beta_{10} \text{Repatriation}_{d,o,t} \\ & + \beta_{11} \text{Recognition} * \text{Processing}_{d,o,t} + \gamma_y + \delta_{o,y} + \epsilon_{o,d,t} \end{aligned}$$

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**Table:** Determinants of asylum applications to the EU, 2008-2020, PPML estimates

	(Asylum app)					
	(1)	(2)	(3)	(4)	(5)	(6)
Real GDP pc (ln, t-4)	0.383	-0.408	-0.708*	-0.535	-0.763*	-0.689**
Unemployment (% , t-4)	-0.116*	-0.155*	-0.196**	-0.171*	-0.209**	-0.0816***
Contiguity	-3.340***	-3.192***	-2.829***	-3.328***	-2.990***	-1.349***
Common language	0.0940	0.135*	0.157*	0.115	0.136*	0.0383
Colony ties	0.715**	0.531	0.663	0.692*	0.820**	0.287**
Dist between capitals (ln)	-0.814*	-1.207**	-0.666	-1.136**	-0.630	-0.132
Recognition rate (%)	0.0116***	0.0106***	0.0100***	0.0108***	0.00997***	0.00563***
Processing time (ln)	-0.330***	-0.261***	-0.278***	-0.261***	-0.280***	-0.0305
Recognition*Processing	-0.000351	-0.000641	-0.000525	-0.000944	-0.000783	-0.000678
Repatriation risk	-0.000108	0.000951	0.000434	0.00167	0.00110	0.00242
Tot soc spend (% GDP, t-4)		0.0897***	0.112***	0.0948***	0.115***	0.0391***
Access to soc sec (t-4)			0.161***		0.159***	0.0847***
Months of ban (ln, t-4)				-0.221***	-0.208**	-0.184***
Cum sum asy. appl (ln, t-4)						0.655***
Origin*year FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	27476	27476	27476	27476	27476	27476
Pseudo R-squared	0.535	0.549	0.555	0.555	0.555	0.574

**Notes:** Standard errors clustered at the country-pair level in parentheses. \*  $p < 0.10$ , \*\* $p < 0.05$ , \*\*\*  $p < 0.001$ .

**Source:** Authors' calculations based on EUROSTAT(2021), years 2008-2020.

## Baseline results

- A one percent increase in cumulative sum of previous asylum applications is associated with **0.66% increase** in first time asylum applications.
- The cumulative sum of previous asylum applications is **four times larger** than the impact of the **employment ban** and five times larger than social spending.
- These estimates should be interpreted as capturing **location decisions** conditional on migration to the EU.

## Robustness: Social Networks

- Total migration stocks by nationality based on OECD data.
- Total migration stocks by citizenship from Eurostat.
- Migration stocks data from UNDESA which are only available every 5 years.
- Migration stocks data from UNDESA + impute a linear growth for the missing years.
- The number of asylum applications in the previous year only preceding the quarter of interest.
- The cumulative number of asylum applications lagged up to 3 years before the quarter of interest (up to t-12).
- Total migrant inflows by nationality based on OECD data; the cumulative sum up to one year before the quarter of interest.
- Total migrant inflows by nationality based on OECD data: the cumulative sum up to three years before the quarter of interest.



**Table:** Determinants of asylum applications to the EU, 2008-2020, different measures of social networks, PPML estimates (1/2)

	Asylum app			
Recognition rate (%)	0.00432** (0.00198)	-0.00160 (0.00277)	0.00623** (0.00290)	0.00709** (0.00277)
Processing time (ln)	-0.205*** (0.0608)	-0.282** (0.0856)	-0.238*** (0.0704)	-0.271*** (0.0721)
Recognition*Processing	-0.000858 (0.00124)	-0.000838 (0.00228)	0.000259 (0.00116)	0.000211 (0.00111)
Repatriation risk	0.00102 (0.00153)	0.000543 (0.00150)	0.00298 (0.00299)	0.00247 (0.00325)
Total social spending (% GDP, t-4)	0.0205 (0.0264)	-0.0147 (0.0256)	0.0496* (0.0277)	0.0489* (0.0270)
Access to social security (t-4)	0.177*** (0.0238)	0.211*** (0.0233)	0.162*** (0.0347)	0.150*** (0.0331)
Months of ban (ln, t-4)	-0.155** (0.0534)	-0.213*** (0.0574)	-0.0717 (0.0758)	-0.102 (0.0719)
Stocks (1+ln, t-20, OECD)	0.600*** (0.0449)			
Stocks (1+ln, t-20, Eurostat)		0.568*** (0.0327)		
Stocks (1+ln, t-20, UNDESA)			0.606*** (0.0632)	
Stocks (1+ln, t-20, UNDESA, middle point)				0.507*** (0.0742)
Controls	Yes	Yes	Yes	Yes
Origin*year FE, Year FE	Yes	Yes	Yes	Yes
Observations	19570	16709	19750	20463
R-squared	0.766	0.786	0.740	0.709

**Table:** Determinants of asylum applications to the EU, 2008-2020, different measures of social networks, PPML estimates (2/2)

	Asylum app			
Recognition rate (%)	0.00685** (0.00229)	0.00601*** (0.00165)	0.00277 (0.00211)	0.00470** (0.00205)
Processing time (ln)	0.0335 (0.0502)	-0.105* (0.0581)	-0.165*** (0.0431)	-0.267*** (0.0497)
Recognition*Processing	0.00227 (0.00198)	-0.000952 (0.00108)	0.000189 (0.00115)	-0.000662 (0.000867)
Repatriation risk	0.00386** (0.00195)	0.00173 (0.00120)	0.000885 (0.00213)	0.0000488 (0.00187)
Total social spending (% GDP, t-4)	0.0359** (0.0143)	0.0383*** (0.0108)	0.0415* (0.0219)	0.0347 (0.0231)
Access to social security (t-4)	0.0647*** (0.0187)	0.0827*** (0.0147)	0.116*** (0.0236)	0.125*** (0.0250)
Months of ban (ln, t-4)	0.0131 (0.0613)	-0.170*** (0.0329)	-0.0146 (0.0481)	0.00620 (0.0507)
Asy. appl previous year (ln, t-8 - t-5)	0.766*** (0.0339)			
Cumulative sum asy. appl (ln, t-12)		0.658*** (0.0187)		
Cumulative sum inflows (ln, t-4, OECD)			0.546*** (0.0570)	
Cumulative sum inflows (ln, t-12, OECD)				0.510*** (0.0601)
Controls	Yes	Yes	Yes	Yes
Origin*year FE, Year FE	Yes	Yes	Yes	Yes
Observations	25326	25326	26613	24463
R-squared	0.818	0.820	0.747	0.732

## Additional robustness checks

- Alternative measures of **dependent variables** and **different samples**  
Robustness 1
- Alternative measures of **employment ban** Robustness 2
- Alternative measures of **welfare generosity** Robustness 3

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## Conclusion

- Despite the public interest and concern about the inflows of refugees, there is **little empirical evidence** on the determinants of the **location choice of refugees**.
- This paper examines **what drives asylum seekers to apply for asylum in particular destinations**.
- Focusing on first time non-EU asylum seeker applicants to the EU, between 2008-2020, we find that the **strongest pull factor for asylum seekers** to a destination is **social networks**, both in terms of previous asylum applicants as well as stock of previous migrants.
- The results suggest that **economic factors are not as important** and that asylum seekers are not attracted by the generosity of welfare state as they are by social networks.
- The **removal of employment bans** would have **little impact on the number of asylum seekers** given their modest correlation with asylum flows.

## Policy Implications

- There is evidence that policies that restrict access to welfare system or to the labour market have **modest impact** and therefore are not very effective in terms of reducing the number of asylum applicants.
- In particular, **banning asylum seekers from employment**, leads asylum seekers to become **more dependent on public spending** in the short term, and could result in exploitation. This also leads to negative long terms effects with respect to integration.
- Hence, **lifting the employment ban** seem to be more **cost effective** and better for the integration of refugees in the long term.

# Thank you!

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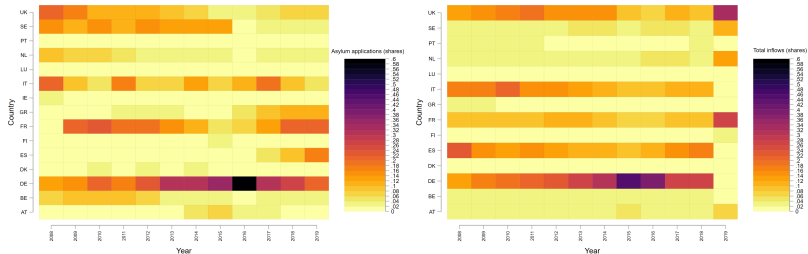
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**Figure:** Annual share of non-EU inflows to EU15 countries, by destination, 2008-2019

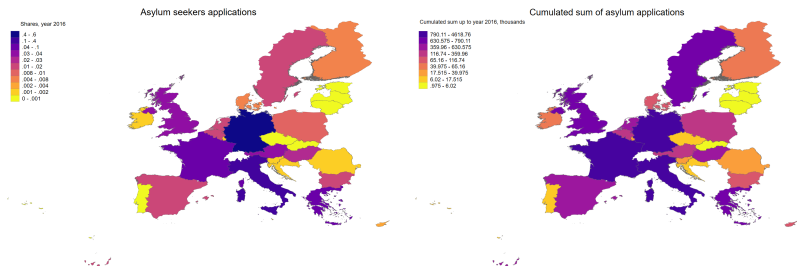


(a) First Time Asylum Seekers

(b) Total Migration Inflow

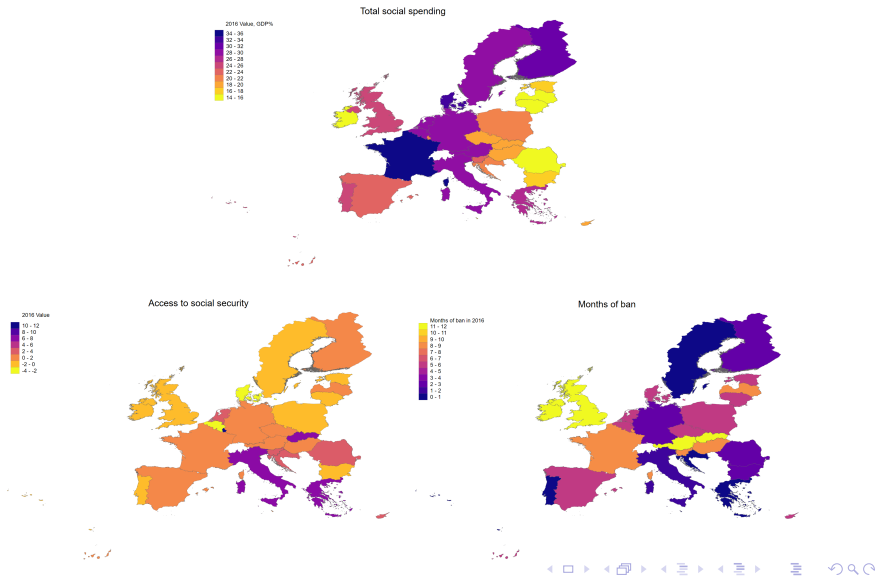
**Source:** Authors' calculations based on Eurostat data on asylum protection and managed migration and OECD data on migration inflows by nationality. Years 2008-2019.

Figure: Heatmaps for the EU of the main variables in 2016 (1/2)



**Source:** Authors' calculations based on EUROSTAT (2021), Eurostat data on social spending, and DEMIG-Quantmig data. **Notes:** The graph is based on the countries' values for the year 2016.

Figure: Heatmaps for the EU of the main variables in 2016 (2/2)



**Table:** Average values for the five top destinations for first time asylum applications, 2015-2019

Variable	Country				
	Germany	France	Italy	Sweden	UK
Asylum appl. (quarterly mean per dyad)	948.71	276.39	413.84	144.82	132.25
Cumulative sum asylum appl. (quarterly mean per dyad)	13225.92	4872.112	7143.385	2661.3	2971.797
Total social spending (GDP %, mean)	29.77	33.99	29.03	28.60	26.34
Access to social security (mean)	0.32	0.27	8.26	0.39	-1.58
Months of ban (mean)	3	7.8	2	0	12
Recognition rate (mean)	18.36	23.54	38.05	13.16	21.53
Processing time (months, mean)	8.59	5.48	0.61	8.19	5.36
Repatriation risk (mean)	0.92	2.77	4.94	1.36	19.24

**Source:** Authors' calculations based on EUROSTAT (2021), years 2008-2020; DEMIG-Quantmig data, years 2007-2019; Eurostat data on social spending, years 2007-2019. **Notes:** The table shows the average values for the time period 2015-2019.

**Table:** Additional descriptive statistics, Average for 2008-2020

Variable	mean	sd	min	max	obs
Asylum applications (%)	1.054	2.808	0	100	27,476
Asylum applications/pop (%)	0.001	0.010	0	0.781	27,476
Stocks (OECD)	23738.66	97610.29	0	1877662	19,570
Stocks (Eurostat)	20243.56	96948.98	0	1877661	16,705
Stocks (UNDESA)	33778.31	124745.9	0	1655996	19,721
Stocks (UNDESA, middle point)	32264.39	123718.1	0	1834500	20,451
Cum sum asy. appl (t-8 - t-5)	649.877	5011.354	0	337390	20,451
Cum sum inflows	19693.59	60652.02	0	868301	26,613
No ban	0.107	0.309	0	1	27,476
Less than 3 months of ban	0.260	0.438	0	1	27,476
Employed ref (% , up to 5 years)	43.550	17.014	7.142	100	27,476
Access to social security (MIPEX)	61.011	44.858	0	100	26,625
Access to labour market (MIPEX)	54.197	21.485	0	100	26,625

**Notes:** The unit of observation is the number of the dyadic first time asylum seeker applications measured quarterly. The mean is the average of all observations for the period 2008-2020. Source: Authors' calculations based on [?], years 2008-2020; DEMIG-Quantmig data, years 2007-2019; Eurostat data on social spending, years 2007-2019; CEPII GeoDist database; World Bank data on Unemployment rate and real GDP per capita, years 2007-2019.

**Table:** Robustness Checks: Determinants of asylum applications to the EU, 2008-2020

	(OLS) Asylum app (IHS)	(PPML) Asylum app	(PPML) Asylum app	(PPML) Asylum app
Recognition rate (%)	0.00761*** (0.000672)	0.00577*** (0.00167)	0.00597*** (0.00165)	0.00474** (0.00147)
Processing time (ln)	-0.0692** (0.0229)	0.0195 (0.0454)	0.000846 (0.0405)	-0.0167 (0.0411)
Recognition*Waiting	-0.0141** (0.00527)	-0.0366** (0.0146)	-0.0106 (0.00725)	-0.00869 (0.00693)
Repatriation risk	-0.000694 (0.000517)	0.00204 (0.00132)	-0.00227 (0.00412)	0.00209 (0.00144)
Total social spending (% GDP, t-4)	0.0781*** (0.00637)	0.0367** (0.0128)	0.0403*** (0.0110)	0.0248** (0.00938)
Access to social security (t-4)	0.0364*** (0.0108)	0.0848*** (0.0165)	0.0872*** (0.0167)	0.0909*** (0.0158)
Months of ban (ln, t-4)	-0.0610** (0.0272)	-0.148*** (0.0324)	-0.165*** (0.0287)	-0.144*** (0.0283)
Cumulated sum as. appl (ln, t-4)	0.598*** (0.0126)	0.659*** (0.0300)	0.660*** (0.0256)	0.660*** (0.0245)
Controls	Yes	Yes	Yes	Yes
Origin*year FE, Year FE	Yes	Yes	Yes	Yes
Observations	27476	25164	27130	27476
R-squared	0.682			
Pseudo R-squared		0.821	0.822	0.817

**Notes:** Col (1) uses OLS, and the dependent variable is transformed using IHS. All other columns uses PPML. Col (2) excludes outliers in months of ban. Col (3) excludes outliers in repatriation risk. Col (4) does not control for GDP per capita. Standard errors clustered at the country-pair level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.001$ . **Source:** Authors' calculations based on EUROSTAT (2021), years 2008-2020.

**Table:** Determinants of asylum applications to the EU, 2008-2020, OLS estimates

	Asy. app (1+ln)					
	(1)	(2)	(3)	(4)	(5)	(6)
Real GDP pc (ln, t-4)	1.248***	0.202	0.169	0.188	0.159	0.0197
Unemployment (% , t-4)	-0.039***	-0.045***	-0.049***	-0.046***	-0.050***	-0.044***
Contiguity	-1.807***	-1.440***	-1.385***	-1.472***	-1.412***	-0.376**
Common language	0.424**	0.663***	0.722***	0.689***	0.739***	0.341***
Colony ties	1.244***	0.879***	0.913***	0.913***	0.938***	0.339***
Dist between capitals (ln)	-0.194	-0.569**	-0.401*	-0.562**	-0.402*	-0.066
Recognition rate (%)	0.015***	0.013***	0.013***	0.013***	0.013***	0.007***
Processing time (ln)	-0.388***	-0.292***	-0.297***	-0.291***	-0.296***	-0.033
Recognition*Processing	-0.001*	-0.002**	-0.002**	-0.002**	-0.002**	-0.002***
Repatriation risk	0.000	0.000	0.001	0.001	0.001	-0.000
Tot soc spend (% GDP, t-4)		0.139***	0.143***	0.139***	0.143***	0.069***
Access to soc sec (t-4)			0.066***		0.064***	0.039***
Months of ban (ln, t-4)				-0.082*	-0.063	-0.061**
Cum sum asy. appl (ln, t-4)						0.543***
Origin*year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	27476	27476	27476	27476	27476	27476
R-squared	0.438	0.493	0.496	0.493	0.497	0.690

**Notes:** Standard errors clustered at the country-pair level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.001$ . **Source:** Authors' calculations based on EUROSTAT (2021), years 2008-2020.

## Alternative measures of dependent variable

- Asylum Applications %: first time asylum applications from country  $o$  to destination  $d$  as a % of the total number of first time asylum applications from country  $o$  in all EU countries at time  $t$ .
- Asylum applications/origin population share
- Only EU15 destinations
- 2015-2020 time period
- EU15 in 2015-2020
- Exclude Syria as possible country of origin
- Only include top 10 origins



**Table:** Determinants of asylum applications to the EU, 2008-2020, alternative samples and measures of dependent variable, PPML estimates

	(1) As app (%)	(2) As app/pop (%)	(3) As app	(4) As app	(5) As app	(6) As app	(7) As app
Recn rate (%)	0.0045***	0.005**	0.003**	0.007**	0.003	0.004**	0.008***
Proc time (ln)	-0.015	0.049	0.058*	0.006	-0.018	-0.032	-0.070
Rec*Proc	-0.001	-0.012*	-0.009*	-0.001	0.003	-0.004	-0.011
Rep risk	0.001	0.001	-0.002	0.003**	-0.003	-0.001	0.003**
Total soc spend	0.032***	0.052***	-0.001	0.041**	0.002	0.040***	0.069**
Acc to soc sec	0.067***	0.071***	0.108***	0.086***	0.104***	0.078***	0.118***
Months of ban	-0.050**	-0.114**	-0.183***	-0.143**	-0.113**	-0.129***	-0.287***
Cum sum appl	0.560***	0.639***	0.615***	0.692***	0.653***	0.653***	0.614***
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Origin*year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	27474	27180	24617	13197	12069	27028	5218
R-squared	0.491	0.295	0.835	0.816	0.836	0.794	0.775

**Notes:** Col (1) the dependent variable is Asylum Application Share. Col(2) the dependent variable is Asylum Application/Origin population Share. Col (3) only includes EU15 destinations. Col (4) only includes the period 2015-2020. Col (5) only includes EU 15 destinations and the period 2015-2020. Col (6) excludes Syria as possible country of origin. Col (7) only includes the top 10 countries of origin. Standard errors clustered at the country-pair level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.001$ . **Source:** Authors' calculations based on [?], years 2008-2020.

## Robustness: Employment Ban

- A dummy variable that takes the value 1 if the destination country does not impose any length of employment ban.
- A dummy takes the value 1 if the ban imposed by the destination country lasts up to three months.
- The share of employed refugees who have between 1 and 5 years of residence in the destination based on EULFS: compute the number of refugees from country  $o$  resident in destination  $d$  who reported being employed over the total number of refugees from country  $o$  resident in destination  $d$ .

**Table:** Det. of asylum appl. to the EU, 2008-2020, different measures for access to labour market, PPML estimates

	Asylum app		
Recognition rate (%)	0.00557*** (0.00161)	0.00507*** (0.00142)	0.00529*** (0.00153)
Processing time (ln)	-0.0104 (0.0423)	-0.0332 (0.0438)	-0.00460 (0.0433)
Recognition*Processing	-0.00945 (0.00658)	-0.00838 (0.00724)	-0.0101 (0.00651)
Repatriation risk	0.00189 (0.00134)	0.00235* (0.00125)	0.00214* (0.00126)
Total social spending (% GDP, t-4)	0.0315*** (0.00931)	0.0356*** (0.0101)	0.0356*** (0.0103)
Access to social security (t-4)	0.0949*** (0.0147)	0.0619*** (0.0129)	0.0742*** (0.0136)
No ban	0.141* (0.0743)		
Up to 3 months ban		0.448*** (0.0807)	
Months of ban (ln, t-4)			-0.174*** (0.0319)
Employed refugees (% , up to 5 years, t-4)			0.00444** (0.00218)
Cumulative sum asy. appl (ln, t-4)	0.674*** (0.0177)	0.665*** (0.0185)	0.669*** (0.0191)
Controls	Yes	Yes	Yes
Origin*year FE, Year FE	Yes	Yes	Yes
Observations	27476	27476	27476
Pseudo R-squared	0.822	0.827	0.825

## Robustness: Welfare Generosity

- Access to social protection: Data from the Migrant Integration Policy Index (MIPEX), a composite index that measures policies to integrate migrants in destinations, including the EU. Two indicators based on MIPEX targeting all migrants: access to social security, as an alternative to our index of access to social protection, and access to labour market which substitutes the months of ban.
- Generosity: Different time lags (3 and 5 years respectively) for total social spending as % of GDP.
- Generosity: Total social spending per capita (in PPP) rather than as a percentage of GDP, one-year lag.

**Table:** Determinants of asylum applications to the EU, 2008-2020, MIPEX indices, PPML estimates

	(1)	(2)	(3)
	Asylum app	Asylum app	Asylum app
Recognition rate (%)	0.00636*** (0.00171)	0.00542** (0.00181)	0.00576*** (0.00169)
Processing time (ln)	0.0497 (0.0412)	0.00419 (0.0453)	0.0553 (0.0415)
Recognition*Processing	-0.0121 (0.00746)	-0.0116 (0.00823)	-0.0118* (0.00716)
Repatriation risk	0.000760 (0.00124)	0.000739 (0.00140)	0.000886 (0.00130)
Total social spending (% GDP, t-4)	0.00433 (0.00947)	0.0332** (0.0115)	0.00618 (0.00988)
Access to social security (MIPEX, t-4)	0.00752*** (0.00131)		0.00737*** (0.00127)
Access to labour market (MIPEX, t-4)		0.00449** (0.00200)	0.00259 (0.00164)
Cumulative sum asy. appl (ln, t-4)	0.587*** (0.0370)	0.647*** (0.0301)	0.585*** (0.0374)
Controls	Yes	Yes	Yes
Origin*year FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	26625	26625	26625
R-squared	0.816	0.807	0.816

**Notes:** Standard errors clustered at the country-pair level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.001$ . **Source:** Authors' calculations based on EUROSTAT(2021), years 2008-2020.

**Table:** Determinants of asylum applications to the EU, 2008-2020, different measures of social spending, PPML estimates

	Asylum app		
Recognition rate (%)	0.00568*** (0.00155)	0.00552*** (0.00157)	0.00510*** (0.00154)
Processing time (ln)	-0.0321 (0.0480)	-0.0224 (0.0486)	-0.0321 (0.0492)
Recognition*Processing	-0.000676 (0.00114)	-0.000781 (0.00115)	-0.000739 (0.00116)
Repatriation risk	0.00205 (0.00126)	0.00211* (0.00125)	0.00223* (0.00126)
Access to social security (t-4)	0.0850*** (0.0145)	0.0872*** (0.0150)	0.0778*** (0.0147)
Months of ban (ln, t-4)	-0.176*** (0.0311)	-0.193*** (0.0328)	-0.204*** (0.0364)
Cumulative sum asy. appl (ln, t-4)	0.679*** (0.0173)	0.673*** (0.0180)	0.664*** (0.0189)
Total social spending (% GDP, t-12)	0.0296** (0.00981)		
Total social spending (% GDP, t-20)		0.0454*** (0.0112)	
Total social spending pc (PPP, ln, t-4)			1.503*** (0.337)
Controls	Yes	Yes	Yes
Origin*year FE, Year FE	Yes	Yes	Yes
Observations	27476	27476	27476
Pseudo R-squared	0.824	0.825	0.827