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## Asylum migration to OECD countries: What are the motives and drivers of asylum migration and how strong are they?

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Asylum migration to OECD countries: What are the motives and drivers of asylum  
migration and how strong are they?

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Abstract

In this study we analyse different motives for asylum, focussing on the relative strength of specific asylum reasons and concentrating on origin and destination countries of special relevance. To this end, we build a bilateral asylum migration model, use panel data techniques based on a panel of 131 origin/sending countries and 37 OECD countries over a maximum period of 22 years, and apply the High Density Fixed Effect (HDFE) Poisson Pseudo Maximum Likelihood (PPML) estimation technique. Our model includes the economic situation in both sending and receiving countries; political factors in sending countries, such as the political terror scale, civil liberties, government stability, military in politics; institutional factors, such as law & order; personal safety aspects, such as ethnic tensions, external conflict, internal conflict, and religious tensions. We find that economic factors influence asylum claims to a certain extent. Moreover, we identify only deteriorations in civil liberties, internal conflict and ethnic tensions as triggers of increased asylum demand among the personal safety aspects. As to relevant sub-samples of origin countries, a deterioration in civil liberties and an aggravation in ethnic tensions lead to a more than proportionate increase in asylum migration from major asylum seeking countries and a worsening of conflict leads to an extremely strong reaction in asylum requests from refugees of conflict-ridden countries. While these reactions are plausible, they are far less pronounced in the overall sample. As to the question which destination country can be chosen as safe haven, empirical evidence shows that bilateral recognition rates signal bilateral attractiveness in a brutally honest way.

*Key words: asylum migration; motives; identification of relevant relations; bilateral recognition rates; high density fixed effect poisson pseudo maximum likelihood technique*

*JEL: C23; F22; J15; J61*

## 1. Introduction

What are the reasons for asylum? Hatton, an expert on questions around asylum, has basically answered this question in several articles using macro data (Hatton, 2004, 2009, 2016, 2017a, 2017b, 2020) but more insight on the strength and relevance of each specific reason for asylum could improve policy response and interventions not only at the national but also at the international level.

As to the reasons for granting asylum one can distinguish between the reasons given in the 1951 Geneva Convention and in later amendments at the regional or country level. The fear of persecution for reasons of race, religion, belonging to a specific social group, having a certain political opinion is a genuine reason for claiming asylum and hence it is covered by the Geneva refugee Convention of 1951 (see Goodwin-Gill, 2008). Later conventions, such as the European Union's 2004 and 2011 Clarification Directions, also include the right to flee from generalized violence, such as wars and armed conflicts, and violations of human rights. However, not all claims for asylum are justified. Hatton (2020) notes that on a world-wide level less than 50% of claims for asylum are well-grounded and successful, depending of course on the individual case. Based on the period 2009-2018, Germany, the United States, France, Italy, Sweden and the UK are the top receivers of asylum requests in absolute numbers, whereas Sweden, Austria, Hungary, Switzerland and Germany do receive the highest amount of asylum requests in relative numbers (per 1,000 population).

According to macro and micro analyses, the reasons for asylum claims are both of political and economic nature and are difficult to disentangle since hundreds of thousands who apply for political asylum come from countries that are strife-prone and poor at the same time (Aksoy & Poutvaara, 2019; Conte & Cigali, 2020; Hatton, 2020). Hence, their motives are fear of persecution or fear of dying from the consequences of conflict but also hope for the economic gains from emigration. Large numbers of asylum seekers to Western countries come from Syria, Afghanistan, Iraq, Serbia, Pakistan, Nigeria and Eritrea based on the period 2009-2018.

At an empirical level, political terror and civil liberties prove to be significant drivers of forced migration, whereas the lack of political rights and civil war battle deaths does not turn out to be significant. Per capita income at origin and unemployment rate at destination are relevant and so is the asylum policy, in terms of policy of granting access, processing of claims, welfare packages for refugees (Hatton, 2009, 2016, 2017a; Neumayer, 2004; Thielemann, 2006). However in our view, it is very hard or even practically impossible to build an asylum policy index as done in Hatton (2016). In reality it can be observed that both more liberal and more restrictive asylum policy measures can be taken in the same year<sup>1</sup>, thus counteracting each other. On top, asylum policy is highly endogenous. If policy becomes more strict when asylum requests go up, the policy effect is likely to be underestimated. In contrast, if policy takes time to react, then overestimation of the policy effect is possible (Ralph de Haas in Hatton, 2017a). Andersson and Jutvik (2019) point to the difficulty of building an accurate policy measure. They demonstrate how fast asylum seekers respond to a liberal change in asylum policy (e.g. in Sweden in 2013), how fast processing times then increase leading to a levelling off of asylum requests and also how large the inter-dependence between destination states (e.g. between Sweden and Germany) is.

Given that Hatton (2020) draws an already very comprehensive picture of the drivers of asylum relatively little new can be contributed. However, there remain some research gaps. First, to find out which factors are relatively more important, which political and economic factors

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<sup>1</sup> As to Germany, Iglit and Klotz (2018) point out that German asylum policy after the mid-1990s until present day has included both progressive/liberal and restrictive/conservative elements. On the progressive side, persecution by non-state agents was recognized as a reason for asylum and there were relaxed residence and employment restrictions for refugees. In May 2016, the *First Refugee Integration Law* offered asylum seekers easier access to the German labor market. On the restrictive side, the list of safe countries was extended, including Serbia, Bosnia and Herzegovina, Macedonia, Kosovo, and Albania. Since March 2016, Syrians have been required to apply for asylum individually, as opposed to the earlier procedure of full protection for this population group. Political scientists ascribe this feature of asylum policy of being multifaceted to the GroKo, the 'Great coalition' of CDU/CSU (conservative party) and SPD (the social democrats) which was formed on the 17<sup>th</sup> of December, 2013, and interpret the actual asylum policy as a hard-fought compromise between the coalition partners.

cause proportionate reactions, and which factors lead to disproportionate large or small reactions in asylum requests. Second, which factors are most relevant for asylum seekers from different groups of origin countries? Third, are measures to mitigate conflict and ethnic or religious tensions by means of UN peacekeeping missions an efficient instrument for reducing forced migration? Fourth, what role is played by the specific recognition rates at an origin-destination country pair level? What else do these recognition rates signal and why are they so important? Which destination countries do receive substantially high or low numbers of asylum requests taking recognition rates into account? New insights here could give guidance for policy makers on which factors, origin countries and policy measures to concentrate.<sup>2</sup> Moreover, the estimation technique is improved based on bilateral trade models (gravity models) using the Poisson Pseudo Maximum likelihood technique (PPML) with high dimensional fixed effects that allow to control for time-invariant country-pair effects, destination country-specific changes over time and general year-specific changes over time.

Our paper shows that deteriorations in civil liberties, internal conflict and ethnic tensions lead to increased demand for asylum. Ethnic tensions and a lack of civil liberties have a disproportionately high impact on claims for asylum, whereas conflict has a less than proportionate impact on asylum requests. However, the specific role of these political factors also varies according to the group ('major', 'conflict', 'no return policy') of sending countries. Ethnic tensions play a particularly strong role in 'major' origin countries, internal conflict is of extra strong importance in 'conflict' countries and none of the above-mentioned deteriorations are of special relevance in 'no return policy' origin countries.

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<sup>2</sup> E.G. is it reasonable to give money to the International Fund for Agricultural Development (IFAD) to improve living conditions in the Global South and to fight the root causes of displacement or is such a measure counterproductive by making emigration more affordable for more people? Is it justified to treat refugees from Syria, Iraq, Iran and Afghanistan differently? Which host countries enjoy the highest /the lowest preference among origin countries?

As to economic factors, whenever per capita income improves in the origin countries relative to destination countries, less asylum requests are filed. This finding would support Germany's endeavour to fight the root causes of displacement (BMZ, 2018). A reduction of asylum requests also occurs when the unemployment rate in destination countries goes up pointing to the importance of host countries' business cycles.

There is empirical evidence that a special role is played by recognition rates that vary with country of origin, destination country and over time. Past recognition rates seem to be of utmost importance standing for more than pure recognition but for bilateral attraction between country pairs. It can be shown that favoured host countries, such as Turkey<sup>3</sup> and Germany<sup>4</sup>, attract a disproportionately high amount of asylum requests and that unfavoured destination countries, such as Hungary and the Czech Republic, attract a disproportionately low amount of asylum requests countries.

## 2. Literature Review

In the related literature there are a number of authors that compare the determinants of migration flows with those of asylum seekers or that focus exclusively on the latter. For instance, Hatton (2016) investigates the determinants of asylum seekers flows from 48 origin countries to 19 OECD destinations over the period 1997 to 2012 using a gravity model estimated with OLS including fixed effects. The author selects dyads (origin-destination pairs of countries) for which applications exceed 300 over the whole period. The author finds that political terror shows one of the stronger effects among the factors at origin, also lack of civil liberties shows a positive effect, whereas lack of political rights does not and the same is the

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<sup>3</sup> Turkey is home to the world's largest refugee population, 3.6 million of whom are Syrian under temporary protection and close to 370,000 are refugees and asylum seekers of other nationalities.

<sup>4</sup> Germany is a top receiver for refugees from Syria, Iraq, Iran, Nigeria, Turkey, Afghanistan, Eritrea, Somalia, Russia, Georgia, Guinea, Pakistan, Albania, Azerbaijan and Moldova. The stock of asylees dropped from 1.83 million in 2019 to 1.77 million in 2020 (DW, 2021).

case for civil war deaths. The regressions that analyze country-of-origin factors include destination-and-time dummies to control for all the asylum policies that vary by destination and time. The main drawback of the empirical application is the restriction of the sample in terms of dyads that could create a selection bias. Also Kang et al. (2020) investigates the determinants of asylum flows, in this case for a sample of seven EU receiving countries and 145 origin countries over the period 2008 to 2014. The seven countries considered received more than seventy percent of the total asylum applications in EU members. They estimate also a gravity model, but apply the Poisson Pseudo Maximum Likelihood (PPML) technique using the number of applicants (not divided by population in origin as in Hatton) as dependent variable. Political stability is used as determinants and only shows a significant effect in the regressions without origin country dummy variables.

Giménez-Gómez et al (2019) focus on the determinants of migration and asylum-seekers flows from Africa into Europe over the period 1990 to 2014. The methodology is similar to Hatton (2016) with the main difference that the dependent variable is not divided by the country of origin population. The results indicate that democracy, autocracy and civil liberty are significant factors explaining both migration and asylum flows. Origin country fixed effects and destination country-time fixed effects are used but no dyadic (country-pair) fixed effects. A detailed overview of the main empirical migration and asylum seekers studies that include as determinants governance and political instability factors can be found in Table A.1.

This study builds mainly on the studies of Hatton (2016) who analyzes asylum flows into OECD countries and of Giménez-Gómez et al. (2019) and Kang et al. (2020) who investigate asylum migration to the EU or Europe.

In particular, while the existing studies laid the ground for the econometric analysis and revealed some of the driving forces of asylum flows, such as political terror and civil liberties, they remained silent on the role played by other political (internal conflict, external conflict,



ethnic tensions, religious tensions) and institutional factors (rule of law, government stability) and economic factors (income gap, unemployment) and the relative strength of reactions. They also left room for research on the role played by asylum recognition rates in main destination countries and the asylum motives of the most relevant sending countries. So, this paper tries to fill some gaps: It tries to find out whether the motives of asylum change with the countries of destination or change with the group to which sending countries belong. In particular, it seeks to identify the factors that show the most elastic reactions (in terms of asylum requests) so as to sharpen policy action (in the form of development aid; e.g. which type of aid could improve the safety, the political and/or the economic situation in the sending countries and thus reduce asylum migration?) in the recipient countries. It also improves the specification of recent papers by considering reaction and action lags when the economic and political or institutional situation changes. Moreover, as some of the results from the previous studies were unexpected or puzzling we see scope for a study that addresses the impact and depth of all factors that potentially influence asylum migration in more detail and that scrutinizes the elasticity/inelasticity of the reactions. To this end, it also seems appropriate to investigate sub-groups of countries that host or drive (asylum) migration.

### 3. Model specification

#### *Data and variables*

We utilize OECD data (OECD 2019), the International Migration Statistics database (Migration Policy Institute, 2019) and the International Migration Outlook of 2019 to depict asylum flows to OECD countries and the development of asylum requests in receiving countries. The data on sending-country-specific asylum migration and bilateral recognition rates are taken from the OECD, which in turn collects data from different national and international sources.

Relevant bilateral migration-related data have been collected by country of origin and destination. Original migration data usually stem from the local population registers; asylum-

related data come from offices that are responsible for migration and refugees and the local registers which are usually informed by national institutions on asylum requests, pending decisions, and positive and negative decisions.

Migrant stocks prior to arrival, an indicator of migrant networks, have been obtained from the OECD as well. Data on demographics (population, population growth, per capita income etc.) were collected from the World Bank (World Development Indicators, 2019). The data on socioeconomic, political, and institutional factors in the sending countries stem from the International Country Risk Guide (ICRG). The ICRG's computed political risk measures are the only ones accepted by courts in commercial disputes, transnational firms, institutional investors, hedge funds, central banks and multilateral organizations. In the ICRG data, points are given for each category, where higher scores mean an improvement of the situation (see Table A.3. in the Appendix). From the ICRG dataset, we utilize the following variables: internal conflict, external conflict, government stability, ethnic tensions, religious tensions, military in politics, and law and order. Data on civil liberties and political rights<sup>5</sup> stem from Freedom House and data on the political terror scale (collected by Amnesty International) are taken from Gibney et al.

#### *Modeling approach and estimation technique*

We use panel data techniques for the estimation of the parameters of interest using a panel of a maximum of 131 origin/sending countries and a maximum of 37 OECD countries over a maximum period of 22 years. Our period of analysis runs from 1996-2017 as far as asylum inflows are concerned and from 2000-2018 as far as sending country-specific asylum recognition rates are concerned. We have an unbalanced panel as we have missing values.

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<sup>5</sup> Civil liberties and political rights are very strongly correlated. Hence, one variable is dropped from the econometric analysis.

To disentangle the drivers of asylum migration, we build a bilateral asylum migration model with countries of origin 'i' and destination countries 'j' based on annual data 't', quite similar to Mayda (2010), Hatton (2016, 2017a) and Conte and Migali (2019). However, we do not apply OLS estimations but use a different estimation technique, namely Pseudo Poisson Maximum Likelihood (PPML). More precisely, we utilize the High Density Fixed Effect (HDFE) PPML estimation technique which -in contrast to OLS (xtreg) regressions - is not inevitably affected by heteroscedasticity and which takes zero migration (true zeros) into account thus avoiding selection bias in asylum flows (Beine and Bertoli, 2016; Santos Silva & Tenreyro, 2006).

We include variables that vary on 'ijt', such as asylum flows, bilateral migrant stock, ratio of per capita income between country of origin and host country. Other determinants (push factors) only vary on 'it', such as the political and institutional factors in the sending countries and some pull factors vary on 'jt', such as the rate of unemployment in the destination/host/receiving countries. To control for general factors, such as the general business cycle, epidemics (pandemics), changes in world climate etc. which affect both sending and receiving countries and basically the whole world, we include year dummies and to control for time-invariant factors affecting our country pairs we include dyadic fixed effects.

Hence, we emphasize not only the economic situation in both sending and receiving countries, political factors in sending countries (government stability, military in politics, political terror scale, civil liberties), but also focus on institutional factors, such as law & order, security aspects, such as ethnic tensions, external conflict, internal conflict, and religious tensions.

We use pair-wise fixed effects countries to control for country pairs' time-invariant characteristics, such as distance, common border, common language, colonial ties etc. As dyadic fixed effects allow us to completely control for time-invariant country-pair heterogeneity, they are preferred to the inclusion of these actual time-invariant characteristics themselves given that these characteristics are sometimes difficult to quantify or to observe.

To control for potential endogeneity of the independent variables, we consider 1-year lags of these variables as appropriate. These lags are supposed to also capture the reaction lags related to migration decisions as information has to be gathered and assessed and emigration must be prepared. These steps take some time.

We build our study on previous work (Hatton, 2016, 2020), include additional political and institutional variables and add a new aspect, namely the role played by asylum recognition rates. Davenport et al. (2003) studies asylum migration identifying the role of civil war, genocide, and political regimes on worldwide asylum migration. Hatton (2009, 2017) shows that in particular, political terror and a lack of civil liberties were drivers of asylum migration, not so much conflict per se. Proximity and access were also relevant for the volume of asylum flows and, to a smaller extent, economic conditions as well. The growth of transit routes and migrant networks lead to an upward trend of asylum applications from more distant countries of origin (Hatton, 2020). According to Capps (2019), travel in caravans, existing migrant networks, droughts and conflict at home, and immigration policy of the destination country fuels increases in asylum inflows from Central America to the US. Moreover, Missirian and Schlenker (2017) find that asylum applications respond to temperature fluctuations.

Our dependent variable is the number of asylum seekers  $asylum\_in_{ijt}$  (eq. 1) from country of origin 'i' (per 1,000,000 inhabitants in 'i') in host country 'j' at time 't' respectively. The inflow of asylum seekers is assumed to react with a certain lag to changes in recognition rates for asylum seekers of the country of origin in the receiving country; changes in the political terror scale (*PTS*) and civil liberties (*civlib*); changes in k different *ICRG factors*, such as changes in security (ethnic and religious tensions; internal conflict, external conflict), political (government stability, military in politics), and institutional (law and order) factors; unemployment (*unemploy*) in the host country; the stock of compatriots already living in the host country (network size);

$$\begin{aligned}
asylum\_in_{ijt} = & \exp(\alpha_{ij} + \beta \text{recognition\_rate}_{ijt-1} + \chi_1 PTS_{it-1} + \chi_2 \text{civlib}_{it-1} + \\
& + \chi_{3k} ICRG\_factors_{ikt-1} + \delta \text{ratio\_pcincome}_{ijt-1} + \varepsilon \text{unemploy}_{jt-1} + \\
& \phi \ln\_migration\_stock_{ijt-p} + \varphi_t) * v_{ijt}
\end{aligned} \tag{1}$$

Most of the independent variables have been explained above. The asylum recognition rate of the previous period is now included as an additional explanatory variable. It is assumed that information on the chances of getting recognized as an asylee by OECD authorities when coming from a specific home country is shared via social media (Facebook, WhatsApp, Instagram) and email. We expect that an increase in recognition rates induces more people to leave their home country given the political, institutional, and (socio)economic problems that prevail in the sending country.

#### 4. Main results

In the following we present empirical evidence on the drivers/determinants of asylum requests. We have to make some remarks upfront. We always use pair-wise fixed effects to control for time-invariant factors such as distance, common language, colonial past and year dummies (coefficients are suppressed and not shown). We always use 1-year lags (L. stands for 1-year lag) to take reaction lags into account (migration has to be prepared) and to control for endogeneity of the explanatory variables (asylum requests are assumed not to influence the past political and institutional situation in the countries of origin).

The beta coefficients express reactions to increases in the relevant variables and since the explanatory variables (except for  $\ln$  migrationstock) are not in logs they represent semi-elasticities. Hence, the effect is computed as follows:  $100 * (\exp(beta) - 1) \%$ . However, please note that increases in the political terror scale ( $PTS\_A\_o$ ) and increases in civil liberties ( $cl\_o$ ) stand for deteriorations in these political factors in the countries of origin. Hence, we would expect an increase in asylum requests and thus, a positive sign. In contrast, increases in the ICRG factors (*internal conflict, external conflict, ethnic tensions, religious tensions, government stability, military in politics, law and order*) stand for an improvement of the political and/or

institutional situation in the countries of origin and therefore we expect a diminution in asylum requests (negative sign). As to the pair-wise recognition rate (*recognition\_rate*), increased recognitions of asylum seekers of country 'i' in 'j' in the past year are assumed to encourage asylum seekers in the current year to ask for asylum. Hence, a positive sign is expected. Related to the share of per capita income (*incomepc*) origin country 'i' in destination country 'j' we believe that relative progress in per capita income in origin countries leads to fewer conflicts and tensions and improves the political climate, thus expecting a negative sign, i.e. less forced migration. In contrast, an increase in the unemployment rate (*unemp\_d*) in destination countries leads to a stricter handling of migrants and their asylum requests and therefore a negative sign is expected.

Table 1 presents the results when all country pairs are included (*total\_1* and *total\_2*) and as a robustness check only the country pairs that have more than 300 observations, i.e. less missing values (*restricted\_1* and *restricted\_2*).

Table 1. Full model; lagged right-hand side variables

Dep. Var.: asy_pcm	All country pairs		Robustness check	
	total_1	total_2	restricted_1	restricted_2
	b/se	b/se	b/se	b/se
L.recognition_rate	0.635** (0.262)		0.647** (0.274)	
L.PTS_A_o	0.072 (0.052)	0.082* (0.049)	0.074 (0.053)	0.085* (0.049)
L.cl_o	0.270*** (0.084)	0.281*** (0.078)	0.269*** (0.085)	0.280*** (0.078)
L.InternalConflict_o	-0.052* (0.027)	-0.057** (0.024)	-0.052* (0.027)	-0.058** (0.025)
L.ExternalConflict_o	0.003 (0.035)	0.010 (0.030)	0.002 (0.035)	0.008 (0.030)
L.EthnicTensions_o	-0.183* (0.099)	-0.186** (0.088)	-0.197* (0.103)	-0.203** (0.091)
L.ReligiousTensions_o	-0.057 (0.056)	-0.045 (0.047)	-0.055 (0.056)	-0.042 (0.048)
L.GovernmentStability_o	0.033 (0.072)	0.022 (0.067)	0.036 (0.073)	0.025 (0.067)
L.MilitaryinPolitics_o	0.086	0.121**	0.086	0.121**

	(0.063)	(0.059)	(0.063)	(0.060)
L.LawOrder_o	-0.026	-0.078	-0.024	-0.076
	(0.122)	(0.108)	(0.124)	(0.110)
L.incomepc_o_d	-0.043***	-0.053***	-0.049***	-0.059***
	(0.015)	(0.013)	(0.016)	(0.014)
Inmigstock2000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)
L.unemp_d	-0.062**	-0.061**	-0.062**	-0.061**
	(0.028)	(0.028)	(0.028)	(0.028)
Pseudo Rsquared	0.841	0.840	0.821	0.812
Observations	13,544	17,227	9,020	9,878
	Origin x	Origin x	Origin x	Origin x
Dyadic fixed effects	Dest	Dest	Dest	Dest
Destination time FE	no	no	no	no
Origin dummies	no	no	no	no
Year dummies	yes	yes	yes	yes
	Country-	Country-	Country-	Country-
Clustered SE	pair	pair	pair	pair

As to the strength of the reactions one must take the scale of the explanatory variables into account (see Table A.3 in the appendix). A 1-unit improvement in recognition rates of a given country pair leads to an increase in asylum requests by 89%. This holds at a confidence level of 95% and is a strong finding since it could imply that forced migrants screen countries according to chances to get recognized as an asylee! Interestingly, the political terror scale does not seem to be a robust determinant of asylum requests. Deteriorations in civil liberties, in contrast, are a robust driver of asylum requests. They do lead to more asylum requests. A deterioration in civil liberties by 1-unit (12.5 percentage points (pp)) leads to an increase of asylum requests by about 27%. As to the role of security issues, we see that 1-unit improvements in internal conflict (by 8 pp) and ethnic tensions (by 14 pp) reduce asylum requests by 5 and 17% respectively. These are more or less proportional reactions! A 1-unit catching-up in per capita income in the origin country (relative to the destination country) reduces filing for asylum by about 5% and a 1-unit increase in the host country's unemployment rate reduces filing for asylum by about 6%. Comparing our results to previous

research of Hatton (2016) we believe that the inclusion of ICRG factors, such as internal conflict and ethnic tensions, makes political terror a less robust determinant of asylum requests.

Leaving out the insignificant ICRG variables (Table 2 reduced model) the results do not change much. A 1-unit increase in the recognition rate still pushes up asylum requests by about 80%. This strong impact of recognition rates stands in stark contrast to the modest role that recognition rates play once forced migrants have picked their country of refuge. E.g. once refugees have decided to go to Germany a 1-unit improvement in the respective recognition rate increases asylum requests by only about 1-2 % (Nowak-Lehmann et al., 2021). Again, the political terror scale is not a robust determinant of asylum requests, whereas deteriorations of civil liberties and improvements in internal conflict, ethnic tensions, per capita income in the countries of origin have a statistically significant impact on asylum migration. Also, an increase in the unemployment rate in OECD countries deters asylum seekers.

As to the strength of the impact, recognition rates are extremely relevant having a disproportionately high impact on asylum migration. They seem to signal the first- step decision of migrants about where to flee. In terms of the strength of reactions, they are followed by changes in civil liberties and ethnic tensions. These factors go hand in hand with a more than proportionate asylum migration identifying them as strong factors.

Table 2. Reduced model; lagged right-hand side variables

Dep. Var.: asy_pcm	All country pairs		Robustness check	
	total_1 b/se	total_2 b/se	restricted_1 b/se	restricted_2 b/se
L.recognition_rate	0.587** (0.280)		0.594** (0.293)	
L.PTS_A_o	0.072 (0.050)	0.082* (0.047)	0.074 (0.050)	0.084* (0.047)
L.cl_o	0.248*** (0.087)	0.237*** (0.084)	0.248*** (0.087)	0.237*** (0.084)
L.InternalConflict_o	-0.050* (0.029)	-0.056** (0.028)	-0.050* (0.030)	-0.056** (0.028)
L.EthnicTensions_o	-0.198** (0.101)	-0.215** (0.093)	-0.213** (0.104)	-0.232** (0.096)



L.incomepc_o_d	-0.041*** (0.015)	-0.051*** (0.014)	-0.045*** (0.016)	-0.057*** (0.015)
Inmigstock2000	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
L.unemp_d	-0.061** (0.030)	-0.059** (0.030)	-0.062** (0.030)	-0.059** (0.030)
Pseudo Rsquared	0.840	0.839	0.820	0.810
Observations	13,544	17,227	9,020	9,878
	Origin x	Origin x	Origin x	Origin x
Dyadic fixed effects	Dest	Dest	Dest	Dest
Destination time FE	no	no	no	no
Origin dummies	no	no	no	no
Year dummies	yes	yes	yes	yes
Clustered SE	Country- pair	Country- pair	Country- pair	Country- pair

#### *Additional robustness checks*

The reduced model has been subject to additional robustness checks (see Tables 2x and 2xx in the Appendix). These robustness checks work with different sets of fixed effects. While the use of dyadic fixed effects is undisputed, Table 2x uses (next to dyadic fixed effects) destination-year fixed effects (instead of the year fixed effect utilized in Table 2). Destination-year fixed effects lead to exclusion of destination country-specific changes over time, such as the employment rate prevailing in the destination country. In this case Pseudo R<sup>2</sup> goes down from 0.84 to 0.80 and civil liberties and internal conflict obtain more importance, not controlling for (important) overall changes in world-wide conditions over time. Table 2xx utilizes (next to dyadic fixed effects) destination-year fixed effects plus year fixed effects and, hence, would be the most complete model. However, only in the restricted model coefficients remain significant and Pseudo R<sup>2</sup> does not improve compared to Table 2.:

Table 3 sheds more light on the specific role of recognition rates. For this purpose increases in recognition rates and evoked reactions are considered for the most important OECD asylum granting countries: Germany, US, UK and France (recog\_main\_a), for relatively important OECD asylum granting countries: Spain, Austria, Australia and Sweden (recog\_main\_b) and for

relatively unimportant OECD asylum granting but ‘first host’ countries: Italy, Greece, Turkey and Hungary (recog\_main\_c). To this end, interaction effects of specific recognition rates and specific groups are included in the model. The effect for each country group (main\_a; main\_b; main\_c) is the combination of the general effect (coefficient of recognition\_rate (first line with coefficients) and the specific group effect)<sup>6</sup>. The confidence level is only 90% for group main\_a and for group main\_c and 95% for group main\_b. All in all, increases in specific country-pair recognition rates lead to a tremendous and disproportionately high increase in asylum requests, most pronounced for the Germany, US, UK and France.<sup>7</sup> In our view bilateral recognition rates stand not only for pure asylum recognition but they seem to express the quality of the bilateral relationship between sending and destination country. This becomes clearer when looking at specific asylum destination countries.

Table 3. The role of recognition rates (country groups)

	total_1	total_2	total_3	restricted_1	restricted_2	restricted_3
	b/se	b/se	b/se	b/se	b/se	b/se
L.recognition_rate	0.191 (0.331)	0.759 (0.469)	0.625 (0.552)	0.200 (0.266)	0.764** (0.328)	0.639* (0.350)
recog_main_a	1.197 (1.198)			1.191* (0.690)		
L.PTS_A_o	0.082* (0.044)	0.072 (0.049)	0.073 (0.047)	0.082 (0.050)	0.072 (0.050)	0.074 (0.050)
L.cl_o	0.240* (0.131)	0.252* (0.136)	0.247* (0.133)	0.240*** (0.086)	0.252*** (0.088)	0.246*** (0.086)
L.InternalConflict_o	-0.048 (0.040)	-0.049 (0.041)	-0.050 (0.041)	-0.048 (0.029)	-0.049* (0.030)	-0.050* (0.029)
L.EthnicTensions_o	-0.194 (0.149)	-0.197 (0.147)	-0.197 (0.148)	-0.195* (0.102)	-0.199** (0.101)	-0.199** (0.101)
L.incomepc_o_d	-0.039 (0.027)	-0.040 (0.028)	-0.041 (0.028)	-0.040*** (0.015)	-0.040*** (0.015)	-0.041*** (0.015)
Inmigstock2000	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)

<sup>6</sup> Only significant coefficients are added up.

<sup>7</sup> The increase in asylum requests is 228%, 114% and 88% for main\_a, main\_b and main\_c respectively.

Indist	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
L.unemp_d	-0.057 (0.057)	-0.062 (0.054)	-0.061 (0.055)	-0.057* (0.032)	-0.061** (0.030)	-0.061** (0.030)
recog_main_b		-1.057 (0.909)			-1.040 (0.665)	
recog_main_c			-0.116 (0.731)			-0.129 (0.518)
Pseudo Rsquared	0.841	0.840	0.840	0.830	0.829	0.829
Observations	13,544	13,544	13,544	10,981	10,981	10,981
Dyadic fixed effects	Origin x Dest	Origin x Dest	Origin x Dest	Origin x Dest	Origin x Dest	Origin x Dest
Destination time FE	no	no	no	no	no	no
Origin dummies	no	no	no	no	no	no
Year dummies	yes	yes	yes	yes	yes	yes
Clustered SE	Country- pair	Country- pair	Country- pair	Country- pair	Country- pair	Country- pair

Considering the impact of recognition rates in specific countries (see Table 3x in the appendix) , such as Germany (DEU), Hungary (HUN), Greece (GRC) and Turkey (TUR), we note a huge positive impact for Turkey and strong positive impacts for Germany and Greece and a huge negative impact for Hungary. So, it seems that the recognition rate not only captures pure rates of asylum recognition but also the feeling of being in a safe heaven or being welcome.

Table 4 shows that an increase in relevant bilateral recognition rates (+), deteriorations in political terror (+) and civil liberties (+) , improvements in internal conflict (-) and ethnic tensions (-), relative increases in per capita income of countries of origin (-) and an increase in unemployment in destination countries have the expected effects (in parentheses) and are plausible. Checking how the specific group of forced migrants from major asylum countries reacts we see that improvements in internal conflicts and ethnic tensions in the major asylum seeking countries significantly reduce asylum requests from these countries, whereas deteriorations in political terror and civil liberties do not increase asylum requests from major asylum countries. More precisely, forced migrants from major asylum seeking countries, like all other forced migrants, reduce their asylum requests by 5% [ $\exp(-0.048+(-0.069 \text{ n.s.}))$ ]-

1]\*100] in case of a 1-unit improvement in internal conflict but by 43%  $[\exp(-0.0561)-1]*100]$

in case of a 1-unit improvement in ethnic tensions!

Table 4. The influence of political factors in major asylum countries

	All country pairs	Robustness check
Dep. Var.: asy_pcm	total_1	restricted_1
	b/se	b/se
L.recognition_rate	0.618** (0.287)	0.626** (0.299)
L.PTS_A_o	0.101** (0.046)	0.103** (0.047)
L.cl_o	0.434*** (0.067)	0.434*** (0.068)
L.InternalConflict_o	-0.048* (0.027)	-0.047* (0.027)
L.EthnicTensions_o	-0.050 (0.073)	-0.064 (0.075)
Major*pts	-0.362 (0.223)	-0.370* (0.223)
Major*cl	-0.562*** (0.173)	-0.559*** (0.174)
Major*ntconflict	-0.069 (0.072)	-0.070 (0.073)
Major*etension	-0.561** (0.263)	-0.551** (0.264)
L.incomepc_o_d	-0.049*** (0.013)	-0.054*** (0.015)
Inmigstock2000	0.000 (.)	0.000 (.)
L.unemp_d	-0.059** (0.024)	-0.059** (0.025)
Pseudo Rsquared	0.845	0.827
Observations	13,544	9,020
Dyadic fixed effects	Origin x Dest	Origin x Dest
Destination time FE	no	no
Origin dummies	no	no
Year dummies	yes	yes
Clustered SE	Country-pair	Country-pair

Table 5 also shows normal reactions of asylum requests to changes in the recognition rate (+), the political terror scale (+), civil liberties (+), internal conflict (-), ethnic tensions (-), relative rising per capita incomes in sending countries (-) and rising unemployment in the host countries (-). Looking at column 'total\_1', a deterioration of civil liberties in conflict countries by 1-unit increases asylum requests by 116%  $[[\exp(0.237+0.525)-1]*100]$ , whereas this increase is only 27%  $[[\exp(0.237)-1]*100]$  for all countries. A 1-unit improvement in internal conflict reduces asylum requests of conflict countries by 20%  $[[\exp(-0.222)-1]*100]$  whereas it has an insignificant impact looking at all sending countries.

Table 5. The influence of political factors in conflict countries

	All country pairs	Robustness check
Dep. Var.: asy_pcm	total_1	restricted_1
	b/se	b/se
L.recognition_rate	0.555** (0.273)	0.561** (0.285)
L.PTS_A_o	0.085* (0.051)	0.087* (0.051)
L.cl_o	0.237*** (0.089)	0.236*** (0.090)
L.InternalConflict_o	-0.017 (0.034)	-0.017 (0.034)
L.EthnicTensions_o	-0.216** (0.100)	-0.231** (0.103)
Conflict*pts	-0.585* (0.344)	-0.600* (0.345)
Conflict*cl	0.525*** (0.201)	0.532*** (0.202)
Conflict*intconflict	-0.222*** (0.076)	-0.225*** (0.077)
Conflict*etension	1.507*** (0.576)	1.488*** (0.576)
L.incomepc_o_d	-0.045*** (0.015)	-0.050*** (0.017)
Inmigstock2000	0.000 (.)	0.000 (.)
L.unemp_d	-0.062** (0.030)	-0.062** (0.030)
Pseudo Rsquared	0.841	0.822

Observations	13,544	9,020
Dyadic fixed effects	Origin x Dest	Origin x Dest
Destination time FE	no	no
Origin dummies	no	no
Year dummies	yes	yes
Clustered SE	Country-pair	Country-pair

Table 6. The influence of political factors in 'no return policy' origin countries

	All country pairs	Robustness check
Dep.Var.: asy_pcm	total_1	restricted_1
	b/se	b/se
L.recognition_rate	0.585** (0.278)	0.593** (0.290)
L.PTS_A_o	0.066 (0.057)	0.068 (0.058)
L.cl_o	0.261*** (0.094)	0.261*** (0.094)
L.InternalConflict_o	-0.071** (0.029)	-0.071** (0.029)
L.EthnicTensions_o	-0.207* (0.117)	-0.225* (0.121)
No_return*pts	0.070 (0.089)	0.066 (0.090)
No return*cl	-0.309** (0.134)	-0.308** (0.136)
No return*intconflict	0.233*** (0.066)	0.239*** (0.067)
No return*_etension	-0.077 (0.119)	-0.064 (0.122)
L.incomepc_o_d	-0.043*** (0.015)	-0.048*** (0.016)
Inmigstock2000	0.000 (.)	0.000 (.)
L.unemp_d	-0.061** (0.029)	-0.061** (0.030)
Pseudo Rsquared	0.841	0.821
Observations	13,544	9,020
Dyadic fixed effects	Origin x Dest	Origin x Dest
Destination time FE	no	no
Origin dummies	no	no
Year dummies	yes	yes
Clustered SE	Country-pair	Country-pair

Table 6 presents the results for origin countries that are not considered major asylum seeking countries but countries with significant population outflow. Their migrants do not enjoy high recognition rates but usually can stay and are tolerated in the destination countries because the origin countries make difficulties in taking back the not recognized asylum seekers. All main variables show the expected signs. However, two interaction terms, with civil liberties and internal conflict show implausible signs, opposite to expectations. This however, could be explained by the fact that declined asylum requests do not have the consequence of expulsion.

## 5. Conclusions

Our research has shown that deteriorations in civil liberties, internal conflict and ethnic tensions lead to increased asylum demand. The impact is less than proportionate for internal conflict but more than proportionate for deteriorations in civil liberties and ethnic tensions in the sample of all sending countries. By including factors, such as internal conflict and ethnic tensions, political terror (a collective term standing for political rights violations and a lack of rule of law and civil) ceases to be a robust determinant of asylum requests. As to asylum requests from major asylum seeking countries, a deterioration in ethnic tensions is a particularly important determinant for asylum requests. Quite unsurprisingly a deterioration in internal conflict is a crucial determinant for asylum requests from conflict countries. Also quite plausibly, deteriorations in neither civil liberties, nor internal conflict, nor ethnic tensions play a special role for filing more asylum requests when asylum seekers come from countries that make difficulties in taking back non-accepted/unrecognized asylum seekers and that show a somewhat lower recognition rate as well. This implies that asylum requests from major asylum seeking countries, in particular conflict countries, seem to be well-founded and that improvements in civil liberties and ethnic tensions lead to a more than proportionate reduction in asylum claims.

Hence, institution building or state-building is key as a medium-to-long term strategy to reduce forced migration and asylum requests. For example, the Federal Ministry for Economic Cooperation and Development (BMZ) has taken up this strategy and has drawn up a comprehensive package of reforms entitled "BMZ 2030". It forges reform partnerships with countries that are particularly reform-minded and provides them with extra support.

As to economic factors, whenever per capita income improves in the origin countries relative to destination countries, less asylum requests are filed. Hence, improvements of the economic conditions in origin countries efficiently reduce emigration and therefore development aid, such as aid for economic and social infrastructure, sector aid and aid for capacity building, could promote well-being in origin countries and tackle the root causes of migration.

Hence, targeted development aid with the objective to improve the safety, political and economic situation in the sending countries could belong to the set screws that reduce asylum migration. Since, funds are always scarce one could target the major sending countries and promote development partnerships to improve safety, institutions, governance and crucial infrastructure in the major sending countries.

Moreover, our research shows that recognition rates, which vary with country of origin, destination country and over time, play a decisive role at the point of time when an asylum claim is filed. They seem to stand more generally for the bilateral legal link between country pairs. Empirical evidence shows that Turkey and Germany are the most sought-after host countries for refugees coming from Syria and Iraq in the case of Turkey and for refugees coming from all over the world in the case of Germany.



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Authors	Main Focus	Factors Explaining Asylum/Migration	Dependent Variable(s)	Method	Sample	Main Results
Hutton (2016)	Determinants of Asylum requests	Political terror, Civil liberties, Political rights, Civil war deaths	Asylum Applications/population			
Missirian and Schlenker (2021)	Temperature fluctuations					
Giménez-Gómez et al. (2019)	African Migration flows/Asylum seekers	Civil conflict, Autocracy, Democracy, Political rights, Civil liberties, Ethnic polarization/fractio nalization				
Abel et al. (2019)	How Climate and Conflict interact	Drought index, Conflicts, Battle Deaths, Diaspora, Ethnicity, Distance	Bilateral Asylum Applications	2-steps selection	157 countries, 2011-2015	

Bertoli et al (2020)	Recognition rate, processing time and repatriation	A bunch of FE, origin-time, destination-time, origin-destination	Bilateral Asylum Applications			
Conte and Migali (2020)	Conflicts and organized violence		Refugee stocks and Asylum seekers			
Kang (2020)	Determinants of asylum requests	Political stability			7 EU countries from 145 origin countries, 2008-2014	Main factor is political instability
Murat (2020)	Development Aid and	None			14 OECD destinations and	The effect of bilater

	Asylum seekers				113 developing countries, 1993-2013	al aid on Asylum seekers varies with income
Marchal et al (2020)	Aid and bilateral Migration rate	None			18 destinations and 152 origin countries, 2000-2010	

Table A.1. Summary of the Literature

Not available:

Hannes Weber (2019) Can Violent Conflicts Explain the Recent Increase in the Flow of Asylum Seekers From Africa Into Europe?, *Journal of Immigrant & Refugee Studies*, 17:4, 405-424, DOI: [10.1080/15562948.2018.1517424](https://doi.org/10.1080/15562948.2018.1517424)

Table A.2. List of Variables, Definitions and Sources

<u>Variable</u>	<u>Definition</u>	<u>Source</u>
Migration flow	Bilateral migration flows from country i to j	OECD
Asylum seekers flows	Bilateral flow of asylum applicants from i to j	OECD

Table A.3. ICRG Variables

ICRG variables used from International Country risk Guide (ICRG)	ICRG point range Increase improvement	=	Approx. value of 1 ICRG point
Internal Conflict	0-12		8 percentage points
External Conflict	0-12		8 percentage points
Government Stability	0-12		8 percentage points
Ethnic Tensions	0-6		14 percentage points
Religious Tensions	0-6		14 percentage points
Military in Politics	0-6		14 percentage points
Law and Order	0-6		14 percentage points
Political terror scale (Amnesty International; from Gibney et al.)			
PTS	1-5		20 percentage points
Civil liberties from Freedom House			
cl	1-7		14 percentage points
Political Rights from freedom House			
pr	1-7		14 percentage points

Note: Political rights and civil liberties are highly correlated. Replicating the Hatton paper we found that either political rights or civil liberties can be included but not both. Following Hatton we consider civil rights to have more explanatory power.

Table 1x: Full model; right-hand side variables unlagged

Dep. Var. Asy_pcm	total_1 b/se	total_2 b/se	restricted_1 b/se	restricted_2 b/se
recognition_rate	0.204 (0.264)		0.203 (0.275)	
PTS_A_o	0.185** (0.092)	0.180* (0.092)	0.189** (0.093)	0.185** (0.093)
cl_o	0.253*** (0.088)	0.261*** (0.089)	0.253*** (0.089)	0.260*** (0.090)
InternalConflict_o	-0.077*** (0.027)	-0.080*** (0.027)	-0.077*** (0.027)	-0.081*** (0.027)
ExternalConflict_o	0.013 (0.035)	0.014 (0.036)	0.012 (0.035)	0.013 (0.036)
EthnicTensions_o	-0.243*** (0.081)	-0.239*** (0.080)	-0.262*** (0.084)	-0.260*** (0.084)
ReligiousTensions_o	-0.005 (0.059)	-0.006 (0.059)	-0.003 (0.059)	-0.003 (0.059)
GovernmentStability_o	0.005 (0.040)	0.002 (0.040)	0.007 (0.040)	0.005 (0.041)
MilitaryinPolitics_o	-0.017 (0.059)	-0.025 (0.059)	-0.018 (0.059)	-0.025 (0.060)
LawOrder_o	0.055 (0.120)	0.071 (0.119)	0.059 (0.122)	0.075 (0.120)
incomepc_o_d	-0.051*** (0.015)	-0.055*** (0.015)	-0.057*** (0.016)	-0.062*** (0.016)
Inmigstock2000	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Indist	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
unemp_d	-0.046* (0.024)	-0.045* (0.024)	-0.046* (0.024)	-0.045* (0.024)
Pseudo Rsquared	0.842	0.844	0.819	0.817
Observations	15,234	17,251	9,635	9,888
Dyadic fixed effects	Origin x Dest	Origin x Dest	Origin x Dest	Origin x Dest
Destination time dummies	yes	yes	yes	yes
Year dummies	Yes Country pair	Yes Country pair	Yes Country pair	Yes Country pair
Clustered SE HDFE PPML				

Robustness checks (Table 2x and Table 2xx; different fixed effects)

Table 2x

	total_1	total_2	restricted_1	restricted_2
	b/se	b/se	b/se	b/se
L.recognition_rate	0.536* (0.322)		0.548 (0.335)	
L.PTS_A_o	0.023 (0.060)	0.033 (0.056)	0.025 (0.060)	0.034 (0.057)
L.cl_o	0.531*** (0.094)	0.499*** (0.089)	0.532*** (0.095)	0.501*** (0.089)
L.InternalConflict_o	-0.176*** (0.030)	-0.182*** (0.027)	-0.176*** (0.030)	-0.183*** (0.027)
L.EthnicTensions_o	-0.267* (0.141)	-0.246** (0.125)	-0.290** (0.146)	-0.269** (0.130)
L.incomepc_o_d	-0.069*** (0.016)	-0.070*** (0.015)	-0.076*** (0.017)	-0.077*** (0.016)
Inmigstock2000	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Pseudo Rsquared	0.797	0.799	0.771	0.762
Observations	13,544	17,227	9,020	9,878
	Origin x	Origin x	Origin x	Origin x
Dyadic fixed effects	Dest	Dest	Dest	Dest
Destination time dummies	yes	yes	yes	yes
	Country pair	Country pair	Country pair	Country pair
Clustered SE	Country pair	Country pair	Country pair	Country pair



Table 2xx

	total_1	total_2	restricted_1	restricted_2
	b/se	b/se	b/se	b/se
L.recognition_rate	0.577 (.)		0.585* (0.311)	
L.PTS_A_o	0.076 (.)	0.087 (.)	0.078 (0.052)	0.089* (0.048)
L.cl_o	0.239 (.)	0.225 (.)	0.239** (0.096)	0.224** (0.094)
L.InternalConflict_o	-0.048 (.)	-0.054 (.)	-0.048 (0.030)	-0.054* (0.029)
L.EthnicTensions_o	-0.210 (.)	-0.223 (.)	-0.226* (0.116)	-0.241** (0.107)
L.incomepc_o_d	-0.046 (.)	-0.054 (.)	-0.051*** (0.014)	-0.060*** (0.013)
Inmigstock2000	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Pseudo Rsquared	0.837	0.836	0.817	0.808
Observations	13,544	17,227	9,020	9,878
Dyadic fixed effects	Origin x Dest	Origin x Dest	Origin x Dest	Origin x Dest
Destination time dummies	yes	yes	yes	yes
Year dummies	yes	yes	yes	yes
Clustered SE	Country pair	Country pair	Country pair	Country pair

Table 3 The role of recognition rates (country groups)

	total_1	total_2	total_3	restricted_1	restricted_2	restricted_3
	b/se	b/se	b/se	b/se	b/se	b/se
L.recognition_rate	0.191 (0.331)	0.759 (0.469)	0.625 (0.552)	0.200 (0.266)	0.764** (0.328)	0.639* (0.350)
recog_main_a	1.197 (1.198)			1.191* (0.690)		
L.PTS_A_o	0.082* (0.044)	0.072 (0.049)	0.073 (0.047)	0.082 (0.050)	0.072 (0.050)	0.074 (0.050)
L.cl_o	0.240* (0.131)	0.252* (0.136)	0.247* (0.133)	0.240*** (0.086)	0.252*** (0.088)	0.246*** (0.086)
L.InternalConflict_o	-0.048 (0.040)	-0.049 (0.041)	-0.050 (0.041)	-0.048 (0.029)	-0.049* (0.030)	-0.050* (0.029)
L.EthnicTensions_o	-0.194 (0.149)	-0.197 (0.147)	-0.197 (0.148)	-0.195* (0.102)	-0.199** (0.101)	-0.199** (0.101)
L.incomepc_o_d	-0.039 (0.027)	-0.040 (0.028)	-0.041 (0.028)	-0.040*** (0.015)	-0.040*** (0.015)	-0.041*** (0.015)
Inmigstock2000	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Indist	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
L.unemp_d	-0.057 (0.057)	-0.062 (0.054)	-0.061 (0.055)	-0.057* (0.032)	-0.061** (0.030)	-0.061** (0.030)
recog_main_b		-1.057 (0.909)			-1.040 (0.665)	
recog_main_c			-0.116 (0.731)			-0.129 (0.518)
Pseudo Rsquared	0.841	0.840	0.840	0.830	0.829	0.829
Observations	13,544	13,544	13,544	10,981	10,981	10,981
Dyadic Fixed effects	Origin x Dest	Origin x Dest	Origin x Dest	Origin x Dest	Origin x Dest	Origin x Dest
Year dummies						
Clustered SE						

Note: main\_a: DEU, USA, GBR, FRA; main\_b: ESP, AUT, AUS, SWE; main\_c: ITA, GRC, TUR, HUN