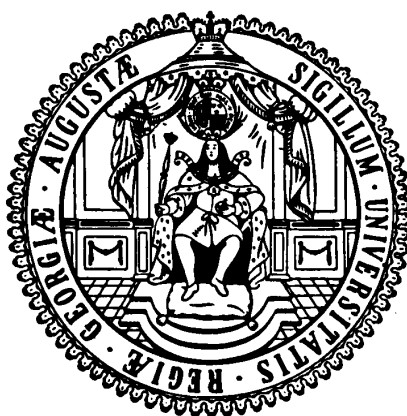


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**Migration and asylum flows to Germany:  
From facts to analysis**

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## ***Abstract***

This study aims at analyzing the determinants of both general migration and asylum migration from less developed countries to Germany. To this end, a comprehensive migration model is set up that includes climate change, economic opportunities, links to Germany, home country characteristics (such as per capita income, population growth, poverty, consumer confidence, unemployment), the political and institutional situation in the sending countries (measured by internal and external conflict, ethnic and religious tensions, government stability, law and order, military in politics) and changes in German migration law. Panel data techniques (Pseudo Poisson Maximum Likelihood (PPML)) for the estimation of the parameters of interest are employed using a panel of 131 origin/sending countries over the period of 1996-2017. The analysis reveals that political factors, institutional risk, and economic factors determine both overall migration and asylum migration. Economic factors are also determinants of asylum applications as asylum seekers most often come for a several reasons. Moreover, economic factors seem to have a disproportionately large impact on asylum requests in general. Climate change impacts migration in the expected direction, thus, increasing migration but only to a very small extent. However, the most interesting findings are revealed when considering important country groupings (main migration countries, major asylum countries, countries whose asylum applicants enjoy high, intermediate or low recognition rates).

# Migration and asylum flows to Germany: From facts to analysis\*

## 1. Introduction

The impetus of this study was the rather large and relatively unexpected influx of migrants to Germany in 2015. Since then, the inflow of migrants has been large but starting to slow, indicative of the different country-of-origin dynamics and, generally speaking, still keeping German authorities operating at full capacity. Hence, a better understanding of the drivers and impediments of migration and in particular, migrant responses to economic, socioeconomic, political, demographic, and climate-related dynamics in their home countries is needed to better cope with immigration.

In the last 25 years, 2015 was the year in which we experienced the greatest migration flows to Germany from non-German born populations.<sup>1</sup> Asylum requests followed with a one-year lag reaching their top in 2016. Since then, the inflow has slowed but the question remains as to what is still in store: Will we continue to observe smaller numbers of new migrants or will we see greater numbers of new arrivals in Germany in the medium or long term?<sup>2</sup> To shed light on this question, it is helpful to evaluate past determinants of migration and asylum flows and to understand the role these determinants played for both migration and asylum migration.

In this paper, we analyze both overall migration (which includes asylum seekers) and asylum migration, i.e. more precisely, gross migration and gross asylum migration inflows. The reasons for migration and/or asylum are plentiful not only at the macro level which is considered here but also at the individual level. On the one hand, migration data include persons who come for work and who come mostly from

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\* We would like to thank our research assistant, Sarah Frohnweiler, for excellent data work and support.

<sup>1</sup> In 1945 14 million Germans (Kriegsflüchtlinge) fled from Soviet troops and settled as refugees in – what is now- German territory. At the beginning of the 1990s, hundreds of thousands of German resettlers (Spätaussiedler) came to Germany each year (adding up to about 2 million people ten years later) from Poland, Romania, the former Soviet Union (Kasachstan, Ukraina) and Russia.

<sup>2</sup> For example, one could expect a further peak of both migration and asylum migration in the upcoming years due to the Covid-19 pandemic that will have more devastating effects in the more vulnerable countries of the world.

European countries to Germany. Zahra (2016) speaks of “the great departure” and “mass migration” from Eastern Europe that includes migration for family reunification. On the other hand, migration data include refugees who travel to Germany to escape persecution, war, or a difficult humanitarian situation. Some might also migrate for economic reasons. In this context, the respective literature points to the categorical distinction between genuine refugees and “economic refugees” (Stokes 2019), as well as good refugees or bad refugees (Iglit and Klotz, 2018), expressions which are often used in the discourse about refugees in the media and which are not free of biases. Furthermore, migration inflows capture migrants who relocate for studying, internships, or professional training. In Germany, due to a need for more qualified workers, the German government has initiated the ‘Skilled Immigration Act’ and the portal ‘Make it in Germany’ to attract qualified workers from outside the European Union (EU) signaling that well trained people are always welcome.

The varied reasons of migration and the fact that they cannot be easily distinguished in the data makes statements on the desirability of immigration and a cost-benefit analysis of immigration to Germany rather difficult. Therefore, rather than focus on a cost-benefit analysis, in this paper, we seek to investigate the most relevant reasons for migration and how migration reacts to economic, political, institutional, and climate-related changes in the countries of origin. We pose the following questions: Are there certain factors and dynamics in origin countries that are more relevant than others? Can we identify a number of countries of origin that dominate migration flows to Germany? Do individuals that come from countries with high migration flows have a different motivation to come to Germany than countries with lower migration flows? Does asylum migration react to improvements in political and institutional factors? Does the impact of these factors vary depending on the asylum recognition rate? Which factors determine the recognition rate? Which recognition factors are considered most relevant by the Federal Office for Migration and Refugees (BAMF) and first instance administrative courts?

This study builds on several case studies on Germany that have examined migration from less developed countries. Among them is the groundbreaking study by Rotte and Vogler (1998) who examined migration and asylum migration from developing countries to Germany for the period 1981-1995 and 1984-1995 respectively. The

authors set up a comprehensive migration model and included economic opportunities, links to Germany, home country characteristics (such as population, growth of labor force, distance), restrictions in German law and the political situation (measured by political rights and civil liberties and the political terror scale) into the model<sup>3</sup>. In more recent years Grote (2018) analyzed the changing influx of asylum seekers in Germany in 2014-2016 and Ayoub (2019) investigated Germany's response to it, whereas Müller (2012) studied migration to Germany due to climate change.

However, some of the results from the previous study were puzzling, such as implausible coefficients with unexpected signs. In addition, the motivations of asylum seekers to move to Germany is still not fully understood, nor is the role of climate change for migration. These factors create a need for a study that addresses the impact and depth of all factors that potentially influence migration and asylum migration in more detail.

In particular, an understanding of the migration behavior of key countries (e.g. Romania, Bulgaria, Poland, Syria, Afghanistan, Iraq) is needed to better prepare German authorities to handle migration given that (both human and financial) resources are limited. Also, new insights are needed for specific sub-groups e.g. Eastern Europe; highly populated countries (China, India); African countries; asylum countries with low, intermediate, and high recognition rates; of origin countries that are of special importance. More precisely, specific origin countries with a high outflow of migrants or with large numbers of asylum seekers or origin countries whose asylum applications enjoy high or low probabilities of recognition by German decision-makers are of utmost interest since insights from these groups could help shape German immigration and integration policy in order to better cope with immigration. Also, the role of changes in immigration policies for migration in general and asylum migration deserves further study, in particular, Germany's response to the 2015 refugee crisis.<sup>4</sup>

In order to identify new and relevant insight, we first identify the top migrant-sending countries and the top home countries of asylum seekers that dominate the everyday

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<sup>3</sup> They used a panel model with random effects, i.e. an advanced econometric method at that time. Most of the coefficients were as expected but for example, the coefficient of population at origin or political rights and civil liberties at origin carried the wrong sign.

<sup>4</sup> A shortcoming in this context is the lack of a meaningful policy variable. All we can do here is to work with a dummy variable that signals a change in both directions (more liberal, more restrictive).

work of German authorities<sup>5</sup> using descriptive statistics, figures, and tables (Section 2). Based on econometric models, we analyze the drivers and impediments of migration and asylum flows in general and for relevant sub-groups that dominate public discourse. We investigate not only the economic determinants but also political and institutional as well as climate-related factors driving -or impeding- migration and asylum flows (Section 3). In particular, we assess the type of factors that have the greatest impact on migration and asylum migration. This should enable us to explain past migration patterns and to predict future migration and asylum flows given that the economic and political environment in origin countries is always subject to changes (Section 4). The objective of our paper is to assess the importance of single changes, also to derive a tentative policy conclusion (Section 5).

## **2. Stylized facts on migration and asylum flows and asylum recognition**

### ***2.1 Migration flows***

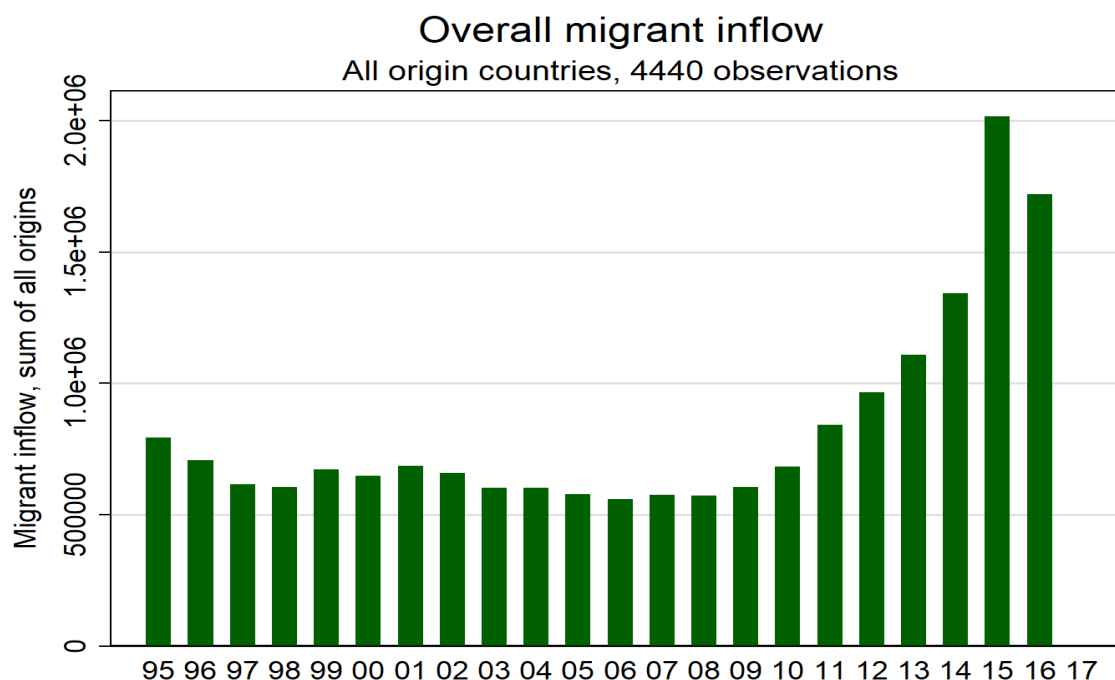
During the period 2007-2017 there was a significant increase in the inflow of migrants to Germany.<sup>6</sup> Compared with 2007, immigration more than doubled from 574,800 in 2007 to 1,384,000 in 2017. However, these inflows have been declining over the last three years, especially compared to 2015 when total immigration inflows reached 2,0162,000 (International Migration Outlook 2019). Using the year 2015 for comparison, total immigration flows from single countries such as Poland, Bulgaria,

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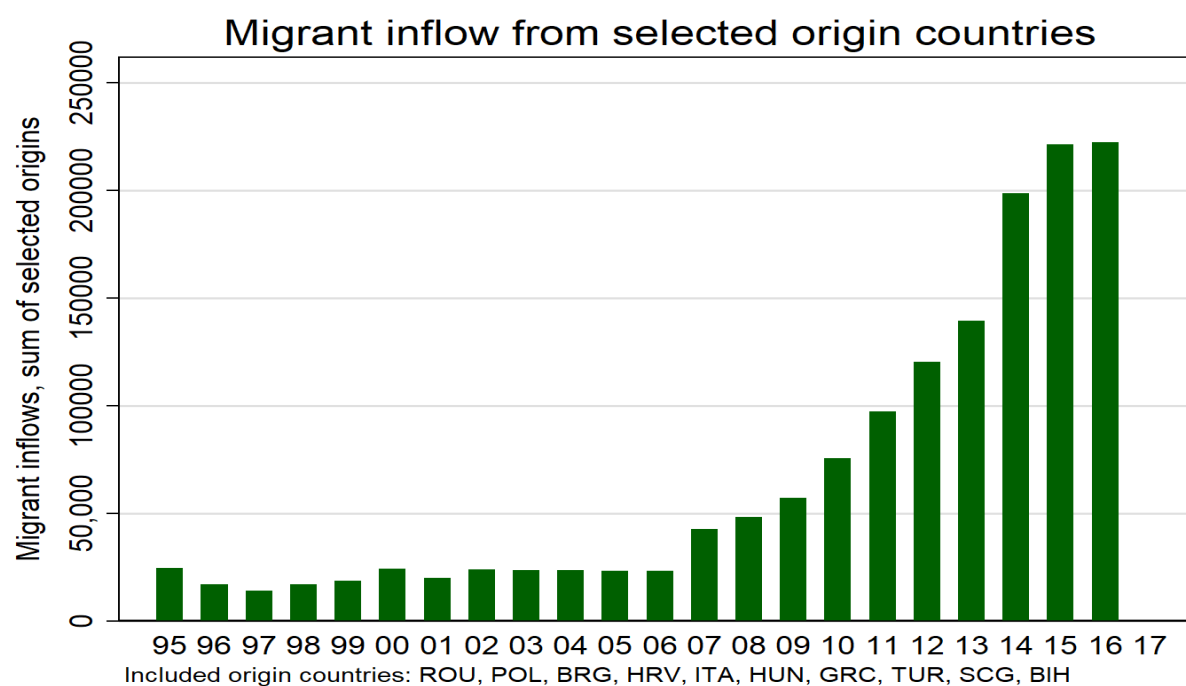
<sup>5</sup> Local foreign offices, Federal Office for Migration and Refugees (BAMF), AnKER centers, local authorities that provide housing, health services, schooling and integration services (language classes, buddy programs, internships in firms and partnerships with employers) and administrative courts that decide on the legality of asylum rejections.

<sup>6</sup> Migrants to Germany are defined as foreign-born persons who come to Germany for a variety of reasons: work, study, family reunification, and escaping persecution. Therefore, migrant inflows also contain inflows of asylum seekers. There are years in which the number of asylum seekers from a specific country of origin exceeds the number of immigrants from that country. This has to do with the fact that some immigrants ask for asylum one or two years after their arrival. This leads to counting the same person as a migrant in e.g. 2015 and as an asylum seeker in 2016 leading to a greater number of asylum seekers than migrants in a given year.

**Figure 1. Migration inflows from all 134 countries in the sample over the period 1995-2016**



**Figure 2. Migration inflows from selected countries**



Note: Romania (ROU), Poland (POL), Bulgaria (BRG), Croatia (HRV), Italy (ITA), Hungary (HUN), Greece (GRC), Turkey (TUR), Serbia and Montenegro (SCG), and Bosnia and Herzegovina (BIH).

Syria, Croatia, Italy, Hungary, Iraq, China, Greece, Serbia have been declining since then. In contrast, immigration flows have been increasing from Romania, Turkey, India, and Bosnia and Herzegovina (see **Table A1** in the Appendix).

## **2.2 Asylum flows**

Asylum requests in Germany have to be filed at the Federal Office for Migration and Refugees (BAMF) and require prior registration at an arrival center (Ankunftszenrum or AnKER center (Ankunft-, Entscheidung-, Rückführungszentrum)) or at a local registration office if the asylum seeker has already settled in Germany. Based on individual documents, which provide information on reasons for persecution, threat of serious harm or a difficult humanitarian situation, and after a hearing (interview with an interpreter) the BAMF decides whether the right to asylum can be granted. There are four types of asylum requests in Germany: (i) constitutional asylum<sup>7</sup> in case of persecution for reasons of race, religion, nationality, membership of a particular social group, or political opinion; (ii) refugee status according to the 1951 Geneva Refugee Convention for individuals who are persecuted for the reasons listed in i) or face threats to their life or freedom as displaced persons; (iii) refugee status bound to subsidiary protection which is granted due to likely serious harm (death penalty, execution; torture or inhuman or degrading treatment or punishment; serious and individual threat to a civilian's life due to violence in situations of international or internal armed conflict) by state or non-state agents; (iv) refugee status due to prohibition of deportation (humanitarian protection)<sup>8</sup> because of severe disease or extreme risk that the returnee would face upon return. Hence, an individual can become an asylee (recognized asylum seeker) if he/she meets one of the above criteria and hence, the legal status of the refugee varies with the four reasons to grant asylum.

If the right to asylum is declined, the asylum applicant in Germany can take legal action against the BAMF decision at an administrative court.<sup>9</sup> If the asylum seeker loses

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<sup>7</sup> Germany has codified the right to asylum in its constitution (Verfassung). In addition, Germany has also ratified the 1951 UN Refugee Convention which is similar with regard to its purpose.

<sup>8</sup> In German, this is called Abschiebeverbot.

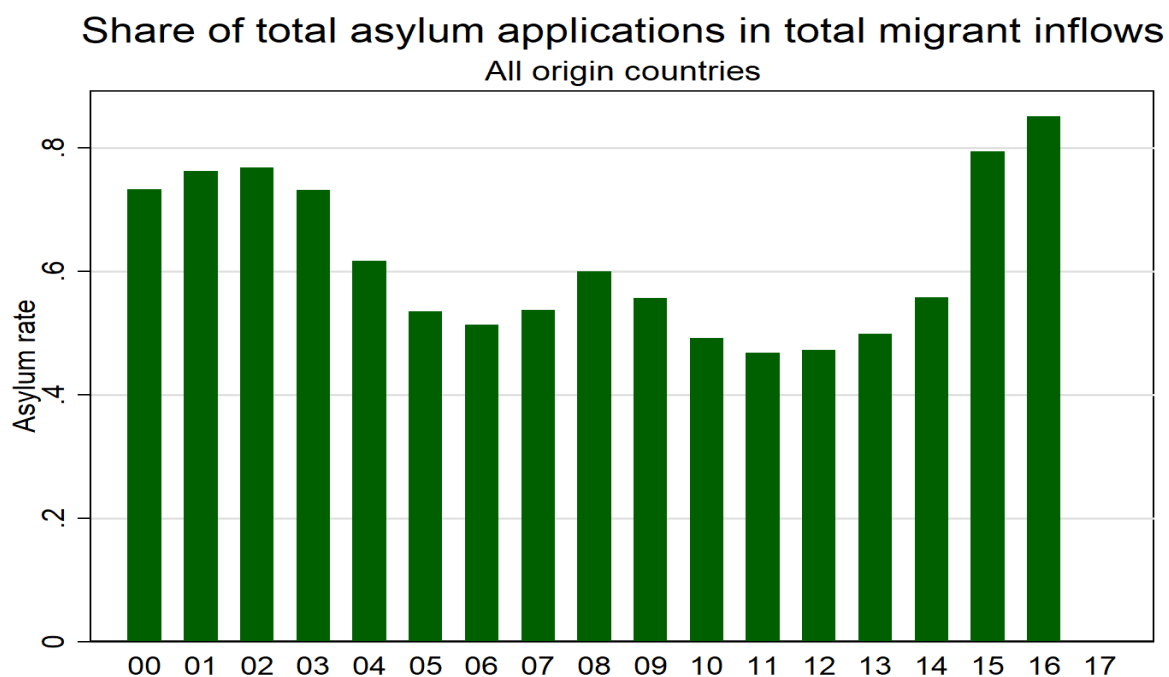
<sup>9</sup> We use data on asylum requests with the BAMF and the first instance administrative courts (Verwaltungsgerichte). It should be noted that asylum requests are not always presented in the year of arrival to Germany and are sometimes filed months or even years later. Hence, the number of asylum requests from a specific country of origin may outstrip the overall inflow of migrants from this specific country in certain years.



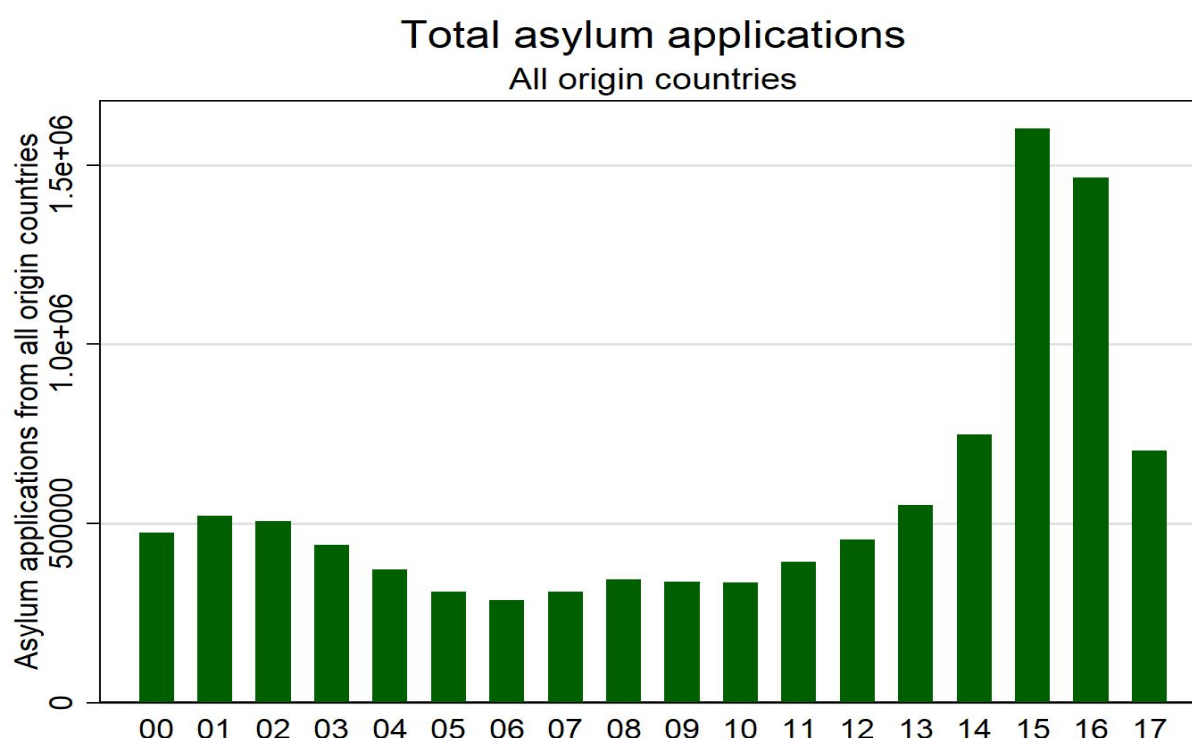
his/her case at the administrative court, he or she must leave Germany except if point iv applies.

Figure 3 shows asylum requests in Germany as a share of migrant inflows. It can be observed that at least 50% of all immigrants also applied for asylum. These figures have increased to 80-85% since 2014.

**Figure 3. Share of asylum seekers among migrants over the period 2000-2016**



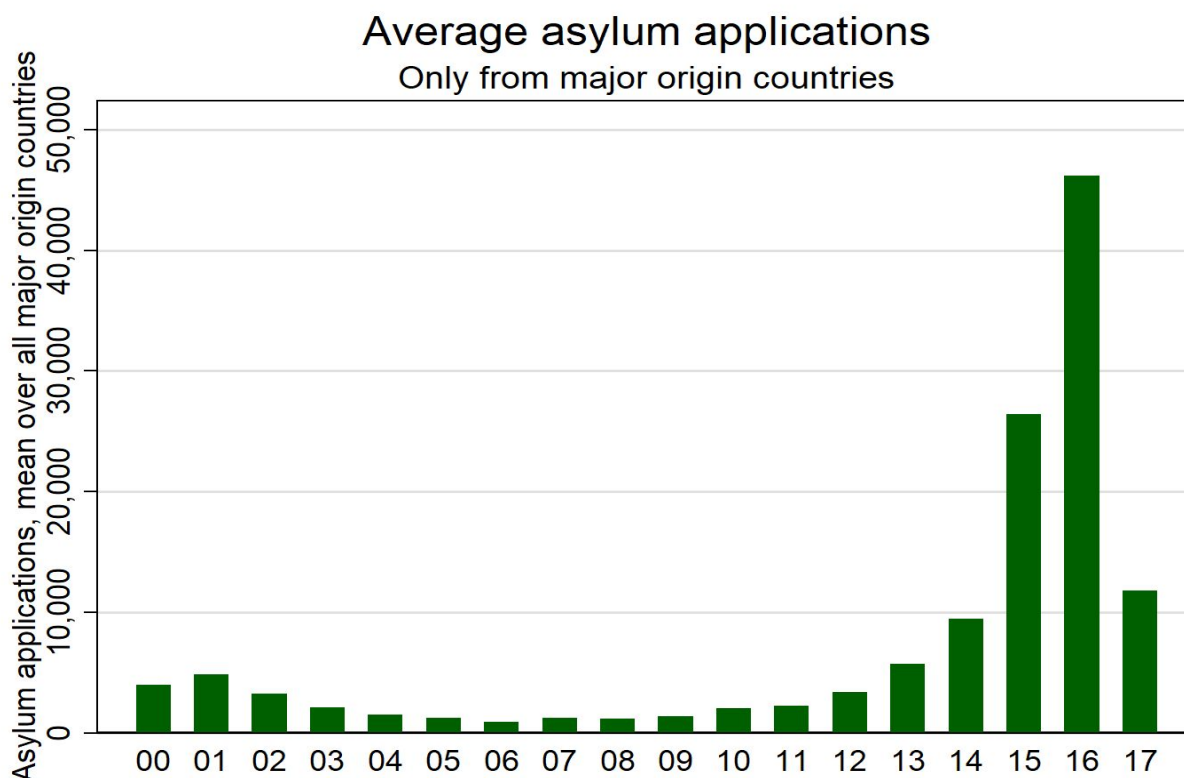
**Figure 4. Asylum applications from all countries over the period 2000-2017**



Asylum requests, more specifically, new asylum applications, reached their peak in 2016 with 722,364 individuals applying for asylum in Germany (see **Table A2** in the Appendix). In contrast, in 2018, there were 161,930 asylum requests.<sup>10</sup> In that year, the top five asylum-seeking countries for new applications were Syria (44,165), Iraq (16,330), Iran (10,855), Nigeria (10,170), and Turkey (10,160). They were followed by Afghanistan, Eritrea, Somalia, Russia, Georgia, Guinea, Pakistan, Albania, Azerbaijan, and Moldova.

<sup>10</sup> According to the Asylum Information database 2019 (<https://www.asylumineurope.org/reports/country/germany/statistics>) there were 185,853 asylum requests filed from all over the world in 2018.<sup>10</sup> Based on this source, 27.3% of all asylum seekers obtained refugee status (became recognized and became asylees), 16.6% obtained subsidiary protection, and 6.3% obtained humanitarian protection in 2018. This means that about 40% of the requests in 2018 obtained a positive decision. About 40% of the asylum requests were rejected. The rest were pending decisions (also from previous years).

**Figure 5. Number of asylum requests from selected origin countries over the period 2000-2017**



Note: Major origin countries are: Syria, Iraq, Afghanistan, Bosnia and Herzegovina, Serbia, Macedonia, Albania, Georgia, Russia, Turkey, Somalia, Nigeria, Eritrea, and Pakistan.

### **2.3 Recognition rates**

Since 2008, about 14-18% of yearly asylum requests were approved. However, recognition rates of asylum seekers, i.e. positive asylum decisions<sup>11</sup> as a percentage of total asylum requests in a specific year vary by country of origin (and of course from individual to individual). We proceed with a classification of origin-countries according to the rate of recognition of the refugee status, which is useful for further analysis. Considering the period from 2011 to 2017, recognition rates for individuals from the major asylum-seeking countries are low<sup>12</sup> for Bosnia and Herzegovina, Georgia and Macedonia, which we classify as low-range recognition origin-countries (*lrecog*). In the intermediate-range<sup>13</sup> are Pakistan, Nigeria, Turkey, and Russia, classified as medium-

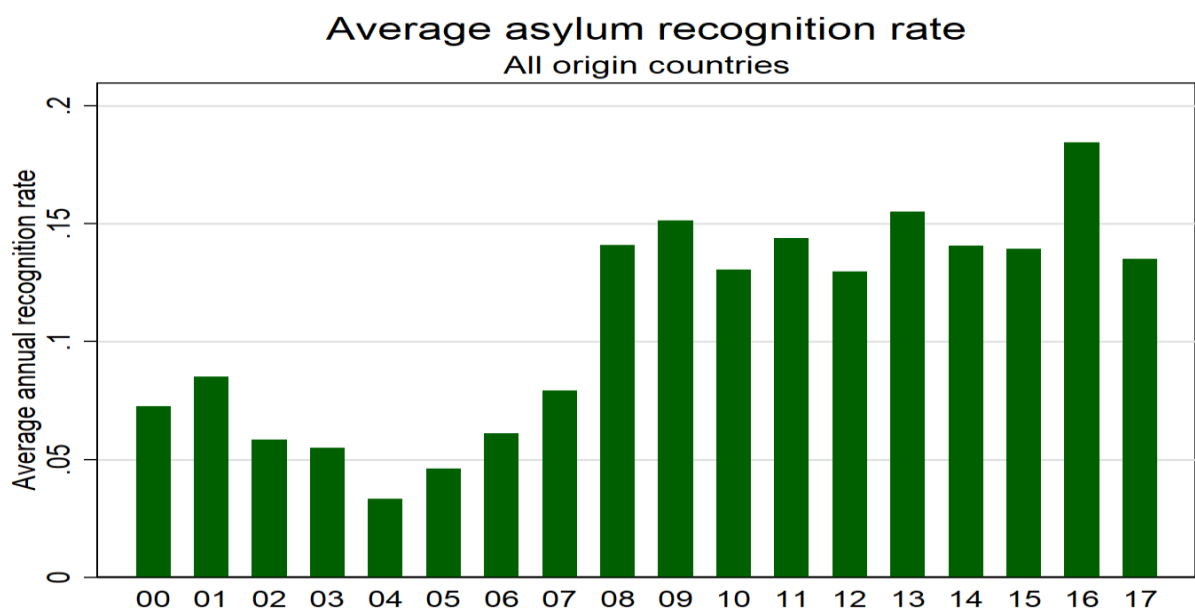
<sup>11</sup> We consider first instance asylum decisions. These are decisions taken by the BAMF and the first instance administrative courts. It is defined as decision granted by the respective authority acting as a first instance of the administrative/judicial asylum procedure in the receiving country.

<sup>12</sup> In the interval [3%; 15%]

<sup>13</sup> In the interval [10%; 35%]

range recognition countries (*mrecog*) and in the high-range<sup>14</sup> are Afghanistan, Iraq, Syria, Eritrea and Somalia, classified as high-range recognition countries (*hrecog*). The classification is based on figures and assessments of the BAMF and first instance administrative courts.

**Figure 6. Asylum recognition rates for all asylum-seeking countries over the period 2000-2017**



### 3. Empirical analysis

In this section, we analyze the factors that drive immigration—including voluntary and forced migration decisions—from all over the world to Germany. We first describe the data sources. We then present the main econometric framework and separate results are shown for migration, asylum flows, and recognition rates.

Since Germany is the recipient/host country for all sending countries in this study we mainly focus on the factors that determine emigration in the sending countries, i.e. the push factors of emigration. This implies that we model the host country, i.e. Germany, rather parsimoniously, including the relevant (bilateral) migrant networks, economic factors in relation to the country of origin, and year dummies for years in which the immigration policy was altered either to become more strict or more lax. Otherwise, we

<sup>14</sup> In the interval [40%; 90%]

emphasize not only the demographic, economic, and socio-political factors in sending countries (i.e. on population pressure, unemployment, consumer confidence, poverty, government stability, military in politics), but also on institutional factors, such as law & order, security aspects, such as ethnic tensions, external conflict, internal conflict, and religious tensions. Climate-related aspects such as average temperature or average precipitation are also included.

### **3.1 Data and variables**

We build on OECD data (OECD 2019), the International Migration Statistics database (Migration Policy Institute, 2019) and on the International Migration Outlook of 2019 to depict migration inflows to Germany and the development of asylum requests in Germany. The data on sending-country-specific migration, asylum, and recognition rates in Germany 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 (Germany). Original migration data for Germany stem from the local population registers; asylum-related data come from the Federal Office for Migration and Refugees (Bundesamt für Migration and Flüchtlinge (BAMF)) and the local registers which are usually informed by the BAMF and administrative courts (Verwaltungsgerichte) 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.<sup>15</sup> For example, the category socioeconomic conditions span a range of 0 and 12 points and includes unemployment, consumer confidence, and poverty, where each category is assigned between 0 and 4 points, which are added up. Hence, higher points here mean less

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<sup>15</sup> See Table A3 in the Appendix.

unemployment, less poverty, and greater consumer confidence. The same applies to some political and institutional risk factors, such as 'internal conflict'<sup>16</sup>, 'external conflict', 'government stability', that can reach a maximum of 12 points. In contrast, 'religious tensions', 'ethnic tensions', 'military in politics' and 'law & order' range from 0 to 6 points. From the ICRG dataset, we utilize the following variables: socioeconomic conditions, internal conflict, external conflict, government stability, ethnic tensions, religious tensions, military in politics, and law and order. Climate-related data, such as average, minimum, maximum temperature and precipitation data, are taken from the World Bank Development Indicators database.

### **3.2. Econometric model and main results**

We use panel data techniques for the estimation of the parameters of interest using a panel of 131 origin/sending countries over a maximum period of 22 years. Our period of analysis runs from 1996-2017 as far as migration and 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. Having also true zeros we utilize the Pseudo Poisson Maximum Likelihood (PPML) estimation technique<sup>17</sup>.

Since migration is a complex process in general, and asylum migration and recognition rates might be intertwined, we analyze their determinants in three different models. Hence, we investigate three types of bilateral flows to Germany (and therefore, look at three different dependent variables): (i) migrant inflows, ii) asylum seeker inflows (both as a function of migrant networks and demographic, economic, socioeconomic, political and institutional, and climate-related factors) and iii) asylum recognition rates as a function of variables that stand for persecution or a precarious humanitarian situation. We also include an indicator (1; 0) variable for changes in Germany's immigration policy. This dummy variable takes the value of '1' if there was a change (either positive or negative); otherwise it takes the value of '0'. It should be noted here that in recent years, there were always positive and negative changes that took place at about the same point in time.<sup>18</sup>

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<sup>16</sup> This category is comprised of 'civil war', 'terrorism/political conflict' and 'civil disorder', each sub-category ranging from 0 to 4 points.

<sup>17</sup> In particular, the command *xtpoisson* in STATA 15 is used.

<sup>18</sup> E.g. In November 2013 the list of safe countries was expanded to the West Balkan states and the asylum processing time was shortened (restrictive change) but at the same time the residence restrictions for refugees were lifted and the ban on refugee employment was reduced from 9 to 3

We use country fixed effects for sending countries to control for a sending country's time-invariant characteristics, such as its geography, being land-locked, its ethnic composition or fractionalization, its language, its colonial history, etc. As country fixed effects allow us to completely control for time-invariant country 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. 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. The destination country of migration considered in this study is Germany (DEU). The subscript 'j' characterizes the country of origin/source country/sending country. 't' stands for time period 't'.

### ***3.2.1 Modelling migration inflows***

We follow the general migration literature to develop our model of migrant inflows. Given that the migration literature is extensive, we concentrate on a few key articles and their findings. Mayda (2010) used push and pull factors in her analysis of bilateral immigration flows into 14 OECD countries using per capita income at the destination and origin, distance, common language, colony, years of schooling and capital per worker at destination and origin, demographics, such as share of young population at origin, and changes in immigration policy at destination as relevant factors of international migration. Her econometric analysis showed that changes in immigration policy in the destination country are a crucial determinant of immigration flows. Per capita income in the destination countries acts as a pull factor, whereas per capita income at origin seems not to be relevant. The share of young population at origin and distance between origin and destination also contributed to explaining migration flows. The rest of the factors were insignificant. Other studies (van Meeteren and Pereira, 2018; Villarrubia-Mendoza, 2016; Guiletti et al., 2013) emphasized the role of migrant networks in facilitating immigration and finding housing and a job. De Haas et al. (2019) discuss the push and pull factors of international migration in their excellent overview paper pointing also to the role of political rights and political freedom as drivers of

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months after arrival (liberal change). Also, since March 2016 Syrians have to apply for asylum individually, as opposed to earlier protection en masse (a change on the restrictive side), while in May 2016 The First Refugee Integration Law was signed to offer asylum seekers easier access to the German labor market

emigration. Based on their econometric analysis, they state that the impact of political factors is not so clear-cut saying that while authoritarianism might increase migration aspirations, it might decrease migration capabilities. In our study, we build on these studies to try to establish the relative strength of the impact of single factors on international migration to be better able to shape the policy response towards immigration.

The dependent variable in our model is the inflow of migrants  $migrant\_in_{jt}$  from country of origin 'j' at time 't' (eq. 1) from country of origin 'j' at time 't' respectively.

$$\begin{aligned} migrant\_in_{jt} = & \exp(\alpha_j + \beta_1 \ln(migrant\_stock_{jt-1}) + \beta_2 diff\_popgr_{jt-1} + \beta_3 ratio\_pcincome_{jt-1} \\ & + \beta_4 socioecon_{jt-1} + \beta_5 ICRG\_factors_{jt-1} \\ & + \beta_6 weather\_factors_{jt-1}) + \phi_j + u_{jt} \end{aligned} \quad (1)$$

Migration inflows are assumed to react with a certain lag to changes in network size, demography, real per capita income, socioeconomic conditions, and changes in security (ethnic and religious tensions; internal and external conflict), in political (government stability, military in politics) and institutional (law and order) factors.

The stock of migrants coming from country 'j' that have settled so far in the host country,  $migrant\_stock_{jt-1}$ , is considered to be a proxy for the size of the network (size of population of sending country living in Germany) and the network effect. A positive effect is expected as an agglomeration of migrants from the same country of origin decreases migration costs. Compatriots living in the destination country can provide information on migration routes, on housing and employment possibilities and they can alleviate homesickness by providing a community which shares the same values and norms in common. At a more practical level, this community can also make it possible to keep the same food habits.

The difference in population growth rate,  $diff\_popgr_{jt-1}$ , between sending country 'j' and Germany (DEU) is an indicator of population pressure. An increase in this difference is expected to worsen living conditions in the countries of origin and to drive people out of their home countries. The higher the population growth rate in the sending country via-à-vis Germany, the higher is the relative population pressure. i.e. job opportunities in the sending country and access to services deteriorate due to over-crowding.



The ratio of per capita income,  $ratio\_pcincome_{jt-1}$ , in the country of origin with respect to per capita income in Germany is an indicator of the relative economic performance in the home country compared to Germany. An increase in this ratio is therefore expected to reduce emigration from the home country.

Also, an improvement in socioeconomic conditions,  $socioecon_{jt-1}$ , which goes hand in hand with higher consumer confidence, lower unemployment and lower poverty, could detain individuals from migrating and hence, a negative sign is expected.

An increase in political and institutional risk factors,  $ICRG\_factors_{jt-1}$  is defined as an improvement in the political, institutional, and security situation, in the year prior to emigration. Hence, we expect that an improvement will lead to a decrease in emigration and we expect a negative coefficient.

In terms of climate-related factors,  $weather\_factors_{jt-1}$ , we look at both an increase in average temperature and an increase in average precipitation. We expect that increases in average temperature/precipitation will increase the number of climate refugees. Increases in average temperature will lead to more droughts, a decline in agricultural production and, hence, a deterioration of living conditions not only in rural areas but also in urban areas where rural exodus causes congestion. In the same vein, increases in average precipitation will lead to more floods, a decline in agricultural production, and destructions of living conditions.

The coefficients of the variables in logs depict elasticities and can be interpreted directly, whereas the coefficients of unlogged variables are semi-elasticities. To compute their impact we calculate:  $[\exp(\beta)-1]*100$  where  $\beta$  is the regression coefficient listed in the table.

In Table 1, most of the coefficients carry the expected sign. Larger *migrant networks* make emigration easier and decrease emigration costs. Hence, they increase migration inflows to Germany. A 1% increase in migrant networks increases emigration by about 0.90%. A higher difference in *population growth rates* between the country of origin and Germany makes the home country relatively less attractive and Germany an even more promising choice. We find that an increase in relative population pressure by one percentage point increases emigration by about 2%. When *per capita income* in the country of origin improves in relative terms (e.g. by one percentage point) this improvement in per capita income reduces emigration by about 1%.

**Table 1: Determinants of immigration to Germany from 134 countries**

<u>Dependent variable:</u> Bilateral immigration	(1)	(2)	(3)	(4)
Explanatory Variables:				
Log migstock	0.904*** (0.001)	0.892*** (0.001)	0.957*** (0.001)	0.943*** (0.001)
Difference in population growth rates	0.019*** (0.000)	0.027*** (0.000)	0.020*** (0.000)	0.029*** (0.000)
Ratio_pcincome	-0.002*** (0.000)	-0.002*** (0.000)	-0.012*** (0.000)	-0.012*** (0.000)
SocioeconomicConditions	-0.080*** (0.000)	-0.083*** (0.000)	-0.058*** (0.000)	-0.061*** (0.000)
EthnicTensions	-0.197*** (0.001)	-0.195*** (0.001)		
ExternalConflict	0.090*** (0.000)	0.090*** (0.000)		
GovernmentStability	-0.080*** (0.000)	-0.081*** (0.000)		
InternalConflict	-0.084*** (0.000)	-0.084*** (0.000)		
LawOrder	-0.054*** (0.001)	-0.055*** (0.001)		
MilitaryinPolitics	0.079*** (0.001)	0.082*** (0.001)		
ReligiousTensions	0.102*** (0.001)	0.103*** (0.001)		
Average temperature, in celsius	0.020*** (0.001)	0.023*** (0.001)	0.018*** (0.001)	0.021*** (0.001)
Average precipitation, in mm	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.004*** (0.000)
Year2015	0.197*** (0.001)		0.219*** (0.001)	
Year2016	0.097*** (0.001)		0.093*** (0.001)	
Changes in immigration policy		0.157*** (0.001)		0.168*** (0.001)
Polrisk			-0.045*** (0.000)	-0.045*** (0.000)
Observations	2,245	2,245	2,245	2,245
Number of iso3num_o	134	134	134	134
Origin fixed effects	Yes	Yes	Yes	Yes

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; all variables (except changes in immigration policy) are lagged by one period; an increase in the ICRG variables implies an improvement so that a negative sign is expected; all variables are from the perspective of the origin country; difference in population growth → pop origin country – pop destination country); ratio\_pcincome → pcincome origin country/pcincomedestination country).

An improvement of *socioeconomic conditions* (less poverty, less unemployment, and higher consumer confidence which may indicate better employment opportunities) in the country of origin reduces emigration. For instance, a one-percentage-point increase—improvement—in socioeconomic conditions reduces emigration by about 6-8%.<sup>19</sup>

Also, an improvement in the aggregate measure of *political risk*, which is the sum of its sub-components (ethnic tensions, religious tensions, internal conflict, external conflict, government stability, and law and order and military in politics), by one percentage point decreases emigration by about 4%. This corresponds to a more than proportional increase since our political risk factor ranges from 0 to 60 points. Entering ICRG factors one by one in the regressions does not change the sign and the significance of the coefficients.

A one-percentage-point improvement in ethnic tensions, internal conflict, government stability, and law and order reduces emigration by 18, 8, 8, and 5 percent, respectively. Only the impact of ethnic tensions is disproportionately high. Internal conflict and government stability have proportionate impacts whereas 'law & order' has a disproportionately low impact. Most robust in this context are ethnic tensions and internal conflict in the multitude of regressions that have been run. These two variables always carry the expected sign and are statistically significant. However, it is noteworthy that the coefficients of external conflict, military in politics, and religious tensions do not carry the correct sign. They even carry a positive sign and are significant. It might be that a reduction in external conflict and less military in politics eventually enables people who always wanted to leave their country to realize their plan for departure. Likewise, religious tensions are strongly correlated with internal conflict which might explain the implausible sign. Increases in average temperature and in average precipitation slightly increase emigration. A one-unit change in temperature and precipitation increases emigration by 2% and 0.3%, respectively. Changes in immigration policy that occurred during 2014-2017 led to more emigration. This measure is highly correlated with the year dummies for 2015, 2016, and 2017. Therefore, inclusion of the immigration policy indicator is not compatible with regressions with year dummies.

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<sup>19</sup> This corresponds to a more or less proportional decrease since the variable 'socioeconomic conditions' ranges from 0 to 12 points.

To sum up, we find that migration flows to Germany can be well explained by the usual factors: networks, demographic, economic as well as socioeconomic conditions, and political risk in the countries of origin. Most factors have a rather proportionate (in percentage terms) impact on migration flows. One exception is improvements in ethnic tensions that lead to a more than proportionate decline in migration.

Table B1 in the Appendix looks deeper into migration patterns of ‘high inflow’ (hinf) and ‘intermediate inflow’ (minf) countries. In the ‘high inflow’ group are countries mostly from South and South-East European region, such as Romania, Bulgaria, Croatia, Italy, Hungary, Greece, Turkey, Serbia and Montenegro, and Bosnia and Herzegovina. Individuals from these countries mainly come to work or for family reunification. China and India are in the group of ‘medium inflow’ countries. Individuals from these countries come to study, to get professional training in internships and to work. In general, the results obtained for all countries are corroborated in our two sub-samples. We find that an improvement of socioeconomic conditions by one percentage point reduces emigration from high inflow countries by 2% to 0% and emigration from China and India by 10% to 11%. We also see that an improvement of the political situation in the high inflow and medium inflow countries reduces immigration flows to Germany by 9% and 3%, respectively.

All in all, we observe moderate migration-decreasing effects of factors that can be related to weaker migrant networks in Germany, smaller population growth differences between the countries of origin and Germany, relative economic progress in the countries of origin compared to Germany, and an improvement of socioeconomic factors in the sending countries.<sup>20</sup> We find mostly consistent migration-decreasing effects from an improvement of political factors in the sending countries. The effect is most pronounced when there is a reduction in ethnic tensions.

### **3.2.2 Modeling the inflow of asylum seekers**

Davenport et al. (2003) studied asylum migration identifying the role of civil war, genocide, and political regimes on worldwide asylum migration. Hatton (2009, 2017) showed 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.

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<sup>20</sup> We also keep in mind that 50 to 80% of all migrants file asylum requests.

The growth of transit routes and migrant networks led 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 fueled increases in asylum inflows from Central America to the US.

The objective of this sub-section is to identify the extent of path dependency of asylum applications, to disentangle economic from political reasons for asylum and to determine the role of climate change, which could indirectly influence asylum migration by exacerbating conflicts.

Our dependent variable is the number of asylum seekers  $asylum\_in_{jt}$  (eq. 2) from country of origin '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 Germany; the stock of compatriots already living in Germany (network size); population growth in the country of origin (population pressure), which leads to fierce competition for resources and conflicts; and changes in security (ethnic and religious tensions), political (government stability, military in politics), and institutional (law and order) factors.

$$\begin{aligned} asylum\_in_{jt} = & \exp(\alpha_j + \beta recognition\_rate_{jt-1} + \chi_1 \ln(migrant\_stock_{jt-1}) + \chi_2 popgr_{jt-1}) \\ & + \chi_3 ratio\_pcincome_{jt-1} + \chi_4 socioecon_{jt-1} + \delta ICRG\_factors_{jt-1} \\ & + \phi(weather\_factors_{jt-1}) + \phi_t) + v_{jt} \end{aligned} \quad (2)$$

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 German 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.

Instead of year dummies for specific years, we employ a dummy variable that stands for changes in migration and asylum policy. Iglit and Klotz (2018) point out that German asylum policy after the mid-1990s until present day<sup>21</sup> 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

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<sup>21</sup> This is basically our study period.

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. Hence, we include a dummy variable that takes on '1' if there was a change in asylum policy and '0' otherwise. This way, we let the data speak as to whether German asylum policy has become more liberal or more restrictive. Political scientists ascribe this feature of asylum policy of being multifaceted to the GroKo<sup>22</sup>, the 'Great coalition' of CDU/CSU (conservative party) and SPD (the social democrats) and interpret the actual asylum policy as a hard-fought compromise between the coalition partners.

An increase in the recognition rate (by one percentage point) of the previous period increases the number of asylum requests by 1-2%, i.e. not very much.

The network effect is not very substantial either. An increase in network size by 1% increases asylum requests by 0.3%. This implies that other motives to seek asylum are much more relevant.

Population pressure in the country of origin strongly increases the number of asylum seekers in Germany. If the population growth accelerates by one percentage point (which is a huge increase), asylum requests increase by 35 to 40%.

An increase in the *ratio of the per capita income* of the country of origin with respect to Germany's per capita income by one percentage point reduces asylum requests by 10 to 13%, i.e. the impact is in the interval: [-13%; -10%]. *This impact is disproportionately high.*

A one-point improvement (increase) in *socioeconomic conditions* in the home country reduces asylum requests by 7 to 14%, i.e. the impact is in the interval: [-14%; -7%]. This impact is also *disproportionately high* given that socioeconomic conditions range from 0 to 12 points and 1 point corresponds to about 8%.

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<sup>22</sup> This GroKo was formed on the 17<sup>th</sup> of December, 2013.

**Table 2. Determinants of asylum requests in Germany from 134 nationalities**

Dependent variable: Bilateral asylum migration				
	(1) Asylum	(2) Asylum	(3) Asylum	(4) Asylum
Explanatory Variables:				
Recognition_rate	0.016*** (0.000)	0.017*** (0.000)	0.016*** (0.000)	0.016*** (0.000)
Log migstock	0.303*** (0.004)	0.270*** (0.005)	0.338*** (0.004)	0.339*** (0.004)
Population growth (annual %)	0.285*** (0.004)	0.305*** (0.004)	0.335*** (0.004)	0.335*** (0.004)
Ratio_pcincome	-0.124*** (0.001)	-0.110*** (0.001)	-0.144*** (0.001)	-0.144*** (0.001)
SocioeconomicConditions	-0.135*** (0.002)	-0.151*** (0.002)	-0.078*** (0.002)	-0.077*** (0.002)
EthnicTensions		-0.173*** (0.003)	-0.134*** (0.003)	-0.135*** (0.003)
ExternalConflict		0.116*** (0.001)		
GovernmentStability		0.013*** (0.001)		
InternalConflict		-0.105*** (0.001)	-0.071*** (0.001)	-0.071*** (0.001)
LawOrder		0.290*** (0.005)		
MilitaryinPolitics		-0.140*** (0.003)	0.009*** (0.003)	
ReligiousTensions		0.217*** (0.002)		
Average temperature, in celsius	0.104*** (0.003)	0.136*** (0.003)	0.119*** (0.003)	0.118*** (0.003)
Average precipitation, in mm	0.018*** (0.000)	0.018*** (0.000)	0.018*** (0.000)	0.018*** (0.000)
Year2015	1.320*** (0.003)	1.321*** (0.003)	1.262*** (0.003)	1.263*** (0.003)
Year2016	1.832*** (0.003)	1.848*** (0.003)	1.759*** (0.003)	1.760*** (0.003)
Year2017	0.964*** (0.005)	1.023*** (0.005)	0.901*** (0.005)	0.902*** (0.005)
Polrisk	0.011*** (0.000)			
Observations	1,528	1,528	1,528	1,528
Number of iso3num_o	115	115	115	115
Origin fixed effects	Yes	Yes	Yes	Yes

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. all variables are lagged by one period; an increase in the ICRG variables implies an improvement so that a negative sign is expected; all variables are from the perspective of the origin country; ratio\_pcincome → pcincome\_ origin country/pcincome\_destination country).

The aggregate measure of political risk and institutional deficiencies has an implausible positive impact, an improvement of 'polrisk' leads to an increase in asylum requests. However, if we look at the components of political risk more closely, we find normal reactions for the sub-categories: *ethnic tensions and internal conflict*. A one-point improvement in ethnic tension reduces asylum requests by 13-16%<sup>23</sup> and a one-point improvement in internal conflict reduces asylum requests by 7-10%<sup>24</sup>. *Given that one point is about 14% / 8% respectively (ethnic tensions range from 0 to 6 points and internal conflict ranges from 0 to 12 points) these are proportionate declines*. In all the regressions that we ran, only ethnic tension and internal conflict have proven to be robust determinants of asylum requests. *In contrast, religious tensions, external conflict, government stability, and military in politics and law & order issues seem not to worry asylum seekers*.

Both temperature increases and increases in precipitation by one unit each increase asylum requests. We argue that this is due to a deterioration of living conditions.

Interestingly, improvements in economic and socioeconomic factors have a noticeable and disproportionately high impact on asylum applications. Only ethnic tensions and internal conflict are robust determinants of asylum requests, however with only a proportionate impact.

### ***Findings for sub-groups of importance***

To elaborate on what happens within the group of asylum seekers, we analyze the reaction to changes and improvements in i) ethnic tensions and ii) internal conflict in ***several sub-groups*** (see Table B2 and B3) in the Appendix.

In the group of ***major asylum seeking countries***, abbreviated as '***major***' (Syria, Iraq, Afghanistan, Bosnia and Herzegovina, Serbia, Macedonia, Albania, Georgia, Russia, Turkey, Somalia, Nigeria, Eritrea, and Pakistan; see Table B2, col. (1) in the Appendix) we find that a one-point improvement of *ethnic tensions* reduces immigration to Germany by 13%, i.e.  $[(\exp(-0.135\text{-n.s.})-1)*100]$  and a one-point improvement of *internal conflict* decreases immigration to Germany by 6%, i.e.  $[(\exp(-0.081+0.019)-1)*100]$ . *On average, we observe a proportionate decline in asylum application from major asylum-seeking countries*.

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<sup>23</sup> the effect is in the interval [-16%; -13%]

<sup>24</sup> the effect is in the interval [-10%; -7%]



Furthermore, we find that a 1-point improvement of *ethnic tensions* reduces immigration to Germany by 6% [ $(\exp(-0.198+0.141)-1)*100$ ] and a 1-point improvement of *internal conflict* reduces immigration to Germany by 12% , i.e. [ $(\exp(-0.062-0.069)-1)*100$ ] in so-called ***problematic countries, ‘problem’***, which are countries, such as India, Pakistan, Bangladesh, Lebanon, Algeria, Egypt, Morocco, Mali, Nigeria, Niger, Ethiopia, Tunisia, Ghana, Guinea, Guinea-Bissau, Burkina Faso, and Benin, that have difficulties in taking back asylum seekers whose asylum request has been rejected by German authorities (see Table B2, col. (2) in the Appendix). *Asylum seekers of this sub-group seem to underreact with respect to improvements of ethnic tensions (because ethnic tensions might not play a big role) and to overreact with respect to improvements of internal conflicts (because individuals feel threatened by internal conflicts).*

### ***The role of recognition rates***

We also differentiated origin countries according to whether they are characterized by a high ‘hrecog’, medium ‘mrecog’, or low percentage ‘lrecog’ of asylum recognitions (see Table B3 in the Appendix). These countries cover only the most important asylum-seeking countries as their dynamics are most interesting to understand. In the sub-sample of ***‘hrecog’*** countries (Afghanistan, Iraq, Syria, Eritrea, Somalia; see Table B3, col. (1)) a one-point improvement in *ethnic tensions* reduces asylum requests by 80%, i.e. [ $(\exp(-0.102-1.528)-1)*100$ ] and a one-point improvement in *internal conflict* reduces asylum requests by 15%, [ $(\exp(-0.022-0.138)-1)*100$ ]. *This points to a disproportionately large decline in asylum requests of ‘hrecog’ countries and hence a plausible response of individuals who feel less threatened.*

In contrast, in the sub-sample of ***‘mrecog’*** countries (Pakistan, Turkey, Russia, Egypt, Nigeria, Ethiopia, Ghana, Guinea; see Table B3, col. (2)) a one-point improvement in *ethnic tensions* reduces asylum requests by 1%, i.e. [ $(\exp(-0.314+0.303)-1)*100$ ] and a one-point improvement in *internal conflict* reduces asylum requests by 2.5%, [ $(\exp(-0.076+0.050)-1)*100$ ]. *This implies a disproportionately low decline in asylum applications of ‘mrecog’ countries and might be a plausible response by individuals who consider filing asylum requests a chance.*

In the sub-sample of **'Irecog'** countries (Bosnia-Herzegovina, Georgia, Macedonia, Guinea-Bissau, Niger, Benin, Mali, India, Morocco; see Table B3, col. (3)) a one-point improvement in *ethnic tensions* reduces asylum requests by 34%, i.e.  $[(\exp(-0.125-0.298)-1)*100]$  and a one-point improvement in *internal conflict* reduces asylum requests by 18%,  $[(\exp(-0.061-0.140)-1)*100]$ . *In this group we find a disproportionately large decrease in asylum applications, supposedly due to the fact that the chance of being recognized as an asylee are low anyway and become even lower due to an improvement (decrease) in political risk.*

In short, we see that improvements in economic and socioeconomic conditions lead to disproportionately large declines in asylum requests. Improvements in ethnic tensions or internal conflict always lead to a reduction in the number of asylum requests showing that people react to political improvements by filing fewer asylum requests. These reductions are proportionate in the sample of all countries. However, they are very pronounced in countries with a high asylum recognition rate ('hrecog' countries) and in countries with a low asylum recognition rate ('Irecog' countries). We hypothesize that people in 'hrecog' countries flee less from their home countries when the political situation improves as they feel less threatened. Furthermore, we argue that people from 'Irecog' countries file fewer asylum requests as they supposedly believe that there is a low likelihood of becoming recognized as asylees due to improvements in the security situation in their home countries.

### **3.2.3 Modeling the determining factors for asylum recognition**

We now turn to the determinants of asylum recognition, which means positive first instance asylum decisions<sup>25</sup>. We model recognition rates for a specific home country  $j$  in Germany as:

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<sup>25</sup> First instance asylum decisions are decisions granted by the respective authority acting as a first instance of the administrative/judicial asylum procedure in the receiving country.

$$\begin{aligned}
\text{recognition\_rate}_{jt} = & \exp(\alpha_j + (\rho \text{ recognition\_rate}_{jt-1}) + \beta \text{ socioeconomics} + \\
& \chi_1 \text{ ethnic\_tensions} + \chi_2 \text{ religious\_tensions} + \\
& \chi_3 \text{ internal\_conflict} + \chi_4 \text{ external\_conflict} + \\
& \chi_5 \text{ government\_stability} + \chi_6 \text{ law\_order} + \\
& \chi_7 \text{ military\_in\_politics} + \delta \text{ imm\_pol} + \phi_t) + w_{jt}
\end{aligned} \tag{3}$$

In addition, we model recognition rates both with path dependency (including past recognition rates, see **Table 3**) and without (see Table B4 in the Appendix) to check whether the BAMF or first instance administrative courts check each asylum request anew or whether they follow past decisions. Here, we observe some path dependency, i.e. a one-percentage point increase in past recognition rates increases current recognition rates by 1.2%. Furthermore, we find that decisionmakers grant fewer asylums by 4% when political risk (polrisk) increases (the political situation improves) by one percentage point. More specifically, when assuming one-percentage point increases in sub-components of political risk, we observe that decisionmakers react (by rejecting asylum applications) to improvements in government stability (-10%), military in politics (-8%) and law & order (-6%), followed by improvements in ethnic tensions (-5%). Improvements in internal conflict and religious tensions do not significantly influence approval of asylum applications. The year effects for 2015 and 2016 were positive and so was the effect of a change in immigration policy. Furthermore, we also see that improvements in socioeconomic conditions in the respective countries of origin lead decisionmakers to think that political reasons put forward are more pressing.

All in all, this suggests that decision makers take political risk seriously as a factor that forces people to leave their home countries.

Ignoring path dependency (see **Table B4** in the Appendix), improvements in law and order and government stability influence positive asylum decisions most strongly, followed by military in politics and external conflict.

**Table 3: Determinants of asylum recognition**

Dependent variable:	(1)	(2)	(3)	(4)
Bilateral recognition rates	Recognition	Recognition	Recognition	Recognition
Explanatory variables				
Recognition_rate	0.012*** (0.000)	0.012*** (0.000)	0.012*** (0.000)	0.012*** (0.000)
SocioeconomicConditions	0.107*** (0.014)	0.099*** (0.014)	0.099*** (0.014)	0.091*** (0.014)
EthnicTensions		-0.052*** (0.019)		-0.051*** (0.019)
ExternalConflict		-0.022** (0.011)		-0.018* (0.011)
GovernmentStability		-0.103*** (0.008)		-0.103*** (0.008)
InternalConflict		0.005 (0.009)		0.002 (0.009)
LawOrder		-0.062** (0.029)		-0.065** (0.029)
MilitaryinPolitics		-0.089*** (0.021)		-0.088*** (0.020)
ReligiousTensions		-0.007 (0.018)		-0.000 (0.018)
Year2015	0.173*** (0.030)	0.137*** (0.031)		
Year2016	0.167*** (0.030)	0.142*** (0.030)		
Year2017	-0.084*** (0.033)	-0.116*** (0.033)		
Polrisk	-0.045*** (0.003)		-0.044*** (0.003)	
Changes in immigration policy			0.089*** (0.020)	0.057*** (0.021)
Observations	1,327	1,327	1,327	1,327
Number of origin countries	88	88	88	88
Origin fixed effects	Yes	Yes	Yes	Yes

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; all variables (except changes in immigration policy) are lagged by one period; an increase in the ICRG variables implies an improvement so that a negative sign is expected; all variables are from the perspective of the origin country.

#### 4. Policy Implications

The analysis of migration inflows reveals the importance of migrant networks, demographic development, and economic and socioeconomic factors in determining migration, as well as the overall influence of political risk (polrisk) and climate change on migration. We observe the relevance of political risk also for general migrant inflows, with ethnic tensions and internal conflict being of utmost relevance. Improvements in ethnic tensions and internal conflict consistently reduce the number of asylum requests, with a disproportionately high impact in a few origin countries, namely the ones with either a high or low recognition rate. Interestingly, improvements in economic and socioeconomic conditions lead to a disproportionately large reduction in asylum requests in all origin countries.

When looking at asylum requests, we confirm that ethnic tensions and internal conflict are drivers of asylum requests. The remaining political risk factors do not act as robust drivers of asylum requests at the country level. However, it is important to note that the data at hand do not reveal the reasons that were stated in the individual asylum requests.

We now move to a comparison of asylum requests and recognition rates in terms of their drivers. We see that the impact of political risk factors is quite different when seeking and when granting asylum. On the one hand, asylum requests seem to be driven by deteriorations in ethnic tensions and internal conflict in the countries of origin. This would justify constitutional asylum and refugee status according to the 1951 Geneva Refugee Convention. On the other hand, positive asylum decisions, which of course are decisions of *individual* cases, seem to be driven by factors that seem more related to the overall political stability in the respective countries of origin. This would point towards decisions on the grounds of 'subsidiary protection', which implies that asylum is granted to an asylum seeker due to a threat of serious harm by state or non-state agents. This finding is line with the fact that asylum based on aspects of subsidiary protection has become more important since the increase in the number of conflicts in Iraq, Afghanistan, and Syria go hand in hand with political instability.

## 5. Conclusion

Our analysis reveals that political factors, institutional risk, and economic factors determine both overall migration and asylum migration. Political factors influence overall migration as 50-80% of all migrants file asylum applications either once they have entered Germany or a couple of months (or even years) later.

Economic factors are also determinants of asylum applications as asylum seekers most often come for a several reasons. Moreover, we find that economic factors seem to have a disproportionately large impact on asylum requests. Climate change impacts migration in the expected direction, thus, increasing migration but only to a very small extent.

The analysis of asylum recognition shows that positive asylum decisions are not so much granted based on the constitutional right to asylum because of persecution but rather on the finding of inhuman or extremely difficult living conditions that result from political turmoil, government instability, military in politics, lack of law and order, and ethnic tensions.

Hence, to the extent that economic depression because of the Covid-19 pandemic might lead to more political turmoil and conflicts in the less developed world, we should expect an increase in overall migration and asylum migration in the coming years.

An increase in development aid, in particular, sectoral aid for social infrastructure (health, education, housing, police, justice) as well as for agriculture, industry, and services should be granted to improve living conditions and make developing countries less vulnerable to economic shocks. Aid for economic infrastructure, the most undisputed type of aid, should be increased as well in order to improve transportation and logistics infrastructure.

In addition, aid could provide developing countries much needed technical assistance in building effective institutions to improve governance. This, however, might be the most difficult part of aid as institutional progress must be achieved without a top-down approach and outside interference.

Trade preferences for vulnerable countries, similar to the EU trade preference scheme GSP+ <sup>26</sup>, and trade preferences to guarantee duty-free and quota free trade (usually

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<sup>26</sup> GSP+ is an extension to the GSP system and includes developing countries which have proved their commitment to sustainable development and good governance.

only given to the least developed countries) should be extended to promote developing countries' export capacity and their integration into the world.

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## **Appendix A: Overview tables**

**Table A1. Inflows of foreign born population by nationality (2007-2017)**

In thousands

**Germany**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Romania	42.9	48.2	57.3	75.5	97.5	120.5	139.5	198.7	221.4	222.3	230.6
Poland	140.0	119.9	112.0	115.6	164.7	177.8	190.4	192.2	190.8	160.7	149.7
Bulgaria	20.5	24.1	29.2	39.8	52.4	60.2	60.9	80.1	86.3	83.0	81.6
Syria	1.7	2.0	2.3	3.0	4.6	8.5	19.0	69.1	309.7	179.4	76.4
Croatia	8.4	8.7	9.1	10.2	11.5	12.9	25.8	46.1	61.0	62.1	58.6
Italy	18.2	20.1	22.2	23.9	28.1	36.9	47.5	56.7	57.2	52.6	51.5
Hungary	22.2	25.2	25.3	29.3	41.1	54.5	60.0	58.8	58.1	51.6	48.1
Turkey	26.7	26.7	27.2	27.6	28.6	26.2	23.2	22.1	23.7	28.6	33.7
India	9.4	11.4	12.0	13.2	15.4	18.1	19.5	22.4	26.1	27.7	29.5
Iraq	5.0	8.9	13.1	9.5	7.5	6.7	5.2	7.1	64.8	68.0	27.6
China	13.6	14.3	15.4	16.2	18.3	19.7	22.4	23.2	25.5	26.6	26.6
Greece	8.0	8.3	8.6	12.3	23.0	32.7	32.1	28.8	28.3	27.1	26.1
Serbia	..	5.4	7.0	16.7	16.5	22.1	27.3	38.4	39.7	22.9	24.5
Bosnia-Herzeg.	6.4	6.2	6.1	6.9	9.5	12.2	15.1	20.7	21.7	22.4	24.0
United States	17.5	17.5	17.7	18.3	20.1	19.6	20.5	20.5	21.1	20.7	21.1
Other countries	234.4	227.1	241.7	265.6	302.9	337.4	399.7	457.9	780.8	663.4	474.5
<b>Total</b>	<b>574.8</b>	<b>573.8</b>	<b>606.3</b>	<b>683.5</b>	<b>841.7</b>	<b>965.9</b>	<b>1 108.1</b>	<b>1 342.5</b>	<b>2 016.2</b>	<b>1 719.1</b>	<b>1 384.0</b>

Source: [International Migration Outlook 2019 - © OECD 2019; Table B.1](#)

Statistical Annex

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**Table A2. Inflows of asylum seekers by nationality (2008-2018)**

**Germany**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Syria	775	819	1 490	2 634	6 201	11 851	39 332	158 657	266 248	48 970	44 165
Iraq	6 836	6 538	5 555	5 831	5 352	3 958	5 345	29 784	96 115	21 930	16 330
Iran	815	1 170	2 475	3 352	4 348	4 424	3 194	5 394	26 426	8 610	10 855
Nigeria	561	791	716	759	892	1 923	3 924	5 207	12 709	7 810	10 170
Turkey	1 408	1 429	1 340	1 578	1 457	1 521	1 565	1 500	5 383	8 025	10 160
Afghanistan	657	3 375	5 905	7 767	7 498	7 735	9 115	31 382	127 011	16 425	9 945
Eritrea	262	346	642	632	650	3 616	13 198	10 876	18 854	10 225	5 570
Somalia	165	346	2 235	984	1 243	3 786	5 528	5 126	9 851	6 835	5 075
Russia	792	936	1 199	1 689	3 202	14 887	4 411	5 257	10 985	4 885	3 940
Georgia	232	560	664	471	1 298	2 336	2 873	2 782	3 448	3 080	3 765
Guinea	199	237	229	281	428	1 260	1 148	662	3 458	3 955	2 870
Pakistan	320	481	840	2 539	3 412	4 101	3 968	8 199	14 484	3 670	2 210
Albania	63	49	39	78	232	1 247	7 865	53 805	14 853	3 775	1 875
Azerbaijan	360	652	469	646	547	905	1 192	1 335	4 573	3 030	1 785
Moldova	14	36	41	21	30	68	255	1 561	3 346	890	1 780
Other countries	8 626	9 884	17 493	16 479	27 749	45 962	70 159	120 373	104 620	46 195	31 435
<b>Total</b>	<b>22 085</b>	<b>27 649</b>	<b>41 332</b>	<b>45 741</b>	<b>64 539</b>	<b>109 580</b>	<b>173 072</b>	<b>441 900</b>	<b>722 364</b>	<b>198 310</b>	<b>161 930</b>

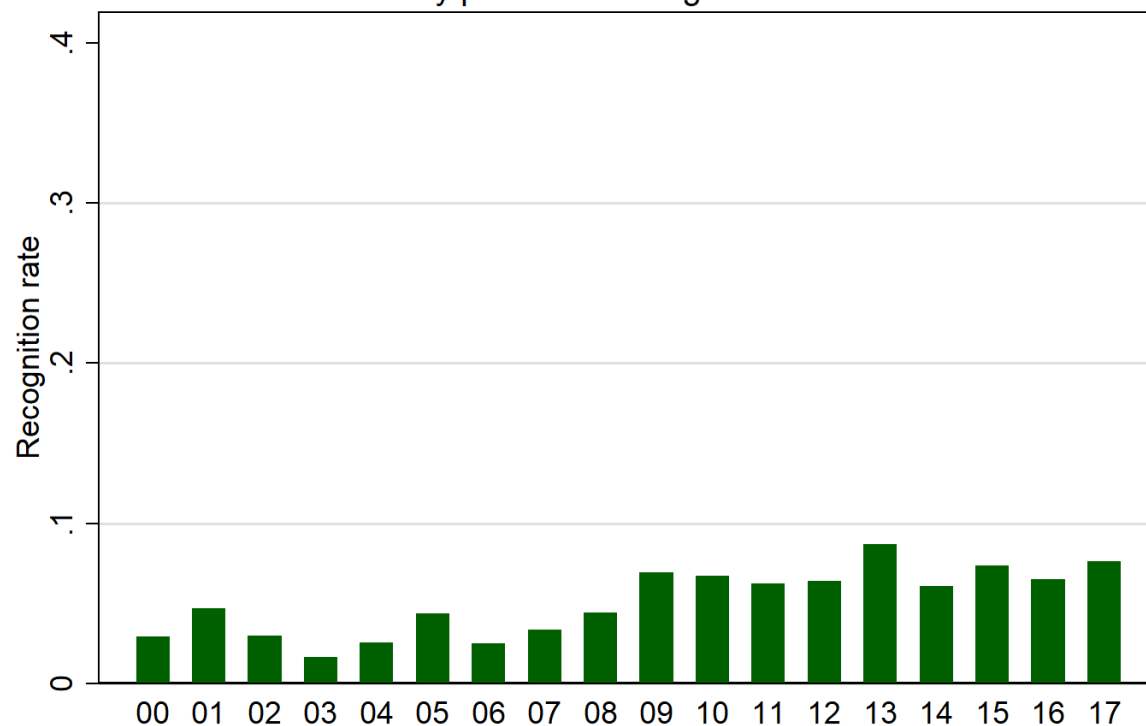
Source: [International Migration Outlook 2019 - © OECD 2019; Table B.3](#)

Statistical Annex

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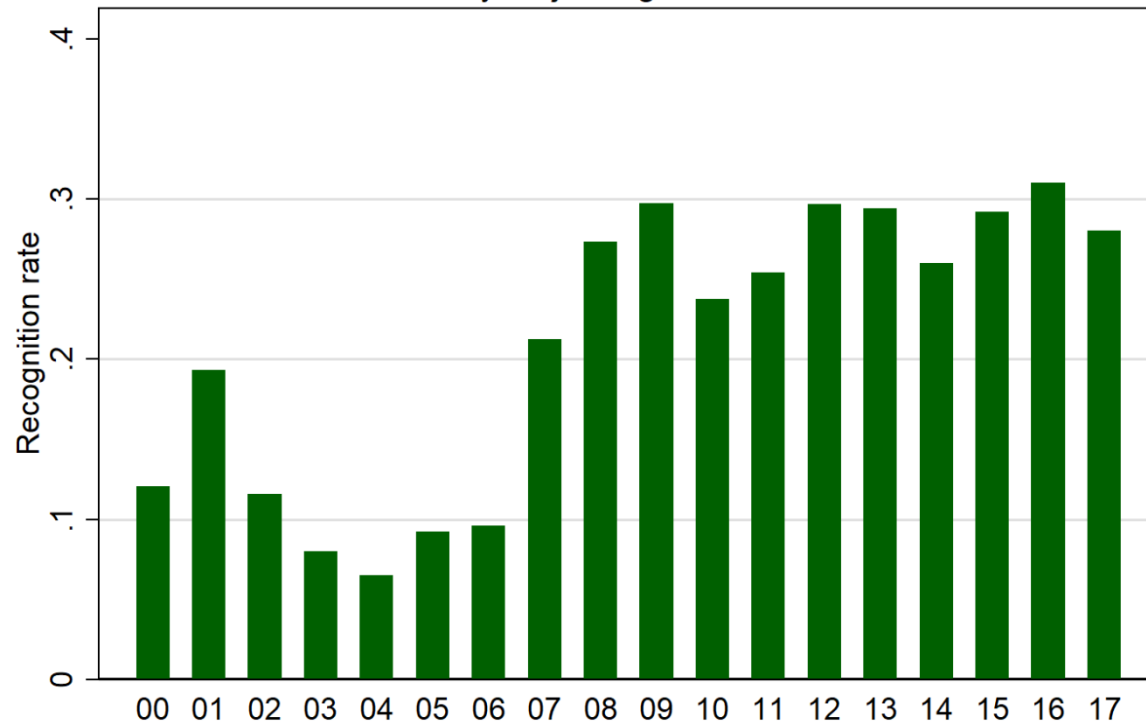
Average asylum recognition rate  
Only problematic origin countries



Note: Data are taken from the International Migration Statistics database (Migration Policy Institute; 2019). On average less than 10% of the asylum seekers from countries that make difficulties in taking back rejected asylum seekers (India, Pakistan, Bangladesh, Lebanon, Algeria, Egypt, Morocco, Mali, Nigeria, Niger, Ethiopia, Tunisia, Ghana, Guinea, Burkina Faso, Niger and Guinea-Bissau) were recognized as asylees by first instance decision makers (BAMF and first instance administrative courts).

## Average asylum recognition rate

Only major origin countries



**Table A3: ICRG Variables used**

<b>ICRG variables used</b>	<b>Points</b>
Socioeconomic Conditions	0-12
Political Risk (polrisk)	0-60
Internal Conflict	0-12
External Conflict	0-12
Government Stability	0-12
Ethnic Tensions	0-6
Religious Tensions	0-6
Military in Politics	0-6
Law and Order	0-6



## Appendix B: Additional regression tables

**Table B1: Migration from high and intermediate inflow countries**

<u>Dependent variable:</u>	(1)	(2)
Bilateral migration flows	Immigration	Immigration
<u>Explanatory variables:</u>	All	H/MINFLOW
Log migstock	0.956*** (0.001)	0.867*** (0.001)
Difference in population growth	0.020*** (0.000)	0.028*** (0.000)
Ratio_pcincome	-0.014*** (0.000)	-0.014*** (0.000)
SocioeconomicConditions	-0.120*** (0.000)	-0.120*** (0.000)
Hinflow_socio	0.116*** (0.001)	0.098*** (0.001)
Minflow_socio	0.003* (0.001)	0.008*** (0.001)
Polrisk	-0.042*** (0.000)	-0.006*** (0.000)
Hinflow_polrisk		-0.080*** (0.000)
Minflow_polrisk		-0.024*** (0.000)
Average temperature, in celsius	0.028*** (0.001)	-0.028*** (0.001)
Average precipitation, in mm	0.003*** (0.000)	0.003*** (0.000)
Changes in immigration policy		0.226*** (0.001)
Year2015	0.212*** (0.001)	
Year2016	0.076*** (0.001)	
Observations	2,245	2,245
Number of iso3num_o	134	134
Origin fixed effects	Yes	Yes

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; all explanatory variables are lagged by one period.

'hinflow': Romania, Bulgaria, Croatia, Italy, Hungary, Greece, Turkey, Serbia and Montenegro, Bosnia and Herzegovina. 'minflow': China, India .

**Table B2: Asylum requests by sub-groups of countries**

<u>Dependent variable:</u>		
Bilateral asylum requests	(1)	(2)
	Asylum	Asylum
<u>Explanatory variables:</u>	Major	Problem
Recognition_rate	0.016*** (0.000)	0.016*** (0.000)
Log migstock	0.335*** (0.004)	0.356*** (0.004)
Population growth (annual %)	0.335*** (0.004)	0.331*** (0.004)
Ratio_pcincome	-0.144*** (0.001)	-0.141*** (0.001)
SocioeconomicConditions	-0.077*** (0.002)	-0.079*** (0.002)
EthnicTensions	-0.135*** (0.004)	-0.198*** (0.004)
InternalConflict	-0.081*** (0.002)	-0.062*** (0.001)
major_etension	0.005 (0.005)	
major_intconflict	0.019*** (0.002)	
Dummy for major origin countries	0.000 (0.000)	
Average temperature, in celsius	0.117*** (0.003)	0.122*** (0.003)
Average precipitation, in mm	0.018*** (0.000)	0.018*** (0.000)
year2015	1.262*** (0.003)	1.253*** (0.003)
year2016	1.761*** (0.003)	1.751*** (0.003)
year2017	0.903*** (0.005)	0.884*** (0.005)
problem_etension		0.141*** (0.005)
problem_intconflict		-0.069*** (0.003)
Dummy for problematic origin countries		0.000 (0.000)
Observations	1,528	1,528
Number of iso3num_o	115	115
Origin fixed effects	Yes	Yes

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. all explanarory variables are lagged by one period; '*major*': Syria, Iraq, Afghanistan, Bosnia and Herzegovina, Serbia, Macedonia, Albania, Georgia, Russia, Turkey, Somalia, Nigeria, Eritrea, Pakistan; '*problem*' : India, Pakistan, Bangladesh, Lebanon, Algeria, Egypt, Morocco, Mali, Nigeria, Niger, Ethiopia, Tunisia, Ghana, Guinea, Guinea-Bissau, Burkina Faso, Benin.

**Table B3: Asylum requests by recognition groups**

<u>Dependent variable:</u>	(1)	(2)	(3)
Bilateral asylum requests	Asylum	Asylum	Asylum
<u>Explanatory variables:</u>	Hrecog	Mrecog	Lrecog
Recognition_rate	0.018*** (0.000)	0.016*** (0.000)	0.016*** (0.000)
Log migstock	0.429*** (0.004)	0.322*** (0.005)	0.345*** (0.004)
Population growth (annual %)	0.327*** (0.004)	0.340*** (0.004)	0.328*** (0.004)
Ratio_pcincome	-0.134*** (0.001)	-0.142*** (0.001)	-0.142*** (0.001)
SocioeconomicConditions	-0.121*** (0.002)	-0.093*** (0.002)	-0.084*** (0.002)
EthnicTensions	-0.102*** (0.003)	-0.314*** (0.004)	-0.125*** (0.003)
InternalConflict	-0.022*** (0.002)	-0.076*** (0.001)	-0.061*** (0.001)
Hrecog_etension	-1.528*** (0.014)		
Hrecog_intconflict	-0.138*** (0.002)		
Dummy for high recognition rates	0.000 (0.000)		
Average temperature, in celsius	0.141*** (0.003)	0.113*** (0.003)	0.120*** (0.003)
Average precipitation, in mm	0.018*** (0.000)	0.019*** (0.000)	0.018*** (0.000)
Year2015	1.289*** (0.003)	1.280*** (0.003)	1.259*** (0.003)
Year2016	1.776*** (0.003)	1.786*** (0.003)	1.758*** (0.003)
Year2017	0.903*** (0.005)	0.930*** (0.005)	0.895*** (0.005)
Mrecog_etension		0.303*** (0.005)	
Mrecog_intconflict		0.050*** (0.003)	
Dummy for medium recognition rates		0.000 (0.000)	
Lrecog_etension			-0.298*** (0.016)
Lrecog_intconflict			-0.140*** (0.005)
Dummy for low recognition rates			0.000 (0.000)
Observations	1,528	1,528	1,528
Number of iso3num_o	115	115	115

Origin fixed effects	Yes	Yes	Yes
Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1; all explanatory variables are lagged by one period:			
<u>'hrecog'</u> countries: Afghanistan, Iraq, Syria, Eritrea, Somalia			
<u>'mrecog'</u> countries: Pakistan, Turkey, Russia, Egypt, Nigeria, Ethiopia, Ghana, Guinea			
<u>'lrecog'</u> countries: Bosnia-Herzegovina, Georgia, Macedonia, Guinea-Bissau, Niger, Benin, Mali, India, Morocco			

**Table B4: Determinants of recognition rates**

<u>Dependent variable:</u>	(1)	(2)	(3)	(4)
Bilateral recognition rates	Recognition	Recognition	Recognition	Recognition
<u>Explanatory variables:</u>				
SocioeconomicConditions	0.088*** (0.011)	0.079*** (0.012)	0.083*** (0.011)	0.073*** (0.012)
EthnicTensions		-0.052*** (0.017)		-0.051*** (0.017)
ExternalConflict		-0.075*** (0.009)		-0.075*** (0.009)
GovernmentStability		-0.134*** (0.007)		-0.132*** (0.007)
InternalConflict		0.015* (0.008)		0.014* (0.008)
LawOrder		-0.266*** (0.025)		-0.268*** (0.025)
MilitaryinPolitics		-0.089*** (0.018)		-0.089*** (0.018)
ReligiousTensions		-0.029* (0.015)		-0.025* (0.015)
Year2015	0.180*** (0.030)	0.122*** (0.030)		
Year2016	0.450*** (0.025)	0.404*** (0.026)		
Year2017	-0.052* (0.031)	-0.102*** (0.032)		
Polrisk	-0.069*** (0.003)		-0.069*** (0.003)	
Changes in immigration policy			0.217*** (0.019)	0.168*** (0.019)
Observations	1,536	1,536	1,536	1,536
Number of iso3num_o	98	98	98	98
Origin fixed effects	Yes	Yes	Yes	Yes

Note: Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1