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Document de treball n.18- 2017

DEPARTAMENT D'ECONOMIA – CREIP
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UNIVERSITAT ROVIRA I VIRGILI

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Edita:

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www.fcee.urv.es/departaments/economia/public_html/index.html
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Adreçar comentaris al Departament d'Economia / CREIP

ISSN edició en paper: 1576 - 3382
ISSN edició electrònica: 1988 - 0820

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Trends in African Migration to Europe: Drivers Beyond Economic Motivations

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Abstract

The current migration and refugee crisis in Europe requires an understanding of the different migration drivers beyond the well-known economic determinants. In this paper, we view migration from a broader human security perspective and analyze the determinants of regular and irregular migration flows from Africa to Europe for the period 1990–2014. Our results show that, in addition to economic determinants, a combination of push and pull factors influence the migration decisions of individuals. In particular, rising political persecution, ethnic cleansing, human rights violations, political instability and civil conflicts in African source countries are all significantly associated with increased migration flows into European destination countries. Therefore, our results underscore the need for the EU and European countries to collaborate with the source countries, not only in terms of supporting economic development in the source countries, but also in promoting human security: human rights, democracy, peace and social stability.

Keywords: International migration; asylum seeker; refugee crisis; human security; Poisson Pseudo-Maximum Likelihood.
JEL classification: F22; O15

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1. Introduction

Migration and the refugee crisis are high on the policy agendas of European countries, from economic, security and social standpoints. In the current wave of migration, Europe is witnessing a mixed-migration phenomenon where a large number of economic migrants are joining asylum seekers in their journey to reach the European continent (Bertoli et al., 2013; Park, 2015). Each year hundreds of thousands of immigrants flow into Europe mainly from Africa, the Middle East, and South Asia.[1] With such a large number of migration inflows, European countries are said to have reached a breaking point in their ability to meet the European Union (EU) standards for receiving immigrants and facilitating asylum applications (Banulescu-Bogdan and Fratzke, 2015). Furthermore, the present-day migrant influx has imposed internal 'political fatigue', with nationalist parties gaining momentum in many EU member states and with security tensions rising due to terrorist-linked incidents in some countries (Park, 2015). On the other hand, thousands of people perish every year while attempting to cross the Mediterranean Sea (Telschow, 2014). These events have created mounting pressure on European governments, at least by rights groups, to work and spend more on rescue mobilizing missions to enable acceptance of a more substantial number of immigrants. Therefore, migration is now a prominent feature in the economic, social, and political landscape of European countries (Kerr and Kerr, 2011).

In response to these tense situations, European governments are actively working to cut the flows of migrants and asylum seekers across the Mediterranean in partnership with African governments (García Andrade and Martín, 2015). Accordingly, in the 'EU-Africa Declaration on Migration and Mobility of 2014', the EU and African countries pledged to address the causes of illegal migration through coordinated efforts to provide job opportunities, higher education and technological skill transfer for the youth within Africa. This strategy enables the EU to closely cooperate with African governments, including authoritarian ones, which are accused of severe human rights violations and political persecution.[2]

It is noteworthy that all these actions by European governments show a broad consensus that economic migration is the principal reason for migration from Africa to Europe. In fact, the 'South-North' migration literature documents that per capita income differences or wage gaps between the origin and the destination countries are

[1] According to the United Nations High Commissioner for Refugees UNHCR (2015), more than 487,000 migrants and refugees arrived in Europe crossing the Mediterranean in the year 2015 and 362,753 in the year 2016. Retrieved from: http://data2.unhcr.org/en/situations/mediterranean.

[2] See EU plans Africa cash-for-cooperation migration deal.

a significant predictor for the intensity of migration flows (e.g., Clark et al., 2007; Lewer and Van den Berg, 2008; Mayda, 2010; Simpson and Sparber, 2010; Bertoli et al., 2013; Bertoli and Moraga, 2013; Collier, 2013; Ortega and Peri, 2013; McKenzie et al., 2014).

Notwithstanding, in the current Africa to Europe migration flows, the human security factors appear particularly relevant. Indeed, human rights groups have repeatedly mentioned that migration policies fail to adequately address human rights violations in countries of origin (Castles, 2004). Flahaux and De Haas (2016) argued that in the case of migration from Africa, strategies are proposed based on 'assumption, selective observation or journalistic impressions rather than on sound empirical evidence.' However, the human security factors in African migration have remained mostly absent from the macroeconomic literature about the determinants of migration. Therefore, policies that enhance economic growth in the source countries would have specific, but limited, effects on overall volumes and trends of migration (De Haas, 2011).

In this context, the current approach aims at providing some insights by estimating the broader determinants of the 'South-North' migration from a human security point of view. Specifically, the present paper contributes to the existing body of literature on international migrations in three ways. First, as aforementioned, while previous research on international migration flows focuses mainly on economic factors, we analyze international migrations from a broader human security perspective. Human security is taken here at its most basic level. It includes freedom from fear (threats to the safety of people), freedom from want (threats to basic needs), and freedom to live in dignity (threats to human rights and by extension access to services and opportunities) (see, for instance, Anand, 1994, Gómez and Gasper, 2013). We also consider some common themes that provoke migration and displacement, including wars, civil conflict, economic deprivation, violation of human rights and oppressive regimes (Erdemir et al., 2008).

Second, instead of considering all OECD countries (see Mayda, 2010, Beine et al., 2011, Ortega and Peri, 2013, among others), we study the flow of new migrants from Africa into Europe between 1990 and 2014 and hence focus on countries that are profoundly affected by the recent surge in the number of immigrants. Additionally, it is noteworthy that European countries are geographically and culturally closer to Africa than the rest of the developed countries such as the US, Canada, Australia and Japan. Therefore, although African migrants are still overwhelmingly located within Africa, in the case of extra-continental migration, Europe is the main continent of destination for African migrants (Flahaux and De Haas, 2016). Furthermore, the African immigration into Europe is rising dramatically (Kohnert, 2007, Aiyar et al.,

2016). This fact also permits us to carefully examine the impact of both economic and human security factors on trends in African immigration into Europe. To this end, we develop a new panel dataset on bilateral migration flows for a large number of the destination (21 European) and source (51 African) countries for the period 1990–2014. To the best of our knowledge, this is the first paper to empirically analyze determinants of trends in African migration using such a large number of European destination countries.

Third, the existing empirical literature on bilateral migration largely focuses on the regular migration trends, either the flow of labor migrants or migrant stocks, by excluding refugees, asylum seekers and illegal immigrants (e.g., Ortega and Peri, 2009; Mayda, 2010; Fitzgerald et al., 2014). However, a logical corollary is that restrictive immigration policies of the destination countries would lead migrants to resort to irregular migration channels (Castles, 2004; De Haas, 2007, 2011). Consequently, a large number of African migrants attempt to enter the European countries through illegal channels by risking their lives undergoing human smuggling and trafficking. In order to incorporate the irregular migration trends, this paper studies the bilateral migration trends, not only using the legal migration, but also by considering the flow of asylum seekers. It is noteworthy that this approach is typically important in the study of non-economic determinants of migration and for dealing with the African forced-migration trends that takes place in the absence of human security.

Our results show that human security factors are significant determinants of 'South-North' migration. In accordance with the existing literature, income gaps between African and European countries remain a strong determinant of migration flows. However, income gaps are not the only important reason for the rise in the migrant flows to Europe: broader human security factors in Africa are equally important determinants of both regular and irregular migration trends. Indeed, we find that poverty, violent civil conflicts, political persecution, human rights abuses and ethnic tensions have a substantial influence on migration across our entire set of specifications. These results are robust when considering the illegal migration trends using the flow of asylum seekers as an alternative dependent variable.

The rest of the paper is organized as follows. Section 2 provides the theoretical model of migration choices and the empirical specification. Section 3 describes our data in detail. Section 4 presents the results and Section 5 concludes.

2. Migration Model and Empirical Specification

2.1. ***Theoretical framework***

As aforementioned, economic deprivation, political persecution, poor governance, ethnic cleansing, structural violence and conflicts in the source countries are considered as the main factors of migration decision-making. Additionally, economic, social and political enabling environments in the host countries are taken as the pull factors. In this sense, De Haas (2011) strongly argues that 'on the macro-level, migration processes are driven by a multitude of economic and non-economic factors and, on the micro-level, migrants are motivated by a combination of multiple, interconnected but analytically distinct social, cultural, economic and political factors.' Therefore, migration decisions should be viewed as a process of location choices (staying at home or moving to an optimal destination) in which individuals form expectations about where they will have better opportunities and protections, in order to maximize their utility.

Accordingly, taking as a starting point the random utility maximization (RUM) theoretical models developed by Beine et al. (2011), Grogger and Hanson (2011) and Ortega and Peri (2013), in which income maximization problems or wage differentials are a driving force to make a migration decision, we emphasize the broader human security conditions. Specifically, we analyze a more substantial number of political and socio-cultural factors that may influence the individual's decision to move from his/her current location. Furthermore, instead of considering a unique destination, our model considers multiple destinations.

Formally, out of the set of N global countries, the individual i from his source country $s \in S = s_1, s_2.....s_n$, where $S \subseteq N$, makes a decision of whether to stay in s or to migrate to the destination country $d \in D = d_1, d_2...d_n$, where $D \subseteq N$. It is noteworthy note that as indicated in Kennan and Walker (2013) among others, individuals are assumed to have rational expectations. Thus, they make an informed decision to migrate in seeking their maximum utility. Therefore, following Ortega and Peri (2013), we formulate a utility function u of the individual i by staying in the source-country s or by migrating into the destination country d that are given by (1) and (2), respectively,

$$u_{ssi} = \gamma_{ss} + \pi_{ss} + \nu_{ssi}, \tag{1}$$

$$u_{sdi} = \gamma_{sd} + \pi_{sd} + \nu_{sdi}. \tag{2}$$

The terms $\gamma_{ss}(\gamma_{sd})$ and $\pi_{ss}(\pi_{sd})$ are country-of-source (country-of-destination) specific variables, which capture the average earnings and security of individual

i by staying in home country s (leaving for destination country d), respectively. Furthermore, the individual-specific terms ν_{ssi} and ν_{sdi} denote unobserved components of an individual's utility in each source and destination country, respectively. These random variables ν_{ssi} and ν_{sdi} are assumed to be identically and independently distributed as type-I extreme values across locations and periods.

The migration costs also determine the magnitude of utility for a migrating individual. Let C_{sdi} denote the total cost of migration from country s to country d for individual i. These relocation costs are also influenced by specific features between the source and host countries such as culture, language, geographic distance, and the attractiveness or accessibility and entry policies of host-countries (Ortega and Peri, 2009; Beine et al., 2016 and Bertoli and Moraga, 2015). Therefore, each individual acts to maximize the expected present value of the realized payoffs, net of moving costs. For this minimization, we consider that

$$\gamma_{sd} = h_1(W_{di})$$

and

$$\pi_{sd} = h_2(F_{di}),$$

where W_{di} is the present value of expected earnings in the form of wage, and F_{di} is the level of freedom that an individual i enjoys by staying in the destination country d. Note that the probability of an individual immigrant settling in the destination country with the expected human security gains depends on the socio-economic and political stability of the destination country. Thus, to capture this situation, we introduce a binary function $\lambda(\varpi, f)$, where ϖ is employment probability, and f denotes the chances of individual i being protected by moving to country d. Accordingly, $\lambda(\varpi, f) = 0$, if the individual migrant is not employed or does not get the expected protection and security; and, $\lambda(\varpi, f) = 1$, if the migrant individual gets employed and enjoys legal and political protections in the hosting country. Henceforth, the utility function is formally represented as

$$u_{sdi} = \lambda(\varpi, f)(h_1(W_{di}) + h_2(F_{di})) - g(C_{sdi}) + \nu_{sdi}.$$

It is noteworthy that a fairly general stochastic specification is considered in the above equations. The rationale behind this assumption is that there would be expected differences between prospective migrants and non-migrants. However, in many aspects, it is difficult to measure these differences since prospective migrants may differ in their talents, attitudes toward risk, financial liquidity and insurance, human rights abuses, psychological costs of living abroad, etc. (Kennan and Walker, 2013, Ortega and Peri, 2013). Note that $\nu_{ssi} = \epsilon_{ssi}$ is a stochastic term for the

saty-at-home utility function. However, for each $d \in D_s$, the term ν_{sdi} comprises two uncorrelated error terms: $\nu_{sdi} = \zeta + \epsilon_{sdi}$, where ζ is drawn from a probability distribution with mean zero. These individual random effects are correlated, i.e., utility of migrants in a given destination country can interact. The random variables ϵ_{ssi} and ϵ_{sdi} are all identically and independently distributed as type-I extreme value. Using the nested logit model approach of McFadden (1978), which allows for more general substitution patterns, it is possible to get a closed-form solution for choice probabilities of staying in the source country (P_s) or migrating to the destination (P_d).

The probability of an individual staying in the source country s is given by

$$P_s = \frac{e^{\gamma_{ss}+\pi_{ss}}}{e^{\gamma_{ss}+\pi_{ss}} + (\frac{\sum_{q\in D} e^{\gamma_{sd}+\pi_{sd}}}{T})^T}, \tag{3}$$

where T is a discordance parameter and controls for the degree of correlation across the stochastic terms in the equations. As Ortega and Peri (2013) argue, the setting $T = 1$ coincides with zero correlation, which obtains an expression for the log odds ratio of the logit model. Assuming that there will be a non-negative correlation in the error terms in our destination equations, then T will take a value $0 < T < 1$.

The probability of an individual migrating from the source country s to the destination country d is given by

$$P_d = \frac{(\frac{\sum_{q\in D} e^{\gamma_{sq}+\pi_{sq}}}{T})^T}{e^{\gamma_{ss}+\pi_{ss}} + (\frac{\sum_{q\in D} e^{\gamma_{sq}+\pi_{sq}}}{T})^T} \frac{\frac{e^{\gamma_{sd}+\pi_{sd}}}{T}}{\frac{\sum_{q\in D} e^{\gamma_{sq}+\pi_{sq}}}{T}}. \tag{4}$$

Accordingly, the odds ratios between staying in a home country and migrating into a destination country ($ln\frac{P_d}{P_s}$) is obtained as

$$ln\frac{P_d}{P_s} = \frac{\gamma_{sd} + \pi_{sd}}{T} - \gamma_{ss} + \pi_{ss} - (1-T)(ln\frac{\sum_{q\in D} e^{\gamma_{sq}+\pi_{sq}}}{T}) \tag{5}$$

The migrants' decision to move to two different destination countries depends on the relative attractiveness of the destinations. Hence, the proportion of migrants going to d_1 or d_2 is given by the logit model odds ratio in

$$ln\frac{P_d1}{P_d2} = ln\frac{\gamma_{sd1} + \pi_{sd1}}{\gamma_{sd2} + \pi_{sd2}}. \tag{6}$$

The proportion of people who choose to migrate into destination country d as compared to the total number of potential migrants from the source country s is denoted by $P_d = (n_{sd}/\sum_{q=1}^{D} n_{sq})$, where n_{sq} is the number of individuals born in country s who decided to live in country q. Following this logic, we can rewrite (5) as

$$ln(n_{sd}) = ln(n_{ss}) + \frac{\gamma_{sd} + \pi_{sd}}{T} - \gamma_{ss} + \pi_{ss} - (1-T)(ln\frac{\sum_{q\in D} e^{\gamma_{sq}+\pi_{sq}}}{T}). \quad (7)$$

It is noteworthy that in (7), all quantities in the right-hand-side, except $\gamma_{sd} + \pi_{sd}$, are constant across destinations and vary by the source country only. By considering variations over time, individual migrants may be exposed to different levels of economic benefits and social, legal and political protections in different destination countries. Furthermore, to deal with a time-specific migration choice decision (as a consequence of the relative attractiveness of the destination countries and the proportion of migration flows towards these nations, Ortega and Peri, 2013), (7) can be rewritten as

$$ln(n_{sdt}) = ln(n_{sst}) + \frac{\gamma_{sdt} + \pi_{sdt}}{T} - \gamma_{sst} + \pi_{sst} - (1-T)(ln\frac{\sum_{q\in D} e^{\gamma_{sqt}+\pi_{sqt}}}{T}), \quad (8)$$

where t denotes the time period.

In a similar way, the share of people who choose to stay in the home country, provided the pushing factors, is denoted by $P_s = n_{ss}/\sum_{q=1}^{D} n_{sq}$. Then, the probability of individuals staying in the source country over multiple periods, given the pushing factors from the home country and the potential probability to migrate into d, is given by

$$ln(n_{sst}) = ln(n_{sdt}) + \gamma_{sst} + \pi_{sst} - \frac{\gamma_{sst} + \pi_{sst}}{T} - (1-T)(ln\frac{\sum_{q\in D} e^{\gamma_{sqt}+\pi_{sqt}}}{T}). \quad (9)$$

2.2. ***Empirical specification***

Our empirical specification, which is obtained from (8) and (9), is formally given as

$$ln(n_{sdt}) = \beta_{0_{sdt}} + \beta_1\gamma_{sdt} + \beta_2\pi_{sdt} + \epsilon_{sdt}, \quad (10)$$

where $\beta_{0_{sdt}}$ stands for source-by-year and destination-by-year fixed effects, which vary over time and by countries of source and destination. The term ϵ_{sdt} is an error term capturing various unobserved factors of the approximate probabilities in the estimation sample. The empirical specification in (10) is similar to a pseudo-gravity model of international migration, which considers the logarithm of bilateral migration flows as a function of country fixed effects with respect to source and destination countries and general migration costs (see, for example, Mayda, 2010, Bertoli and Moraga, 2013, Ortega and Peri, 2013, McKenzie et al., 2014, Beine et al., 2016). It is noteworthy that we also consider the logarithm of asylum seekers flows to estimate the irregular migration trends.

In order to represent an individual's utility concerning human security (survival, livelihood and dignity) at the core of the analysis, we specify the variables that determine international migration, and assume the following:

$$\gamma_{sdt} + \pi_{sdt} = \alpha_s + \alpha_d + \alpha_{dt} + \beta_1 W_{sdt} + \beta_2 F_{sdt} + \beta_3 X_{sdt} + \theta Z_{sd}, \tag{11}$$

where α_s denotes time-invariant source-specific push factor fixed effects. Similarly, α_d and α_{dt} are time-invariant destination-specific pull factors and destination-country fixed effects, respectively. Hence, the fixed effects capture the role of amenities, destination-specific cost heterogeneity as well as variables that may change through time (essentially immigration policy, culture and attitudes towards immigrant community) that affect the choices made by the immigrants. Although our primary focus is on human security factors at the source, in some specifications we also consider particular pulling factors. As Beine et al. (2016) argue, these alternative approaches to control multilateral resistance to migration helps to generate unbiased estimates using the gravity equation.

In (11) a vector W_{sdt} represents the value of expected earnings in the source country s and the destination country d in year t. In this case, the income differential is measured using per capita GDP of countries s and d. The vector F_{sdt} is a levels of freedom (free from all forms of violence or political persecution) in the source country s and the destination country d that vary over time t. To estimate the effect of freedom on migration decision, we consider a number of proxy variables. These include political stability (internal and external conflicts), institutional qualities (government stability, law and order, corruption and bureaucratic quality), ethnic tensions and religious tensions (fractionalization and polarization), democracy, autocracy, political rights and civil liberties of source countries. Moreover, the vector X_{sdt} represents other control variables, notably, the socio-economic factors such as urbanization, population age, and unemployment rate. The vector Z_{sd} stands for country-pair overall migration costs that affect migration decisions. These time-

invariant bilateral costs include geographic distance, common language, common legislation, colonial legacy, etc.

Finally, we estimate the regular and irregular migration flows separately. In doing so, the dependant variable $M_{t+1,sd}$ measures the flow of regular immigrants from the source country s to the destination country d at time $t+1$ (see 12). The second dependent variable AS_{t+1}, sd measures the flow of irregular migration (asylum seekers) (see 13).

$$ln(M_{t+1,sd}) = \beta_1 ln(W_{sdt}) + \beta_2 F_{sdt} + \beta_3 X_{sdt} + \theta Z_{sd} + \alpha_s + \alpha_d + \alpha_{dt} + \epsilon_{sdt}. \quad (12)$$

$$ln(AS_{t+1,sd}) = \beta_1 ln(W_{sdt}) + \beta_2 F_{sdt} + \beta_3 X_{sdt} + \theta Z_{sd} + \alpha_s + \alpha_d + \alpha_{dt} + \epsilon_{sdt}. \quad (13)$$

Note that we use similar determinants for both regular and irregular immigration flows. In both equations, the ϵ_{sdt} is the error term, and β and θ are the coefficients to be estimated.

3. Econometric Methodology and Data

3.1. ***Methodology***

In this paper, we study international migration flows through the gravity model of trade, which is commonly used to study the effect of trade liberalization on bilateral trade flows. This model specifies international trade as a positive function of the attractive 'mass' of two economies and a negative function of the distance between them. Due to the flexibility of this model, the gravity micro-foundation can be applied to a wide range of bilateral flows including international migration (e.g., Lewer and Van den Berg, 2008, Mayda, 2010, Beine and Parsons, 2015, Figueiredo et al., 2016).

It would be feasibly to estimate gravity models by means of the OLS estimation method. However, migration between pairs of countries may be zero in a substantial percentage of observations, and omitting those zero observations biases the regression results. In this sense, due to the fact that (12) and (13) are a pseudo-gravity model in a double log form, we have a high proportion of zero values in the dependent variables $M_{t+1,sd}$ and $AS_{t+1,sd}$. Hence, standard regression methods, such as the OLS, require omitting observations with zero values, which leads to inconsistent estimates of the coefficients due to selection bias. A second source of bias is related to the fact that if the variance of ϵ_{sdt} depends on the covariances of $\frac{M_{t+1,sd}}{M_{t+1,ss}}$ or $\frac{AS_{t+1,sd}}{AS_{t+1,ss}}$,

then each expected value will also depend on some of the regressors in the presence of zeros (Silva and Tenreyro, 2006). These methodological shortcomings of gravity models can be addressed using the Poisson Pseudo-Maximum Likelihood (PPML) estimator, which is particularly suitable in regressions where the dependent variable has a significant proportion of zero values (Beine and Parsons, 2015).

Henceforth, we estimate (12) and (13) by means of the PPML estimator for panel gravity models with time-varying origin and destination fixed effects and time-invariant pair fixed effects.

3.2. ***Data and variables***

We construct a new panel dataset with information on migration flows and asylum seeking as well as on several macroeconomic, political and institutional factors covering 21 European countries of destination and 51 African countries of origin from 1990 to 2014 (see the list of countries in Tables A.1 and A.2 of Appendix Appendix A). There are two rationales for choosing the period 1990-2014. First, bilateral migration data availability in our sample source and destination countries in the pre-1990 period is highly limited. Hence, lack of data constrains us to focus on the post-Cold-War years. Second, the post-1990 migration movements are of interest in many aspects. In the trends of international migration towards Western Europe since the Second World War, there are three distinct periods: (1) the labor migration from the 1950s till the beginning of the 1970s; (2) the family migration in the mid-1970s, and (3) the 'third wave' of the international movement that emerged in the post-Cold War era (Geddes and Scholten, 2016). It is noteworthy that there has been a marked surge in the number of immigrants, especially asylum seekers, to Europe since the early 1990s. Additionally, this period also allows us to consider some of the former former Eastern European countries, where data are typically available after 1990.

In the following two sub-sections, we describe in detail the dependent and explanatory variables that we use in the current study. Specifically, we first present the sources and the construction of migration data, both regular flows and asylum seekers, which are our alternative dependent variables. Subsequently, we discuss the explanatory variables, which include several economic and political determinants of international migration (Table 1 reports summary statistics for these variables).

Table 1: Summary statistics

Variables	N	mean	sd	min	max
Bilateral Migration flow	26,775	260.5	1,815	0	84,978
Bilateral Asylum seekers	26,775	74.7	369.6	0	15,819
GDP per capita destination (in thousand)	26,723	31,624	21,429	1,445	116,664
GDP per capita source (in thousand)	26,670	1,624	2,709	64.81	23,348
Urban population at source (in thousand)	26,712	606,591,8	956,926,5	34,481	83,300
Urban population at destination (in thousand)	26,775	16,000	17,800	231,255	615,000
Young population at source (in thousand)	26,775	298,949,9	354,437,9	1,014	2,160
Unemployment rate at destination	25,704	7.860	4.360	1.500	27.20
Political Stability at source	26,775	31.13	21.22	0	67
Political Stability at destination	26,775	81.68	5.836	61	92
Common language	26,775	0.133	0.339	0	1
Colonial ties	26,775	0.0523	0.223	0	1
Distance	26,250	5,699	2,076	716.6	16,632
Hegemony	26,775	0.0467	0.211	0	1
Common legislation	26,775	0.284	0.451	0	1
Ethnic Fractionalization at source	24,150	0.615	0.267	0.0500	0.959
Ethnic Polarization at source	24,150	0.527	0.209	0.0140	0.897
Civil conflict at source	26712	.2106918	.4078076	0	1
Political Regime Characteristics at source	26,775	0.231	5.456	-9	10
Political rights at source	26,775	0.392	0.488	0	1
Civil liberates at source	26,775	0.471	0.499	0	1
Government stability at source	19,425	2.756	1.867	0	1
Socio-economic conditions at source	19,425	3.982	1.649	0	8
Corruption at source	19,425	2.406	0. 962	0	5
Law and order at source	19,425	3.089	1.182	0	6
Democratic accountability at source	19, 425	3.021	1.286	0	6
Bureaucracy quality at source	19,425	1.379	0.892	0	4

Note: N, mean, sd, min and max represent number of observations, mean, standard deviation, minimum and maximum, respectively.

3.2.1. ***Migration flows and asylum seeking***

The main dependent variable in (12) is the logarithm of the annual migration inflows from the source country s to the destination country d, $M_{t+1,sd}$. These migration data measures the yearly inflow of foreign-born population by nationality into the hosting countries. Note that the inflow migration data exclude temporary visitors with a tourist visa or people who travel for reasons of study, medical and business purposes.[3]

[3] In practice, national definitions of migration vary. However, the United Nations (1998) defines an international migrant as any person who changes his or her country of usual residence for long or short terms. According to this definition, an international migrant who changes his or her place of usual residence for at least one year is defined as a long-term migrant, while a person who changes his or her place of usual residence for more than three months but less than one year is considered to be a short-term migrant.

To construct the migration inflow series, we use two complementary data sources, which help us to cover the entire sample period. The first source is the 2015 update of the international migration flows data of the International Migration Report (IMR) of the United Nations (United Nations, 2015). This database contains time series data on the flows of international migrants as recorded by 45 destination countries.[4]

This database considers legal migration only and presents both inflows and outflows according to the place of birth, citizenship, place of previous or next residence, both for foreigners and nationals, as reported by each country's national agencies in charge of collecting migration data. For most African source countries, the database covers the period from the early 1990s till 2013, despite missing data for some bilateral countries. The second source of data is the OECD 'International Migration Database' (IMD), which comprises migration inflows data starting from the mid-1990s up to 2014.[5] Similar to the IMR, IMD contains time-series data on the inflows of foreign populations into 35 OECD countries for which data are available. However, IMD has a broader coverage than IMR.

In order to merge these two databases, it is critical to ensure that the two databases have uniform definitions of migration. The majority of the destination countries report migration data that are collected from a population register or are based on the number of residence permits issued. We observe that in most cases these databases embrace overlapping figures where data are available. Hence, our final migration inflow series is constructed mainly by using IMD, which has a broader coverage of countries and periods. The IRF data are used to fill missing values. In rare cases, we fill missing data using simple averages between data of the previous year and the following year.

Fig. B.1 in Appendix Appendix B shows the trend in migration flows from Africa to Europe. In general, there has been a significant rise in the number of Africans migrating to the selected European destination countries. Closer observations of the data reveal that African immigrants are highly concentrated in a few Western European nations. The African migration trend map in Fig. B.2 in Appendix Appendix B displays that the major destinations of African migrants over the years are France, Italy, Spain and the United Kingdom, although a considerable number of Africans have also migrated into Belgium, Germany, and Sweden. A large number of African immigrants in France and the United Kingdom is partly related to the fact that about 65 percent of the contemporary African nations are former colonies

[4] See list of countries and the data at http://www.un.org/en/development/desa/population/migration/data/empirical2/migrationflows.shtml.

[5] The data is available at https://stats.oecd.org/Index.aspx?DataSetCode=MIG.

of these two countries. It is known that colonial ties increase migration flows by creating, for example, common official languages, cultural attachments, social networks and business relations. Southern European countries, such as Italy and Spain, did not have many African colonies, and hence have weaker colonial ties with African countries. African migrants inflows into these Mediterranean countries was probably induced by their strong economic performance since the 1980s, as well as their growing economic integration with other European nations (Bonifazi et al., 2009 and Ortega and Peri, 2013). Furthermore, geographical proximity attracts immigrants due to lower migration costs. As Fig. B.2 shows, from the 1990s onward sizable communities of immigrants in Italy come from North African countries. In particular, the Moroccans are at top the list of African migrants since 1992 (Bonifazi et al., 2009). Furthermore, many of the immigrants use Southern European countries as a transition point to move to Western European countries.

As an alternative dependent variable, we use data on yearly inflows of asylum seekers into the above indicated European hosting countries by African country of origin from 1990 to 2014. Utilizing the asylum seeking data helps to address two crucial issues. First, the widely-applied migration inflow data comprise the regular or legal inflow of immigrants into the hosting countries only. As a result, the database omits the significant number of irregular/illegal immigrants, which are the primary source of the refugee crisis in Europe.[6] Second, we check the robustness of our results on the political determinants of extra-continental migration by using the asylum seeking data.

Data on the inflow of asylum seekers come from the IMD database. The statistics on asylum seekers that are incorporated into the IMD database are based on data provided by the United Nations High Commission for Refugees (UNHCR). The UNHCR regularly produces complete statistics on refugees and asylum seekers in OECD countries and worldwide.[7] In some cases, we also use the original UNHCR

[6] The tightness of immigration laws of European countries for African citizens exposes the majority of African immigrants for smuggling and human trafficking in the process of entering Europe, critically risking their lives (Castles, 2004; De Haas, 2007; De Haas, 2011).

[7] These figures are most often derived from administrative sources, but differences are dependant on the nature of the data provided. In some countries, asylum seekers are enumerated when the application is accepted. Consequently, they are shown in the statistics at that time rather than at the date when they arrived in the country. Acceptance of the application means that the administrative authorities will review the applicant's claims and grant them certain rights during this review procedure. In other countries, the data do not include the applicant's family members, who are admitted under different provisions (e.g., France), while other countries count the entire family (e.g., Switzerland).

database to complement missing data.[8]

Fig. B.3 in Appendix Appendix B exhibits the inflow of asylum seekers into the destination countries. Some of the series show an upward trend of asylum seeker flow into many European countries: France, Germany, Italy, Sweden, Switzerland and the United Kingdom. Fig. B.4 in Appendix Appendix B also shows that the annual inflow of African asylum seekers has markedly risen in Germany since 2010. Statistical reports indicate that among industrialized countries, Germany receives the most asylum claims, overtaking the US in 2013. Additionally, Italy is a significant entry point for African refugees. Despite being stricken by the Euro-zone crisis (Mody and Sandri, 2012), tens of thousands of asylum seeker migrants continue to board overcrowded and unsafe boats heading to Italy, putting their lives in grave danger.

3.2.2. ***Economic and political determinants of migration***

To substantiate the effects of the broad human security factors of international migration, we consider the economic, political and social determinants of migration as explanatory variables.

Economic Factors: As mentioned above, a large body of literature documents that a significant difference in the average income in terms of average GDP per capita (GDPPC) between the origin and destination countries is a principal determinant of international migration. In other words, relatively lower personal income at the source countries in comparison with per capita income at the destination countries motivates potential immigrants to decide to migrate. In our context, hence, the actual economic deprivation and abject poverty of most African countries likely have an enormous push effect on the migrants and refugees of Africa. On the other hand, economic development and relatively high personal incomes in Europe attract immigrants. To capture the impact of economic drivers in the Africa to Europe migration flows, we use the logarithm GDPPC in the source and the destination countries.[9] Our primary source of the GDPPC data is the 'National Accounts Main Aggregates Database' of the Economic Statistics Branch of the United Nations Statistics Division.[10] Moreover, we also incorporate other economic and demographic determinants of bilateral migration as additional control variables.

Political Factors: The African migration flow is profoundly influenced by the political set-up of the continent. The African political condition, in general, is characterized by historical injustices and oppressive governance structures (Ongayo,

[8] Downloadable at www.unhcr.org/figures-at-a-glance.html.
[9] Adjusted by Purchasing Power Parity, PPP (at constant 2005 prices in US Dollars).
[10] See at https://unstats.un.org/unsd/snaama/introduction.asp.

2008). Since their independence, many states have witnessed civil wars, large-scale mass killings of civilians, and other forms of direct political violence for decades (Dunn, 2009). Furthermore, the contemporary African political set-up is profoundly influenced by ethnic identity. The inter-ethnic relationships in Africa, especially in the political arena, are associated with competition, exclusiveness, the prevalence of genocidal violence and conflicts among ethnic groups (Berman, 1998 and Daley, 2006). On top of the political violence and instabilities, human and democratic rights violations are prevalent across the African continent (Mutua, 2009). Furthermore, due to the overly repressive character of the regimes, the majority of African countries have been receiving the lowest rankings on political rights and civil liberties for decades.[11] These preceding events have made Africans vulnerable to displacement, including migration within and emigration from the continent.

Consequently, we use some indices to estimate the effects of political factors on the bilateral migration flows. To measure political instability, we use the civil conflict incidence, which is an indicator variable that takes a value of 1 if there is a new or existing conflict in year t, and 0 otherwise. We obtain the data on conflict incidence from the Armed Conflict Database of the Uppsala Conflict Data Program (UCDP) and the Peace Research Institute of Oslo (PRIO).[12] This database codes armed conflicts at a low threshold of 25 battle-related deaths per year in conflicts where there is the use of armed force between two parties, of which at least one is the government (Pettersson and Wallensteen, 2015).

Additionally, ethnic fractionalization and polarization indices in the source African countries provide insights about political stability. While the index of ethnic fractionalization measures the probability that two randomly selected individuals in a country will belong to different ethnic groups, the ethnic polarization indexes measure the normalized distance of a particular distribution of ethnic groups from a bimodal distribution. Data for both ethnic fractionalization and polarization indices are obtained from Montalvo and Reynal-Querol (2005).

To assess how the characteristics of the political regimes affect the bilateral migration flows, we use indicators for democratic and autocratic patterns of authority. In the Polity IV database, the polity series contains coded annual information on the level of democracy for all independent states, which is computed by subtracting the autocracies score (-10 denotes strongly autocratic) from the democracies score (+10 denotes strongly democratic) for each year and country.[13]

[11] See https://freedomhouse.org/regions/sub-saharan-africa.

[12] The data are available at: www.pcr.uu.se/data/

[13] Polity's conclusions about the level of democracy of a state are based on an evaluation of the

Furthermore, we test the effect of civil liberty and political rights variables on bilateral migration, which is measured on a scale from 1 to 7 (where 1 represents the highest levels of liberties and political rights, whereas 7 indicates the lowest level). The data source for this variable is Freedom House (2016).[14]

To examine the effect of overall political stability of the countries on bilateral migration flows, we use the political risk index from the International Country Risk Guide (ICRG) dataset. The Political Risk rating includes 12 weighted variables covering both political and social attributes. The risk components include Government Stability, Socioeconomic Conditions, Investment Profile, Internal Conflict, External Conflict, Corruption, Military in Politics, Religious Tensions, Law and Order, Ethnic Tensions, Democratic Accountability, and Bureaucracy Quality. In the dataset for each of the political risk component, the minimum number of points that can be assigned to each component is zero, while the maximum number of points depends on the indexed weight that component is given in the overall political risk assessment. In every case, the lower the total risk point, the higher the risk, and vice versa (Howell, 2011). In the analysis, we use both the aggregated and disaggregated components as measures of political stability.

Finally, we also consider proxies for migration costs using geographical and cultural distances. Mainly, we use bilateral geographical distances between the two capital cities (in kilometres) and dummy variables for the common language, common legal origin, colonial ties (if a source country is a former colony of a destination), and hegemony (for a post-colonial relationship). These variables are widely used in the migration literature as important determinants of migration decision (see, for instance, Taylor, 1994; Leblang et al., 2009; Kim and Cohen, 2010; Mayda, 2010; and Ortega and Peri, 2013).

4. Results

In this section, we discuss the empirical results on the determinants of migration flows from Africa to Europe using data on both regular and irregular migration flows. First, we discuss determinants of the formal migration flows from African countries to Europe as specified in (12). Subsequently, we deal with the informal flows using asylum seekers as a dependent variable as defined in (13).

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elections of competitiveness and openness of the state, the nature of political participation, and the extent of checks on executive authority (Marshall et al., 2012).

[14] See https://freedomhouse.org/report-types/freedom-world.

4.1. ***Baseline Results***

In (12), our dependent variable is the log of annual migration flows (+1) between bilateral countries. This logarithmic specification allows us to keep information on the zero-migration pairs (Ortega and Peri, 2013; Beine et al., 2016). Our main hypothesis, in this case, is that human security conditions significantly influence the international migration flows in different ways. Specifically, GDP per capita at the source and the destination countries are expected to have opposite effects on migration flows. While higher income per capita at the source country will have a decreasing effect on migration flows, income per capita at the destination country will have an increasing impact. Improvements in democratization and human rights protections (both political and civil rights) at the source country are expected to reduce the outflow of migrants, whereas civil wars, institutional autocracy and ethnic cleansing are expected to increase the rate of migration outflow. Concerning variables that proxy migration costs, geographical distance is expected to have a negative effect while a colonial tie or having cultural attachments (common official language, a common source of legislation and other post-colonial influences).

Table 2 presents the baseline results on the determinants of the regular migration flows from Africa to Europe. We consider all the economic and political indicators of human security together with indicators for the cost of migration that are discussed in the above as explanatory variables. In all the specifications, fixed effects are included.

Generally, the coefficients for all explanatory variables–except political rights and civil liberties–are statistically significant and carry the expected signs. Higher per capita income at the destination countries and civil conflicts, state autocracy, ethnic tension and population pressure at the source countries lead to higher migration flows, as expected. The control variables such as shared legal roots, common official language and colonial legacy positively impact on migration flows. Conversely, higher GDP per capita, democracy and the landlockedness of the source country decrease migration flows. Moreover, the larger the distance between the source and the destination countries reduces the bilateral migration flows.

To put results into the context of the estimated elasticities, we analyze the variables across specific models. In Table 2, while Column 1 controls for fixed effects of source-countries (α_s) and destination countries (α_d) only, Column 2 includes time-variant fixed effects as well. Results show that a 10 percent increase in the average income earned per person at the destination countries will lead to an increase of about 7 and 8 percent, respectively, in annual bilateral migration flows. Whereas, from the same columns, a 10 percent increase in per capita income at the source countries is associated with a 1 and 0.7 percent decrease in dyadic migration flows

(from source to destination countries), respectively. The results for the per capita income are consistent with the literature, e.g., Ortega and Peri (2013). Hence these results suggest that the higher average income level at the destination countries has strong pulling power on the migration flows compared to the potential reduction effects of income growth at the source countries. A possible explanation could be that the income levels at the source countries are substantially lower in absolute terms than at the destination countries.

Since our main emphasis is on the human security factors at the source countries, we use appropriate fixed effects (i.e., time-invariant source-countries (α_s) and time-variant destination-countries (α_{dt})) as Column 3 shows. Specifically, the results show that in this specification too an increase of per capita income at the source countries will lead to a decrease in migration flows. Concerning political determinants of migration, most of the variables exert statistically significant results with the expected signs. In particular, the incidences of violent civil conflicts at the source countries are a strong pushing factor, as reflected by the estimated elasticity. Similarly, an increase in the government's autocracy in the source countries, which is an indicator of the presence of political persecution or human rights violations, will lead to an increase in international migration flows. Democratization processes in the source countries, on the contrary, have a reducing effect on bilateral migration flows. Measures of social heterogeneity that show the level of ethnic diversity and tensions at the source are also found to be important determinants of migration flows. In comparison with ethnic fractionalization, ethnic polarization has a larger positive impact on migration flows, which reveals the presence of deep cleavages in the societies (Esteban and Ray, 2008). The remaining variables, which are the proxy for migration costs, are also highly significant and carry the expected signs. Specifically, those African countries that are farther away from Europe have fewer immigrants heading to Europe due to distance-related costs. On the other hand, variables of colonial ties, common legal roots, common official language, and other cultural attachments increase migration flows.

The remaining columns of Table 2 contain robustness check results. In Column 4 we add population pressure and landlockedness of the source countries to investigate their potential effects on migration flows. In this case, the results show that a 10 percent growth of population at the source countries induces a 0.9 percent increase in the number of migrants annually. Moreover, and as expected, the landlockedness of the source countries decreases migration flows. The rest of the explanatory variables (except for autocracy) remain almost unaffected. In Column 5 we estimate bilateral migration flows omitting the two main former colonial powers in Africa (the United Kingdom, and France). Once more, results on the main and control variables remain

Table 2: Determinants of African migration flows to Europe

Dependant Variable Log(1+Migration flows)							
Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Estimation method	PPML	PPML	PPML	PPML	PPML	PPML	PPML
Log GDP per capita destination$_{t-1}$	0.748***	0.810***					
	[0.112]	[0.141]					
Log GDP per capita source$_{t-1}$	-0.137***	-0.0679***	-0.0550***	-0.0584***	-0.0416***	-0.0446***	-0.0554**
	[0.0238]	[0.0159]	[0.0128]	[0.0134]	[0.0130]	[0.0122]	[0.0268]
Civil conflict source$_{t-1}$	0.0629***	0.0623***	0.0683***	0.0693***	0.0769***	0.0856***	0.0936***
	[0.0173]	[0.0115]	[0.0115]	[0.0115]	[0.0130]	[0.0131]	[0.0155]
Democracy Source$_{t-1}$	-0.00870***	-0.00439**	-0.00365*	-0.00362*	-0.00664***	-0.00257	0.00204
	[0.00294]	[0.00205]	[0.00218]	[0.00210]	[0.00204]	[0.00184]	[0.00535]
Autocracy Source$_{t-1}$	0.0325***	0.00208	0.00275*	0.00256	0.00605***	0.00693***	0.00132
	[0.00740]	[0.00176]	[0.00161]	[0.00157]	[0.00190]	[0.00202]	[0.00298]
Political rights Source$_{t-1}$	0.0629**	0.00764	0.0241	0.0244	0.0279	0.00937	-0.0457**
	[0.0295]	[0.0160]	[0.0201]	[0.0202]	[0.0212]	[0.0183]	[0.0214]
Civil liberties Source$_{t-1}$	-0.0252	-0.00293	0.00255	0.000902	-0.0100	-0.0160	-0.000369
	[0.0270]	[0.0125]	[0.0129]	[0.0122]	[0.0123]	[0.0103]	[0.0445]
Ethnic fractionalization source	0.118	0.210***	0.213***	0.719***	0.0650	0.0776	1.066***
	[0.0800]	[0.0456]	[0.0446]	[0.0482]	[0.0493]	[0.0549]	[0.0825]
Ethnic polarization source	1.568***	1.184***	1.181***	0.471***	1.179***	1.311***	1.361***
	[0.127]	[0.0695]	[0.0647]	[0.0940]	[0.0730]	[0.0748]	[0.170]
Log Distance	-0.0809***	-0.0814***	-0.0813***	-0.0815***	-0.111***	-0.0462*	-0.0745*
	[0.0206]	[0.0205]	[0.0203]	[0.0203]	[0.0167]	[0.0265]	[0.0414]
Common legislation	0.388***	0.389***	0.389***	0.389***	0.436***	0.439***	0.389***
	[0.00917]	[0.00915]	[0.00865]	[0.00865]	[0.0223]	[0.00953]	[0.0171]
Common language	0.512***	0.512***	0.510***	0.510***	0.530***	0.551***	0.512***
	[0.0220]	[0.0220]	[0.0218]	[0.0218]	[0.0260]	[0.0268]	[0.0523]
Colonial ties	0.355***	0.354***	0.356***	0.358***	0.0964***	0.348***	0.337***
	[0.0188]	[0.0187]	[0.0190]	[0.0196]	[0.0162]	[0.0197]	[0.0456]
Hegemony	0.160***	0.159***	0.160***	0.158***	0.769***	0.114***	0.158***
	[0.0276]	[0.0277]	[0.0273]	[0.0264]	[0.0417]	[0.0291]	[0.0524]
Log Urban Population source$_{t-1}$				0.0898**			
				[0.0406]			
Landlocked source				-0.199***			
				[0.0380]			
Constant	-4.017***	-5.228***	-1.358***	0.485	0.360*	-1.828***	-19.14***
	[0.987]	[1.096]	[0.202]	[0.638]	[0.203]	[0.255]	[1.439]
Observations	22,635	22,635	20,790	20,790	18,630	18,858	3,555
R-squared	0.615	0.641	0.708	0.708	0.714	0.702	0.711
Fixed Effects							
$Destination(\alpha_d)$	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$Sours(\alpha_s)$	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$Destination - year(\alpha_{dt})$	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	No	Yes	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	All	non-(UK + France)	SSA	5 years

Notes: results are obtained by using the Poisson Pseudo-Maximum Likelihood (PPML) estimation method.The estimation period is 1990-2014. Column 7 uses only years 1990, 1995, 2000, 2005 and 2010. Column 5 omits France and the United Kingdom; and column 6 considers the sub-Saharan Africa sub-sample. Standard errors in parenthesis are heteroskedasticity robust and clustered by year. Significance at the 1%, 5% and 10% level is indicated by ***, **, and *, respectively.

robust and highly significant. The results show that in the last two decades there have been patterns of diversification of European destinations for African migrants. As Fig. B.2 shows, African migrants increasingly prefer Germany, Belgium, Sweden, Norway, the Netherlands, Italy and Spain as destination countries in comparison to the former main colonial powers, i.e., the United Kingdom and France. Historically, due to geographical proximity, Europe is the main destination for North African migrants (Zlotnik, 1991; Flahaux and De Haas, 2016). However, in the last two decades, there has been a surge in the number of migrants from sub-Saharan Africa towards Europe. In Column 6 we estimate a sub-sample of sub-Saharan African migration trends by omitting the five North African countries from the full sample. The results show that the baseline estimation is still robust despite the number of observation being reduced by 9%. Column 7 presents estimation results of a sub-sample where five-years period are considered (1990-94, 1995-99, 2000-2004, 2005-2009 and 2010-2014). These results show that while an increase in income per capita at the source is still a relevant factor for reducing international migration flows, violent civil conflicts and ethnic tensions at the source increase rates of migration flows. Besides, improvements of political rights at the source decrease the rate of bilateral migration flows in the five-year intervals. These results show the robustness of our baseline findings.

In summary, our baseline results reveal that human security determinants are important factors in shaping the South-North migration trends in the past few decades. The estimation results suggest that African migration patterns towards Europe are significantly influenced by economic, political, social and cultural conditions. In particular, African extra-continental migrations are caused by poverty, civil wars, ethnic tensions, and civil and political rights violations. On the contrary, the results indicate that improvements in per capita income and political conditions at the source countries will reduce the rate of migration flows. On top of these factors, social, cultural, geopolitical and historical ties with European countries have a significant impact in influencing trend in African migration towards Europe.

4.2. ***The role of political determinants on migration flows***

Economic forces of supply-push and demand-pull factors continue to govern much of the international migration policy research, as discussed earlier. However, individuals have complex and overlapping motivations for leaving their places of origin. In this context, it would be a narrow view to attribute the recent African migration to Europe solely to economic factors. This state-of-the-art fundamentally limits understanding of the major driving forces of international migrations beyond the economic motivations, and as a consequence, it limits the effectiveness of

migration policies (De Haas, 2011).

Besides the economic benefits, migrants may enjoy political and legal protection, which is lacking in their country of origin. Several studies have documented the prevalence of poverty, epidemics, religious intolerance, ethnic factionalism, social and political unrest in many African counties (Ake, 2001; Hyden, 2007). These conditions have accelerated African migrants' extra-continental flows in the past few decades in all aspects. For instance, taking the Democratic Republic of Congo migration trend as a case, Sumata (2002) argues that Congolese immigrants in Belgium in the 1980s belonged mainly to the 'middle-class'. Nonetheless, following the economic and political crises in the 1990s, 'both the rich and poor people have no choice but to seek political asylum' (Sumata, 2002). Therefore, the African extra-continental migration trends, as shown in our baseline results (see Table 2), are driven by civil conflicts and associated human rights abuses in addition to poor economic conditions. In this sub-section, we give more emphasis to the role of political factors in extra-continental migration flows and extend the previous regression model in (12) by adding vectors of political stability in aggregated and desegregated forms.

Accordingly, Table 3 reports the results from regressions that include broader determinants of international migration flows between Africa and Europe. In addition to the political and distributional indices that are considered in Table 2, we add measures of political stability at the source and the destination countries and specific measures of political risks at the source countries. Specifically, Column 1 reproduces Column 3 of the baseline specification in Table 2 for the sake of comparison. Column 2 estimates the impact of political stability at the source and destination countries. In this specification, the economic determinants are omitted. The political stability parameter, as discussed in the data description, measures the rate of political risks for each country annually. The political stability parameter consists of 12 weighted variables covering both political and social attributes. We bundle them into a single measure by summing them up. The results in Column 2 show that an increase in political stability at the source countries leads to a decrease in the rate of migration flows. Meanwhile, an increase in the political stability at the destination countries increases the migration flows. In terms of magnitude, political stability at the destination countries has a larger impact than political stability at the source countries. In particular, a 10 percent rise in the political stability at the destination countries annually induces a 10 percent increase in immigration into Europe. However, a 10 percent rise in political stability at the source leads to a 1 percent decrease in African migration towards Europe. This variation could reflect the fact that the level of political stability in Africa is so low that a 10 percent rise in it has little impact in deterring African migrants from moving to

Table 3: Political factors as determinants of international migration flows

Dependant Variable Log(1+Migration flows)				
Specification	(1)	(2)	(3)	(4)
Estimation method	PPML	PPML	PPML	PPML
Log GDP per capita source$_{t-1}$	-0.0550***		-0.0390***	
	[0.0128]		[0.00996]	
Log Political Stability source $_{t-1}$		-0.171***	-0.151***	
		[0.0228]	[0.0245]	
Log Political Stability destination $_{t-1}$		10.93***		
		[0.0182]		
Civil conflict source$_{t-1}$	0.0683***			0.0412***
	[0.0115]			[0.0125]
Democracy Source$_{t-1}$	-0.00365*			-0.00238
	[0.00218]			[0.00248]
Autocracy Source$_{t-1}$	0.00275*			-0.000957
	[0.00161]			[0.00172]
Political rights Source$_{t-1}$	0.0241			0.0190
	[0.0201]			[0.0188]
Civil liberties Source$_{t-1}$	0.00255			0.00882
	[0.0129]			[0.00987]
Ethnic fractionalization source	0.213***			-0.0724
	[0.0446]			[0.0574]
Ethnic polarization source	1.181***			1.450***
	[0.0647]			[0.0794]
Government stability Source$_{t-1}$				-0.00831
				[0.00582]
Socioeconomic conditions Source$_{t-1}$				-0.0205***
				[0.00398]
Corruption source$_{t-1}$				0.0168**
				[0.00709]
Law and order source$_{t-1}$				-0.0409***
				[0.00994]
Bureaucracy quality source$_{t-1}$				-0.0204**
				[0.00924]
Log Distance	-0.0813***	-0.0441**	-0.0442**	-0.0311
	[0.0203]	[0.0198]	[0.0198]	[0.0192]
Common legislation	0.389***	0.359***	0.359***	0.404***
	[0.00865]	[0.0154]	[0.0154]	[0.0161]
Common language	0.510***	0.498***	0.498***	0.469***
	[0.0218]	[0.0161]	[0.0161]	[0.0162]
Colonial ties	0.356***	0.324***	0.323***	0.370***
	[0.0190]	[0.0229]	[0.0229]	[0.0230]
Hegemony	0.160***	0.109***	0.109***	0.180***
	[0.0273]	[0.0343]	[0.0343]	[0.0370]
Constant	-1.358***	-48.37***	1.130***	1.267***
	[0.202]	[0.250]	[0.193]	[0.181]
Observations	20,790	16,704	16,704	15,708
R-squared	0.708	0.713	0.713	0.721
Fixed Effects				
Destination(α_d)	Yes	Yes	Yes	Yes
Source (α_s))	Yes	Yes	Yes	Yes
Destination-year(α_{dt})	No	Yes	Yes	No
Year	Yes	Yes	Yes	Yes
Sample	All	All	All	All

Note: Standard errors in parenthesis are heteroskedasticity robust and clustered by year. Significance at the 1%, 5% and 10% level is indicated by ***, **, and *, respectively.

Europe. Column 3 estimates both per capita income and political stability variables together at the source countries. The results indicate that improvement of both economic and political conditions in the source countries reduces migration flows. In Column 4 we consider the political determinants in particular at the source countries, which include selected components of political stability such as governance suitability, socioeconomic conditions, corruption, law and order, as well as bureaucratic quality.[15] The results also hint that improving socioeconomic conditions and bureaucratic quality as well as ensuring law and order in African countries reduces migration flows. On the contrary, an increase in corruption, ethnic polarization and civil wars in Africa leads to increases in outward-bound migration flows.

In sum, the analysis on political determinants of migration flows yields clear results. The estimation results in Table 3 confirm our argument that individuals may be forced to leave their home country to maximize their human security. The motivations could be political or could derive from socio-economic conditions prevailing in origin and host countries. The results also confirm that political stability and economic welfare are often highly interrelated. Therefore, analysis of migration flows that originate mainly from developing countries should consider broader determinants beyond economic factors.

4.3. ***Determinants of irregular migration flows***

Each year thousands of migrants from Africa enter Europe after braving the perils of crossing the Mediterranean Sea using inadequate transport conditions. Although several factors could be listed as reasons, the EU's tightened entry policies for African migrants, on the one hand, and lack of financial means and appropriate travel documents by the migrants, on the other hand, are thought to have forced African immigrants to choose the irregular pathways (Hansen and Jonsson, 2011; Flahaux and De Haas, 2016). As a result, African migrants arriving in Europe are composed mainly of illegal migrants (Schoumaker et al., 2013). By the definition of International Office for Migration (IOM), 'irregular migrants are both those who arrive in a destination country undocumented and those who enter the host country legally with tourist documents, but later violate their conditions of entry by taking a job' (Internationale du Travail, 2004). The means of entry may not matter to be considered as unauthorized immigrants (also called irregular, illegal, or undocumented immigrants) (Orrenius and Zavodny, 2016), though the majority of 'irregular maritime arrivals' claim asylum at the destination countries (Phillips,

[15] Baltagi et al. (2009) also used these selected indicators to estimate how institutional environments are likely to be relevant for the securing of property rights.

2013). It is noteworthy that reaching Europe for many Africans means the chance to build a normal life that has been disrupted by the political or economic crisis in their source countries (Sumata, 2002). Therefore, the majority of African immigrants are expected to claim asylum. However, as Geddes and Scholten (2016) states, many asylum seekers are viewed as 'bogus', in the sense that they are seen as economic migrants seeking to avoid dodging controls on labor migration by using the asylum channel. As African migrants have mixed motivations, it could often be difficult to distinguish political migrants from economic migrants. Access to well-organized data on irregular migration flows is very limited. According to (13), we construct the bilateral irregular migration flows assuming that most of the asylum seekers attain entry into Europe through irregular channels.

The estimation results of the determinants of irregular migration flows from Africa to Europe are reported in Tables 4 and 5. While we still use the previous specifications (see Tables 2 and 3), the dependent variable here is the log of annual asylum seekers, which represents irregular bilateral migration flows. The results obtained through using asylum seeker data are qualitatively similar to the baseline results using regular migration flow data. Accordingly, an increase in the GDP per capita of the destination countries is associated with an increase in the number of asylum seekers. As in Tables 2 and 3, throughout the specifications, an increase in the GDP per capita of the source countries leads to a decrease in the number of asylum seekers. Moreover, political turmoil, fear of being persecuted for reasons of ethnicity or political opinion drive African migrants to demand a refugee status in Europe. As expected, the source countries' democratization leads to a decrease of irregular bilateral migration flows.

Table 4: Determinants of African irregular migration flows to Europe

Log(1+Asylum seekers)								
Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Estimation method	PPML	PPML	PPML	PPML	PPML	PPML	PPML	PPML
Log GDP per capita destination$_{t-1}$	1.011***	0.414***						
	[0.248]	[0.139]						
Log GDP per capita source$_{t-1}$	-0.282***	-0.176***	-0.174***	-0.157***	-0.134***	-0.167***	-0.165***	-0.174***
	[0.0645]	[0.0324]	[0.0323]	[0.0326]	[0.0212]	[0.0302]	[0.0352]	[0.0627]
Civil conflict source$_{t-1}$	0.107***	0.125***	0.124***	0.123***	0.104***	0.141***	0.141***	0.154**
	[0.0404]	[0.0254]	[0.0254]	[0.0230]	[0.0218]	[0.0266]	[0.0271]	[0.0686]
Democracy Source$_{t-1}$	-0.0396***	-0.0226***	-0.0224***	-0.0219***	-0.0153***	-0.0212***	-0.0179***	-0.0203
	[0.00981]	[0.00597]	[0.00606]	[0.00622]	[0.00410]	[0.00633]	[0.00590]	[0.0156]
Autocracy Source$_{t-1}$	0.0855***	0.0154**	0.0152**	0.0143*	0.00611	0.0134*	0.0200**	-0.0129
	[0.0209]	[0.00764]	[0.00766]	[0.00755]	[0.00447]	[0.00758]	[0.00921]	[0.0133]
Political rights Source$_{t-1}$	0.128*	-0.00228	-0.00215	-0.00289	0.0170	0.0140	-0.0308	0.0184
	[0.0720]	[0.0293]	[0.0293]	[0.0272]	[0.0271]	[0.0287]	[0.0298]	[0.0645]
Civil liberties Source$_{t-1}$	-0.0728	-0.00346	-0.00224	0.00113	-0.0109	-0.00595	-0.00745	-0.0146
	[0.0620]	[0.0155]	[0.0156]	[0.0160]	[0.0123]	[0.0150]	[0.0162]	[0.0431]
Ethnic fractionalization source	1.440***	1.751***	1.751***	1.711***	1.494***	1.751***	1.617***	1.495***
	[0.139]	[0.143]	[0.143]	[0.0973]	[0.0808]	[0.111]	[0.137]	[0.379]
Ethnic polarization source	2.188***	1.410***	1.407***	1.553***	1.483***	1.730***	1.574***	1.478***
	[0.219]	[0.113]	[0.113]	[0.155]	[0.121]	[0.125]	[0.117]	[0.360]
Common legislation	0.105***	0.110***	0.112***	0.111***	0.105***	0.0853***	0.125***	0.107***
	[0.0150]	[0.0153]	[0.0156]	[0.0155]	[0.0154]	[0.0129]	[0.0156]	[0.0191]
Common language	0.385***	0.385***	0.384***	0.383***	0.392***	0.405***	0.364***	0.387***
	[0.0132]	[0.0133]	[0.0133]	[0.0135]	[0.0130]	[0.0169]	[0.0124]	[0.0370]
Colonial ties	0.157***	0.155***	0.154***	0.155***	0.140***	0.0415*	0.152***	0.171***
	[0.0116]	[0.0110]	[0.0109]	[0.0118]	[0.00846]	[0.0230]	[0.00984]	[0.0187]
Hegemony	0.0612**	0.0596**	0.0576**	0.0575**	0.0227	0.203***	0.0594**	0.00237
	[0.0256]	[0.0250]	[0.0245]	[0.0246]	[0.0184]	[0.0421]	[0.0247]	[0.0480]
Log Population source$_{t-1}$				-0.440***				
				[0.0528]				
Landlocked source				-0.836***				
				[0.118]				
Log Distance	-0.0524**	-0.0531**	-0.0521**	-0.0528**	-0.0336*	-0.0724***	0.00681	-0.0375
	[0.0217]	[0.0214]	[0.0214]	[0.0216]	[0.0196]	[0.0250]	[0.0260]	[0.0474]
Constant	-6.602***	-4.273***	0.323	8.094***	-2.888***	0.186	-0.417	-2.554***
	[1.757]	[0.860]	[0.379]	[1.012]	[0.283]	[0.399]	[0.452]	[0.835]
Observations	22,635	22,635	21,105	21,105	17,685	18,945	19,698	4,455
R-squared	0.581	0.694	0.715	0.716	0.743	0.735	0.719	0.720
Fixed Effects								
$Destination(\alpha_d)$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$Sours(\alpha_s)$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$Destination - year(\alpha_{dt})$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	All	post-1995	non-(UK + France)	SSA	5 years

Notes: The estimation period is 1990-2014. Column 5 includes the post-1995 sub-sample. Column 7 uses only years 1990, 1995, 2000, 2005 and 2010. Column 5 omits France and the United Kingdom; and column 6 consider Sub-Saharan Africa sub-sample. Standard errors in parenthesis are heteroskedasticity robust and clustered by year. Significance at the 1%, 5% and 10% level is indicated by ***, **, and *, respectively.

Table 5: Political factors as determinants of irregular migration flows

Log(1+Asylum seekers)				
Specification	(1)	(2)	(3)	(4)
Estimation method	PPML	PPML	PPML	PPML
Log GDP per capita source$_{t-1}$	-0.174***		-0.151***	
	[0.0323]		[0.0372]	
Log Political Stability source $_{t-1}$		-0.530***	-0.426***	
		[0.0836]	[0.0881]	
Log Political Stability destination $_{t-1}$		0.836***		
		[0.0537]		
Civil conflict source$_{t-1}$	0.124***			0.103***
	[0.0254]			[0.0293]
Democracy Source$_{t-1}$	-0.0224***			-0.0246***
	[0.00606]			[0.00659]
Autocracy Source$_{t-1}$	0.0152**			0.0186**
	[0.00766]			[0.00777]
Political rights Source$_{t-1}$	-0.00215			-0.0307
	[0.0293]			[0.0234]
Civil liberties Source$_{t-1}$	-0.00224			0.0377
	[0.0156]			[0.0248]
Ethnic fractionalization source	1.751***			1.197***
	[0.143]			[0.178]
Ethnic polarization source	1.407***			1.732***
	[0.113]			[0.185]
Government stability Source$_{t-1}$				-0.0282*
				[0.0150]
Socioeconomic conditions Source$_{t-1}$				-0.0117
				[0.0107]
Corruption source$_{t-1}$				0.00894
				[0.0242]
Law and order source$_{t-1}$				-0.0791***
				[0.0196]
Bureaucracy quality source$_{t-1}$				-0.0684***
				[0.0163]
Log Distance	-0.0521**	-0.00471	-0.00539	-0.0279
	[0.0214]	[0.0242]	[0.0243]	[0.0240]
Common legislation	0.112***	0.0771***	0.0782***	0.0872***
	[0.0156]	[0.0153]	[0.0153]	[0.0154]
Common language	0.384***	0.386***	0.386***	0.372***
	[0.0133]	[0.0172]	[0.0171]	[0.0183]
Colonial ties	0.154***	0.205***	0.204***	0.220***
	[0.0109]	[0.0182]	[0.0181]	[0.0190]
Hegemony	0.0576**	0.0183	0.0168	0.0223
	[0.0245]	[0.0368]	[0.0362]	[0.0347]
Constant	0.323	-2.077***	1.857***	0.0817
	[0.379]	[0.283]	[0.423]	[0.273]
Observations	21,105	16,884	16,884	15,946
R-squared	0.715	0.716	0.716	0.715
Fixed Effects				
Destination(α_d)	Yes	Yes	Yes	Yes
Source (α_s))	Yes	Yes	Yes	Yes
Destination-year(α_{dt})	No	Yes	Yes	No
Year	Yes	Yes	Yes	Yes
Sample	All	All	All	All

Notes: Note: Standard errors in parenthesis are heteroskedasticity robust and clustered by year. Significance at the 1%, 5% and 10% level is indicated by ***, **, and *, respectively.

Throughout the specifications, the institutional quality variable has a statistically significant impact with the expected sign. Furthermore, the control variables remain statistically significant with the expected signs.

It is noteworthy that these results imply that asylum seekers may have mixed motivations. Both economic conditions, like poverty and unemployment, as well as political turmoil, such as conflict or persecution in the home countries, are forcing individuals to claim asylum in the hosting countries. This result is broadly consistent with our findings in Tables 2 and 3 which show that human insecurity factors are associated with a high level of migration rates from African source countries to European destination countries.

4.4. ***Robustness checks: using the OLS estimation***

Given that our estimation model is a pseudo-gravity model, we used the PPML estimator from Table 2 to Table 5, which flexibly accounts for multilateral resistance, pair-specific heterogeneity, and correlated errors across countries and time. The PPML estimator also accounts for a significant proportion of zero observations in the dependent variables. In this section, we check the robustness of the benchmark results by performing OLS estimation on the positive migration flows only, as in Ortega and Peri (2013). These results are documented in Tables C.1 and C.2 of Appendix Appendix C. For each specification both the source-country fixed effects (α_s) and time-destination fixed effects (α_{dt}) are included.

Table C.1 and C.2 report, respectively, the estimation results obtained when zero bilateral regular and irregular migration flows are omitted. In both cases, the GDP per capita at the source and the destination countries, civil conflict, institutional autocracy and ethnic distributional indices, political stability (both at the source and the destination countries), socioeconomic conditions, law and order, bureaucracy quality as well as the control variables display effects that are qualitatively similar to our baseline results in Tables 2 and 4. Furthermore, in the linear estimation, the civil liberty parameter of the source country significantly affects migration flows.

5. Conclusion

In this paper, we examine the determinants of trends in African migration flows to Europe for the period 1990–2014. To estimate the pseudo-gravity model of bilateral migration flows, we employ the Poisson Pseudo-Maximum Likelihood (PPML) estimator, which is particularly suitable in regressions where the dependent variable has a significant proportion of zero values (Beine and Parsons, 2015). This paper contributes to the literature on the determinants of international migration flows in three ways.

First, unlike the literature that stresses economic motivations for migration, we consider the broad human security factors of migration decisions. Extra-continental migration is not only costly but it is also risky. Hence despite abject poverty, wars, civil conflicts, severe political persecution, and human rights abuses, the majority of the world population stay at home or move mainly to neighboring countries in their search for safety and protection. The existing theoretical literature and empirical studies on international migration give much weight to economic determinants and networks. Our analysis shows that, in addition to the economic determinants, a combination of several push and pull factors including political conditions (ongoing violence and instability, institutional qualities) and pre-existing socio-cultural structures influence the migration choice of individuals. Accordingly, this paper frames the international migration flows in the broader human security context.

Second, we consider both the regular and irregular flows of international migration. Due to the tightening by European countries of entrance policies for migrants from developing countries and because of lack of adequate financial means, a significant number of African migrants pass through irregular migration channels. Therefore, in this paper, we consider both annual regular and irregular flows of migration.

Third, we empirically analyze the specific Africa to Europe trends of migration flows. Given the historical and geopolitical ties between the two continents, this emphasis helps us to highlight essential determinants of migration flows from Africa to Europe.

We find several notable results. First, most of the human security indicators significantly determine annual migration flows from Africa into European countries. Per capita income growth at a given European destination is associated with an increase in immigrant flows while per capita income growth at a given source country decreases emigration from Africa. Rising political persecution, ethnic cleansing, human right violations, political instability and civil conflicts in source countries are also associated with increased migration flows into European destination countries. Second, in conjunction with the regular trends of immigration flows, asylum seekers from Africa also have a combination of political and economic motivations to claim refugee status. Hence, categorizing African immigrants as the 'bogus asylum seeker' in general terms would be highly misleading and could result in misguided migration policies. Third, a substantial improvement in political and civil rights, establishment of democratic regimes, as well progress in political stability in the African source countries decreases migration flows and the number of asylum seekers in Europe.

Finally, it is noteworthy that the findings as mentioned earlier have significant

policy implications for managing the recent migration and refugee crisis in Europe. The African migration flows to Europe are complex and driven by mixed pushing and pulling factors. The critical point of this discussion is acknowledging the heterogeneity of the flows, which is essential as a valid response will need to be grounded in a sound understanding of fundamental causes of the flows. Further, the African migrants' motives, patterns and trends should be seen from the broader human security point of view. It is crucial to understand that overlooking the political factors that significantly influence the international migration, and attempting to address economic causes only through investing in Africa may have counterproductive consequences. Hence, it is imperative for the EU and European countries to collaborate with the source countries, not only in terms supporting economic development in the source countries, but also by promoting human security: peace, human rights, democracy, and social stability.

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Appendices

Appendix A. List of countries in the sample

Table A.1: List of African countries of sources of migrants and asylum seekers

Code	country	code	country	code	country	code	country
1	Algeria	16	Egypt	31	Mali	46	Tunisia
2	Angola	17	Equatorial Guinea	32	Mozambique	47	Tanzania
3	Burundi	18	Eritrea	33	Mauritania	48	South Africa
4	Benin	19	Ethiopia	34	Mauritius	49	Uganda
5	Burkina Faso	20	Gabon	35	Malawi	50	Zambia
6	Botswana	21	Ghana	36	Namibia	51	Zimbabwe
7	Chad	22	Guinea	37	Niger		
8	Central AR	23	Gambia	38	Nigeria		
9	Cte d'Ivoire	24	Guinea-Bissau	39	Rwanda		
10	Cameroon	25	Kenya	40	Sudan		
11	Congo, DR	26	Liberia	41	Senegal		
12	Congo	27	Libya	42	Sierra Leone		
13	Comoros	28	Lesotho	43	Somalia		
14	Cape Verde	29	Morocco	44	Seychelles		
15	Djibouti	30	Madagascar	45	Togo		

Table A.2: List of European countries of destinations for African migrants

Code	country	code	country	code	country	code	country
1	Austria	8	Greece	15	Mali	22	United Kingdom
2	Belgium	9	Hungary	16	Norway		
3	Czech Republic	10	Iceland	17	Poland		
4	Denmark	11	Ireland	18	Portugal		
5	Finland	12	Italy	19	Spain		
6	France	13	Luxembourg	20	Sweden		
7	Germany	14	Netherlands	21	Switzerland		

Appendix B. Trends in African migration flows

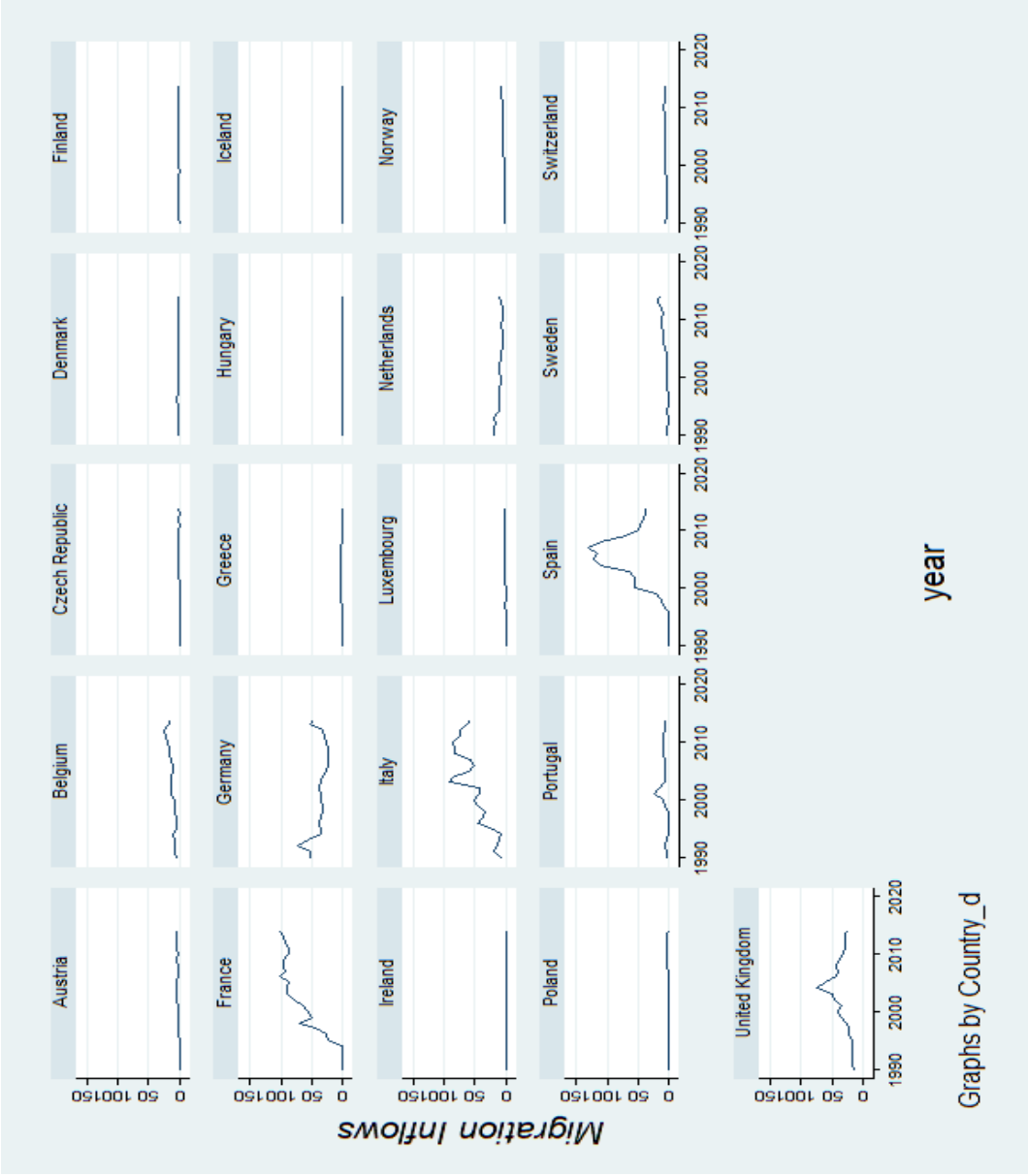

Figure B.1: Annual African Migration flows in Europe from 1990-2014. Source: Authors' calculations based on data described in text.

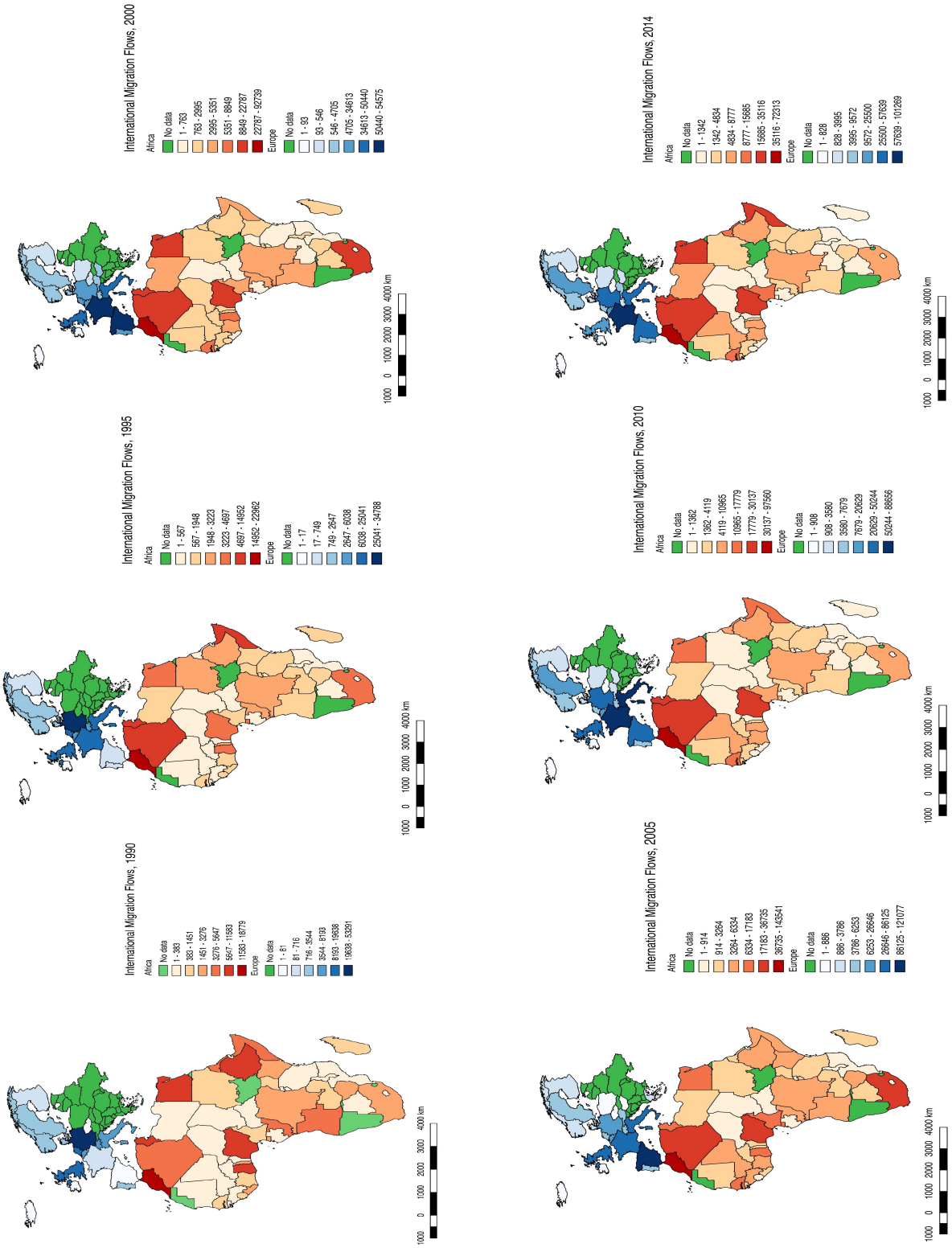

Figure B.2: Absolute number of African Migration flows towards Europe in 1990, 1995, 2000, 2005, 2010, 2014. Source: Authors' calculations based on data described in text.

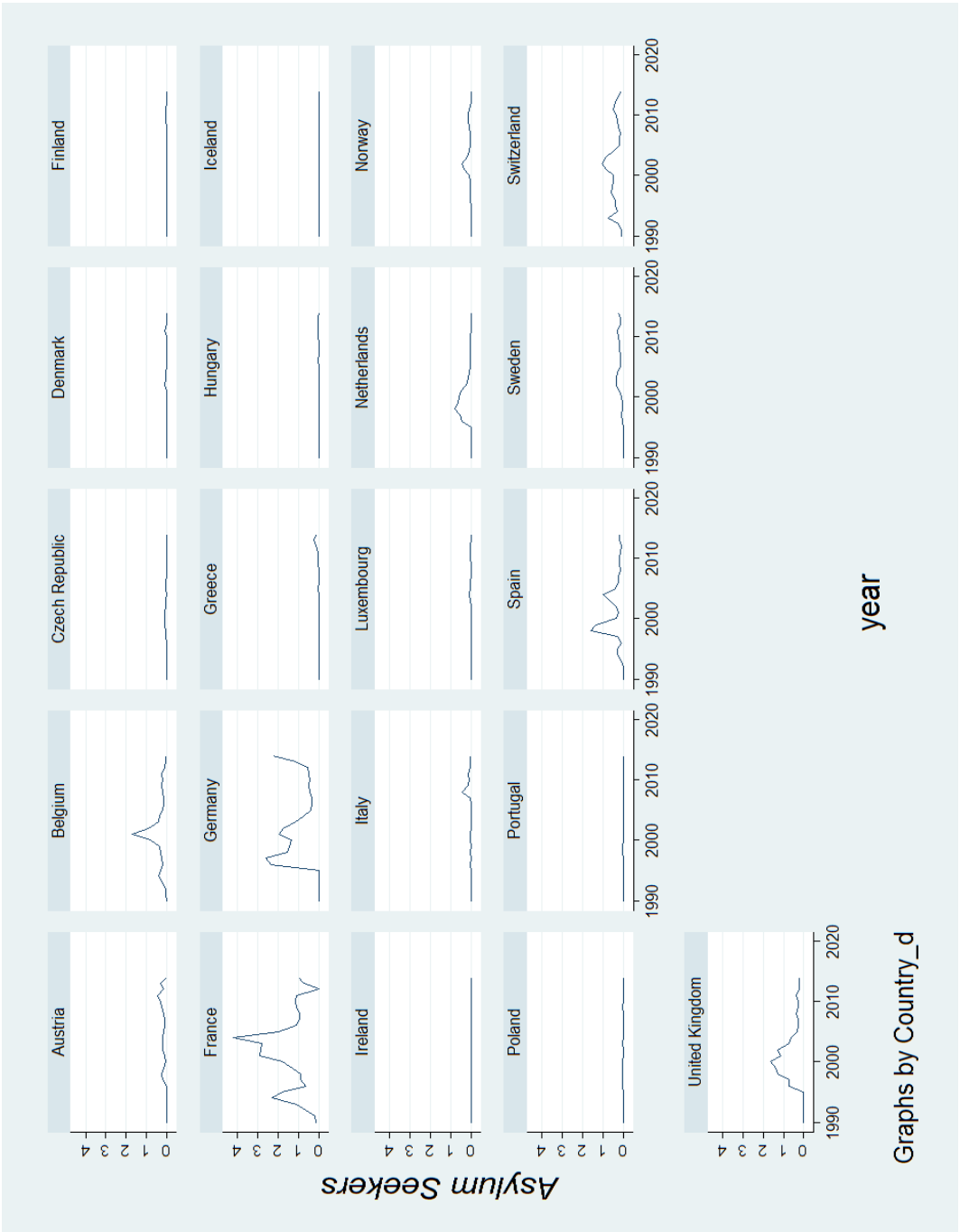

Figure B.3: Annual African Asylum Seekers in Europe from 1990-2014. Source: Authors' calculations based on data described in text.

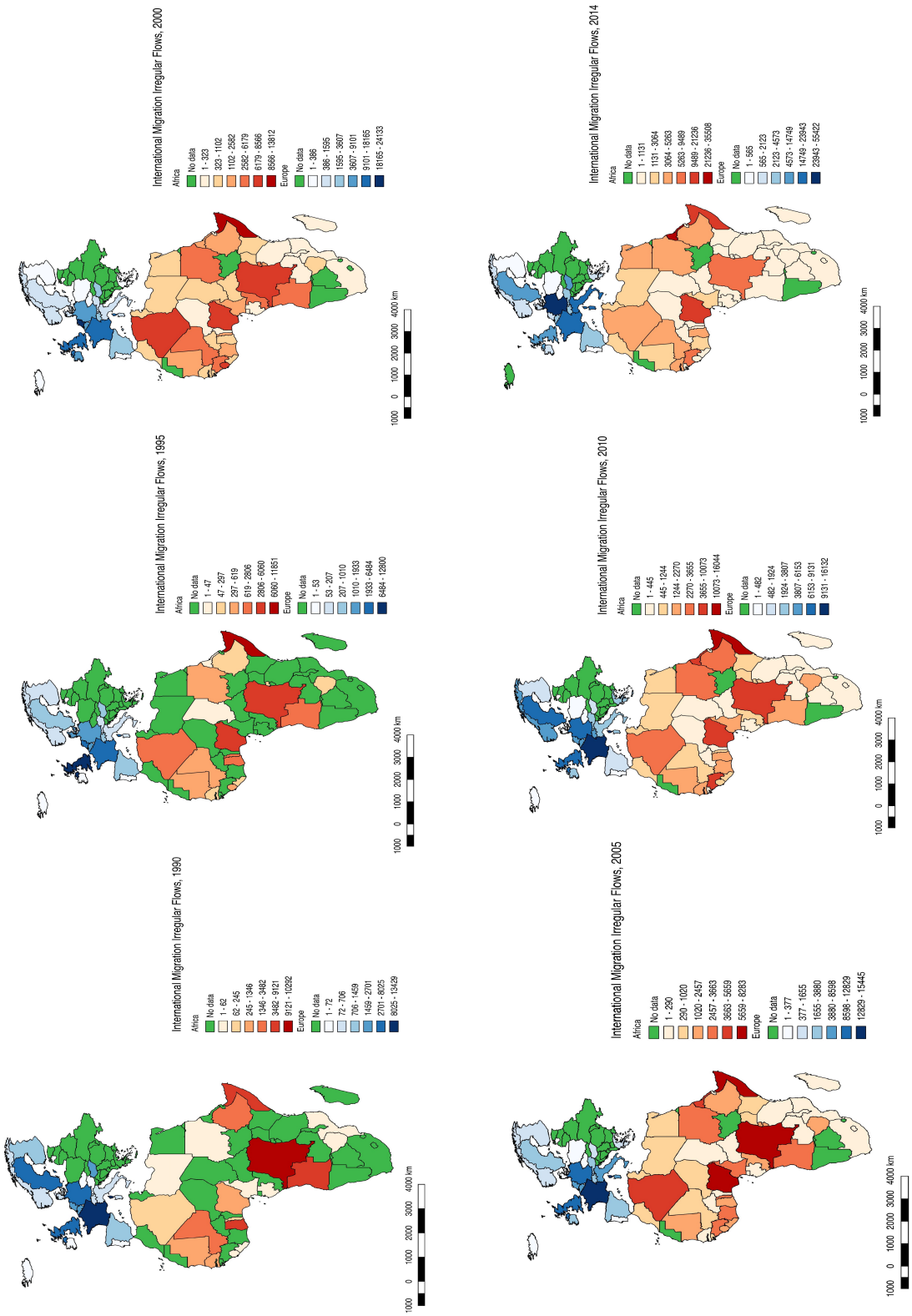

Figure B.4: Absolute number of African Migration Irregular flows towards Europe in 1990, 1995, 2000, 2005, 2010, 2014. Source: Authors' calculations based on data described in text.

Appendix C. OLS estimation of determinants of migration flows

Table C.1: Determinant of bilateral migration flows: OLS estimation

Dependant Variable Log(1+Migration flows) Specification	(1)	(2)	(3)	(4)	(5)	(6)
Log GDP per capita destination$_{t-1}$	0.491***					
	[0.0793]					
Log GDP per capita source$_{t-1}$	-0.0641*	-0.0795**		-0.0415		-0.0875**
	[0.0370]	[0.0363]		[0.0402]		[0.0366]
Log Political Stability source $_{t-1}$				-0.505***		
				[0.0749]		
Civil conflict source$_{t-1}$	0.184***	0.164***	0.172***		0.153***	0.170***
	[0.0361]	[0.0350]	[0.0351]		[0.0434]	[0.0352]
Democracy Source$_{t-1}$	-0.000512	-0.00134	-0.00136		-0.00444	-0.000791
	[0.00618]	[0.00603]	[0.00604]		[0.00684]	[0.00604]
Autocracy Source$_{t-1}$	0.0121*	0.0148**	0.0150**		0.0105	0.0138**
	[0.00720]	[0.00701]	[0.00701]		[0.00738]	[0.00700]
Political rights Source$_{t-1}$	-0.00146	-0.00351	-0.0122		-0.0285	-0.00179
	[0.0369]	[0.0355]	[0.0352]		[0.0369]	[0.0355]
Civil liberties Source$_{t-1}$	-0.0671**	-0.0671**	-0.0654**		-0.0691**	-0.0726**
	[0.0318]	[0.0305]	[0.0305]		[0.0316]	[0.0307]
Ethnic fractionalization source	2.267***	2.302***	2.200***		1.377***	-0.336
	[0.193]	[0.184]	[0.188]		[0.214]	[0.207]
Ethnic polarization source	1.570***	1.469***	1.856***		0.109	2.392***
	[0.314]	[0.307]	[0.246]		[0.241]	[0.311]
Government stability Source$_{t-1}$					0.0166	
					[0.0129]	
Socioeconomic conditions Source$_{t-1}$					-0.0546***	
					[0.0118]	
Corruption source$_{t-1}$					0.0620***	
					[0.0168]	
Law and order source$_{t-1}$					-0.100***	
					[0.0201]	
Bureaucracy quality source$_{t-1}$					-0.0658***	
					[0.0223]	
Log Distance	-0.733***	-0.765***	-0.765***	-0.635***	-0.582***	-0.766***
	[0.0666]	[0.0659]	[0.0659]	[0.0619]	[0.0601]	[0.0658]
Common legislation	0.922***	0.938***	0.939***	0.900***	0.994***	0.937***
	[0.0459]	[0.0456]	[0.0456]	[0.0471]	[0.0482]	[0.0455]
Common language	0.631***	0.635***	0.634***	0.763***	0.666***	0.635***
	[0.0416]	[0.0409]	[0.0409]	[0.0411]	[0.0403]	[0.0409]
Colonial ties	0.706***	0.693***	0.692***	0.971***	1.137***	0.698***
	[0.0898]	[0.0884]	[0.0883]	[0.137]	[0.147]	[0.0884]
Hegemony	0.647***	0.628***	0.627***	0.576***	0.719***	0.624***
	[0.109]	[0.107]	[0.107]	[0.153]	[0.163]	[0.107]
Log Urban Population source$_{t-1}$						0.213**
						[0.0886]
Landlocked source						-0.771***
						[0.100]
Constant	3.683***	7.939***	7.218***	11.10***	7.578***	6.280***
	[0.944]	[0.698]	[0.597]	[0.650]	[0.558]	[1.487]
Observations	14,125	14,125	14,125	11,729	11,107	14,125
R-squared	0.772	0.788	0.788	0.796	0.809	0.788
Fixed Effects						
$Destination(\alpha_d)$	Yes	Yes	Yes	Yes	Yes	Yes
$Sours(\alpha_s)$	Yes	Yes	Yes	Yes	Yes	Yes
$Destination - year(\alpha_{dt})$	Yes	Yes	Yes	Yes	Yes	Yes
Year	No	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	All	All	All

Notes: results are obtained by using the OLS estimation method. Standard errors in parenthesis are heteroskedasticity robust and clustered by year. Significance at the 1%, 5% and 10% level is indicated by ***, **, and *, respectively.

Table C.2: Determinant of irregular migration flows: OLS estimation

Log(1+Asylum seekers)						
Specification	(1)	(2)	(3)	(4)	(5)	(6)
Log GDP per capita destination$_{t-1}$	0.342***					
	[0.100]					
Log GDP per capita source$_{t-1}$	-0.344***	-0.356***		-0.297***		-0.308***
	[0.0444]	[0.0404]		[0.0427]		[0.0404]
Log Political Stability source $_{t-1}$				-1.241***		
				[0.0919]		
Civil conflict source$_{t-1}$	0.331***	0.338***	0.370***		0.317***	0.330***
	[0.0397]	[0.0375]	[0.0375]		[0.0451]	[0.0371]
Democracy Source$_{t-1}$	-0.0384***	-0.0357***	-0.0351***		-0.0492***	-0.0342***
	[0.00808]	[0.00760]	[0.00759]		[0.00817]	[0.00758]
Autocracy Source$_{t-1}$	0.0251***	0.0258***	0.0238***		0.0370***	0.0253***
	[0.00962]	[0.00880]	[0.00884]		[0.00908]	[0.00872]
Political rights Source$_{t-1}$	0.0454	0.0498	0.0238		-0.0316	0.0475
	[0.0449]	[0.0426]	[0.0425]		[0.0438]	[0.0426]
Civil liberties Source$_{t-1}$	-0.0622*	-0.0721**	-0.0481		0.00246	-0.0635*
	[0.0378]	[0.0355]	[0.0355]		[0.0382]	[0.0355]
Ethnic fractionalization source	4.717***	4.759***	4.377***		4.415***	-1.978***
	[0.272]	[0.262]	[0.265]		[0.288]	[0.315]
Ethnic polarization source	-3.088***	-2.977***	-0.733*		-1.343***	8.613***
	[0.485]	[0.457]	[0.380]		[0.351]	[0.470]
Government stability Source$_{t-1}$					0.0145	
					[0.0178]	
Socioeconomic conditions Source$_{t-1}$					-0.0646***	
					[0.0135]	
Corruption source$_{t-1}$					0.00321	
					[0.0211]	
Law and order source$_{t-1}$					-0.211***	
					[0.0253]	
Bureaucracy quality source$_{t-1}$					-0.127***	
					[0.0304]	
Log Distance	-0.0565	-0.0625	-0.0594	0.0186	-0.0745	-0.0643
	[0.0591]	[0.0547]	[0.0548]	[0.0570]	[0.0573]	[0.0549]
Common legislation	0.327***	0.344***	0.342***	0.228***	0.261***	0.349***
	[0.0418]	[0.0383]	[0.0383]	[0.0397]	[0.0400]	[0.0381]
Common language	0.563***	0.555***	0.553***	0.727***	0.691***	0.549***
	[0.0430]	[0.0414]	[0.0414]	[0.0463]	[0.0462]	[0.0410]
Colonial ties	0.244***	0.241***	0.241***	0.0696	0.106	0.242***
	[0.0859]	[0.0869]	[0.0862]	[0.135]	[0.134]	[0.0858]
Hegemony	0.566***	0.580***	0.581***	0.651***	0.741***	0.581***
	[0.101]	[0.100]	[0.0999]	[0.142]	[0.140]	[0.0995]
Log Urban Population source$_{t-1}$						-1.134***
						[0.127]
Landlocked source						-3.631***
						[0.135]
Constant	2.123*	4.359***	0.749	10.02***	2.163***	20.51***
	[1.099]	[0.671]	[0.523]	[0.650]	[0.545]	[2.027]
Observations	12,141	12,141	12,141	10,572	10,167	12,141
R-squared	0.640	0.697	0.694	0.712	0.720	0.699
Fixed Effects						
$Destination(\alpha_d)$	Yes	Yes	Yes	Yes	Yes	Yes
$Sours(\alpha_s)$	Yes	Yes	Yes	Yes	Yes	Yes
$Destination - year(\alpha_{dt})$	Yes	Yes	Yes	Yes	Yes	Yes
Year	No	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	All	All	All

Notes: results are obtained by using the OLS estimation method. Standard errors in parenthesis are heteroskedasticity robust and clustered by year. Significance at the 1%, 5% and 10% level is indicated by ***, **, and *, respectively.