Asylum Flows and European Integration: The socioeconomic challenge

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**Dimitrios Karkanis[1], Evgenia Anastasiou[2],
Konstantina Ragazou[3], Marie Noëlle Duquenne[4]**

Abstract: The cohesion of the European Union has undeniably been challenged by the recent global financial crisis, highlighting the slowing down of its integration model as well as the various dissensions between the EU member countries. At the same time, the EU is facing an additional challenge concerning the massive influx of migrants and more particularly refugees mainly due to the conflicts in the Middle East and Africa. This relatively recent situation inevitably raises the question of their reception and integration. The proper understanding of the present diversification of refugee flows during the two last decades – a type of human flow that significantly differs from economic migration flows both in terms of intensity and migratory route - could potentially contribute to develop more appropriate policies into the spatially changing European Union.

In this context, the objective of the present study is, through the implementation of an augmented gravity model, to identify the spatial, sociopolitical and institutional factors lying behind the asylum flows inside the EU27 area during the 2000-2017 period. The data relative to the numbers of refugees and asylum seekers by country of origin and destination are provided by the UNHCR. In comparison with other official sources as Eurostat and Frontex, the UNHCR database is obviously the most detailed one, covering also a longer period of time. This is fundamental in order to detect the main changes during the period 2000-2017 as regards not only the countries of origin and destination but also the migratory routes.

The empirical findings reveal the discouraging role of the economic crisis towards the asylum flows inside the EU. However, the improving interconnectivity between the European countries, through the gradual integration process, seems to positively contribute towards asylum assignment, demonstrating that the migration process is reshaped by the contemporary spatialities. Once again, space is not neutral: landlocked countries act as nodes to attract asylum flows, while island countries often serve as host poles for asylum seekers due to a) their relative geographic proximity to the conflict zones of the Middle East or b) their economic development levels. Finally, the demographic factor remains crucial: the population of registered refugees among the EU countries acts as an "attraction mass", in terms of natural sciences, of new asylum applications, showing that human flows moving away from conflict zones are generally directed to countries where there exists a greater chance of asylum application approvals.

[1] Postdoctoral researcher, University of Thessaly, Department of Planning and Regional Development, Laboratory of Demographic and Social Analyses (LDSA), Pedion Areos, 38334, tel: +30 24210 74432, dkarkanis@uth.gr.

[2] Postdoctoral researcher, University of Thessaly, Department of Planning and Regional Development, Laboratory of Demographic and Social Analyses (LDSA), Pedion Areos, 38334, tel: +30 24210 74393, evanastasiou@uth.gr.

[3] PhD student, University of Thessaly, Department of Planning and Regional Development, Laboratory of Demographic and Social Analyses (LDSA), Pedion Areos, 38334, tel: +30 24210 74432, koragazou@uth.gr.

[4] Professor, University of Thessaly, Department of Planning and Regional Development, Laboratory of Demographic and Social Analyses (LDSA), Pedion Areos, 38334, tel: +30 24210 74438, mdyken@uth.gr.

Introduction

The conjuncture of the recent refugee crisis could only trigger the empirical study of refugee flows towards Europe, as well as at the international level. Especially for the European Union of the 27, the challenge of receiving refugee populations has been a point of friction between the Member states (Paynter, 2019) and this could be considered as somewhat normal, if we bear in mind the relatively differentiated socio-political profile among the EU countries. However, the responsibility of receiving refuge populations mainly from the war zones of the Middle East as well as the sharing of this responsibility among EU countries should not be put in question, but rather as an urgent imperative while adjusting immigration policies towards this common goal. In this context, the adoption of appropriate policies initially requires an analysis of the different factors that determine the intensity and direction of the refugee flows.

The purpose of the present article is – on the basis of gravity model analysis - to firstly assess the link between the gradual process of European integration and the number of asylum demands, by making use of available data between 2000 and 2017. The main question is therefore to answer whether the combination of geographical and institutional proximity, as it is gradually being built up through the constantly expanding European Union, works favorably to attract asylum applications, which practically indicate the desirable destination of refugees and their families, whether or not they will finally receive an asylum status. As it is commonly the case in gravity model analyses, the estimated regression includes a wide range of geographical, socio-political, economic and institutional variables, as well as several time-dependent variables.

In order to estimate our gravity model, it is crucial to implement a preliminary diagnostic study with regard to the evolution of refugee flows and asylum applications towards the EU-27 during the last two decades. At this point, we should remember the critical point of differentiation between an asylum seeker and a refugee: the refugee population consists of people having applied for asylum in a specific country of destination and their application has been finally approved, so all refugees have previously been asylum seekers (UNHCR, 2007; Phillips, 2013). On the contrary, it should not be taken for granted that all asylum seekers will receive the asylum status, since some of the applications will be finally rejected. In this context, we could claim that the refugee population seems like the cumulative "trace" of former asylum applications and thus we could attribute to the refugees the nature of a migrant stock and therefore to that of asylum seekers the nature of a migratory flow.

The direction of refugee flows and asylum applications

Between 2000 and 2017, one of the most significant changes is a gradual dispersion of the refugee population, accompanied by a relative contraction in the proportion of refugees allocated in Germany (% of the total refugee population in the 27 EU states), which is by far the main destination of refugee populations (59,6% in 2000, 44,8% in 2017). In the meanwhile, new destinations have been emerging, with an important increase in the relative proportions of refugees welcomed in France (from 8,7% in 2000 to 15,6% in 2017), Italy (from 0,45% to 7,7%) and Austria (from 1% to 5,3%). On the contrary, it seems that the relative weights of refugee population in Northern EU states such as Netherlands and Denmark are decreasing compared to the beginning of the period under study. From another

perspective, it also appears that the central and northern EU countries are constantly those that receive the largest number of refugees per 100 inhabitants, such as Sweden, Germany, Netherlands and Denmark (Figure 1). However, it is possible to observe an increase in the intensity of refugee flows between 2000 and 2017 mainly in Austria, France and Cyprus and, to a lesser extent, Italy, Greece and Bulgaria. This trend clearly illustrates the countries of origin of refugee flows in recent years, namely the war zones in the Middle East.

**Figure 1. Refugee population per 100.000 inhabitants:
The EU-27 states (2000 and 2017)**
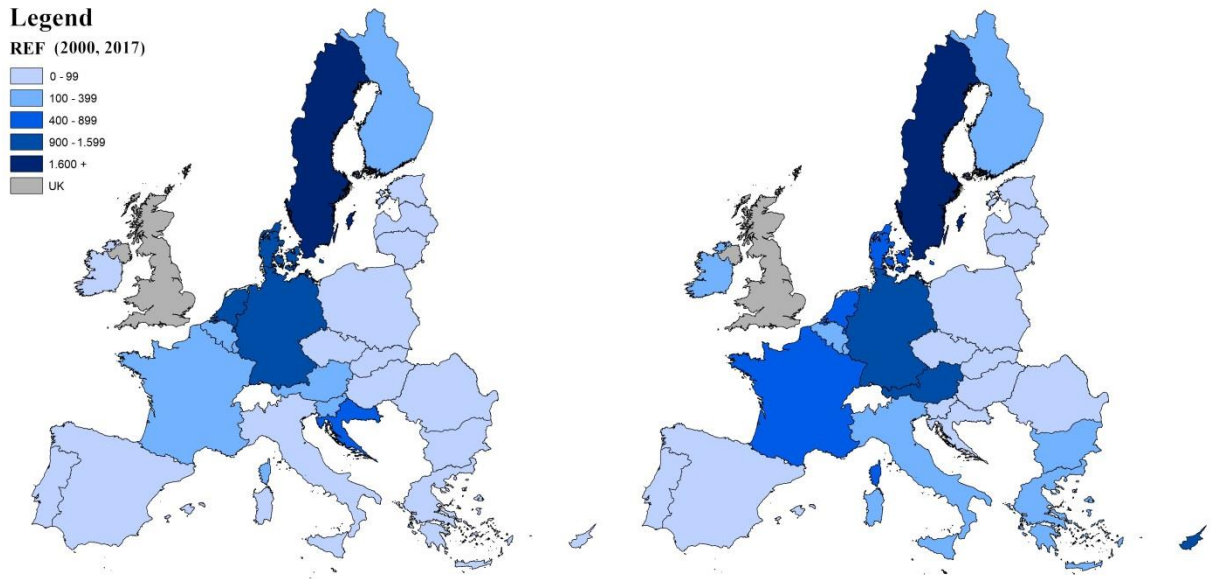
*Source: UNHCR, 2019, own treatment and calculations*

**Figure 2. Number of asylum applications per 100.000 inhabitants:
The EU-27 states (2000 and 2017)**
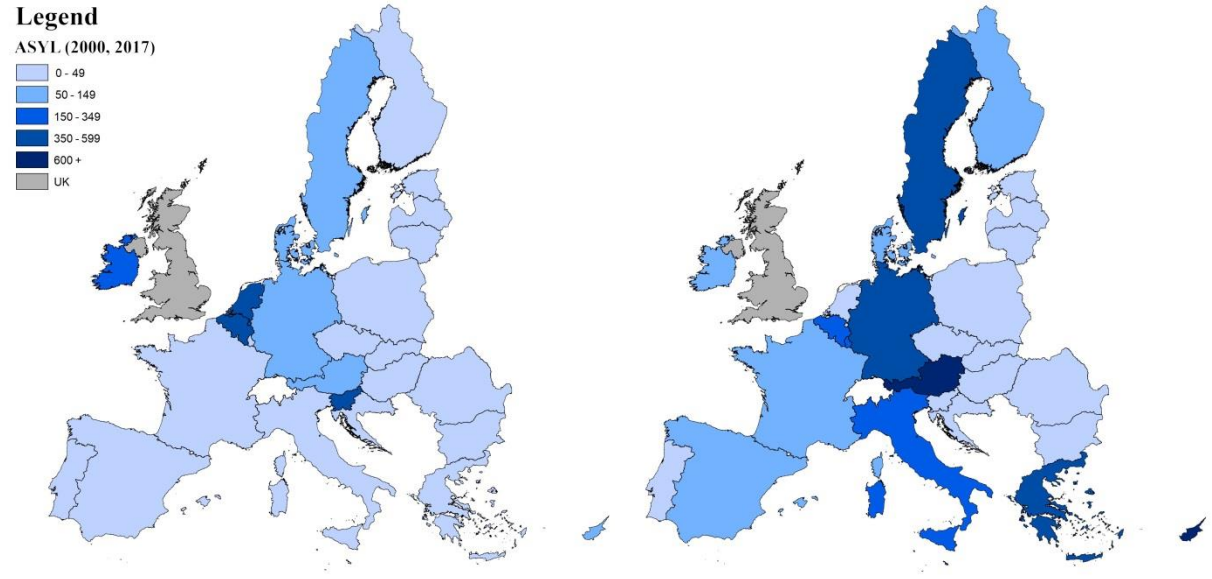
Source: UNHCR, 2019, own treatment and calculations

The direction of refugee flows becomes more obvious when analyzing the distribution of asylum applications per 100 inhabitants in each of the EU countries (Figure 2). Given the intensification of the refugee crisis over the last years and thus the unprecedented population inflows from the Middle East countries (Syria, Iraq, Afghanistan), the closest more developed countries to the eastern border of the European Union appear to be those who receive the bulk of asylum applications compared with their population size (Sweden, Germany, Austria, Italy, Greece and Cyprus). This fact highlights the impact of geographical proximity in determining the intensity and the direction of refugee flows.

Figures 3 and 4. Refugee population (left) and Asylum applications (right) by major country of origin as a percentage (%) of the total population of refugees (2017)
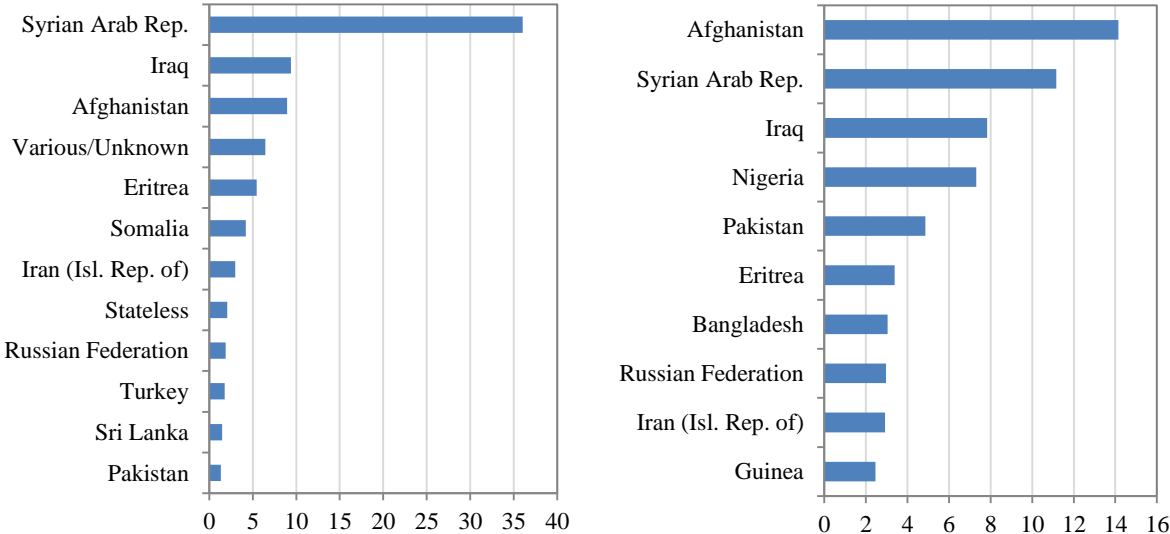
Source: UNHCR, 2019, own calculations

The refugee population, including stateless persons and those of unknown nationality, coming from the 10 major origin countries accounts for 82% of the total refugee population in the EU-27 for the year 2017 (Figure 3). As a result of the Middle East conflicts over the last five years, more than a third of the total refugee population (36%) comes from the Syrian Arab Republic. Along with the refugee populations originating from Iraq, Afghanistan, Iran and Turkey, they account for 60% of the total refugee population, especially if we consider that a significant proportion of refugees of unknown nationality (6,4%) or stateless persons (2%) mostly likely also include persons originated from the aforementioned areas. A similar trend is reflected in the distribution of asylum applications (pending cases) by major country of origin regarding the same year (Figure 4), given that a large proportion of applications concern populations coming from the same countries. Two other major regions of refugee (or asylum seeker) origin are countries in sub-Saharan Africa (Eritrea, Nigeria, Somalia, Guinea), South Asia (Pakistan, Bangladesh, Sri Lanka) and the Russian Federation.

Model specification

It is proposed to implement a gravity model in order to examine the number of asylum applications as a log-linear function of geographical, socioeconomic, political and

institutional factors. As is usually the case for gravity models analyzing the mobility patterns of refugees, a demographic variable relative to the refugee population in the countries of destination was added. This variable indirectly represents the role of communication networks among refugees in destination countries and their compatriots at home. As described above, the complementarity between geographical and institutional proximity, which is manifested through the gradual process of the European integration, is represented here by a specific dummy variable.

$$Ln\,ASYL_{it} = \beta_0 + \beta_1\,Ln\,D_{ij} + \beta_2\,Ln\,REF_{it} + \beta_3\,Ln\,GDPpc_{it} + \beta_4\,Ln\,POP_{jt}$$
$$+ \beta_5\,ISL_i + \beta_6\,LL_i + \beta_7\,PR_{jt} + \beta_8\,EU_{it} + \beta_9\,EUN_{it}$$
$$+ \beta_{10}\,BORDER + \beta_{11}\,CRISIS + \beta_{12}\,WAR + \varepsilon$$

Binary annual data on refugee population and asylum applications (pending cases) by country of destination and origin have been extracted from the UNHCR database. In comparison with other official sources such as Eurostat and Frontex (Mouzourakis, 2014), the UNHCR database is obviously the most detailed one, covering as well a longer period of time. Thus the $ASYL_{it}$ variable represents the annual number of pending cases regarding asylum applications, whether the latter receive a positive or negative answer from the national authorities.

The REF_{it} variable concerns the number of refugees or, in other words, the number of asylum approvals concerning previous years. The last demographic variable represents the total population size in the country of origin (POP_{jt} variable), using it here as an indicator of the impact of demographic pressures on countries of origin. The total population data derive from the UN COMTRADE / UNCTADStat database, as is also the case for the GDP per capita estimations, the values measured in 2010 constant US dollars ($GDPpc_{it}$ variable). As regards the geographical variables, data on the distances (D_{ij} variable) between countries of destination and origin come from the CEPII database (Mayer & Zignago, 2011). The ISL_i and LL_i variables aim to capture the effect of insularity and landlockedness of destination countries on refugee flows, respectively, while the $BORDER$ variable takes the 1 value in the case of adjacency between countries of origin and destination, otherwise zero.

At a sociopolitical level, the PR_{jt} variable represents the quality of political rights in countries of origin overtime (Freedom House, 2019). The higher the value of the Political Rights Index, the lower is the quality of respect for political rights. At the institutional level, the EU_{it} variable aspires to assess the effect of the spatially expanding European Union during the last two decades, combined by the resulting spatial continuities and discontinuities occurred or preserved, respectively, by these institutional changes. As already mentioned, the EUN_{it} variable aims to represent the increase of interconnectivity among the EU-27 member states over time. We should bear in mind that the period under study is characterized by the EU entry of the Baltic countries (Estonia, Latvia and Lithuania), European island countries (Cyprus and Malta), landlocked countries (Czechia, Hungary, Slovakia) as well as Poland and Slovenia in 2004, accompanied by the accession of Balkan countries (Bulgaria, Romania and Croatia) in 2007 and 2013 (European Union, 2019). The question raised here lies in whether this almost doubling in the number of EU-27 States has eventually facilitated - or not - the attraction of asylum applications and, as a result, of refugee flows. Thus the value of the EUN

variable equals each time the number of EU neighbors of a destination country which is an EU member in the specific year. The variable takes zero values in cases where a) a European country does not yet belong to the EU or b) a European country belongs to the EU but does not have EU neighbors. This condition also implies that in observations regarding island European countries, whether or not yet they belong to the European Union, the EUN variable constantly takes the zero value. Finally, the two time-dependent variables aim at capturing the impact of the global financial crisis as well as the civil war (*CRISIS* and *WAR* variables) in the Syrian Arab Republic and neighboring regions. As shown in the gravity equation, the proxies related to bilateral distance, number of refugees and asylum applications, per capita GDP and the total population size in the country of origin are all expressed in natural logarithms.

Estimation results

The sample includes 10.419 observations regarding asylum applications towards the EU-27 members over the 2000-2017 period. The estimated regression is characterized by moderate interpretative value (R^2=0,513), although this is probably due to the nature of forced migration itself. In order to check for robustness, we applied a simple bootstrap methodology for resampling into a number of 1000 samples (Efron, 1979; Efron & Tibshirani, 1993; Davison & Hinkley, 1997).

At the level of interpretation of the estimated coefficients, the influence of the geographical component seems very often ambiguous among the different empirical studies, except for the geographical distance which traditionally exerts its repulsive effect. In our case, the results show that island countries of the EU-27 (Cyprus, Malta) often serve as host poles for asylum seekers, due to their relative geographic proximity to the conflict zones of the Middle East. Apart from the most important refugee route through Turkey to the Balkans and the ultimate destination of Central Europe, there is also a recent rise in refugee flows through the Eastern land borders of the European Union. This specific route often involves the passage through the eastern landlocked countries such as Slovakia, Czechia and Hungary and therefore we can justify an increase of asylum applications in these countries. Based on the above justifications, the coefficient signs for both insularity and landlockedness are positive and statistically significant at 1% level.

The existing literature has already highlighted the impact of a common border between origin and destination countries on the intensity and direction of migratory flows, which is generally stimulating in the case of economic migration (Karemera *et al*, 2000; Letouzé *et al*, 2009; Kim & Cohen, 2010; Ramos & Suriñach, 2013; Cattaneo & Bosetti, 2017; Dedeoğlu & Genç, 2017; Tuccio, 2017). However, this finding does not seem to be confirmed in the case of forced migration. The elasticity for common border has the same sign and about the same weight as the corresponding elasticity for distance, indicating that destination countries are usually not adjacent to the countries of origin, which in turn may not easily assign asylum status to persons from neighboring countries for diplomatic reasons or due to relative bilateral agreements. However, it should not be overlooked that the existence of a common border between destination and origin countries in our sample concerns, by nature, only the eastern border of the European Union with the Balkan and the former Soviet Union countries.

As for the economic component of the model, the estimated model confirms that economic prosperity in destination countries matters for the attraction of forced migration

flows. The elasticity for per capita GDP takes the expected positive sign, as already shown in relevant studies (Aburn & Wesselbaum, 2017; Tuccio, 2017; Dreher *et al*, 2018). This finding also means that even desperate efforts of abandoning the country of origin where war conflicts take place are often accompanied by a potential destinations plan on the part of forced migrants, in order just to ensure a better future for them and their families. With regard to the impact of the global financial crisis (2008-2009), the results indicate a "repulsion" effect on new asylum applications towards the EU-27, confirming that even in the case of forced migration, the choice of destination countries can only include the economic aspect. Moreover, it cannot be ignored that the conjuncture of the economic crisis had a significant impact on the mobility system within the European Union, thus contributing to the emergence of an inward-looking and extremely repulsive attitude from the part of several EU members towards the incoming populations.

The impact of factors related to the quality of political rights and the conjuncture of warfare in the countries of origin could not be excluded from the present study. The elasticity related to the level of respect of political rights in the country of origin thus receives the expected positive sign. The definition of refugee itself (United Nations, 1951) is inextricably linked to the notion of forced displacement of persons due to civil wars or even for political and other reasons. The same conclusion can be drawn by the positive sign of the variable associated with the conjuncture of the war in Syria and neighboring countries. As already noted, the greatest part of refugees in the European Union originates from the Middle East countries, a fact that is reasonably combined by the recent intensification of asylum applications coming from these areas. It seems like this factor exerts the most limited impact in relation to all other factors, but we could claim that this is probably due to the introduction of the variable regarding the refugee populations by destination country, which by nature incorporates the impact of war on refugee flows.

In the model, two demographic variables have also been introduced that act as attraction and repulsion "masses". As is commonly reported in the literature, the population size in the countries of origin acts as a repulsion force, while the corresponding population size in the destination countries functions as an attraction force (see, for example, Poot *et al*, 2016). Moreover, the very frequent introduction of the latter variable is considered more appropriate to represent the market size of destination countries, since it is not affected by any possible temporary fluctuations in the economic context, as is the case for GDP. The elasticity for the population size of the countries of origin takes here the expected positive sign. We could argue that this variable incorporates the repulsive effect of demographic pressures exerted in the less developed nations worldwide, combined with an extreme poverty and a demographic transition which is still under way. As a result, in some cases, the event of war conflicts just makes living conditions even worse.

The literature relative to the factors lying behind human mobility has been gradually enriched by recent studies on forced migration flows (Iqbal, 2007; Ruiz & Vargas-Silva, 2013; Barthel & Neumayer, 2015; Echevarria & Gardeazabal, 2016). Apart from the repulsive effect of the population size in the country of origin, the results highlight the role of the refugee population size as an attraction "mass" for asylum seekers of the same nationality. We could easily support that the specific weight of the elasticity for refugee population incorporates the role of communication networks that are gradually established between refugees in destination countries with their compatriots at home, thus including potential new asylum seekers. This assumption becomes even stronger when considering that the ongoing

technological developments and the Internet contribute even more to improving human networks, particularly in the absence of other complementary infrastructure (for example, telecommunication facilities) or any bilateral diplomatic agreements on the mobility of persons, where appropriate.

Table 1. Results

Independent Variables	$ASYL_{it}$ (N=10.347)	Beta coefficients
Constant	-1,162	
Distance (LnD_{ij})	-0,218 (-10,460)[a]	-0,085
Per capita GDP of destination country i ($LnGDPpc_{it}$)	0,243 (7,695)[a]	0,069
Population size of country of origin j ($Ln(POP_{jt})$)	0,103 (11,503)[a]	0,084
Refugee population in destination country i ($Ln(REF_{it})$)	0,593 (86,834)[a]	0,684
Island destination country i (ISL_i)	0,229 (5,644)[a]	0,041
Landlocked destination country i (LL_i)	0,352 (8,453)[a]	0,064
Political rights index in country of origin j (PR_{jt})	0,234 (4,039)[a]	0,035
Destination country's i accession to the EU (EU_{it})	-0,426 (-4,738)[a]	-0,042
Number of destination country's i EU neighbors (EUN_{it})	0,031 (3,864)[a]	0,038
Common border (BORDER)	-1,237 (-8,573)[a]	-0,078
Crisis (CRISIS)	-0,298 (-8,394)[a]	-0,053
War (WAR)	0,125 (4,249)[a]	0,031
Adjusted R^2	0,513	
F-test	907,259[a]	
Durbin-Watson (d)	1,769	

Note: All variables except dummies are expressed in natural logarithms. Estimations use White's heteroskedasticity-consistent covariance matrix estimator. t-Statistics are in parentheses. The superscript a means p<0,01.

The two remaining variables describe the impact of the European countries' entry to the EU, as well as the multiplier effect of the ever-improving interconnection between the newer and older EU members, as a result of the interaction between geographical and institutional proximity. The negative sign for the *EU* elasticity seems not to confirm the attractive effect of the European countries' integration to the EU itself. However in the case of the second variable, the positive coefficient sign reveals that, *ceteris paribus*, the larger the number of neighboring EU countries to another EU member, the greater the number of asylum applications. In this case, we could claim that a European country's accession to the EU seems not a fairly sufficient condition in improving the Union's attractiveness for asylum applications, and this fact may partly explain the negative sign of the elasticity for *EU* entry.

Instead, it appears that the improving interconnectivity among EU members through the multiplier effect achieved by the synergy of geographical and institutional proximity encourages new asylum applications. This finding implies that not only provided a European country to be EU member to attract refugee flows. On the contrary, the role of the physical and institutional "adjacency" with other EU members proves to be a critical factor for the

mobility of refugee populations. Finally, it could be argued that the positive impact of improved interconnectivity can advocate a causal relationship between the European integration and the facilitation of refugee flows (Latek, 2019). We refer to role of the countries at the EU borders, namely the Southern Mediterranean and newly-arrived Eastern EU members, which act as transit nodes for refugees heading for the more developed countries of Central Europe. However it is evident that the refugees' entry to the aforementioned transit nodes does not imply their absolute freedom of movement. Even the common space of the European Union is by no means neutral.

Conclusions and discussion

The present study attempted to capture the effect of the gradual process of the European integration on the facilitation of refugee flows. The estimated model includes some of the common geographical and socioeconomic factors, as well as a set of political and institutional variables, while it is characterized by a modest interpretative value. Apart from the rather expected results regarding the coefficients capturing the effect of geographical, economic and sociopolitical factors, we tested indirectly the impact of communication networks established between refugees and their compatriots at home in facilitating refugee flows, as well the effect of improving interconnectivity between EU members.

The results confirmed the positive network effects on facilitating forced migration flows (Langley *et al*, 2016): the refugee population installed in the EU countries acts as an "attraction mass", borrowing once again the term from natural sciences, of new asylum applications. This suggests that migratory flows moving away from conflict zones are generally directed to EU members where there exists a greater chance of asylum application approvals. To this end, the contribution of the technological advances, as well as the broad expansion of social media which facilitate the information spread, becomes even more critical for the refugees' urgent need to escape from the country of origin.

We have shown that the gradual EU integration process positively contribute towards asylum assignment, thus suggesting that the forced migration process is reshaped by the contemporary spatialities. But the even more continuous geographical space of the European Union is by no means borderless for refugee populations. The lack of consensus among EU members on the implementation of appropriate policies for the reception of refugees has been one of the main conclusions drawn from the refugee crisis of the last five years. The differentiated migration policies established by the members often result in the emergence of unexpected "barriers" to refugees moving inside the integrated EU space. This fact certainly raises the need for a common understanding between the EU members on immigration issues and refugee reception policies.

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Appendix A. Variables and Data Sources

Variable	Definition	Source
$ASYL_{it}$	Number of asylum demands in destination country i, various years	UNHCR database, 2019
REF_{it}	Refugee population in destination country i, various years	UNHCR database, 2019
D_{ij}	Distance between country of origin j and destination country i	CEPII GeoDist database (2018), *dist* variable
$GDPpc_{it}$	Per capita GDP of destination country i, in constant 2010 US dollars, various years	UN COMTRADE / UNCTADStat
POP_{jt}	Population size of country of origin	UN COMTRADE / UNCTADStat
ISL_i	Dummy variable for island countries, 0 or 1	Own calculations
LL_i	Dummy variable for landlocked countries, 0 or 1	Own calculations
PR_{jt}	Political rights index in country of origin j, various years	Freedom in the World survey, Freedom House
EU_{it}	Dummy variable, destination country's i accession to the EU	Own calculations, http://europa.eu/european-union/
EUN_{it}	Dummy variable, number of destination country's i EU neighbors (EUN_{it})	Own calculations, http://europa.eu/european-union/
BORDER	Dummy variable, common border between country of origin j and destination country i	Own calculations
CRISIS	Dummy variable, value 1 for years 2009 and 2010, otherwise 0	Own calculations
WAR	Dummy variable, value 1 for years 2014-2016, otherwise 0	Own calculations

Appendix B. The 133 countries of origin of the sample

Afghanistan	Georgia	Oman
Albania	Ghana	Pakistan
Algeria	Greece	Palestine
Angola	Guatemala	Peru
Argentina	Guinea	Philippines
Armenia	Guinea-Bissau	Poland
Azerbaijan	Guyana	Rep. of Korea
Bahrain	Haiti	Rep. of Moldova
Bangladesh	Honduras	Romania
Belarus	Hungary	Russian Federation
Benin	India	Rwanda
Bhutan	Indonesia	Saudi Arabia
Bolivia (Plur. State of)	Iran (Isl. Rep. of)	Senegal
Bosnia and Herzegovina	Iraq	Sierra Leone
Brazil	Israel	Slovakia
Bulgaria	Italy	Slovenia
Burkina Faso	Jamaica	Somalia
Burundi	Jordan	South Africa
Cambodia	Kazakhstan	Spain
Cameroon	Kenya	Sri Lanka
Central African Rep.	Kuwait	Sudan
Chad	Kyrgyzstan	Suriname
Chile	Lao PDR	Syrian Arab Rep.
China	Latvia	Tajikistan
Colombia	Lebanon	Thailand
Comoros	Liberia	Togo
Congo	Libya	Trinidad and Tobago
Côte d'Ivoire	Lithuania	Tunisia
Croatia	Madagascar	Turkey
Cuba	Malawi	Turkmenistan
Czechia	Malaysia	Uganda
Dem. Rep. of the Congo	Mali	Ukraine
DPR of Korea	Mauritania	United Arab Emirates
Djibouti	Mauritius	United Kingdom
Dominican Rep.	Mexico	United Rep. of Tanzania
Ecuador	Mongolia	United States of America
Egypt	Morocco	Uzbekistan
El Salvador	Mozambique	Venezuela (Boliv. Rep. of)
Equatorial Guinea	Myanmar	Viet Nam
Eritrea	Nepal	Western Sahara
Estonia	Netherlands	Yemen
Eswatini	Nicaragua	Zambia
Ethiopia	Niger	Zimbabwe
Gabon	Nigeria	
Gambia	North Macedonia	