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Migration and Refugee Flows: New Insights

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Editorial

Introduction to Migration and Refugee Flows: New Insights

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Abstract
Population movements between countries and continents are not recent phenomena. What is new today is that migration flows are increasingly linked to the globalization process and to environmental degradation. Most of the migrants leave their homes for economic reasons, but also due to the higher frequency of natural disasters. Of the total migrant population, those who escape from conflicts or persecution still represent a smaller fraction and are entitled to obtain refugee status. This thematic issue includes eight articles that analyse migration flows and migration governance from different analytical perspectives. Five of the eight contributions examine the role that several factors play in explaining international migration flows and its effects, namely cultural diversity, information technology tools, governance, terrorism, and attitudes towards immigration. The remaining three articles are country studies that analyse the socio-economic causes/effects of migration flows to Portugal, Spain, and Germany, devoting special attention to forced migration and refugees.

Keywords
asylum; cultural diversity; Germany; governance; information technology; migration; Portugal; refugees; Spain; terrorism

Issue
This editorial is part of the issue "Migration and Refugee Flows: New Insights" edited by Inmaculada Martínez-Zarzoso (University of Göttingen, Germany / Jaume I University, Spain).

1. Introduction

In the late 2000s Europe faced growing migration flows from the African continent following the Arab Spring and the growing instability in North Africa and the Middle East. This process exacerbated in 2015 when Germany announced a welcoming policy, which led to a massive arrival of immigrants and to the consequent opposition from a number of other European countries, such as Hungary, which did perceive this policy as a negative example. Other regions in the world were also affected by similar problems, such as those caused by the Venezuelan crisis or ethnic persecution in Asia. These migration crises, emerging in different parts of the world, highlight the inadequacy of the existing governance structures of the national and supra-national institutions. In practice, the solution proved difficult, and the question of how to deal with migrants remains unsolved.

The aim of this thematic issue is to analyse migration flows and migration governance from different analytical perspectives. The contributions include the analysis of the socio-economic determinants of international migration flows not only at a global level, but also in a number of host countries, namely Germany, Portugal, and Spain. This thematic issue covers aspects related to the following: migration governance in developing and developed countries and its implications; the changing dynamics in international migrations and the examination of information technology tools to predict the flows; the economic effects of the migrants' cultural diversity, as well as the effects of terrorism and other political factors on emigration; the interlink between migration and governance of the receiving countries in rural areas; and the different determinants of refugee flows and international migration.

2. Factors Explaining International Migration Flows

The first contribution by Maite Alguacil and Luisa Alamá-Sabater entitled "Migration in Spain: The Role of

Cultural Diversity Revisited" examines the link between immigrant cultural diversity and economic performance at the provincial level. The authors use data for immigrants arriving to Spanish provinces over a period of 14 years and use econometric techniques to disentangle the differences between working and retired migrants. The main results of the analysis indicate that, in the case of labour-active immigrants, greater cultural diversity stimulates economic activity and these gains are reinforced when migrants come from developing countries. The main implication of this research is that the misperception that citizens have, concerning the potential negative effects from immigrants in the labour market, should be counteracted by providing information to the general public about the positive economic effects coming from cultural diversification, such as the ones found in this article (Alguacil & Alamá-Sabater, 2021).

Another important aspect of international migration is that host countries are not always able to predict future international migration trends accurately; this is the topic covered in "The Role of Emerging Predictive IT Tools in Effective Migration Governance" by Cristina Blasi Casagran, Colleen Boland, Elena Sánchez-Montijano, and Eva Vilà Sanchez. Their study examines three predictive tools using a comparative qualitative approach, considering their scope and the links to the corresponding migration theories, research questions, and objectives. The tools examined are: the JETSON tool, operated by UNHCR; the Early Warning and Preparedness System used by the European Asylum Support Office; and FORESIGHT, operated by the Danish Refugee Council. The question posed by the authors does not seem to have an easy answer. Despite the importance of the tools examined, the authors find that many difficulties are faced by those managing the predictive tools and provide several factors that should be taken into consideration to improve the tools. These include the following: more guidance on how to select variables to be incorporated into the models; searching ways to involve end-users in the process; improving the accuracy of the tools; and, finally, tailoring the modelling of the prediction to specific governance objectives (Blasi Casagran et al., 2021).

The economic literature that examines the "push factors" explaining forced migration has rarely considered that most people forced to flee, move within their own country. The main novelty of the next contribution "Asylum Migration, Borders, and Terrorism in a Structural Gravity Model," by Federico Carril-Caccia, Jordi Paniagua, and Francisco Requena, is an analysis of the impact of terrorist attacks on asylum migration using a gravity equation that includes both international migration and internally displaced people. This framework is suitable to identify the effect of country-specific factors, such as terrorist attacks. Using information on asylum applications, internally displaced persons, and terrorist attacks for a global sample of countries in the last decade, the empirical results indicate that despite the fact that asylum migration is still low compared to internal migration, globalization forces are pushing up the former. The authors also find that terrorist attacks have a positive and significant effect on forced migration. Moreover, some regional heterogeneity in the effect of terrorism on asylum is found, showing that terrorist attacks have a much larger impact on asylum applications in Latin America than in Asia or Africa (Carril-Caccia et al., 2021).

In relation to the controversial issue around the public opinion about international migration, Teresa María García-Muñoz and Juliette Milgram-Baleix in their article "Explaining Attitudes Towards Immigration: The Role of Economic Factors" analyse the determinants of the individuals' opinions with respect to the economic impact of immigrants in the host country. The main novelty of their analysis is the use of a global sample. The methodology used is a multilevel model, which is employed to investigate the effect of the individuals' characteristics and macroeconomic variables on the assessment of immigrants' impact on development. The main results indicate that migrants are perceived as potential substitutes of low- and middle-skilled workers in capital-abundant countries and that closer contact with immigrants seems to reduce anti-immigrant opinions. This is the case for skilled workers and, hence, education is one of the best tools to change inaccurate perceptions when assessing the role played by immigrants in the host country (García-Muñoz & Milgram-Baleix, 2021). Also dealing with attitudes towards migrants and refugees, but in this case for a specific world region—the "Visegrad Four"—the article by Artur Gruszczak "'Refugees' as a Misnomer: The Parochial Politics and Official Discourse of the Visegrad Four" explores the official policy responses to the refugee crisis in the four Central European countries: Poland, Hungary, Slovakia, and the Czech Republic. The main methodology framework consists of a qualitative content analysis supplemented by the findings of public opinion polls. The author concludes that the migration crisis alarmed the traditional cleavages at the supra-local level, reinforcing simultaneously the sense of parochial altruism and hostility towards migrants (Gruszczak, 2021).

3. Country Case Studies

Although many immigrants tend to choose big cities as destinations, it is also crucial to examine the challenges faced by rural communities to govern international migration. In their contribution, Inês Cabral and Thomas Swerts deal with the issue of "Governing Precarious Immigrant Workers in Rural Localities: Emerging Local Migration Regimes in Portugal" and focus on a case study in the locality Odemira, where the presence of precarious immigrant workers is perceived as a policy problem by the local government and the civil society. The authors examine the consequences of the increasing migration to rural areas in Southern Europe, which is partly generated by the globalization of the agricultural sector combined with the declining and ageing

workforce in the countryside that creates a demand for immigration labour. The article examines the emerging local migration regimes in Odemira and concludes that balancing power relations between actors could help to improve the living and working conditions of precarious immigrant workers by improving arrival infrastructures, stimulating integration, mediating the sociocultural impact, and accommodating business interest (Cabral & Swerts, 2021).

Motivated by the increasing number of far-right political parties that oppose migration in Europe, the article "Undocumented Migration and Electoral Support: Evidence From Spain," by Ismael Gálvez-Iniesta and José L. Groizard, focuses on the Spanish case that was described as peculiar in Mendez and Cutillas (2014), indicating that immigration led to more support for the left than for the right parties in presidential elections in Spain. Using recent data, this article finds that an increase in the share of irregular migrants increases the share of votes to the conservative party but has no impact on the vote share of the socialist party. Contrarily, voters respond to rising regular migration by favouring the socialist party and no effect is found on the vote share of the right. The inclusion of new political forces, such as VOX, to test the role played by immigration and national-identity discourse in the general elections that took place after the refugee crisis, could explain this result. While increasing shares of irregular immigrants change the distribution of the share of votes from the left to the right, greater proportions of regular immigrants reduce support for the right and the far-right. Summarizing, the results show that the right has capitalized on the narrative of restricting irregular migration and Spaniards' voting behaviour does not differ from this in neighbouring European countries (Gálvez-Iniesta & Groizard, 2021).

Finally, the study by Felicitas Nowak-Lehmann, Adriana Cardozo, and Inmaculada Martínez-Zarzoso, entitled "Migration and Asylum Flows to Germany: New Insights Into the Motives," examines the determinants of both international migration and asylum migration from developing countries to Germany. A gravity model is estimated that includes climate change, economic opportunities, links to Germany, the political and institutional situation in the sending countries, and a control for migration opportunities to alternative destinations. The most interesting findings are revealed when considering country-groupings heterogeneity. For total migration levels, moderate migration-decreasing effects are found for weaker migrant networks in Germany, smaller population growth differences between the countries of origin and Germany, relative economic progress in the countries of origin, and improvement of socioeconomic factors, such as poverty, unemployment, and consumer confidence. Consistent migration-decreasing effects are also linked to improvements of political factors in the sending countries. Concerning asylum migration, improvements in ethnic tensions or internal conflict are associated with a lower number of asylum applications. These reductions are very pronounced for countries with a low asylum recognition rate. Better economic and socioeconomic conditions in origin countries, such as relative improvements in per capita income, consumer confidence, and employment are associated with a reduction in asylum requests. However, alleviation of poverty seems to propel asylum migration suggesting that improved economic conditions, together with the help of families and facilitators, can make emigration feasible and affordable. Finally, increasing average temperatures is found to trigger emigration among asylum seekers. Interestingly, the majority of asylum seekers comes predominantly from countries located in arid and semi-arid regions, where increasing average temperatures lead to drought with concomitant high losses in agriculture (Nowak-Lehmann et al., 2021).

4. Conclusions

The eight articles presented in this thematic issue deal with current issues at the global, country, and municipality level, opening a black box of potential explanations concerning the factors that explain migration, as well as the socio-economic and political consequences of migration for the host countries. Further research should extend the work offered by these contributions to other regions of the world, as well as provide additional case studies to enrich the new insights around the research area of migration and refugee flows.

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Conflict of Interests

The author declares no conflict of interests.

References

Alguacil, M., & Alamá-Sabater, L. (2021). Migration in Spain: The role of cultural diversity revisited. *Politics and Governance*, *9*(4), 118–132.

Blasi Casagran, C., Boland, C., Sánchez Montijano, E., & Vilà Sanchez, E. (2021). The role of emerging predictive IT tools in effective migration governance. *Politics and Governance*, *9*(4), 133–145.

Cabral, I., & Swerts, T. (2021). Governing precarious immigrant workers in rural localities: Emerging local migration regimes in Portugal. *Politics and Governance*, *9*(4), 185–195.

Carril-Caccia, F., Paniagua, J., & Requena, F. (2021). Asylum migration, borders, and terrorism in a structural gravity model. *Politics and Governance*, *9*(4), 146–158.

Gálvez-Iniesta, I., & Groizard, J. L. (2021). Undocumented migration and electoral support: Evidence from Spain. *Politics and Governance*, *9*(4), 196–209.

García-Muñoz, T. M., & Milgram-Baleix, J. (2021). Explaining attitudes towards immigration: The role of economic factors. *Politics and Governance*, *9*(4), 159–173.

Gruszczak, A. (2021). "Refugees" as a misnomer: The parochial politics and official discourse of the Visegrad Four. *Politics and Governance*, *9*(4), 174–184.

Mendez, I., & Cutillas, I. M. (2014). Has immigration affected Spanish presidential elections results? *Journal of Population Economics*, *27*(1), 135–171.

Nowak-Lehmann, F., Cardozo, A., & Martínez-Zarzoso, I. (2021). Migration and asylum flows to Germany: New insights into the motives. *Politics and Governance*, *9*(4), 210–223.

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Article

Migration in Spain: The Role of Cultural Diversity Revisited

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Abstract
In this article, we analyze to what extent cultural diversity brought about by immigrants affects economic activity of the Spanish provinces. To do that, we use panel data techniques that treat cultural diversity as an endogenous variable and account for spatial linkages. The dual nature of immigrants in Spain, that is, working and retired migration, is also considered in our regressions. The outcomes reveal that greater cultural diversity stimulates the economic activity of the Spanish provinces, these gains being reinforced in the case of labor-active migrant and for richer provinces. Our results are robust to diverse specifications, estimation methods, and samples.

Keywords
cultural diversity; economic development; migration; Spain

Issue
This article is part of the issue "Migration and Refugee Flows: New Insights" edited by Inmaculada Martínez-Zarzoso (University of Göttingen, Germany / Jaume I University, Spain).

1. Introduction

The increasing inequalities between regions, climate change, and the exacerbation of conflicts in some developing areas have accentuated the migration flows in the world economy, with the consequent social and economic tension in host countries. According to the OECD (2020), OECD countries received about 5.3 million new permanent migrants in 2018, representing an increase of 2% compared to 2017. Preliminary data for temporary migration flows in OECD countries also reflect an expected increase in 2019 compared to 2018. Although in 2020 the Covid-19 crisis has led to a reduction in these movements, a rebound in migratory movements it is expected by 2021 (OECD, 2020).

The entry of foreign people is especially remarkable in the case of Spain. From the end of the 20th century to the early years of the 21st century, this country has gone from being a net source of migrants to a net recipient, becoming one of the main target countries for immigrants in Europe. The share of the foreign population in Spain increased from 2% in 2000 to more than 12% in 2017 (Alamá-Sabater et al., 2017). In 2018, Spain still ranked second among the countries of Europe in terms of receiving the most foreigners, with 6.2% more immigrants entering the country than in 2017. As shown by Delgado Gómez-Flors and Alguacil (2018), migration flows have made the Spanish population more diverse, not only culturally, but also spatially. Hence, the concern of this article is to understand the consequences of this mass immigration and the ensuing rise in cultural diversity. The expression "cultural diversity" used throughout this article refers to heterogeneous groups of people in terms of their birthplace. According to Docquier et al. (2020), culture and country of birth are closely related as the latter determines the language, education system, and social rules people were exposed to in their youth. Similarly, for Taras et al. (2010), the behavior of individuals in a society is strongly associated with the pattern observed in their birthplace. As in previous literature, we focus here on birthplace diversity from the first-generation international immigrants (see, among

others, Cooke & Kemeny, 2017; Ottaviano & Peri, 2012; Rapoport, 2018). Concretely, we consider that a region is culturally more diverse when immigrants come from a higher number of birthplaces; or, in other words, when the probability that two migrants, randomly selected, were born in different countries is greater. A full representation of cultural diversity would require also considering to what extent migrants adopt the dominant culture of the host region or maintain their culture even passing this to the subsequent generations (Nijkamp & Poot, 2015). However, in our case, data limitations have prevented us from using a more fitted measure of cultural diversity.

The motivation for this study stems from the ongoing debate concerning the effects that international migration has on destination countries. The increasing fear about the economic consequences of large-scale immigration flows and the absence of a coherent migration policy have led to growing social and political tension, which cannot always find a clear answer from the academia. The impact of migration on the employment and wages of native workers continues to be one of the recurring issues in the European public debate and one of the reasons behind the expansion of xenophobic movements on the political scene. Furthermore, given the technological advances produced within the new Industry 4.0, the less qualified native workers find themselves in an unfavorable position vis-à-vis the more qualified workers, sometimes blaming migrants for precipitating lower labor standards by accepting the less attractive jobs.

Based on the idea that heterogeneous groups of people might perform differently from homogeneous ones, a new wave of studies on international migration incorporate the effects of greater diversity into the discussion (for a review, see Delgado Gómez-Flors & Alguacil, 2018). Several measures of cultural diversity related to international migration have been used in the literature, referring to ethnic identity, social or religious groups, or geographical origin (Bove & Elia, 2017; Longhi, 2013; Nijkamp & Poot, 2015).

According to this literature, the increasing diversity of the populations prompted by immigration might yield economic costs and benefits through different channels. The costs derived from immigrant diversity are usually related to the increasing difficulties of communication and cooperation across different ethnic groups (Bandiera et al., 2005). For Nijkamp and Poot (2015), if the cultural variety is too great, then social granularity can lead to excessive communication transaction costs, which can eventually reduce productivity. Besides, greater cultural diversity is associated with the creation of new ideas and innovation activities and with improvements in problem solving (Parrotta et al., 2014a). Immigrants' international social networks may further facilitate the connection of firms with foreign partners and transnational transactions (Möhlmann & Bakens, 2015). Hence, immigration diversity might play a prominent role in promoting competitiveness, and this should be considered.

In this work, we examine the economic impact resulting from opening borders to new residents, considering the heterogeneous nature of migrants and their cultural diversity. After a comprehensive overview of the existing academic papers, we quantify how birthplace diversity brought about by immigration affects the economic activity of Spanish provinces. This question is of great importance for Spain, with a mass-scale and continuous entry of immigrants in recent years and with an unemployment rate that reached 26% in 2013 (Alamá-Sabater et al., 2017). Even though this rate fell to about 13% before the Covid-19 era (in 2019), this country still presents nowadays the second highest unemployment rate among European Union (EU-27) member countries, only behind Greece (Eurostat, 2021).

This article makes two main contributions with respect to the previous related literature. Firstly, it analyses for the first time the connections between immigrant diversity and the economic performance of the Spanish provinces (NUTS 3). Secondly, our empirical analysis considers both the potential endogeneity of migration diversity and the spatial pattern associated to the economic indicators of Spanish provinces. To deal with these issues, as a novelty in the migration literature, we employ two-stage least-square (2SLS) estimators for spatial autoregressive models with endogenous regressors and instrumental variables (IV).

2. Background

Questions such as whether immigration harms or improves the opportunities of native workers or how it affects the economic performance of host countries have been studied in depth in empirical work with unclear and sometimes contradictory results (for a review, see Ottaviano & Peri, 2012). Previous research, however, leaves the potential positive spillovers from greater heterogeneity of the population prompted by foreign migration in the background.

An array of recent empirical studies has attempted to clarify this issue but with ambiguous results. Some papers, at the regional scale, identify a clear positive impact of cultural diversity, coming from the presence of foreign citizens, on the economic development of the host market. Most of them focus on the effects on wages and productivity, based on the idea of a complementarity in production from more diverse immigrants (Bellini et al., 2013; Rapoport, 2018). The seminal paper on this matter is Ottaviano and Peri (2006). By using panel data from different American Metropolitan Statistical Areas, these authors confirmed the positive impact of immigration diversity on the average wage of US-born workers overall, both in the short and in the long run. Other authors that have found that immigrant diversity improves the economic development of this country are Sparber (2010), Ager and Brückner (2013), Kemeny and Cooke (2018), Docquier et al. (2020), and Rodríguez-Pose and von Berlepsch (2018). The benefits of diversity on

wage, employment, or income per capita are also apparent when other developed economies are considered. This is the case of UK, Germany, and Spain, as shown by Nathan (2016), Suedekum et al. (2014), and Delgado Gómez-Flors and Alguacil (2018), respectively. In a similar vein, Bakens and de Graaff (2020) evidenced a positive correlation between individual productivity and migration diversity in the Netherlands. Another study by Bellini et al. (2013) revealed a positive effect of migration diversity on wages in 12 European regions. For Bove and Elia (2017), the positive effect of cultural diversity prompted by immigration flows is even more consistent in developing economies than in developed ones.

Other studies (most of them, but not all, centered on less developed countries) reveal a negative or a non-significant relationship between cultural diversity and the economic performance of the host regions, thus showing the relationship between natives and foreigners to be more one of substitution than of a complementary nature. Most of this literature contemplates cultural diversity as a factor of social destabilization and poor economic behavior, in many cases identifying cultural diversity with ethnic fractionalization and social polarization (Alesina & Ferrara, 2005). Authors like Easterly and Levine (1997) and Collier and Gunning (1999) put forward ethnolinguistic fractionalization as a main reason for Africa's poor performance. For Montalvo and Reynal-Querol (2005), who analyzed a sample set of developing countries, a rise in social polarization has a negative impact on growth because it reduces the rate of investment and increases public consumption and the incidence of civil wars. By the same token, Churchill and Smyth (2017) found that ethnic and linguistic fractionalization helped to increase poverty levels in a group of developing countries and Campos et al. (2011) showed evidence of a negative effect of ethnic fractionalization on economic growth in a sample of 26 former centrally-planned economies. Considering a developed economy, Longhi (2013) demonstrated that the positive correlation between diversity in English Local Authority Districts and workers' wages found in cross-sections disappears when we run panel estimations. Similarly, for Bakens et al. (2013), cultural diversity has no significant effect on average wages in Dutch cities.

The evidence at a micro level of the economic impact of cultural diversity is also quite vague. On the one hand, Trax et al. (2015) and Brunow and Nijkamp (2018) found that diversification of foreign workers in terms of nationalities increases productivity in German firms. In a similar vein, Böheim et al. (2012) showed that workforce heterogeneity leads to higher productivity and wages in Austrian firms. Conversely, for Parrotta et al. (2014b), workforce diversity in terms of birthplace is negatively associated with firm productivity in the case of Denmark. Nathan (2016) also revealed that the positive link between ethnic diversity and firm performance is not significant for the majority of UK firms, and is mainly concentrated in larger, high-turnover, knowledge-intensive enterprises. According to Brunow and Blien (2014), although German firms with higher worker diversity due to international immigration are more productive, their employment levels are lower.

Some studies have also analyzed the effects of labor diversity with workers from different education levels, showing that gains in economic activity derived from greater cultural diversity rely on the level of education. For Brunow and Nijkamp (2018), for instance, diversity of low-skilled employment appears not to yield productivity gains or losses, while different culture-specific knowledge of a high-skilled workforce has a positive effect on firm performance. Similarly, Docquier et al. (2020) found that the economic impact of migration diversity is positive among college-educated immigrants but not significant for less educated immigrants. Therefore, the impact of increased diversity associated with new and growing immigrant groups is still an open question that, far from being limited to a specific region or country, concerns the entire European society and there is still room for new research with updated methods and data.

3. Stylized Facts

3.1. The Immigration Phenomenon in Spain

The particular geographical location of countries in southern Europe has turned them into the "entrance hall" to the continent. The case of Spain is especially notorious. Throughout the first years of the 21st century (coinciding with the Spanish economic "boom"), more than five million immigrants arrived in Spain. With over 900,000 entries, this country became Europe's main target for immigrants in 2007 (Alamá-Sabater et al., 2014; Delgado Gómez-Flors & Alguacil, 2018). A clear consequence of this mass migration was a rising percentage of foreigners over the total population in Spain since the beginning of this century.

As can be observed in Figure 1, the proportion of foreigners over the total population in this country increased from 2.2% in 2000 to 12.2% in 2010. This upward tendency of the share of immigrants underwent a small decrease after 2010, due primarily to the reduction in the migrant inflows (and the rise in the number of migrants leaving) that followed the crash of the construction sector and the subsequent loss of jobs. However, after 2017, with the economic recovery of the country, this percentage went back up again to reach a rate above 10% of the total population in 2018. In 2019, even after the financial crisis and the consequent reduction in the entry of foreigners during this period, Spain was still the fourth European country in terms of the number of immigrants, with a total foreign population of over five million and a percentage of immigrants in the total population exceeding 10.7% (Spanish National Institute of Statistics [INE], 2020).

The nature of its productive structure, with a high demand for non-qualified labor in a wide range

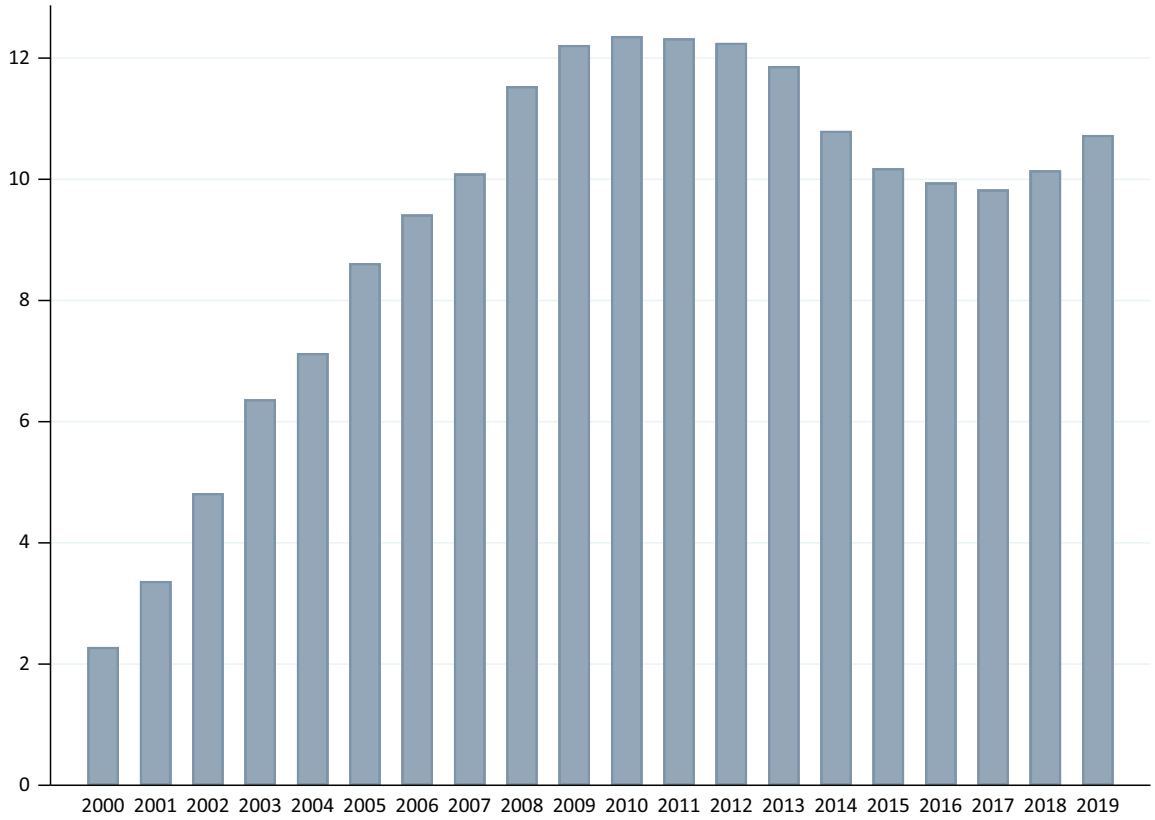

Figure 1. Share of foreign population in Spain, 1998–2019. Source: Authors' own elaboration based on Spanish National Institute of Statistics [INE] data.

of sectors, such as agriculture, or domestic service, together with the cultural linkages derived from the periods of colonialism, have converted this economy into an important recipient of foreigners, which are active at work (working or labor migration). These working migrants come mainly from developing economies, such as Morocco or Colombia. According to recent OECD data, the exodus of Moroccans to Spain and Italy has increased significantly in the last 15 years, making them currently the second and third destination countries, respectively, after France, in the EU for this African diaspora (OECD, 2020).

Promoting the inclusion of working immigrants has been a clear goal of the Spanish government and it recently approved a migration policy to order and regularize the entry of migrants into this country (Real Decreto-Ley 13/20). These measures are aimed at facilitating the hiring of migrants, most of them coming from less developed regions, in the agricultural sector, thus solving the problem of the shortage of labor that is affecting agricultural production throughout Spain in the seasonal harvesting campaigns, especially aggravated by the Covid-19 crisis.

During the last years, the number of immigrants coming from developed countries has also increased, with the UK being the first country of origin of foreign residents in Spain from among the developed economies (262,123 British people were living in this country in January 2020, according to the Spanish National Institute of Statistics [INE]). This is partly explained by the large-scale regularization of British migrants who were already living in Spain after Brexit. Immigrants from other highly developed countries, like Italy and Germany, have also a great weight with respect to the total foreign population. The share of this migration, although smaller than that from developing economies, remains relevant with around 7% of the total foreign population during the period analyzed, 2002–2015, according to the INE.

3.2. Birthplace Diversity in Spain

To measure cultural diversity, we use the entropy index. For Parrotta et al. (2014a, 2014b) and Alesina et al. (2016), the entropy index provided a more accurate measure of diversity than the commonly used fractionalization index when the groups of nationalities are of different sizes. The entropy index is based on the Herfindahl concentration index combining two measures within one single indicator: the share of immigrants, irrespective of their birthplace, and the variety and relative size of immigrant groups with respect to natives. Its minimum value, zero, is obtained when the population is completely homogeneous in terms of origin. The entropy index reaches a maximum value of $\ln(R)$ when the population is completely heterogeneous, where R is the maximum number of birthplaces in the population.

In Figure 2, we represent the evolution of the entropy index *y* in Spain (province average) over the sample period. As can be observed, until the outbreak of the crisis, the range of nationalities of immigrants grew steadily in this country, with only a partial slump during the period of the recession. This higher cultural diversity, however, is not homogenously distributed across provinces. The Mediterranean coastal provinces, the island provinces, and Madrid (where the capital city is located) present higher cultural diversity than the average (see Figure 3). The relevance of tourism and the evolution of the construction sector, together with speculative factors, have contributed to the clustering of different nationalities and to increasing the heterogeneity of the foreign population in the Mediterranean region and the capital city. In these provinces, it is common to find both types of immigrants: working immigrants and long-stay or permanent tourists who locate outside the labor market (migrants over 55 years-old coming from high-income countries), thus giving rise to a wider range of nationalities and a higher cultural heterogeneity.

The degree of population heterogeneity in terms of nationalities also seems to be related to the economic performance of the different provinces. Figure 4 shows a clear positive relationship between the economic activity of the different provinces (measured by their level of GDP per capita) and birthplace diversity (represented by the entropy index), thereby confirming our initial idea about the economic gains from higher cultural heterogeneity. However, this first approach does not control for provincial determinants that simultaneously affect both variables; neither does it consider the presence of temporal and spatial correlations. All these factors are considered in the econometric analysis shown in the following section.

4. Empirical Analysis

4.1. Data and Estimation Model

The study of the benefits derived from immigrant diversity is no easy task given the lack of detailed data. In our case, we built a database using information from both the INE and the Valencian Institute of Economic Research, which has allowed us to carry out the study at a NUTS 3 level for the period 2002–2015. Overall, our panel contains 14 yearly observations for 50 provinces. The estimation of panel-data models from these data allows us to account for both time effects and unobserved regional heterogeneity.

Following previous literature, the economic development of provinces is proxied here by the log of the GDP per capita. Other empirical papers that use this variable are Sparber (2010), Alesina et al. (2016), Cooke and Kemeny (2017), Docquier et al. (2020), and Rodríguez-Pose and von Berlepsch (2018). Our main regressor, the heterogeneity of population across provinces, has been measured through the entropy index (as defined in the

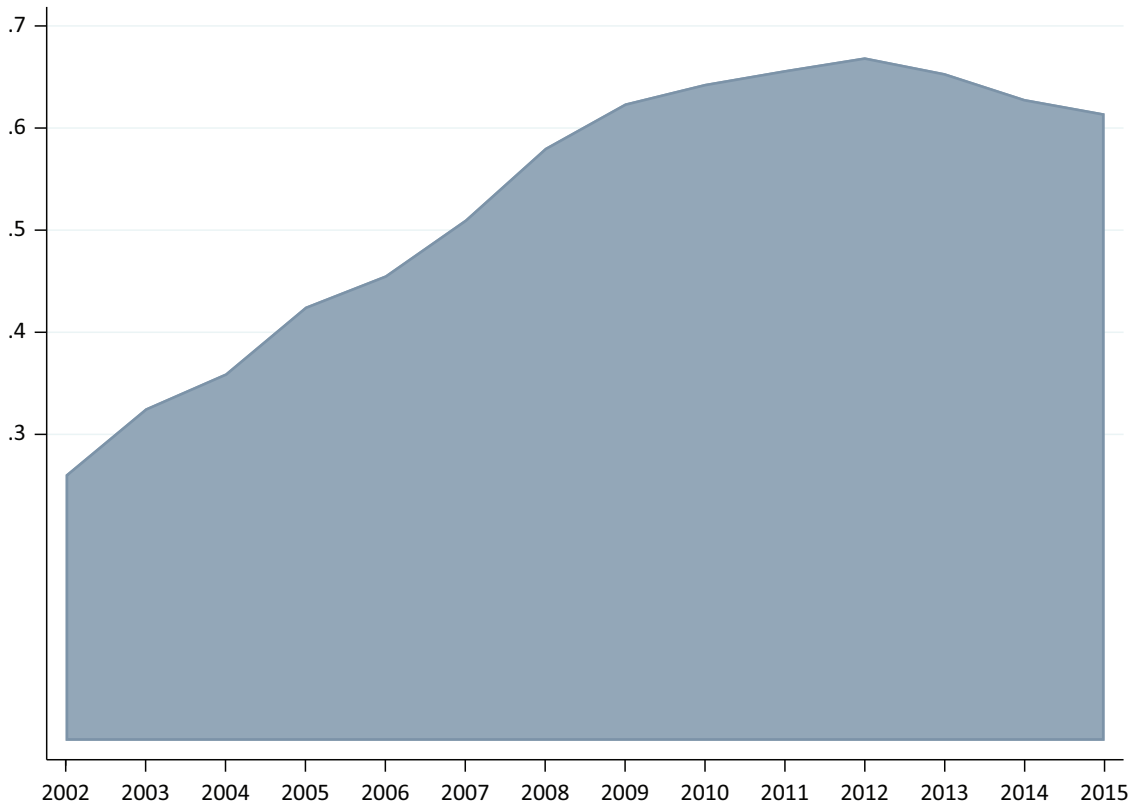

Figure 2. The average entropy index by provinces (birthplace diversity within the group of foreigners), 2002–2015. Source: Authors' own elaboration based on INE data.

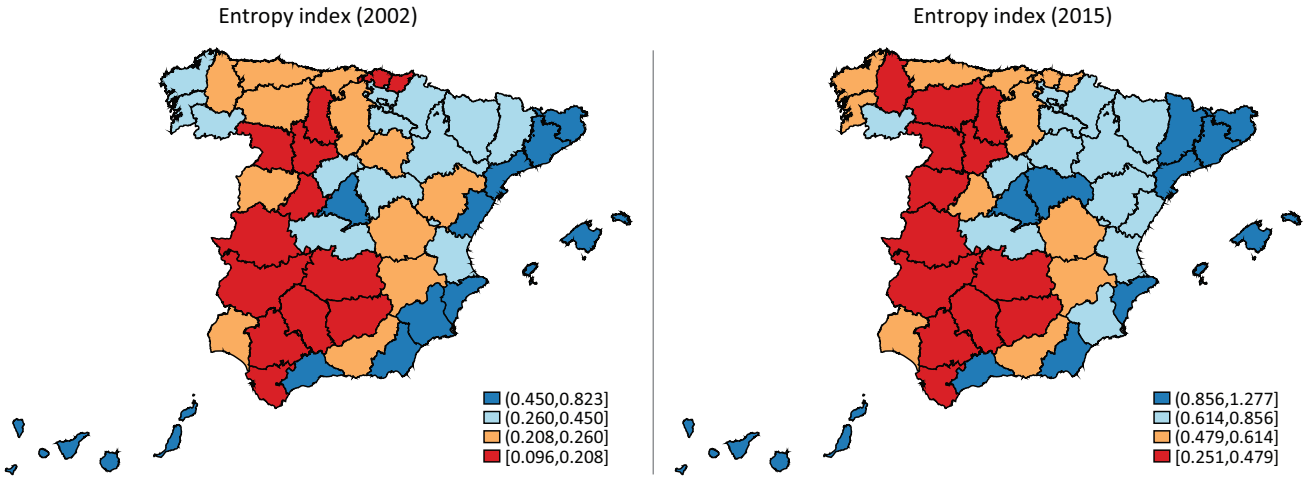

Figure 3. Diversity indexes by provinces. Source: Authors' own elaboration based on INE data.

previous section). Consistent with the related literature, we also controlled for other factors that influence the economic development of the different regions, such as the stock of physical capital (*inv*) or the level of skilled labor or human capital (*hk*). This latter has been measured through the share of population that has reached a middle–high educational level. The level of education is also employed as a proxy of human capital in Bove and Elia (2017), Alesina et al. (2016), and Rodríguez-Pose and von Berlepsch (2018). Moreover, in line with Suedekum et al. (2014), we have included the share of workers that are employed in the industrial sector (*ind*). According to these authors, more industrialized regions are expected to have a more dynamic economic behavior and to be more export-oriented, which in turn may influence their cultural diversity. Additionally, we add the interprovincial net migration rate with respect to natives (*netmigr*) in order to capture other unobservable regional shocks (Suedekum et al., 2014). To disentangle the effects of birthplace diversity pertaining to the immigrant population from those of the size of immigration, we include the share of foreigners with respect to total population (*migr_total*). According to Docquier et al. (2020), this latter factor is an additional channel through which immigration may affect the economic performance of the provinces.

As a novelty in the literature, we further include two variables that represent immigrants in different

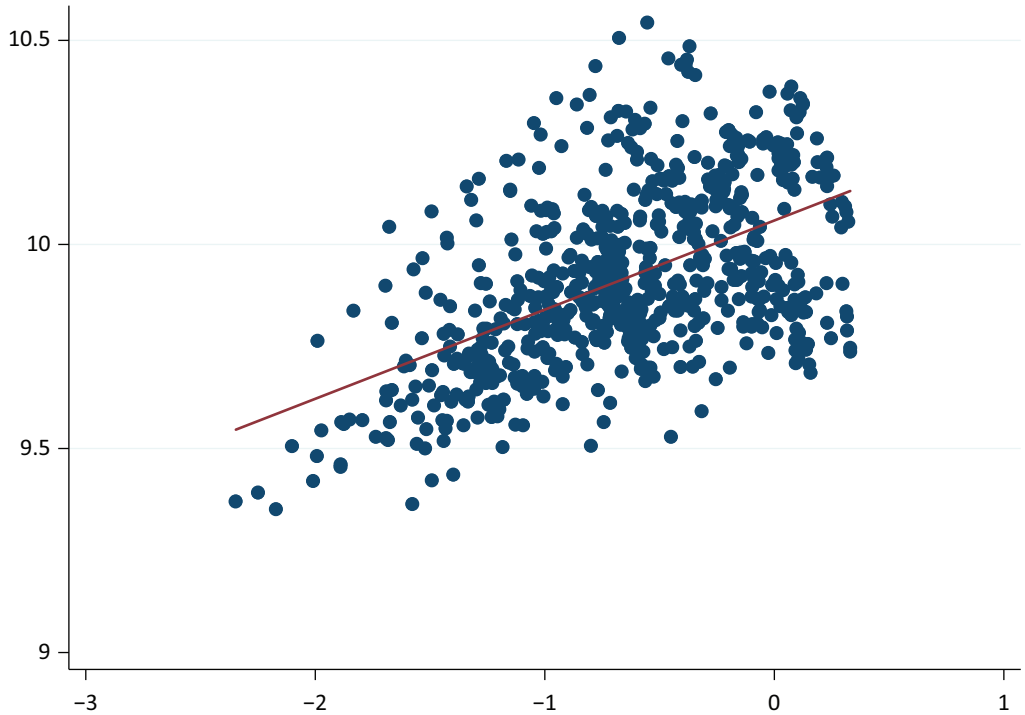

Figure 4. Correlation between birthplace diversity and economic activity, 2002–2015; entropy index vs. log(GDPpc). Source: Authors' own elaboration based on INE data.

proportions according to their nature: working migrants (*working_migr*) and retired migrants (*retired_migr*). By so doing, we try to disentangle the impact that retired immigrants have on the economic prosperity of the specific areas of Spain, where they locate (mostly in coastal and island provinces) in comparison to the labor immigrants, who come mostly from countries with a lower level of economic development (and are more homogeneously distributed across regions).

4.2. Main Results

Table 1 presents the results for the GDP per capita regression using the fixed effects estimation methodology. As can be seen at the bottom of this table, the Hausman test suggests that in all cases the fixed effects model is preferred to the random effects model. In column (1), we can see the estimates of the basic model with investment, human capital, and industrialization index. We consider next, in column (2), also the rate of interprovincial net migration and share of total immigrants as control variables. In column (3), we add the proportion of the two types of immigrants over the total population, that is, retired and working immigrants. Finally, columns (4) to (7) present the results with the interaction terms. Some collinearity problems have prevented us from adding both interaction terms simultaneously.

The most outstanding result of these regressions refers to the positive and highly significant coefficients of the index of birthplace diversity in all of them. This outcome is consistent with our key hypothesis concerning the economic benefits of a greater cultural heterogeneity of the population. Specifically, the estimated covariates imply that, on average, a 10% increase in the *EI* leads to a rise in GDP per capita of between 0.57% and nearly 1%, keeping other factors constant.

Additional conclusions stem from the estimates of the control variables. In line with previous studies on the determinants of growth, our outcomes confirm that regions with a higher rate of investment and human capital are also expected to have a better economic behavior (Bove & Elia, 2017). As in Suedekum et al. (2014), the

Table 1. Estimation results of log(*y*) using fixed effects estimation, 2002–2015.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EI	0.062***	0.099***	0.077***	0.068***	0.063***	0.061***	0.057***
	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.002]	[0.003]
inv	0.060***	0.036***	0.034***	0.031***	0.026***	0.031***	0.026***
	[0.000]	[0.000]	[0.000]	[0.001]	[0.006]	[0.001]	[0.006]
hk	0.419***	0.448***	0.430***	0.495***	0.466***	0.466***	0.451***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ind	0.044***	0.042***	0.038***	0.044***	0.040***	0.040***	0.036***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr		0.002***	0.002***	0.002***	0.002***	0.002***	0.003***
		[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migr_total		−0.014***	−0.013***	−0.020***	−0.012***	−0.018***	−0.012***
		[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
working_migr			0.450**			0.382**	0.435**
			[0.012]			[0.035]	[0.014]
retired_migr			0.291			0.256	0.339*
			[0.115]			[0.166]	[0.063]
*EI*working_migr*				0.188***		0.131**	
				[0.001]		[0.029]	
*EI*retired_migr*					−0.297***		−0.266***
					[0.000]		[0.000]
Constant	9.141***	9.517***	9.123***	9.502***	9.589***	9.171***	9.192***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	700	700	700	700	700	700	700
R-squared	0.874	0.914	0.916	0.915	0.917	0.917	0.919
# provinces	50	50	50	50	50	50	50
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hausman test	83.76***	92.38***	116.23***	105.23***	115.08***	103.83***	126.55***

Notes: *** p < 0.01; ** p < 0.05; * p < 0.1; p-value in brackets.

industrialization index and the net immigration rate are positively associated with the economic development of provinces. Finally, our outcomes show a negative influence on macroeconomic performance arising from the total share of the foreign population once we take into account the positive influence of greater birthplace diversity. This result is similar to that Suedekum et al. (2014), who analyzed the impact of cultural diversity on wages and employment in Germany. As these authors point out, this finding should not be interpreted by itself, without additional evidence, as a displacement effect of native workers by foreigners. The negative impact of the share of total migration includes both demand and supply factors. The entry of immigrants with lower income gains on average might favor a reduction in the aggregate income from the demand side, while it might still stimulate the economic behavior from the supply side. Moreover, in our case, the small coefficient on total migration does not compromise the beneficial effects of an increased heterogeneity of the population. In addition, the positive impact of cultural diversity remains even when this variable is not considered, showing that our main result is not conditional on the negative effect of total migration.

Additionally, our findings reveal that the presence of working migrants is positively related to the economic prosperity of provinces, whereas the influence of retired immigrants is less relevant. This result would be consistent with the idea of an elderly foreign population from highly developed countries that is outside the productive process and has a reduced economic effect. The interaction terms also reflect a differentiated effect of both types of migration: While greater diversity among working migrants improves the economic activity, in contrast, in the case of older migrants from advanced countries, this greater diversity can curb economic development.

4.2.1. Endogeneity and Spatial Dependence

To deal with potential endogeneity issues and to identify the source of the correlation between cultural diversity and economic prosperity that is due exclusively to the influence of population heterogeneity, we estimate the model using two-stage regression techniques with instrumental variables. Following previous literature, the difficulties related to the selection of an appropriate IV are solved by building the instrument for the variable of interest (cultural diversity) according to the procedure referred to as the "shift–share methodology," where the population heterogeneity at a regional level is compared to the population composition at the national level.

In concrete, to estimate our instrument, we used the current total immigration rates and the changes of immigrants from each region in the previous period to estimate the "attributed" share of people born in that region residing in a specific province. Next, the predicted diversity index is obtained using the attributed share of foreign-born individuals that has been previously computed. The intuition behind this instrument relies on the fact that the initial share of immigrants by country of origin can be considered a good predictor of subsequent migration inflows, as migrants tend to be attracted to regions where other immigrants from the same country locate (Gagliardi, 2015). By definition, this index does not depend on any regional economic shock in the current period.

The results obtained in the IV estimation model are shown in Table 2. In line with previous results, the coefficients on the cultural diversity indexes are positive and highly significant in all cases. However, now the effect of birthplace diversity is slightly smaller than in the fixed effects regression, reflecting the upward bias of the initial estimation. The validity of the instrument has been tested using both the Anderson canon underindentification and the Stock-Yogo weak identification statistics. The results obtained confirm that the IV is relevant and does not suffer from weak identification problems (both tests are rejected at the 5% level in all cases). The first-stage regression and the validity tests for the IV are available in the Supplementary File.

Another potential problem that we should address when dealing with local indicators refers to the spatial dependence between regions, as the economic performance of a region also depends on how well the neighbor economies behave (Artelaris & Petrakos, 2016). As far as we know, the only study that controls for this spatial connection in the regional impact of cultural diversity on economic performance is Suedekum et al. (2014). Specifically, they estimated the effect that diversity has on a native's wages in Germany assuming a spatial correlation in the error terms. In this article, instead, we perform spatial autoregressive models that include endogenous regressors to control for both the correlation of the dependent variable across provinces and the dependence on the error term.

To confirm the presence of spatial autocorrelation, as a first step, we perform the Moran test for spatial correlation among the residuals (see Table 3). In all cases, the Moran test leads us to reject the possibility that the errors are identically and independently distributed, thereby confirming the hypothesis that the incomes of provinces are also affected by the economic conditions of neighboring regions and not only by the specific home factors. Accordingly, we estimated the model through a two-stage least-square estimator with endogenous regressors based on feasible instruments (Hoshino, 2017; Liu & Lee, 2013). This method allows us to introduce other explanatory variables, such as endogenous variables, into the model, in addition to the spatial lag dependent variable (Elhorst, 2010).

In order to select the model that best fits the spatial structure, we ran the Lagrange multiplier (LM) test for the spatially lagged dependent variable (LM spatial lag) and the spatial autocorrelated error term (LM spatial error). Spatial diagnosis indicates that the value of the LM spatial lag is higher than the LM spatial error in Models 2, 3, 5, and 7, while the LM spatial error is higher for Models 1, 4, and 6. Accordingly, we have added

Table 2. Estimation results of log(*y*) using two-stage least-square IV estimation, 2002–2015.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EI	0.053***	0.079***	0.054***	0.036*	0.034*	0.045**	0.038**
	[0.004]	[0.000]	[0.006]	[0.068]	[0.062]	[0.024]	[0.044]
inv	0.063***	0.038***	0.036***	0.033***	0.028***	0.032***	0.027***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.003]	[0.001]	[0.004]
hk	0.518***	0.465***	0.443***	0.528***	0.490***	0.478***	0.462***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ind	0.045***	0.045***	0.042***	0.049***	0.044***	0.042***	0.038***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr		0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
		[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migr_total		−0.014***	−0.013***	−0.022***	−0.012***	−0.018***	−0.011***
		[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
working_migr			0.419**		0.326*	0.356**	0.411**
			[0.017]		[0.068]	[0.046]	[0.018]
retired_migr			0.229			0.216	0.295*
			[0.210]			[0.235]	[0.099]
*working_migr*EI*				0.238***		0.169***	
				[0.000]		[0.005]	
*retired_migr*EI*					−0.337***		−0.281***
					[0.000]		[0.000]
Observations	700	700	700	700	700	700	700
R-squared	0.8668	0.914	0.916	0.915	0.917	0.917	0.918
# provinces	50	50	50	50	50	50	50
Time effecs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *** p < 0.01; ** p < 0.05; * p < 0.1; p-value in brackets.

spatial lag regressors in both the dependent variable and the error term. Although we have estimated the model using different spatial distance structures, for the sake of brevity, in Table 3 we display the results obtained using the inverse square distance between units.

As can be seen, the diversity index is positive and highly significant in all regressions, thus ratifying our previous result. However, as expected, the effect of birthplace diversity is slightly smaller than in the fixed effects and IV regressions. In particular, our model now predicts that when the entropy index increases by 10% in a specific province, its income per capita will rise by between 3.8% and 7.3%, other factors remaining constant.

The spatial lag (rho) parameter is positive and significant in all the models, indicating the presence of spatial connections in GDP per capita across provinces. Table 3 also reveals that λ, the spatial correlation parameter in the error term is significant in Models 1, 3, 4, 6, and 7, thus confirming the presence of non-observable effects in neighboring regions.

The coefficients of the rest of the control variables remain significant and with the expected signs. In line with our previous results, a higher proportion of immigrants from countries with a medium income positively influences the economic activity of the regions. With a lower impact, older immigration that originally came from countries with high incomes also has a positive effect on income. Again, the interaction terms reveal a divergent effect of both types of migration.

5. Robustness

5.1. Quantile Regression

To analyze how the impact of cultural diversity changes at different quantiles of the income per capita (and not only on its mean value), next we estimate a quantile regression (QR). The outcomes of the QR confirm the significant relationship between diversity and the economic performance of provinces (see Table 4). The coefficients on *EI* have a positive sign in all quantiles and the mean. With the exception of the first quantile in the general model, all of them are also significant. This confirms that provinces with a more heterogeneous population have a better economic behavior. Nonetheless, the effect of migration diversity on income increases progressively from the lowest to the highest quantiles, revealing a non-linear relationship between these variables. The impact of cultural diversity on the economic activity is greater in provinces with higher income.

Table 3. Estimation results of log(*y*) using two-stage least-square estimators for spatial autoregressive models (GS2SLS estimates), 2002–2015.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ρY	0.792***	0.292***	0.619***	0.489***	0.373***	0.613***	0.602***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
λε	−0.490***	0.096	−0.337***	−0.217**	−0.108	−0.357***	−0.368***
	[0.000]	[0.292]	[0.000]	[0.026]	[0.256]	[0.000]	[0.000]
EI	0.0290*	0.073***	0.063***	0.038**	0.045***	0.047**	0.057***
	[0.070]	[0.000]	[0.000]	[0.028]	[0.008]	[0.012]	[0.001]
inv	0.047***	0.034***	0.029***	0.029***	0.028***	0.027***	0.025***
	[0.000]	[0.000]	[0.000]	[0.001]	[0.001]	[0.001]	[0.003]
hk	0.338***	0.407***	0.352***	0.426***	0.418***	0.387***	0.361***
	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ind	0.0502***	0.049***	0.038***	0.046***	0.045***	0.039***	0.036***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr		0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
		[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migrtotal		−0.012***	−0.009***	−0.015***	−0.010***	−0.013***	−0.009***
		[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
workingmigr			0.374**			0.300*	0.364**
			[0.018]			[0.063]	[0.021]
retiredmigr			0.353**			0.306*	0.373**
			[0.032]			[0.064]	[0.023]
*working_mig*EI*				0.153***		0.113**	
				[0.004]		[0.032]	
*retired_migr*EI*					−0.191***		−0.117**
					[0.001]		[0.033]
Observations	700	700	700	700	700	700	700
R-squared	0.978	0.985	0.984	0.985	0.986	0.985	0.985
# provinces	50	50	50	50	50	50	50
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald test of: spatial term	120.56***	62.15***	146.08***	91.49***	47.79***	140.85***	116.67***
Diagnostic tests for spatial dependence					Inverse-square distance		
Moran's I (error)	3.47***	23.76***	22.24***	22.05***	22.87***	21.181***	22.18***
LM (lag)	0.348	547.41***	476.09***	469.09***	505.26***	430.14***	472.23***
Robust LM (lag)	5.719 * *	94.30***	91.04***	81.50***	92.254***	64.57***	84.75***
LM (error)	11.34***	529.57***	456.02***	474.29***	491.92***	461.86***	464.09***
Robust LM (error)	16.71***	76.45***	70.97***	86.69***	78.91***	96.29***	76.61***

Notes: *** p < 0.01; ** p < 0.05; * p < 0.1; p-value in brackets.

The estimates of the different control variables have, in general, similar signs in all quantiles and the mean, indicating that the impact of these variables, although they may be different in magnitude and significance, is consistent in terms of direction. With respect to the two types of migration, we only have a positive and significant sign on working migration for the 0.2 and 0.8 quantiles, but not for the mean values of our dependent variables. This agrees with the existence of heterogeneities and non-linearity in the links between migration variety and economic development.

5.2. Coastal Provinces vs. Inland Provinces

In Tables 5 and 6, we present the estimates of GDP per capita, with coastal and inland provinces considered separately. Results in all the regressions confirm the positive impact of cultural diversity on income, although the coefficients on *EI* are higher and more significant for coastal provinces than for inland provinces. The results with respect to *inv*, *hk*, *ind*, *netmigr* and *migr_total* are, in general, in line with our previous results from the whole sample.

Table 4. Quantile regression of log(y), 2002–2015. General model.

Variables	$Q_y(0.2\|x)$	$Q_y(0.4\|x)$	$Q_y(0.6\|x)$	$Q_y(0.8\|x)$	Median – $Q_y(0.5\|x)$
EI	0.031	0.052*	0.065**	0.128***	0.052*
	[0.225]	[0.069]	[0.012]	[0.000]	[0.078]
inv	0.018	0.037**	0.017	0.021	0.029*
	[0.183]	[0.011]	[0.188]	[0.107]	[0.051]
hk	0.261**	0.392***	0.430***	0.249*	0.493***
	[0.046]	[0.006]	[0.001]	[0.059]	[0.001]
ind	0.033**	0.035**	0.029**	0.030**	0.031**
	[0.012]	[0.017]	[0.027]	[0.023]	[0.036]
netmigr	0.003***	0.003***	0.003***	0.002***	0.003***
	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]
migr_total	−0.012***	−0.014***	−0.012***	−0.013***	−0.014***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
workingmigr	0.518**	0.199	0.146	0.416*	0.072
	[0.038]	[0.466]	[0.561]	[0.098]	[0.800]
retiredmigr	0.414	0.131	−0.010	0.323	−0.017
	[0.107]	[0.643]	[0.970]	[0.212]	[0.954]
Constant	9.537***	9.695***	9.971***	9.806***	9.876***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	700	700	700	700	700

Notes: *** p < 0.01; ** p < 0.05; * p < 0.1; p-value in brackets.

The most remarkable difference with respect to the initial estimates refers mainly to the impact of the two types of migration. While for the inland provinces, the positive effect of population heterogeneity seems to come primarily through labor migration, for the coastal provinces, this effect is not so clear. Additionally, we find that in the coastal provinces, a higher heterogeneity of the permanent tourist stresses the positive impact of cultural diversity, while in the inland provinces this effect is negative.

6. Conclusions

The opening of borders within EU and the increasing migration from Africa and other neighboring areas have led to a high concern about the economic impact of international migration and the related growth of population heterogeneity. In this article, we analyze to what extent cultural diversity brought about by international migration contributes to an improvement or to a deterioration of the economic activity, focusing on the particular case of the Spanish provinces.

The massive waves of immigration to Spain since the end of the last century have turned this country into one of the European Union (EU-27) member states with the highest proportion of foreigners. Moreover, compared to other migration stories in the developed world, there is a striking peculiarity in the pattern of migration in Spain: the presence, together with a great amount of working migration, of a significant proportion of residential tourists or retired migrants.

To quantify the consequences of opening up the borders to new residents, we employ the entropy index based on birthplace as a measure of cultural diversity. The potential simultaneity between migration heterogeneity and economic activity has been controlled for by the shift–share methodology. Moreover, as a novelty in the related literature, we have considered the spatial pattern associated to the diverse economic indicators of Spanish provinces, introducing the spatial dependence of variables and the error term. We also present estimates for quantiles of the dependent variable and for different sample compositions (coastal and inland provinces) to verify the robustness of our empirical strategy.

The results obtained are in line with previous studies, confirming that greater cultural diversity boosts the per capita output of the Spanish provinces. However, according to our quantile regressions this is not a linear effect, as the impact of diversity is greater in richer provinces. In addition, our outcomes confirm the beneficial influence of domestic capital, skilled labor, and a higher rate of industrialization on economic prosperity. We also find a significant influence of the interprovincial net migration rate. Finally, the estimates reveal the importance of the working migration to encourage economic development in the Spanish provinces, this being especially reinforced in the case of the inland provinces.

Overall, we can conclude that despite the sui generis nature of recent immigration in Spain and the strong economic linkages among provinces, the cultural heterogeneity in regions is revealed here as something

Table 5. Estimation results of log(*y*) using fixed effects estimation, 2002–2015. Inland provinces.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
EI	0.082***	0.060**	0.055**	0.015	0.050**	0.021
	[0.000]	[0.011]	[0.016]	[0.478]	[0.041]	[0.362]
inv	0.024**	0.021*	0.020*	0.007	0.019*	0.005
	[0.033]	[0.052]	[0.068]	[0.500]	[0.079]	[0.648]
hk	0.406***	0.388***	0.427***	0.363***	0.404***	0.348***
	[0.000]	[0.001]	[0.000]	[0.001]	[0.000]	[0.001]
ind	0.046***	0.039***	0.046***	0.045***	0.040***	0.037***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr	0.001***	0.002***	0.001***	0.002***	0.001***	0.002***
	[0.005]	[0.003]	[0.007]	[0.000]	[0.003]	[0.000]
migr_total	−0.012***	−0.011***	−0.019***	−0.009***	−0.016***	−0.010***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
work_tour		0.477**			0.457**	0.580***
		[0.017]			[0.022]	[0.002]
retired_migr		0.310			0.330	0.561***
		[0.145]			[0.121]	[0.006]
*EI*working_migr*			0.210**		0.134	
			[0.012]		[0.134]	
*EI*retired_migr*				−0.540***		−0.546***
				[0.000]		[0.000]
Constant	9.598***	9.183***	9.584***	9.718***	9.187***	9.193***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	434	434	434	434	434	434
R-squared	0.917	0.920	0.919	0.928	0.920	0.930
# provinces	31	31	31	31	31	31
Time effects	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *** p < 0.01; ** p < 0.05; * p < 0.1; p-value in brackets.

Table 6. Estimation results of log(*y*) using fixed effects estimation, 2002–2015. Coastal provinces.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
EI	0.119***	0.069**	0.127***	0.136***	0.092***	0.076**
	[0.000]	[0.029]	[0.000]	[0.000]	[0.010]	[0.014]
inv	0.074***	0.072***	0.075***	0.078***	0.077***	0.079***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
hk	0.494***	0.448***	0.471***	0.414**	0.361**	0.281*
	[0.003]	[0.007]	[0.007]	[0.015]	[0.039]	[0.094]
ind	−0.044	−0.055*	−0.049	−0.049*	−0.071**	−0.069**
	[0.138]	[0.065]	[0.121]	[0.097]	[0.026]	[0.020]
netmigr	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migr_total	−0.017***	−0.015***	−0.016***	−0.019***	−0.011***	−0.018***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]
working_migr		−0.106			0.109	0.015
		[0.811]			[0.817]	[0.972]
retired_migra		−0.347			−0.180	−0.354
		[0.440]			[0.698]	[0.421]
*EI*working_migr*			−0.040		−0.135	
			[0.645]		[0.156]	
*EI*retired_migr*				0.196**		0.348***
				[0.041]		[0.001]
Constant	9.158***	9.329***	9.161***	9.130***	9.135***	9.192***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	266	266	266	266	266	266
R-squared	0.927	0.930	0.927	0.929	0.930	0.933
# provinces	19	19	19	19	19	19
Time effects	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *** p < 0.01; ** p < 0.05; * p < 0.1; p-value in brackets.

beneficial for the economic performance. Thus, some of the inferences from previous literature that contemplate migration as an obstacle for economic growth might not hold as they ignore the benefits that stem from a more heterogeneous population.

The issue of cultural diversity is considered one of the major challenges for European policy makers in current times. However, the question of how EU external migration policy should evaluate the potential gains of a higher cultural diversity will require further research on this issue, with data that are more detailed and a broader analysis, distinguishing across economic sectors and focusing on smaller territorial units.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

References

Ager, P., & Brückner, M. (2013). Cultural diversity and economic growth: Evidence from the US during the age of mass migration. European Economic Review, *64*, 76–97.

Alamá-Sabater, L., Alguacil, M., & Bernat-Martí, J. S. (2014). Location determinants of migrant inflows: The Spanish case. In J. S. Carrasco & J. F. Dasí (Eds.), *Identity and territorial character: Re-interpreting local-spatial development* (pp. 81–97). University of Valencia.

Alamá-Sabater, L., Alguacil, M., & Bernat-Martí, J. S. (2017). New patterns in the locational choice of immi-

grants in Spain. *European Planning Studies*, *25*(10), 1834–1855.

Alesina, A., & Ferrara, E. L. (2005). Ethnic diversity and economic performance. *Journal of Economic Literature*, *43*(3), 762–800.

Alesina, A., Harnoss, J., & Rapoport, H. (2016). Birthplace diversity and economic prosperity. *Journal of Economic Growth*, *21*(2), 101–138.

Artelaris, P., & Petrakos, G. (2016). Intraregional spatial inequalities and regional income level in the European Union: Beyond the inverted-U hypothesis. *International Regional Science Review*, *39*(3), 291–317.

Bakens, J., & de Graaff, T. (2020). Valuation of ethnic diversity: Heterogeneous effects in an integrated labor and housing market. *Journal of Economic Geography*, *20*(1), 197–223.

Bakens, J., Mulder, P., & Nijkamp, P. (2013). Economic impacts of cultural diversity in the Netherlands: Productivity, utility, and sorting. *Journal of Regional Science*, *53*(1), 8–36.

Bandiera, O., Barankay, I., & Rasul, I. (2005). Cooperation in collective action. *Economics of Transition*, *13*(3), 473–498.

Bellini, E., Ottaviano, G. I., Pinelli, D., & Prarolo, G. (2013). Cultural diversity and economic performance: Evidence from European regions. In R. Crescenzi & M. Percoco (Eds.), *Geography, institutions and regional economic performance* (pp. 121–141). Springer.

Böheim, R., Horvath, T., & Mayr, K. (2012). *Birthplace diversity of the workforce and productivity spill-overs in firms* (Working Paper No. 438). WIFO Working Papers.

Bove, V., & Elia, L. (2017). Migration, diversity, and economic growth. *World Development*, *89*, 227–239.

Brunow, S., & Blien, U. (2014). Effects of cultural diversity on individual establishments. *International Journal of Manpower*, *35*(1/2), 166–186.

Brunow, S., & Nijkamp, P. (2018). The impact of a culturally diverse workforce on firms' revenues and productivity: An empirical investigation on Germany. *International Regional Science Review*, *41*(1), 62–85.

Campos, N. F., Saleh, A., & Kuzeyev, V. (2011). Dynamic ethnic fractionalization and economic growth. *The Journal of International Trade & Economic Development*, *20*(2), 129–152.

Churchill, S. A., & Smyth, R. (2017). Ethnic diversity and poverty. *World Development*, *95*, 285–302.

Cooke, A., & Kemeny, T. (2017). The economic geography of immigrant diversity: Disparate impacts and new directions. *Geography Compass*, *11*(11), Article e12331.

Collier, P., & Gunning, J. W. (1999). Explaining African economic performance. *Journal of Economic Literature*, *37*(1), 64–111.

Delgado Gómez-Flors, M., & Alguacil, M. (2018). The impact of immigrant diversity on wages. The Spanish experience. *Sustainability*, *10*(9), Article 3312.

Docquier, F., Turati, R., Valette, J., & Vasilakis, C. (2020). Birthplace diversity and economic growth: Evidence from the US states in the Post-World War II period. *Journal of Economic Geography*, *20*(2), 321–354.

Easterly, W., & Levine, R. (1997). Africa's growth tragedy: Policies and ethnic divisions. *The Quarterly Journal of Economics*, *112*(4), 1203–1250.

Elhorst, P. (2010). Applied spatial econometrics: Raising the bar. *Spatial Economic Analysis*, *5*(1), 1742–1772.

Eurostat. (2021). *Unemployment rate—annual data*. [Data set]. https://ec.europa.eu/eurostat/databrowser/view/tipsun20/default/table?lang=en

Gagliardi, L. (2015). Does skilled migration foster innovative performance? Evidence from British local areas. *Papers in Regional Science*, *94*(4), 773–794.

Hoshino, T. (2017). Semiparametric spatial autoregressive models with endogenous regressors: With an application to crime data. *Journal of Business & Economic Statistics*, *36*(1), 160–172.

Kemeny, T., & Cooke, A. (2018). Spillovers from immigrant diversity in cities. *Journal of Economic Geography*, *18*(1), 213–245.

Liu, X., & Lee, L. (2013). Two-stage least square estimation of spatial autoregressive models with endogenous regressors and many instruments. *Journal of Econometric Reviews*, *32*(5), 734–753.

Longhi, S. (2013). Impact of cultural diversity on wages, evidence from panel data. *Regional Science and Urban Economics*, *43*(5), 797–807.

Möhlmann, J., & Bakens, J. (2015). Ethnic diversity and firm productivity in the Netherlands. In P. Nijkamp, J. Poot, & J. Bakens (Eds.), *The economics of cultural diversity*. Edward Elgar Publishing.

Montalvo, J. G., & Reynal-Querol, M. (2005). Ethnic diversity and economic development. *Journal of Development Economics*, *76*(2), 293–323.

Nathan, M. (2016). Ethnic diversity and business performance: Which firms? Which cities? *Environment and Planning A: Economy and Space*, *48*(12), 2462–2483.

Nijkamp, P., & Poot, J. (2015). Cultural diversity: A matter of measurement. In P. Nijkamp, J. Poot, & J. Bakens (Eds.), *The economics of cultural diversity* (pp. 17–51). Edward Elgar Publishing.

OECD. (2020). *International migration outlook 2020*. OECD Publishing. https://doi.org/10.1787/ec98f531-en

Ottaviano, G. I., & Peri, G. (2006). The economic value of cultural diversity: Evidence from US cities. *Journal of Economic Geography*, *6*(1), 9–44.

Ottaviano, G. I., & Peri, G. (2012). Rethinking the effect of immigration on wages. *Journal of the European Economic Association*, *10*(1), 152–197.

Parrotta, P., Pozzoli, D., & Pytlikova, M. (2014a). The nexus between labor diversity and firm's innovation. *Journal of Population Economics*, *27*(2), 303–364.

Parrotta, P., Pozzoli, D., & Pytlikova, M. (2014b). Labor diversity and firm productivity. *European Economic Review*, *66*, 144–179.

Rapoport, H. (2018). Migration and trade. In A.

Triandafyllidou (Ed.), *Handbook of migration and globalization* (pp. 173–191). Edward Elgar Publishing.

Rodríguez-Pose, A., & von Berlepsch, V. (2018). Does population diversity matter for economic development in the very long term? Historic migration, diversity and county wealth in the US. *European Journal of Population*, *35*(5), 873–911.

Spanish National Institute of Statistics. (2021). *Main population series* [Data set]. https://www.ine.es/jaxi/Tabla.htm?path=/t20/e245/p08/l0/&file=01001.px&L=0

Sparber, C. (2010). Racial diversity and macroeconomic productivity across US states and cities. *Regional Studies*, *44*(1), 71–85.

Suedekum, J., Wolf, K., & Blien, U. (2014). Cultural diversity and local labour markets. *Regional Studies*, *48*(1), 173–191.

Taras, V., Kirkman, B. L., & Steel, P. (2010). Examining the impact of culture's consequences: A three-decade, multilevel, meta-analytic review of Hofstede's cultural value dimensions. *Journal of Applied Psychology*, *95*(3), 405–439.

Trax, M., Brunow, S., & Suedekum, J. (2015). Cultural diversity and plant-level productivity. *Regional Science and Urban Economics*, *53*, 85–96.

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Article

The Role of Emerging Predictive IT Tools in Effective Migration Governance

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Abstract
Predicting mass migration is one of the main challenges for policymakers and NGOs working with migrants worldwide. Recently there has been a considerable increase in the use of computational techniques to predict migration flows, and advances have allowed for application of improved algorithms in the field. However, given the rapid pace of technological development facilitating these new predictive tools and methods for migration, it is important to address the extent to which such instruments and techniques engage with and impact migration governance. This study provides an in-depth examination of selected existing predictive tools in the migration field and their impact on the governance of migratory flows. It focuses on a comparative qualitative examination of these tools' scope, as well as how these characteristics link to their respective underlying migration theory, research question, or objective. It overviews how several organisations have developed tools to predict short- or longer-term migration patterns, or to assess and estimate migration uncertainties. At the same time, it demonstrates how and why these instruments continue to face limitations that in turn affect migration management, especially as it relates to increasing EU institutional and stakeholder efforts to forecast or predict mixed migration. The main predictive migration tools in use today cover different scopes and uses, and as such are equally valid in shaping the requirements for a future, fully comprehensive predictive migration tool. This article provides clarity on the requirements and features for such a tool and draws conclusions as to the risks and opportunities any such tool could present for the future of EU migration governance.

Keywords
European Union; forecasting; migration governance; predictive tools

Issue
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1. Introduction and Theoretical Framework

Migration is unpredictable. Since 2015, with the advent of the so-called "migration crisis," different institutions within the European context have allocated extensive resources and funding in seeking migration forecasting or predictive tools (European Commission, 2021). The main objective is to respond to the continual demand for strategic and effective global migration governance (Robinson, 2018; Triandafyllidou, 2020).

Indeed, international migration flows have become more diversified and globalised, and are notably marked by increasingly restrictive admission policies, relative change in labour market dynamics, issues of legal irregularity and human trafficking, and new transnational networks and spaces (Arango, 2018). Both institutions

and academia have identified different drivers that could impact these migration flows (Castles et al., 2014; Massey, 1999). Whereas some contend that factors such as conflict, the economy, and climate are the main reasons behind a decision to emigrate, others hold that sudden disruptive elements such as political events or social unrest in a territory could lead to a decision to leave a country (Carling & Collins, 2018; Raleigh, 2011). As international migration flows are complex and uncertain, the need for equally complex tools that help understand and manage migration becomes imperative.

Meanwhile, incorporating algorithmic governance has become common practice internationally, and today new technologies are increasingly embedded in everyday decision-making. The potential of computational power can aid in addressing various gaps in understanding migration flows, and thus benefit policy. For example, new technologies enable, inter alia, conducting subnational forecasts within international migration, considering dimensions like labour force status and ethnic groups, examining micro and macro factors involved in international migration (by harnessing the potential of micro models alongside macrosimulations), and simulating sets of scenarios to understand migration drivers for policy (Wilson & Rees, 2005, pp. 340–341). It should be noted that from a temporal point of view, forecasting is a process of predicting or estimating future events based on past and present data, whereas predictions consist of estimating the outcomes for unseen data (i.e., new or test data); for the purposes of this article, the two terms (forecasting and prediction) are used interchangeably.

Most importantly, however, the way international migration governance is understood and practiced can be mutually configured and shaped by technologies for migration forecasting. In this sense, international migration governance is a contested field with competing interests and stakeholders, and predictive tools exercise the potential to introduce or reinforce unequal power relations. In utilizing these tools, those states with more technological capabilities can further solidify their position in setting the international migration agenda (Beduschi, 2020). Such tools can also be appropriated to further securitize or bolster non-entrée policies and human surveillance, at the expense of those rights protected by international human rights frameworks (Broeders & Dijstelbloem, 2016). This is important to bear in mind in seeking a truly effective global migration governance oriented towards adequately benefiting all stakeholders, especially migrants themselves.

In the case of the EU, efforts are underway to achieve early warning of migratory movements, to forecast them or to predict mixed migration flows in particular (Sohst et al., 2020). Mixed migration flows are characterized by their irregular nature (often in breach of regulatory norms of countries of origin, transit, and destination), and consist of distinct types of migratory populations, including groups of refugees, asylum-seekers, forced and voluntary migrants, and others. Most recently, an EU-commissioned assessment concluded that a forecasting and early warning tool based on artificial intelligence (AI) technology evaluating the intensity and direction of these mixed migratory flows is feasible (European Commission, 2021). As the scope of this article portends to considering mixed migration flows in light of addressing migration to the EU, it does not extend to all predictive analytics or tools for humanitarian action, although there are extensive, global efforts underway in this regard (Hernandez & Roberts, 2020).

Within this context, this study analyses how existing supranational predictive IT tools address these issues to achieve effective migration governance in the EU. This two-fold inquiry first asks: What are the main predictive migration tools and what is their scope? Here we focus on identifying the variables and data sources used to create the tool models, as well as their underlying objectives and rationale, exploring how this relates to the governance of migratory flows to date in their respective target countries. Additionally, this study further examines how existing prediction or forecasting tools might affect migration governance within the EU. Hence, the second research question is: To what extent can these existing tools facilitate effective migration governance? In essence, this study seeks to provide a comprehensive understanding of relevant past and current IT prediction or forecasting tools for migration, as well as to determine the extent to which such tools can offer improved migration governance and policy solutions in the EU.

This study includes three main parts. Firstly, it describes the qualitative methodology used for this investigation. Secondly, it conducts a comparative examination of three IT prediction tools or projects in the field of migration. Lastly, it suggests what a valid prediction tool for migration should include in terms of variables of analysis, user interface, data accuracy, modelling, and mechanisms for explaining and communicating predictions, in order to translate outputs into effective governance policies.

2. Cases, Methodology, Data, and Categories of Analysis

In order to answer the two main research questions, we reviewed an extensive number of models, projects, and tools with the potential to predict migration flows arriving to the EU. The IT predictive tools were selected from a 10-year time range from 2010–2020. Originally, in the analysis, we identified 18 tools and projects incorporating AI, which were relevant for EU migration governance purposes. However, data were incomplete for many of these, as some were no longer in use, further information was not accessible, others were not predictive tools as such, or those responsible for tool operation were unavailable for interview. As a result, we ultimately selected three tools and projects that could be useful for forecasting or predicting EU mixed migration flows as a sample for this comparative examination:

(1) the Jetson tool, funded and operated by UN High Commissioner for Refugees;
(2) the Early Warning and Preparedness System tool (hereafter EPS-Forecasting), funded and operated by the European Asylum Support Office;
(3) Foresight, currently funded and operated by the Danish Refugee Council (DRC). It was initially funded by the Danish Ministry of Foreign Affairs, with the model and user interface developed in collaboration with IBM.

It should be noted that the Internal Displacement Event Tagging and Clustering Tool (IDETECT), funded and operated by the Internal Displacement Monitoring Centre (IDMC), is also examined in-depth in Section 4.1 below, although this tool is not considered predictive as such. Moreover, in listing the final selection of tools above, it is equally important to signal that the Jetson project does not describe itself as a "tool" as such, but rather a proof of concept, as over the course of a year it conducted scoping, research, and piloting, but never produced a user-facing, interactive tool. At the same time, as it uses machine learning for predictive purposes, and pertains to all of the categories of analysis, it is used here as one of the selected "tools," with these qualifications.

To answer the research questions, a qualitative analysis has been carried out. The analysis used two types of research techniques: document analysis and in-depth interviews. The document analysis provides access to empirically objective, common, and reliable evidence (Franzosi, 1998, p. 547). We focused on analysing all the publicly accessible information published about these tools, including user-manuals, websites, reports, and academic publications, totalling approximately 50 sources.

Regarding the interview analysis, two kinds of in-depth interviews have been conducted. We would first highlight those carried out from February to March 2021, where we interviewed five experts on forecasting or AI tools. The interviewees were selected according to their expertise, using the snowball sampling method, and included: the three developers of the forecasting tools reviewed in this article, an IDMC representative regarding the AI tool IDETECT, and the founding developer of the Global Database of Events, Language, and Tone (GDELT) project (which monitors the world's broadcast, print, and web news in over 100 languages). These interviews first explored the scope of the different tools, and secondly inquired as to what extent the existing predictive tool or project was effective in predicting migration for effective migration governance. Furthermore, they informed the selection of the three tools for this article's in-depth analysis.

The other type of interview conducted included a group interview with 13 representative European NGOs specialising in migration and based in Bulgaria, Denmark, Greece, Italy, and Spain, on 20 January 2021. The NGOs were selected according to their expertise on the ground. The main objectives of this interview were twofold: firstly, to understand to what extent this kind of predictive tool can be useful for them as end-users; secondly, to learn what they would like and expect from this type of tool.

These interviews enabled us to validate and complete the information examined via the document analysis technique (Corbetta, 2003), lasting between 40 minutes and two hours. The interlocutors were all informed about the purposes of our research and were given the opportunity to review this work. The general sample has been sufficiently representative to enable saturation and triangulation of the information obtained.

We have predefined various categories of analysis to improve the consistency of the research. As no previous literature has identified these, we have extracted different categories from the data collected via an inductive process. All the data collected via the document analysis as well as the interviews were systematically entered into an Excel spreadsheet and organised by the different categories according to the study's two key objectives, as Table 1 illustrates.

3. Comparative Analysis of the Existing Prediction Tools

This section focuses on the study's first research question as to the main predictive migration tools and their corresponding scopes. As explained in the methodology, we analyse: (1) the Jetson tool; (2) the EPS-Forecasting tool; and (3) the Foresight tool. To carry out this comparative analysis, we identified four categories of analysis in Figures 1, 2, 3, and 4: target migration flow, timeframe, variables of analysis, and data sources.

Much of recent literature acknowledges that there is no "one model as the 'best model' for all situations" (Bijak et al., 2019, p. 12; Sohst & Tjaden, 2020). In fact, using partial or different models with the same data would produce different forecasts. Providing a comprehensive forecasting tool entails assessing the type of

Table 1. Categories of analyses.

Comparative descriptive analysis (Section 3)	Component of a valid predictive tool (Section 4)
Target flow	Variables of analysis
Timescale	User-friendly interface
Variables of analysis	Accuracy of migration data
Data sources	Best suited model(s)

Source: Own elaboration.

migration flow analysing the corresponding hard data available, and cross referencing with varied contextual data (qualitative and quantitative). The modelling should then be tailored to each of these different flows and accompanying data to improve accuracy and minimise potential bias.

As illustrated in Figure 1, none of these tools forecast regular migration, presumably because this information can be more easily obtained, as it can take months to years in applying for admission to another country. By contrast, irregular and forced migration can either occur quickly via a sudden event, which could be detected and signalled with an early warning system in place, or over longer periods of time with varying uncertain events that affect migration flows. The Jetson project formerly predicted forced, internally displaced people as pertained to the case study of Somalia. Meanwhile, the Foresight tool focuses its forecasts on only forcibly displaced asylum seekers and refugees from a given country. Finally, the EPS-Forecasting tool seeks to anticipate flows of refugees and asylum-seekers arriving to the EU, which can be unpredictable if migrants arrive via irregular routes. It should be noted that forced migration is referring to migration that is not voluntary, while a refugee or an asylum-seeker is a legal term signifying those individuals that lack protection from their own country and are entitled to international rights or protections. As Figure 1 demonstrates, while they are distinct, sometimes these terms and concepts may overlap or are combined in the migration flow being targeted for prediction.

Modelling corresponded to the type of migration flow under examination. The Jetson project used machine learning gravity modelling and multivariate time series analysis (a total of 11 modelling techniques), the Foresight tool uses machine learning and Bayesian network models, and EPS-Forecasting uses adaptive machine learning algorithms, further compared in Section 4.4.

The types of movement to be predicted or forecasted relate to how each of the tools have different prediction timescales, portrayed here in Figure 2. The Jetson tool worked with both monthly predictions and additional short time frames, including three-month predictions, as they sought to test the assumption that sudden conflict events or external factors like drought and floods would cause population movement towards areas of humanitarian assistance. The EPS-Forecasting tool

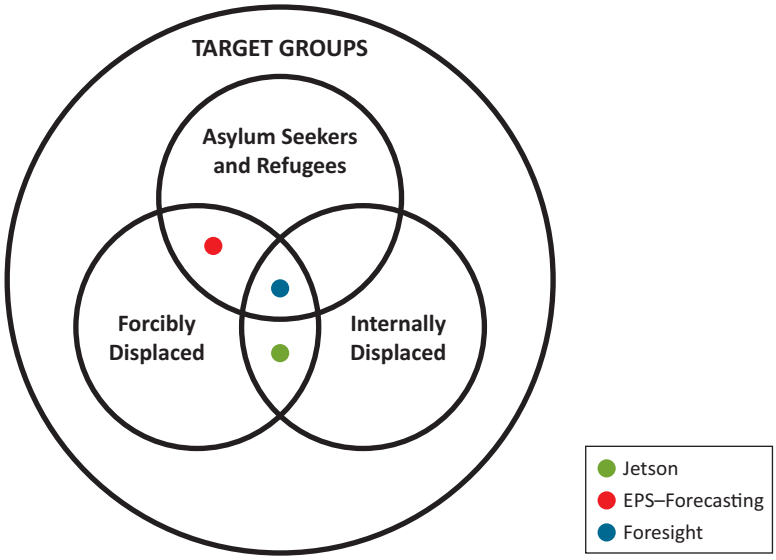

Figure 1. Target migration flow by predictive tool. Source: Adapted from Carammia et al. (2020); R. Jimenez, Jetson project, interview, March 11, 2021; A. Kjærum, DRC interview, February 18, 2021; and C. Melachrinos, interview, April 23, 2021.

Figure 2. Timescale of the predictions according to each tool. Source: Adapted from Carammia et al. (2020); R. Jimenez, Jetson project, interview, March 11, 2021; A. Kjærum, DRC interview, February 18, 2021; and C. Melachrinos, interview, April 23, 2021.

provides weekly predictions, as well as offers short-term predictions of up to one month that can be expanded via a user-selected variable. Finally, the Foresight tool initially predicted mixed migration flows one to three years in advance but was then redesigned (among other reasons) for better accuracy to focus on forced displacement via one to three-year predictions.

As displayed in Figure 3, these tools include different variables of analysis; this relates to how selecting tool variables depends on the underlying migration theory or assumption, and the identified migration flows or tool objective, further detailed in Section 4. The most common variable, used by all three tools, is information on violence or conflict in a particular territory, due to a consensus that this represents one of the most influential factors in migration flows. In addition, both the JETSON and EPS-Forecasting tools use information on political events to feed their predictions. In particular, the EPS-Forecasting tool identifies political events and social unrest, which could be caused by riots or rebellion within a specific country or territory.

It is of note that both the EPS-Forecasting and the FORESIGHT tools take into account the area and/or country of origin's economy or governance to refine their predictions. In addition, FORESIGHT uses data on geological, hydrological, and meteorological events to inform predictions.

Figure 4 shows that several data sources are used for the predictive tools' models. Here it is noteworthy that Internet usage can assume an active role in irregular migrants' choices and routes (Lif, 2016). The EPS-Forecasting tool incorporates real-time online data sources in its predictions. However, none of the tools incorporate data from social media platforms like Twitter, Facebook, or Instagram; this is perhaps due to an ongoing debate as to the ethical concerns behind use of migrants' personal data.

Figure 4 also demonstrates how all of the predictive tools rely mainly on open-access data. When it was in operation, the Jetson project used data from the Armed Conflict Location & Event Data Project (ACLED), the Food Security and Nutrition Analysis Unit, the Food

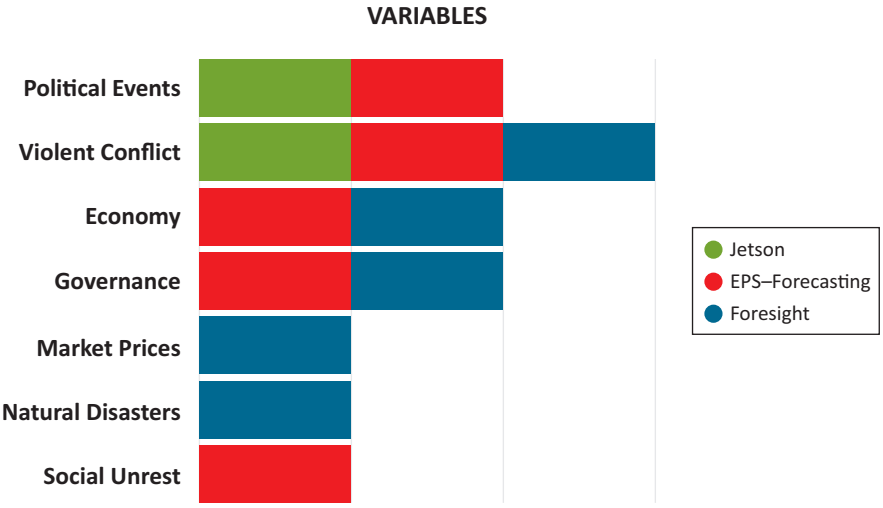

Figure 3. Variables of analysis included in each predictive tool. Source: Adapted from Carammia et al. (2020); R. Jimenez, Jetson project, interview, March 11, 2021; A. Kjærum, DRC interview, February 18, 2021; and C. Melachrinos, interview, April 23, 2021.

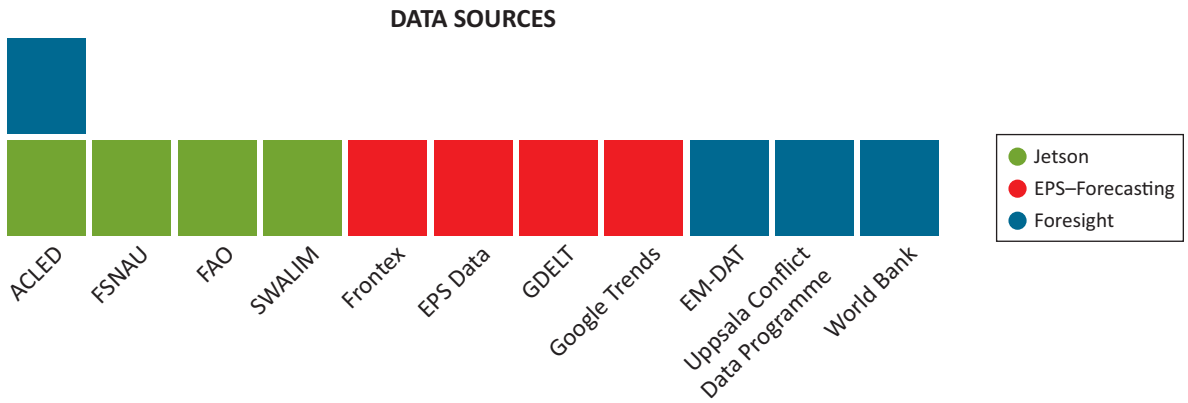

Figure 4. Data sources for the predictive tools. Source: Adapted from Carammia et al. (2020); R. Jimenez, JETSON project, interview, March 11, 2021; A. Kjærum, DRC interview, February 18, 2021; and C. Melachrinos, interview, April 23, 2021.

and Agriculture Organization of the UN, and the Somalia Water and Land Information Management Project. In addition to making use of GDELT, Google Trends and Frontex data, the EPS-Forecasting tool focuses on predicting asylum applications using their own weekly EPS-Data acquired from exchange with EU+ countries (EU member states and associated countries), the latter of which provide data on 19 standardised, disaggregated indicators, or the EPS-Data. A subset of those data is then used for the EPS-Forecasting tool (Albertinelli et al., 2020). The Foresight tool utilizes 18 different sources of data, with main sources including EM-DAT, World Bank, the Uppsala Conflict Data Programme, and ACLED.

4. Towards a Valid Predictive Tool for Migration Governance in the EU

Following this brief comparison of three main predictive migration tools, this study fleshes them out further and assesses the most relevant criteria in determining what a valid predictive tool for effective EU migration governance should look like. As such, this section partially responds to the second research question: To what extent can those existing tools facilitate effective migration governance? In particular, the following aspects are analysed: necessary variables for the models, interface of the tool, data and prediction accuracy, and adequately suited models.

4.1. Necessary Variables to Be Included in the Tool

What follows is further exploration of how and why to select variables and establish parameters for these tools or their models, providing context for why the tools analysed above did so. First of all, a valid predictive tool should include variables of analysis related to the demography of the selected countries of origin. For instance, variations in population size within countries of origin, transit, and destination can point to the existence of migration flows in those territories, and even provide data regarding migration routes. There are many public sources of information that provide quantitative data related to migration, including, among others, population statistics (e.g., City Population, 2021; UN, 2021), number of displaced individuals (e.g., International Organization for Migration, 2020; OECD, 2020), number of asylum applications (e.g., Eurostat, 2021; UN High Commissioner for Refugees, 2020), and main migratory routes (e.g., Frontex, 2020). Other relevant data sources could provide information on the given theoretical drivers of migration, including armed conflict and violence (ACLED, 2021), climate disasters (EM-DAT, 2021; European Centre for Medium-Range Weather Forecasts, 2021), low levels of development (The World Bank, 2021), food insecurity (Integrated Food Security Phase Classification, 2020), irregular governance (Rulers, Elections, and Irregular Governance, 2021), unaffordable food (Food and Agriculture Organization of the UN, 2021), policy changes (European Country of Origin Information Network, 2020), or other specific events (GDELT, 2021). As illustrated in Figure 4, two of the three tools studied here use the public dataset ACLED, which offers the "dates, actors, locations, fatalities, and types of all reported political violence and protest events" in real-time throughout the world (ACLED, 2021).

Additionally, a valid predictive tool working with quantitative data could benefit from a monitoring team that can simultaneously examine or provide qualitative data to validate or correct the tool's quantitative results. An example includes the work of the IDMC, which operates an AI tool and a real-time monitoring platform as part of its work in investigating displaced individuals worldwide. IDMC enlists a team of about eight to 10 experts to monitor the raw quantitative data, ensuring it corresponds to real-time displacements.

Ideally, when assessing successful integration strategies, predictions of migratory flows should not only include parameters related solely to countries of origin, but also variables pertaining to the country of destination, such as macroeconomic indicators (unemployment, job vacancies) or migration and integration policies (migration caps, visa regulations, etc.). This consideration is adequately incorporated into the EPS-Forecasting model, and Foresight tool developers also tested this origin–destination relationship when initially looking at mixed migration in its preliminary modelling. In using such variables, both macro and micro synergies must be considered to sufficiently address populations with multiple characteristics.

Big data has demonstrated advantages in that it could allow for identifying a particular phenomenon affecting migration flows, can permit measurement of variables at a regional or even local level, and provide input in updating a corresponding algorithm (open-access data sources usually provide information only at the national level). For instance, if a conflict occurs in a specific region, this could be accurately measured by identifying users' reactions in that particular location via social media. In recent years, several universities and research centres have been working with big data in forecasting displacement globally, examining social media for sentiment analysis, and in evaluating economic and social variables (European Commission, 2017; Singh et al., 2019). In this sense, an ideal model could include behavioural and sentiment analysis collected online. In utilizing data on sentiment, for example, a tool could identify posts, "likes" or interactions shared by migrants on their social networks, which could then be properly anonymised (according to the terms of the EU General Data Protection Regulation, as further described in Section 4.2) and codified as positive or negative reactions towards potential destination countries, routes, and relevant migration topics. Although several models that incorporate data on individual preferences and opinions have been proposed in recent years (Alam et al., 2020; Papakyriakopoulos et al., 2018, p. 9), there is no evidence that this type of

data has been used to feed an actual predictive migration mechanism to date. EPS-Forecasting uses Google Trends in generating their predictions, and a valid predictive tool could similarly incorporate insight from previous studies exploring how variables from "Google queries" can predict migration flows (Böhme et al., 2020; Lif, 2016).

Finally, a valid predictive tool could also benefit from GDELT data, which provides real-time, open source, spatio-temporal data sets on crises, drawn from the world's news media. The project codifies news and information about events via the (political science discipline) Cameo system and provides a range of users with the various methods with which to analyse this georeferenced, globally contextualised data. As mentioned above, the EPS-Forecasting tool already uses GDELT data, selecting a set of 240 events potentially driving migration and displacement, divided into five macro-categories (political events, social unrest, conflicts, economic events, and governance-related events).

4.2. Tool Interface and End-User Involvement

A valid predictive migration tool must be designed so that its selected end-users can easily operate it. In this regard, we arrive at three main conclusions based on our analysis of the interviews conducted with 13 NGOs based in Bulgaria, Denmark, Greece, Italy, and Spain.

Firstly, end-users should be able to select and deselect the main demographic criteria. In this sense, at the very least, an origin–destination–age–gender migration matrix should be made available. In addition, potential end-users in our study find it relevant to have criteria such as nationality, language spoken, ethnic group, and skills of migrants. Although it would be ideal to include all these criteria, concerns could arise in terms of data protection and ethical requirements. Particularly, article 5(1)(c) of the EU General Data Protection Regulation establishes that the processing of personal data must be "adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed" (European Union Regulation of 27 April 2016, 2016, p. 35). In essence, migrant's personal data should be processed at a minimum, only as needed for the purpose. In particular, as migrants meet the definition of "vulnerable and minority groups," any tool processing their personal information should ensure that access to this information is limited to specific selected end-users, and that this information access' purposes comply with the EU Charter of Fundamental Rights.

Secondly, according to the surveyed potential end-users, the interface of the tool could include interactive user features like the potential to compare previous periods, or scenario-building capacities. For instance, users find it particularly attractive if a tool can allow them to break down migration to the EU by routes, and to identify and visualise population groups according to specific attributes.

Lastly, potential end-users find it important that such a tool could provide predictions automatically, without having to rely on inputting their own data, which is often insufficient or even non-existent. In this regard, the tool could have a mechanism in place via machine-learning techniques, or a human monitoring unit responsible for updating information. Such a mechanism would guarantee, for example, that one year after the tool is operational, predictions and functionalities of the tool remain accurate, considering all recent phenomena impacting migration flows.

To ensure the effectiveness of the tool, it is essential to engage with experts or conduct pilot tests among end-users in real-world environments, as part of the validation process. Two of the three tools examined and still in operation receive formal validation from in-house versus external users.

4.3. Accuracy of Migration Data and Predictions

While there are many sources of information, at the same time the inherent uncertainty and complexity of the migration phenomenon, and its study, present several issues with data. The first problem encountered includes access: Given the nature of migration, as well as the multiple actors involved, there may simply be a lack of data, it could be incomplete, or it could be impossible to obtain (Felkai Janssen, 2020; Kjærum, 2020). For example, as some of the events being anticipated are sudden or unpredictable, a frequent possibility with mixed migration flows, the short life of the process makes data collection itself difficult. Another example includes how, initially, Foresight sought to use household level information, but ended up using national level data, as obtaining the former dataset was not feasible.

Moreover, raw data are not always accurate. Although accuracy of migration data has improved over time (Wilson & Rees, 2005, p. 339), some of this available information can often be inconsistent or incomplete, especially due to existing bias in the way data is collected (for example, there is currently a lack of gender disaggregated information in migration research). Assuming that data sources are sufficiently accurate, the next challenge lies in achieving accurate predictions. Many scholars have sought to minimise uncertainty through their models and studies (Bijak et al., 2019; Wilson & Rees, 2005). However, there is still a large margin of error and various biases in migration predictions, due to events that are very difficult to predict (Bijak et al., 2019). An example includes the economic cycle of a country. Although many studies have aimed to identify vulnerable economies facing risk in recent years (Brei et al., 2020; Stamer, 2019), in general, economists are not always capable of accurately predicting country recessions (Thomson-DeVeaux, 2020). Consequently, emigration driven by an economic downturn is even harder to forecast.

In the last 10 years, many methods have studied how to explicitly identify errors (Wilson & Rees, 2005, p. 340)

and improve predictions. One strategy for reducing high levels of error includes assessing data sources according to the concept of "true flow." True flow is understood as the number of migrants a flow would amount to according to a given definition of migrant, if immigration could be monitored perfectly. Another strategy could focus on assessing the margin of success by pulling everything backwards (e.g., before 2015 in the case of migration predictions), and looking at the ratio of error to the success of "past" forecasts. Through this method, the model could include benchmarking against the actual change in migration flows from one year to the next, or benchmarking against the previous prediction technique in place.

4.4. Best Suited Model(s)

Finally, it is important to recognise how lack of or errors in data, as well as differences in conceptions and theories of migration, relates to how a tool is designed or models should be chosen. The fact that a tool relies on only one forecasting model could also lead to uncertainty (Bijak, 2016; Disney et al., 2015), as any single model will have only a limited number of variables. Even if a particular model works well for a certain period, one sole event might change everything, and from that point on the predictive tool might have to consider a different degree of uncertainty. Advocates for the advantages of Bayesian models, a model used in Foresight, argue that they theoretically can provide for the three elements of uncertainty inherently characteristic to migration prediction: the uncertainty of future events, of migration data, and of different forecasting models producing different results. Moreover, the Bayesian approach can allow for incorporating historical trends, expert judgements, and various model specifications (Bijak & Wiśniowski, 2010).

Meanwhile, a gravity model like that used in the Jetson experiments employs demographic variables, using population size to map people over spatial distance; this type of approach may offer insight into future flows' structures, rather than magnitude (Bijak et al., 2019). In fact, it has been increasingly used in forecasting numbers of people who may want to move along with their potential destination, as has been conducted in a World Bank report exploring potential future climate migration (Rigaud et al., 2018). Finally, the literature has identified how agent-based modelling approaches in combination with machine learning are promising to provide predictions based on indicators or decisions to migrate at the individual or household level (corresponding to micro-level theories of migration; Searle & van Vuuren, 2021). These agent-based models are often used to explain migration, rather than predict (Klabunde & Willekens, 2016).

As a way to mitigate the uncertainty of some of the variables, model-based estimations could be complemented by expert judgment. Experts are especially necessary for assessing past forecast errors, identifying random variations in the models, enriching policy debates, and offering long-term perspectives. Both at the EU and international level, scenario-building constitutes a form of anticipating and preparing for future migration patterns, or understanding alternative future flows (Kjærum, 2020). This involves using models in an explanatory capacity, with experts predicting how different scenarios affect the composition of migration flows in a systematic process. However, disagreement among such experts and the difficulty of providing actionable conclusions complicates this method. A strategy to mitigate lack of consensus and best incorporate expert opinion includes the Delphi survey, which surveys experts in multiple rounds to reduce individual biases and promote consensus (Sohst & Tjaden, 2020).

5. From Predictions to Policy

In addition to the considerations outlined in Section 4, the feasibility and effectiveness of predictive tools and projects for migration governance require extensive assessment of who manages them and how. These new technologies present a set of tools to understand and anticipate migration, as the information they provide can be analysed to inform long-term, good governance efforts. However, there are still several potential challenges and gaps in first providing these tools for policymaking, and then in translating predictions into policy decisions.

For one, economic and political considerations remain inextricably linked. Policy makers may view economic costs as a barrier to even utilizing such tools in the first place. This could be addressed by incorporating open-source data and engaging in resource and knowledge sharing, as the Jetson project did by using open-source code and volunteer developers (R. Jimenez, Jetson project, interview, March 11, 2021). Furthermore, sufficient political will could assist in obtaining funds. Still, the earlier described competing interests of migration governance do present continued concerns with political risk, and multi-stakeholder collaboration is a complicated negotiation. As a result, these tools may remain for internal use by the developer and funder to mitigate political sensitivities.

For example, while the EPS-Forecasting algorithm is both replicable and transparent, it remains internal in compliance with the dissemination policy of some of its data, which is provided in a two-way exchange with governments under the condition it is not used publicly (Carammia et al., 2020). However, in addition to being used by its initial, internal stakeholder, the Foresight tool is also used by external stakeholders who have provided positive feedback and is made available to other stakeholders or governments (A. Kjærum, DRC interview, February 18, 2021).

In all cases, translating the available and significant wealth of analysis, information, and technological potential to actual decisions for migration governance requires continuous efforts towards enhanced communication, participation, and transparency, as Figure 5 illustrates.

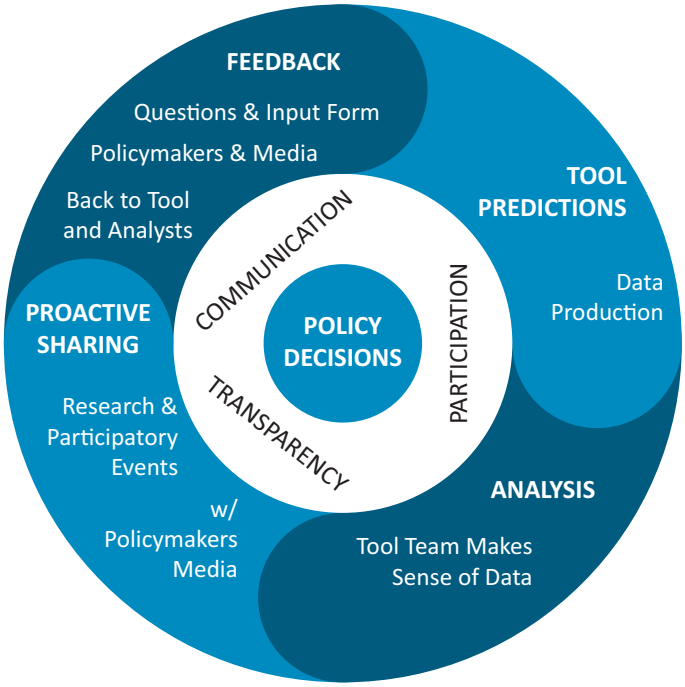

Figure 5. From tool predictions to policy decisions. Source: Own elaboration.

To utilise the explanatory and empirical value of migration predictions for governance, the nature of translating research into policy necessitates both human analysis in the form of a research team, as well as a policy unit or team corresponding to a given tool, in order to ensure the tool is useful for governance. In effect, while the tool analysts and even invited outside experts make sense of tool results, the engagement unit could serve as the liaison with policymakers. The latter team can ensure information is provided in a palatable, non-technical format, as overly scientific explanations can ultimately not prove useful (Albertinelli et al., 2020). Such an engagement or policy team would also maintain an established link with policymakers and stakeholders, so that the tool's analysis unit could communicate results in a two-way dialogue. For example, the European Asylum Support Office has maintained such an ongoing, two-way conversation and engagement with EU+ countries that seek early warning and forecasting of asylum seekers, and provides them with up to date, limited release, comprehensive reports regarding the state of early warning and forecasting to date or the impacts of recent trends like the Covid-19 pandemic; they are working towards a joint predictive exercise among such stakeholders in 2021 (European Asylum Support Office, 2017; C. Melachrinos, interview, April 23, 2021).

Evidently, the dialogue between scientists and policymakers is not simply a matter of submitting palatable desk research resulting from the tool, and the proposed engagement team's role would mean organizing participatory, collective, ideally public, events like workshops, focus groups, and webinars, where policymakers could present questions and input. This transparency would demonstrate the impact that this technology and data offer, and it would act as a check on decision-makers: It would either monitor that they do not assert their agenda or self-interest in the direction of one tool or monitor that they do not compare and select different tools to simply match tool results to their desired policies. Moreover, recent literature suggests that elites across countries—including those drawing from the business, media, and civil society in addition to those from government and research—are moderately open to and confident in select global institutions (Scholte et al., 2021); increased transparency and engagement with such elites in this prediction to policy dialogue could in turn further legitimise global migration governance.

Finally, the entire process of creating policies for populations would be incomplete without visibility into the lived experiences of migrants themselves, either obtained by a tool's analysis unit in tool design or interpretation of results, or by the policy team in engaging with decision-makers. The Jetson project, for example, incorporated this at the analysis stage, conducting qualitative interviews among the displaced individuals being monitored, to validate variables utilized in running their simulations.

Rather than reactive, short-term decision-making, long-term policy provision that incorporates interrelated policy areas beyond those strictly related to migration and integration measures are key (Szczepanikova & Van Criekinge, 2018). For example, rather than solely anticipating and preparing for migration in the short-term, translating migration predictions could mean reforming or bolstering public health or welfare policy for inclusive growth, as was indicated in this study's

interviews with relevant NGOs; in short, it is key to account for all stakeholders in human mobility. Given that migration governance should resemble a horizontal process, the tool and its proposed units should engage all relevant multilevel governmental and non-governmental actors, including international organisations, EU institutions, states, regional or local governments, civil society representatives, academic experts, and even the private sector. Finally, such a long-term view could mean also engaging origin and transit countries, enacting a specific policy or developing capacity-building projects, rather than focusing exclusively on host countries.

6. Conclusion

This study explores existing developments in predictive tools for migration. After reviewing the literature and available documents, following up with tool developers and interviewing potential end-users, three predictive migration tools and projects were studied and compared, namely, the Jetson tool, the EPS-Forecasting tool, and the Foresight tool. The analysis demonstrates the challenges in providing for effective interaction and feedback among tool developers and end-users, and how each of these tools has a different scope, data sources, models, and validation mechanisms, according to their goals.

The discussion fleshes out the difficulties to date encountered by those managing predictive tools in offering predictions that could serve the totality of relevant stakeholders in their intent to develop strategic migration governance (Robinson, 2018; Triandafyllidou, 2020). In illustrating this, the study emphasises four main aspects that should be taken into consideration to create, or transform a predictive tool into, a valid predictive tool for effective migration governance. These main elements provided here include guidance on variables to incorporate into the models, ways to involve end-users in the process, adequate levels of accuracy, and tailoring modelling to the prediction or governance objective. Furthermore, mechanisms to convert predictions into policy decisions were ultimately emphasized.

Again, there are unresolved challenges related to predictive migration tools at all stages of the development process: While some existing tools have managed to validate their predictions and achieve an acceptable level of accuracy, others still struggle to obtain accurate predictions even over a few weeks' time. Even if this first issue is overcome, the later stage of converting such predictions into decisions for governance remains an ongoing process for all pre-existing tools. The ultimate goal of predicting migration flows for governance should be to enable policymakers and appropriate stakeholders to make prudent and robust decisions, by illustrating a clear causal relationship between migrant arrivals and necessary policies for managing future migration. Section 5 explores this crucial step of engaging with policymakers, noting how it is essential to offer clear explanations of comprehensive policy solutions based on the predictions, properly communicating the uncertainty of migration forecasting.

Most importantly, the way international migration governance is understood and practiced can be mutually configured and shaped by technologies for migration forecasting. The literature to date has pointed to the risk of new technologies and IT predictive tools intensifying global or regional asymmetries, and curtailing human rights, which is at odds with effective migration governance (Beduschi, 2020; Broeders & Dijstelbloem, 2016; Crépeau & Atak, 2016).

At the same time, this analysis of current predictive tools and related projects has demonstrated that if developed and operated in a transparent and accountable process, such tools can alternatively be leveraged as an equalizer in the field of migration management. Firstly, knowledge and resource sharing via open source and access can reduce costs or barriers that otherwise exacerbate power differentials in global migration management. Secondly, these tools boast the capacity to incorporate a broad and diverse range of actors—individual states, intergovernmental organisations, civil society, interdisciplinary researchers, and technical experts, as well as migrants themselves—that can offer the most comprehensive data and insight for effective governance.

In conclusion, this study indicates that there are currently several initiatives underway in pursuit of an IT predictive tool that could assist in migration management. The EU and international organisations are working with more data and insight than ever before understanding migration flows for governance purposes. Nonetheless, to render them both useful and relevant, predictive tools require continual monitoring and re-assessment, consistent and expanded multi-stakeholder collaboration, and further efforts toward sufficient communication and translation of outputs, in order to better assist concrete policy decision-making and outcomes.

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Conflict of Interests

The authors declare no conflict of interests.

References

Alam, M., Gesese, G. A., Rezaie, Z., & Sack, H. (2020). MigrAnalytics: Entity-based analytics of migration

tweets. In K. Taylor, R. Gonçalves, F. Lecue, & J. Yan (Eds.), *Proceedings of the ISWC 2020 posters and demos track, co-located with 19th International Semantic Web Conference* (pp. 74–78). ISWC.

Albertinelli, A., Alexandrova, P., Melachrinos, C., & Wilkin, T. (2020). Forecasting asylum-related migration to the European Union, and bridging the gap between evidence and policy. *Migration Policy Practice*, *10*(4), 35–41.

Arango, J. (2018). Explaining migration: A critical view. *International Social Science Journal*, *68*, 105–117. https://doi.org/10.1111/issj.12183

Armed Conflict Location & Event Data Project. (2021). *Disaggregated data collection, analysis & crisis mapping platform*. https://acleddata.com/#/dashboard

Beduschi, A. (2020). International migration management in the age of artificial intelligence. *Migration Studies*. Advance online publication. https://doi.org/10.1093/migration/mnaa003

Bijak, J. (Ed.). (2016). *Migration forecasting: Beyond the limits of uncertainty*. Global Migration Data Analysis Centre. https://gmdac.iom.int/sites/gmdac/files/gmdac_data_briefing_series_issue_6.pdf

Bijak, J., Disney, G., Findlay, A. M., Forster, J. J., Smith, P. W. F., & Wiśniowski, A. (2019). Assessing time series models for forecasting international migration: Lessons from the United Kingdom. *Journal of Forecasting*, *38*, 470–487. https://doi.org/10.1002/for.2576

Bijak, J., & Wiśniowski, A. (2010). Bayesian forecasting of immigration to selected European countries by using expert knowledge. *Journal of the Royal Statistical Society*, *173*(4), 775–796. https://doi.org/10.1111/j.1467-985X.2009.00635.x

Böhme, M. H., Gröger, A., & Stöhr, T. (2020). Searching for a better life: Predicting international migration with online search keywords. *Journal of Development Economics*, *142*, Article 102347. https://doi.org/10.1016/j.jdeveco.2019.04.002

Brei, M., Borio, C., & Gambacorta, L. (2020). Bank intermediation activity in a low-interest-rate environment. *Economic Notes*, *49*, Article e12164. https://doi.org/10.1111/ecno.12164

Broeders, D., & Dijstelbloem, H. (2016). The datafication of mobility and migration management: The mediating state and its consequences. In I. Van der Ploeg & J. Pridmore (Eds.), *Digitizing identities: Doing identity in a networked world* (pp. 242–260). Routledge. https://doi.org/10.4324/9781315756400-13

Carammia, M., Iacus, S., & Wilkins, T. (2020). *Forecasting asylum applications in the European Union with machine learning and data at scale*. ArXiv.

Carling, J., & Collins, F. (2018). Aspiration, desire and drivers of migration. *Journal of Ethnic and Migration Studies*, *44*(6), 909–926. https://doi.org/10.1080/1369183X.2017.1384134

Castles, S., de Haas, H., & Miller, M. J. (2014). *The age of migration: International population movements in the modern world*. Ethnic and Racial Studies, *38*(13), 2355. https://doi.org/10.1080/01419870.2015.1050048

City Population. (2021). *Population statistics for countries, administrative divisions, cities, urban areas and agglomerations—interactive maps and charts*. https://www.citypopulation.de

Corbetta, P. (2003). *Social research theory methods and techniques*. SAGE.

Crépeau, F., & Atak, I. (2016). Global migration governance: Avoiding commitments on human rights, yet tracing a course for cooperation. *Netherlands Quarterly of Human Rights*, *34*(2), 113–146. https://doi.org/10.1177/016934411603400203

Disney, G., Wiśniowski, A., Forster, J. J., Smith, P. W. F., & Bijak, J. (2015). *Evaluation of existing migration forecasting methods and models: Report for the Migration Advisory Committee*. ESRC Centre for Population Change.

EM-DAT. (2021). *The international disaster database*. https://www.emdat.be

European Asylum Support Office. (2017). *Quantitative assessment of asylum-related migration: A survey of methodology*. https://easo.europa.eu/sites/default/files/publications/Quantitative_assessment_of_asylum_related_migration_1.pdf

European Centre for Medium-Range Weather Forecasts. (2021). *Advancing global NWP through international collaboration*. https://www.ecmwf.int

European Commission. (2017). *Big data and alternative data sources on migration: From case studies to policy support.* European Comission Knowledge Centre on Migration and Demography. https://knowledge4policy.ec.europa.eu/migration-demography/big-data-alternative-data-sources-migration_en

European Commission. (2021). *Feasibility study on a forecasting and early warning tool for migration based on artificial intelligence technology*. Publications Office of the European Union. https://op.europa.eu/en/publication-detail/-/publication/5afa29f0-700a-11eb-9ac9-01aa75ed71a1

European Country of Origin Information Network. (2020). *About ecoi.net*. https://www.ecoi.net/en/about/about-ecoi.net

European Union Regulation (EU) No 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). (2016). *Official Journal of the European Union*, L 119.

Eurostat. (2021). *Asylum and first-time asylum applicants by citizenship, age and sex—monthly data (rounded)* [Data set]. https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_asyappctzm&lang=en

Felkai Janssen, Z. (2020). Migration monitoring and preparedness at the European Union level: The need

for multi-stakeholder cooperation. *Migration Policy Practice*, *10*(4), 45–47. https://publications.iom.int/es/books/migration-policy-practice-vol-x-number-4-september-december-2020

Food and Agriculture Organization of the UN. (2021). *Domestic price warnings*. http://www.fao.org/giews/food-prices/en

Franzosi, R. (1998). Narrative analysis-or why (and how) sociologists should be interested in narrative. *Annual Review of Sociology*, *24*, 517–554. https://doi.org/10.1146/annurev.soc.24.1.517

Frontex. (2020). *Migratory map*. https://frontex.europa.eu/along-eu-borders/migratory-map

Global Database of Events, Language, and Tone. (2021). *The GDELT story*. https://www.gdeltproject.org/about.html

Hernandez, K., & Roberts, T. (2020). *Predictive analytics in humanitarian action: A preliminary mapping and analysis* (K4D Emerging Issues Report 33). Institute of Development Studies.

Integrated Food Security Phase Classification. (2020). *The IPC population tracking tool*. http://www.ipcinfo.org/ipc-country-analysis/population-tracking-tool/en

International Organization for Migration. (2020). *Displacement tracking matrix*. https://displacement.iom.int

Kjærum, A. (2020). Foresight: Using machine learning to forecast and understand forced displacement. *Migration Policy Practice*, *10*(4), 26–30. https://publications.iom.int/es/books/migration-policy-practice-vol-x-number-4-september-december-2020

Klabunde, A., & Willekens, F. (2016). Decision-making in agent-based models of migration: State of the art and challenges. *European Journal of Population*, *32*, 73–97.

Lif, O. (2016). *Migration in the internet age. The 21st century: When refugees went online* (Lund Student Papers). Lund University. https://lup.lub.lu.se/student-papers/search/publication/8873467

Massey, D. (1999). International migration at the dawn of the twenty-first century: The role of the state. *Population and Development Review*, *25*(2), 303–322. https://doi.org/10.1111/j.1728-4457.1999.00303.x

OECD. (2020). *International migration database*. https://stats.oecd.org/Index.aspx?DataSetCode=MIG

Papakyriakopoulos, O., Hegelich, S., Shahrezaye, M., & Medina Serrano, J. C. (2018). Social media and microtargeting: Political data processing and the consequences for Germany. *Big Data & Society*, *5*(2). https://doi.org/10.1177/2053951718811844

Raleigh, C. (2011). The search for safety: The effects of conflict, poverty and ecological influences on migration in the developing world. *Global Environmental Change*, *21*(Suppl. 1), S82–S93. https://doi.org/10.1016/j.gloenvcha.2011.08.008

Rigaud, K., de Sherbinin, A., Jones, B., Bergmann, J., Clement, V., Ober, K., Schewe, J., Adamo, S., McCusker, B., Heuser, S., & Midgley, A. (2018). *Groundswell: Preparing for internal climate migration.* World Bank. https://openknowledge.worldbank.org/handle/10986/29461

Robinson, C. (2018). Making migration knowable and governable: Benchmarking practices as technologies of global migration governance. *International Political Sociology*, *12*(4), 418–437. https://doi.org/10.1093/ips/oly020

Rulers, Elections, and Irregular Governance. (2021). *Rulers, elections, and irregular governance dataset* [Data set]. https://oefdatascience.github.io/REIGN.github.io/menu/reign_current.html

Scholte, J. A., Verhaegen, S., & Tallberg, J. (2021). Elite attitudes and the future of global governance. *International Affairs*, *97*(3), 861–886.

Searle, C., & van Vuuren, J. H. (2021). Modelling forced migration: A framework for conflict-induced forced migration modelling according to an agent-based approach. *Computers, Environment and Urban Systems*, *85*, Article 101568. https://doi.org/10.1016/j.compenvurbsys.2020.101568

Singh, L., Wahedi, L., Wang, Y., Kirov, C., Wei, Y., Martin, S., Donato, K., Liu, Y., & Kawintiranon, K. (2019). Blending noisy social media signals with traditional movement variables to predict forced migration. In A. Teredesai & V. Kumar (Eds.), *KDD '19: Proceedings of the 25th ACM SIGKDD international conference on knowledge discovery & data mining* (pp. 1975–1983). Association for Computing Machinery.

Sohst, R., & Tjaden, J. (2020). Forecasting migration: A policy guide to common approaches and models. *Migration Policy Practice*, *10*(4), 8–13. https://publications.iom.int/es/books/migration-policy-practice-vol-x-number-4-september-december-2020

Sohst, R., Tjaden, J., de Valk, H., & Melde, S. (2020). *The future of migration to Europe: A systematic review of the literature on migration scenarios and forecasts*. International Organization for Migration.

Stamer, M. (2019). *Country Risk—Which countries are the most vulnerable to the global slowdown?* Euler Hermes. https://www.eulerhermes.com/en_global/news-insights/economic-insights/Country-Risk-Which-countries-are-the-most-vulnerable-to-a-global-slowdown.html

Szczepanikova, A., & Van Criekinge, T. (2018). *The future of migration in the European Union: Future scenarios and tools to stimulate forward-looking discussions*. Publications Office of the European Union. https://doi.org/10.2760/274425

The World Bank. (2021). *World development indicators*. https://databank.worldbank.org/source/world-development-indicators

Thomson-DeVeaux, A. (2020). *Even without a pandemic, it's hard to forecast a recession*. FiveThirtyEight. https://fivethirtyeight.com/features/even-without-a-pandemic-its-hard-to-forecast-a-recession

Triandafyllidou, A. (2020). Decentering the study of

migration governance: A radical view. *Geopolitics*. Advance online publication. https://doi.org/10.1080/14650045.2020.1839052

UN High Commissioner for Refugees. (2020). *Refugee data finder*. https://www.unhcr.org/refugee-statistics/download/?url=pwN2

UN. (2021). *United Nations population division*. https://www.un.org/development/desa/pd

Wilson, T., & Rees, P. (2005). Recent developments in population projection methodology: A review. *Population, Space and Place*, *11*, 337–360. https://doi.org/10.1002/psp.389

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Article

Asylum Migration, Borders, and Terrorism in a Structural Gravity Model

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Abstract
In this article, we examine the impact of terrorist attacks on asylum-related migration flows. So far, the literature that examines the "push factors" such as terrorism that explain forced migration has omitted the fact that the vast majority of people forced to flee typically do so toward other locations within the country. The novel feature of our research is the estimation of a structural gravity equation that includes both international migration and internally displaced persons (IDP), a theoretically consistent framework that allows us to identify country-specific variables such as terror attacks. For that purpose, we use information on the number of asylum applications, the number of IDP, and the number of terrorist attacks in each country for a sample of 119 origin developing countries and 141 destination countries over 2009–2018. The empirical results reveal several interesting and policy-relevant traits. Firstly, forced migration abroad is still minimal compared to IDP, but globalization forces are pushing up the ratio. Secondly, terror violence has a positive and significant effect on asylum migration flows relative to the number of IDP. Thirdly, omitting internally displaced people biases downward the impact of terrorism on asylum applications. Fourthly, we observe regional heterogeneity in the effect of terrorism on asylum migration flows; in Latin America, terrorist attacks have a much larger impact on the number of asylum applications relative to IDP than in Asia or Africa.

Keywords
asylum migration; forced migration; internally displaced persons; structural gravity; terrorism

Issue
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1. Introduction

According to the UN Refugee Agency, since the end of the 1990s, the number of forcibly displaced people has gradually increased; in 2019, the figure reached 79.5 million, 2.9 million of whom were asylum seekers (UN High Commissioner for Refugees, 2020). This phenomenon represents a social and economic challenge for both forced migrants' countries and their final destination. Accompanying this trend is the recent surge of terrorism concentrated in developing nations. According to the Global Terrorism Database, the number of terrorist attacks worldwide has doubled in the last 20 years, with 148 countries suffering at least one episode and 10 countries concentrating 75% of all terrorist attacks. Over the past decade, terrorists killed an average of 21,000 people worldwide each year.

How many of the world's 79 million displaced people would have stayed at home with lower levels of terrorism? This article aims to contribute to the empirical literature on the determinants of international migration, examining the impact of terrorist attacks on international

forced migration. So far, the literature that examines the "push factors" such as terrorism that explain asylum migration has omitted the fact that the vast majority of people forced to flee typically do so toward other locations within the country. The novelty of our research is the use of the structural gravity model to estimate the effect of terrorism on forced international migration, i.e., asylum migration, accounting for internally displaced persons (IDP). Our sample contains 119 origin developing countries and 141 destination countries, 37 of which were developed economies during 2009–2018.

To the best of our knowledge, this article constitutes the first attempt to estimate forced international migration with a full-fledged structural gravity model. The gravity model of trade is the empirical workhorse of international economics. It is grounded in economic theory, and it is flexible enough to accommodate forced migration. Structural gravity refers to a particular theoretically driven estimation method of the gravity equation that delivers unbiased and theoretically consistent estimates. The structural gravity model contains several relevant features related to the empirical analysis of international flows. Firstly, the inclusion of a complete set of country and country-pair fixed effects controls for unobserved heterogeneity, multilateral resistance, and time-persistent country-pair characteristics. Secondly, the "border" effect stems from the inclusion of domestic flows in the dependent variable. Thirdly, the possibility to hedge collinearity with the fixed effects and include country-specific variables capitalizing on the "border" effect.

A structural gravity model opens the breadth of novel contributions of the study of the forced migration–terrorism link. Firstly, we find that the accumulation of terrorist attacks raises the number of asylum migration flows significantly. The estimates suggest that if terror attacks decreased by 10% in a sending country, forced international migration flows would be reduced by 2% on average. Secondly, the estimates reveal specific regional heterogeneity. For example, terrorist attacks have a larger effect in Latin America than in Asia or Africa. Thirdly, the article makes a preliminary attempt at estimating the border effect in asylum migration (i.e., the preference for internal migration). The estimates suggest that the border effect is larger than in trade and decreased in our study period.

The rest of the article is organized as follows. Section 2 briefly reviews the empirical literature on the terrorism–migration link. Section 3 describes the empirical method, i.e., the structural gravity model applied to forced migration. Section 4 describes the data, and Section 5 reports the results. Finally, Section 6 concludes.

2. Literature Review

Asylum-related migration refers to migration with the intended purpose of seeking international protection in a given country or ultimately results in an individual applying for protection in the recipient country (UN High Commissioner for Refugees, 2020). There is a relative degree of consensus in the literature that violence is a significant underlying cause of forced migratory movements (i.e., asylum) using various categorizations, e.g., generalized violence, civil war, ethnic conflict, state-sponsored terror (Hatton, 2020). Violence in the homeland causes the movement of people away from the area of conflict, either moving somewhere within the country or trying to reach a foreign destination. Several papers provide evidence in favour of the hypothesis that violence in the homeland causes flight from home for asylum-seeking abroad.

Schmeidl (1997), Davenport et al. (2003), Moore and Shellman (2004), and Salehyan and Gleditsch (2006) use global samples of countries with data spanning from the 1950s to 2000s to identify the drivers of forced migration and conclude that "generalized violence" outweighed political and economic variables as the prominent driver of forced migration. Moore and Shellman (2006) investigate the circumstances that lead some countries to produce a large number of refugees and relatively few IDPs instead of a large number of IDPs and relatively few refugees. They find that civil wars tend to increase IDPs, whereas genocides tend to increase refugees.

Other papers have directly examined the determinants of asylum seekers' applications from developing countries to Western European countries. Neumayer (2005) finds that economic reasons are more important than political reasons as determinants of the number of asylum seekers over 1975–1999. Among the political factors, restrictions on political rights and civil liberties emerge as crucial factors. Two recent papers suggest that political factors have become more relevant over time. Giménez-Gómez et al. (2019) find that wars, civil conflicts, violations of human rights, and oppressive regimes explain economic migration and forced displacement (asylum seekers) from 51 African sources countries into 21 European destination countries between 1990 and 2014. Kang (2020) finds that political instability of the source country is the main factor explaining the determinants of the number of applications for asylum in seven EU countries from 145 origin countries in the 2008–2014 period. Paniagua et al. (2021) study the effect of well-being on forced migration in OECD countries and report that the impact of a composite indicator for safety (or absence of violence) containing two dimensions: assault rate and homicide rate. The authors find that the lack of violence acts as a positive pull factor and a negative push factor.

The number of papers using terrorism to evaluate the impact of violence on forced migration is scarce. Simsek (2006) uses time-series analysis to provide evidence of a positive effect of terrorist attacks on forced movements of people in Turkey, both internally and internationally. Dreher et al. (2011) examine the impact of terrorist attacks on international economic migration rates using a panel of 152 sending countries to six receiving

developed countries over the 1976–2000 period. They find a robust positive relationship between terrorism and skilled migration, but an absence of strong evidence that average emigration is related to terrorism, which indicates that the effect of terrorism on migration depends on the level of education. Hatton (2009, 2016) estimates the impact of a terror scale on asylum migration using a gravity-like model. This terror scale measures the extent of brutality, torture, and arbitrary imprisonment reported by the US State Department. He finds a positive a significant effect of this terror scale on asylum applications.

Several studies using the gravity equation highlight the negative effect of terrorism on international economic flows such as trade (Bandyopadhyay et al., 2018; Egger & Gassebner, 2015; Nitsch & Schumacher, 2004), tourism (Fourie et al., 2020; Santana-Gallego & Fourie, 2020), and foreign direct investment (Hogetoorn & Gerritse, 2020; Powers & Choi, 2012). However, none of the previous papers has estimated a structural gravity model of forced migration. The only exception is Carril-Caccia et al. (2019), who estimate the effect of terrorism on foreign direct investment with a structural gravity equation that includes internal investment and multilateral resistance terms. The following section explains the benefits of estimating a structural gravity model to quantify the impact of terrorism on forced migration.

3. A Structural Gravity Model of International (Forced) Migration

This study applies the structural gravity model to estimate the effect of the degree of terrorism suffered by origin countries on international forced migration. Intuitively, the gravity equation builds on the idea that bilateral flows are directly proportional to the size of the host country's economy and inversely proportional to economic, cultural, and political barriers.

The gravity model is the flagship method of empirical research on international economic flows for two main reasons. Firstly, it offers solid theoretical foundations for several economic flows starting with trade (Anderson & Van Wincoop, 2003) and foreign direct investment (Anderson et al., 2019), but also that stemming from migration (Bertoli & Fernández-Huertas Moraga, 2013), tourism (Santana-Gallego & Paniagua, 2020), and more recently asylum migration (Paniagua et al., 2021).

Secondly, the gravity model offers an empirical toolkit that delivers consistent and unbiased estimates of the variables of interest. The gold standard for gravity estimates aligns with the theory above by including a complete set of fixed effects, namely origin-time and destination-time and country-pair dummies (Head & Mayer, 2014; Piermartini & Yotov, 2016). Country-pair fixed effects reduce endogeneity by controlling for unobservable heterogeneity and time-invariant determinants of migration at the country-pair level. The home and host country fixed effects are doubly relevant since they control multilateral resistance and any possible country-specific variable. Therefore, the inclusion of a full set of fixed effects absorbs the usual gravity covariates (distance, common language, GDP, etc.) and isolates the impact of the independent dyadic time-varying variables of interest.

Identifying terror attacks, which occur predominantly in sending countries, is a challenge. To estimate the effect of country-specific variables such as terrorism, we capitalize on a second important feature of structural gravity: the inclusion of observations of domestic flows. Other studies that applied the gravity equation to study forced migration omitted the origin-year fixed effects to identify these types of variables (Hatton, 2009, 2016). However, to obtain a closed-form solution of the gravity equation, the gravity model of trade imposes a market clearing condition: All produced goods are consumed domestically or abroad, as Anderson (2011) shows. Paniagua et al. (2021) show that this theoretical condition also applies to obtaining a gravity equation for asylum migration: Displaced people either seek asylum in a third country or move domestically for any given year. However, they did not include domestic forced displacements in their empirical analysis.

Including IDP in the dataset opens three interesting empirical possibilities. Firstly, we can measure the "border effect" (or "home bias") or the relative importance of asylum seekers to IDP. Secondly, by controlling for the change of the border effect over time, we can measure the variation in unobserved costs of international migration relative to domestic costs, which is generally attributed to globalization (Bergstrand et al., 2015). However, applying for asylum is not always possible for displaced people; illegal immigration is part of the reality of forced migration. Consequently, our dependent variable may understate the extent of forced migration when using asylum applications as a proxy. Therefore, the time-varying border effect also captures any changes in the amount of illegal immigration.

Thirdly, we can hedge the limitation imposed by the fixed effects due to the collinearity with country-specific variables (Beverelli et al., 2018; Heid et al., 2021). Therefore, we can estimate the effect of time-varying country-specific variables such as terrorism and origin-year fixed effects within the structural gravity framework. To this aim, we estimate the following gravity equation:

$$FM_{ijt} = \exp\left(\text{terror}_{it} I_{ij} + X_{it} I_{ij} + Z_{ijt} + B_{iit} + \alpha_{it} + \alpha_{jt} + \alpha_{ij}\right) \times \times \varepsilon_{ijt} \quad (1)$$

where *FM* is forced migration, including IDP, for origin country *i*, destination country *j* in year *t*.

Our variable of interest, terror_{it}, is the number of accumulated terrorist attacks in the origin country *i* in the three previous years. For identification, this variable is interacted with I_{ij}, an international indicator variable

that takes the value of 1 whenever forced migration is international ($I_{ij} = 1\ \forall i \neq j$). We can do so because the interaction between the border international dummy (I_{ij}) and country-level variables is not collinear with the set of origin-year (α_{it}), destination-year (α_{jt}), and country-pair (α_{ij}) fixed effects included in the regression. These host country fixed effects control any country-specific time-varying variables that affect both IDP and asylum migration, such as GDP per capita (GDPpc), population, and immigration policy in host countries.

The specification also includes other country-specific control variables X_{it} (interacted with I_{ij}) and dyadic control variables (Z_{ijt}) that are not collinear with the fixed effects (α_{it}, α_{jt}, α_{ij}). As a country-specific control variable, we include the country of origin's "Voice and Accountability," an index that captures perceptions of the extent to which a country's citizens can participate in selecting their government and freedom of expression, freedom of association, and free media. The dyadic control variables are: i) a dummy which takes one whenever a pair of countries have signed a regional trade agreement and zero otherwise; and ii) the stock of fellow citizens granted with the refugee status in the destination country lagged three years.

Lastly, B_{ii} is a dummy variable taking the value of 1 for IDP and 0 otherwise, which controls for country-specific intra-national migration costs and "home-bias" effects and any other country-specific time-invariant characteristics that may drive a wedge between internal and international forced migration as does the aforementioned illegal migration. To control for a parsimonious change in these variables, we interact B_{ii} with 3-year period dummies, $B_{iit} = \sum_t B_{ii} \times PERIOD_t$. These variables measure the evolution of the border effect as a measure of all these border effects.

The empirical equations are estimated using the Poisson Pseudo Maximum Likelihood estimator. Silva and Tenreyro (2006) show that Poisson Pseudo Maximum Likelihood allows one to overcome the two main limitations of estimating the gravity equation with Ordinary Least Squares, not accounting for the zeros present in bilateral statistics and heteroskedasticity problems. Finally, robust standard errors are multiway clustered at the origin and destination country (Egger & Tarlea, 2015). Due to the significant number of fixed effects in our models, we use the Poisson Pseudo Maximum Likelihood high dimensional fixed effects estimators proposed by Correia et al. (2020).

4. Data

In the present analysis, we employ an unbalanced panel covering the 2009–2018 period, 119 origin developing countries, and 141 destination countries, 37 of which are developed economies according to the UN Conference on Trade and Development's classification (the country sample is available in Table A.1 in the Supplementary File).

Our primary interest is the impact of terrorism on international forced displacement after considering that terrorism also causes the domestic movement of individuals. Thus, our dependent variable comes from two databases. Forced international migration, proxied by the number of asylum applications, is retrieved from the UN Refugee Agency. By adding the number of IDP, we have a complete matrix of displaced persons moving domestically or abroad. The number of IDP is retrieved from the Internal Displacement Monitoring Centre, being the number of IDP in a given year due to violence and conflicts. Our main explanatory variable is terrorism in the origin country, whose indicators were obtained from the Global Terrorism Database (LaFree, 2010; The National Consortium for the Study of Terrorism and Responses to Terrorism, 2018). We carry out our primary analysis using the number of terrorist attacks, and we use alternative measures (number of casualties and material damages) in the robustness part of the article.

Figure 1 shows the evolution of the number of asylum seeker applications. In 2009 there were about half a million asylum applicants worldwide; by 2018, this number had doubled. Compared to the number of domestic IDP, the number of asylum seekers is small though it grows faster: the share was 3.5% in 2009 and 10 years later rose to 5.5%.

The evolution of the indicators of terrorism over the period 2009–2018 is displayed in Figure 2. The three indicators (attacks, deaths, and material losses) exhibit similar trends. Terrorism has increased over time, with a peak in 2014. Terrorist attacks concentrate in a few countries: 20 countries have accumulated 90.6% of the world's terrorist attacks, most being in the Asian continent (see Figure 3). Interestingly, the correlation between the number of asylum seekers and the three measures of terrorism is high for the 10-year period (0.80). When we use disaggregated data by country, we observe a clear positive correlation between asylum applications and terrorist attacks (Figure 4) again.

As additional control variables to those typically used in the asylum migration literature, we include a variable that controls for the migrant network in the host country ("lagged stock of refugees") and a variable of governance in the country of origin ("Voice and Accountability"). The former captures the importance of diasporas and local migrant communities in destination countries as facilitators of the new arrival of refugees (Hatton, 2016). The latter captures perceptions of the extent to which a country's citizens can participate in selecting their government, have freedom of expression, freedom of association, and free media. The home country index ranges from −2.5 (the lowest score) to 2.5 (Kaufmann et al., 2011), with higher values indicating more participatory democracy and citizens' accountability.

The rest of the gravity-type variables include economic and political enhancers or inhibitors of the free movement of people abroad. Population and GDPpc come from the World Bank's World Development

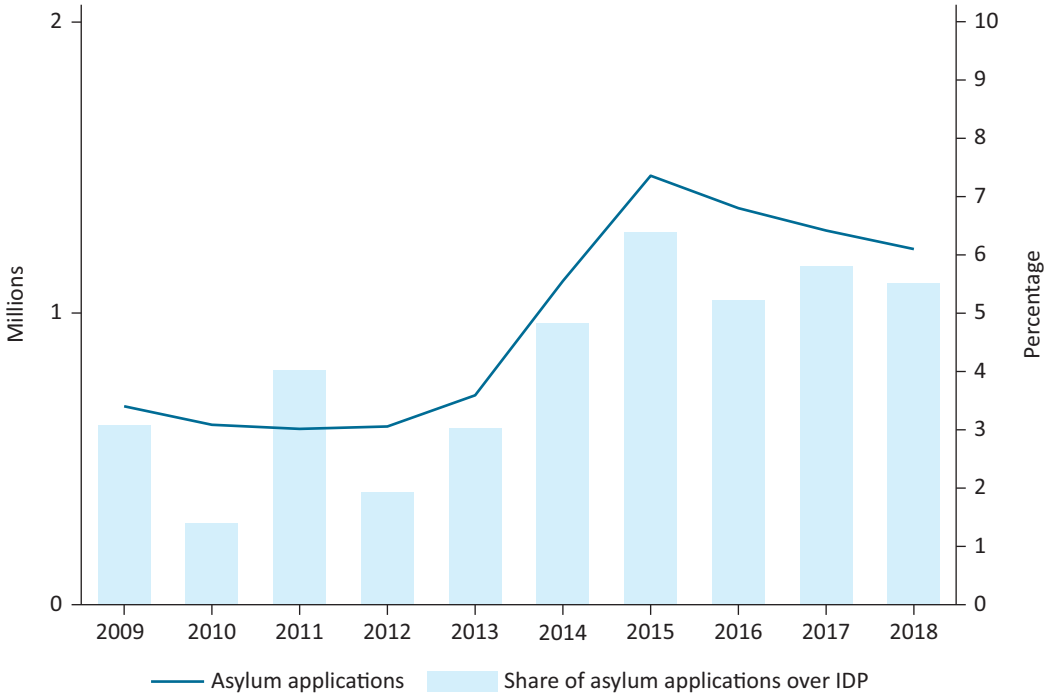

Figure 1. Evolution of asylum application and their share over IDP. Source: Authors' own elaboration using UN High Commissioner for Refugees and IDP databases.

Indicators. We expect that large countries of origin have less relative international migration mobility and more developed economies receive relatively more asylum applications. Bilateral distance and a shared border between two countries capture time-invariant transportation costs. The costs of migrating are also lower if a pair of countries share a common language, which reduces barriers to entry and increases the likelihood that a migrant will secure employment or housing. A similar argument is valid for countries that share a colonial history, share a common legal origin, or have a religious affinity. For example, individuals in countries that share

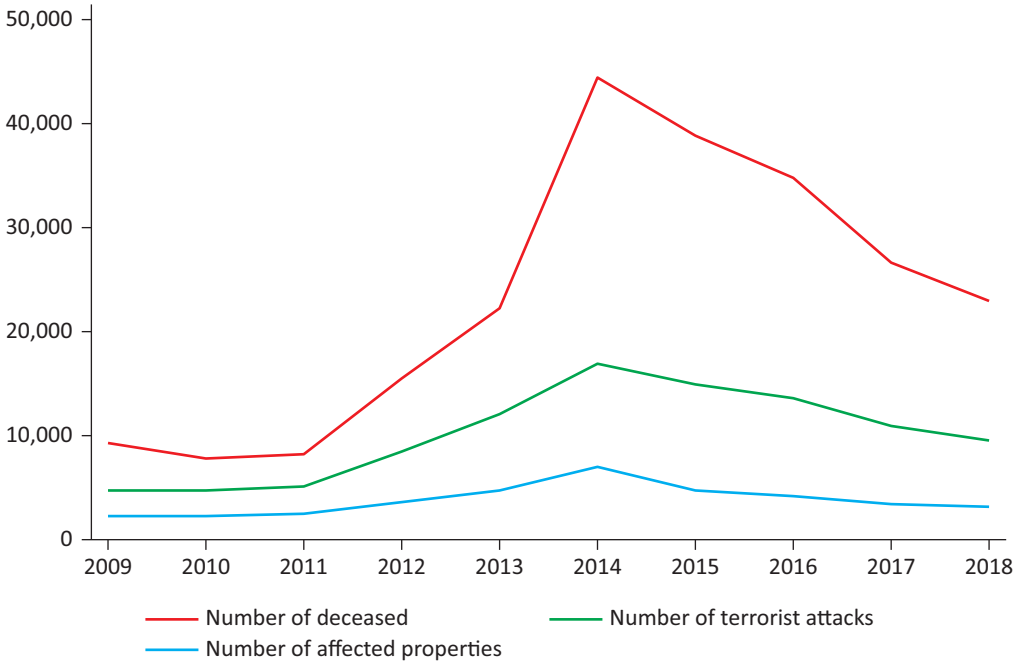

Figure 2. Evolution of terrorism, 2009–2018. Note: The three variables refer to the count of cases in a given year: number of deceased due to terrorism, number of attacks, and number of affected properties. Source: Authors' own elaboration based on the Global Terrorism Database.

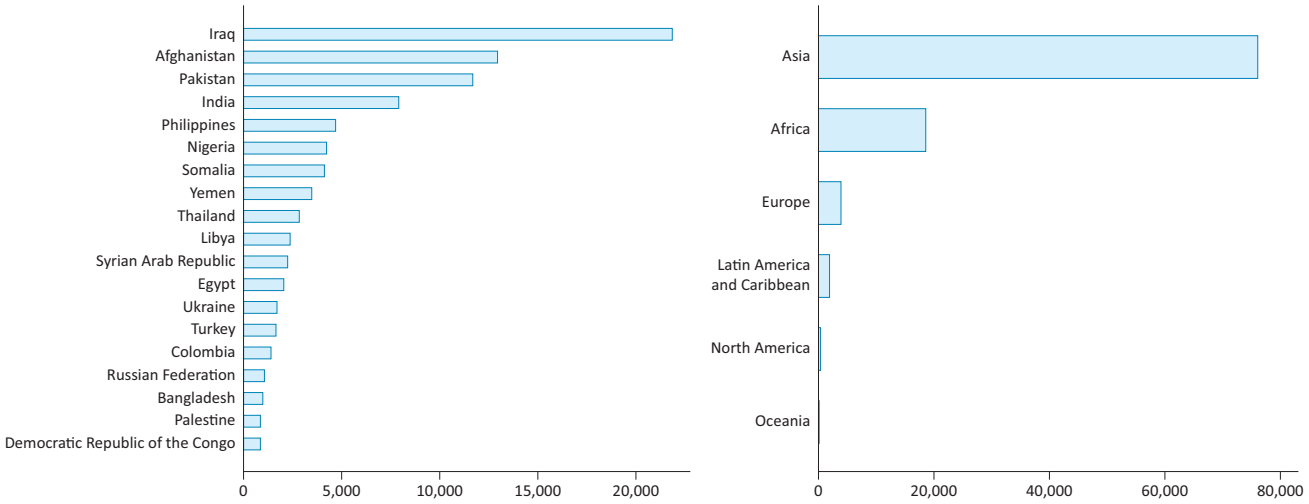

Figure 3. Geographic distribution of all terrorist attacks, 2009–2018. Source: Authors' own elaboration based on the Global Terrorism Database.

a colonial past with a potential destination will have better information about the country's institutions, culture, and economy and will be more likely to migrate. These variables come directly from CEPII (Head & Mayer, 2014). Regional trade agreements come from Mario Larch's Regional Trade Agreements Database (Egger & Larch, 2008). Descriptive statistics and source links are provided in Table A.2. in the Supplementary File.

5. Results

The results of our empirical analysis, including IDP in the dependent variable, are reported in Table 1. As IDP is present in the dependent variable, the interpretation of the estimated coefficients is the impact of the independent variable relative to IDP. Column (1) of Table 1 reveals the magnitude of the "border" effect, that is, how many more times displaced persons move internally than abroad. The border coefficient reveals that there are 2,540 (= exp[7.84]) internally displaced people for every asylum seeker. To the best of our knowledge, this is the first estimate of the border effect of (forced) migration. Our estimated border effect of forced migration is larger than trade's, ranging between 10 and 30 (Head & Mayer, 2014). We expected, however, a larger magnitude for forced migration since the relative difficulty of movement (domestic vs. international) is larger for distressed migration than for goods.

To estimate the time-invariant border effect (B_{ii}, described in Section 3), we have to sacrifice the country-

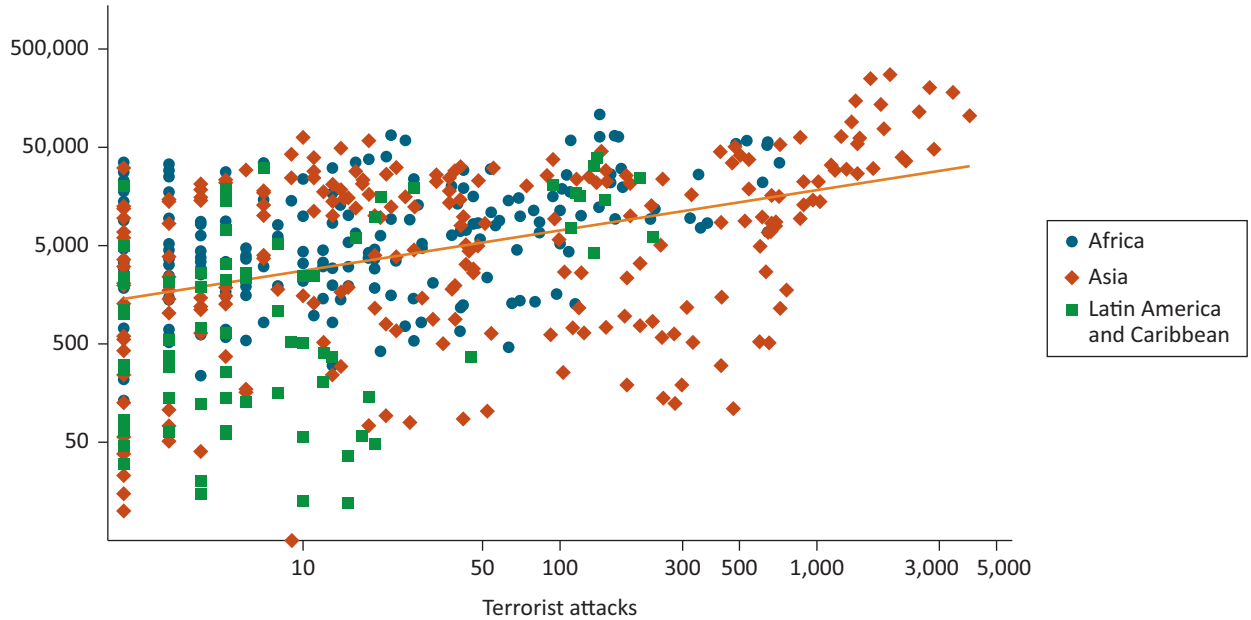

Figure 4. Correlation between asylum applications and terrorist attacks, 2009–2018. Source: Authors' own elaboration based on the Global Terrorism Database and asylum applications data from UN High Commissioner for Refugees.

pair fixed effects. Therefore, column (1) of Table 1 includes the usual gravity variables to control for constant country-pair heterogeneity. It is nonetheless informative to observe that these variables have the expected signs. The estimated coefficients of distance, contiguity, common language, and colonial ties reveal that asylum

Table 1. Determinants of the number of asylum applications, including domestic IDP. Structural gravity model.

	(1)	(2)	(3)	(4)	(5)	(6)
Total terrorist attacks in t–1 to t–3	0.063	0.315***	0.167***	−0.098	0.352**	0.300*
	(0.101)	(0.062)	(0.057)	(0.092)	(0.175)	(0.160)
Voice and Accountability	−0.718**	−0.065	−0.313	−0.019	−0.012	0.258
	(0.291)	(0.243)	(0.203)	(0.312)	(0.589)	(0.519)
Border	7.840***			3.737***		
	(1.340)			(0.794)		
Refugee population t-3	−0.005	−0.121	0.026	0.458***	0.002	−0.000
	(0.086)	(0.107)	(0.049)	(0.034)	(0.032)	(0.033)
GDPpc (origin)	−0.341	−0.219	−0.295			
	(0.546)	(0.483)	(0.221)			
GDPpc (destination)	0.481	0.389				
	(0.615)	(0.611)				
Population (origin)	10.095***	9.144***	3.706**			
	(2.071)	(1.849)	(1.531)			
Population (destination)	−5.197	−4.004				
	(3.423)	(3.175)				
Distance	−1.582***			−0.656***		
	(0.311)			(0.138)		
Contiguity	0.611*			0.022		
	(0.337)			(0.254)		
Common language	0.097			−0.078		
	(0.341)			(0.237)		
Common legal origins	0.204			0.114		
	(0.237)			(0.148)		
Colonial ties	1.522***			1.043**		
	(0.533)			(0.454)		
Religious affinity	−0.059			−0.597		
	(0.712)			(0.582)		
Regional trade agreement	1.420***	0.454	0.225	1.188***	−0.054	−0.036
	(0.292)	(0.450)	(0.165)	(0.331)	(0.184)	(0.180)
Border 2012-2014						−0.753**
						(0.327)
Border 2015-2018						−0.530
						(0.443)
Observations	48086	45539	45159	47525	45035	45035
Origin FE	Yes					
Destination FE	Yes					
Country pair FE		Yes	Yes		Yes	Yes
Year FE	Yes	Yes				
Origin-year FE				Yes	Yes	Yes
Destination-year FE			Yes	Yes	Yes	Yes
IDP	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent includes IDP; the variables terrorist attacks in t–1 to t–3 and Voice and Accountability are interacted by a dummy that takes 1 whenever the flow is international; standard errors are multi-way clustered at the origin country and destination country levels are in parentheses; *, **, and *** represent statistical significance at the 1%, 5%, and 10% levels, respectively.

seekers more commonly apply to geographically close countries with a common language and colonial ties. Common legal origins and religious affinity do not appear to be significant drivers of asylum (always relative to IDP).

As in Figueiredo et al. (2016), the positive and statistically significant coefficient of regional trade agreement indicates that economic ties, and more specifically trade, are important determinants in the decision to seek asylum. However, the non-significant coefficients of GDPpc suggest that income is not relevant, or that its effect is absorbed as a fixed country cost. On the other hand, the estimated population coefficients are positive and significant for the population at the origin and negative the destination, suggesting that country size plays an important role. Displaced people of larger countries tend to cross borders much more than those of smaller countries. This makes sense because moving within a large country might be as costly as moving to a foreign country.

Along with economic and cultural factors, the quality of the institutions in the origin is also an important determinant of asylum applications. In particular, the variable "voice and accountability" coefficient is negative, suggesting that the greater the difficulties in participating in the selection of their government or where there are limitations to citizen's freedom of expression, freedom of association, and the media, the higher is the number of asylum applicants relative to IDP.

In sum, the estimates of the control variables paint a picture of asylum seekers that matches the economic intuition of gravity models. However, our variable of interest (terrorist attacks) does not appear statistically significant in Column (1) of Table 1. One plausible reason is that the omission of the country pair-fixed effects is a source of considerable bias for the estimates of asylum applications. Column (2) of Table 1 includes these time-invariant structural characteristics of country pairs that absorb most of the other variables. Only terror and population surface as the single most relevant determinants of asylum flows. Including destination-year fixed effects in Column (3) of Table 1 does not change their significance, albeit a lower magnitude. In Column (4) of Table 1, we do not include country pair fixed effects to re-estimate the border effect with destination-year fixed effects. The border coefficient reveals that there are 42 (= exp[3.73]) internally displaced people for every asylum seeker. Hence, the border effect of forced migration is still greater than the typical border effect of trade.

The last two columns of Table 1 introduce the specification with the most demanding combination of fixed effects: country-pair, origin-year, and destination-year (see equation (1)). We are still able to estimate the impact of terrorist attacks on the number of asylum seekers relative to IDP using the interaction term between the variable of terrorist attacks ($terror_{it}$) and the international indicator variable that takes one whenever forced migration is international (I_{ij}).

Column (5) of Table 1 suggests that terrorist attacks is the only variable that significantly impacts forced migration. This result holds in Column (6) of Table 1 when including the time-varying border. Our preferred estimate reveals that a 10% increase in the number of terrorist attacks in the source country leads to an increase in asylum applicants by 3% over IDP, on average. This estimate supports the hypothesis that terrorist attacks raise the number of asylum applications relative to IDP.

The coefficients of the border estimates for the 2012–2014 and 2015–2018 periods are shown at the end of Column (6) of Table 1. The estimates of the international border variables reveal that the effects of borders have fallen over 2012–2014, relative to 2009–2011. The effects of borders on forced migration in 2012–2014 have become 52% ($\exp[-1.25]-1 = -0.529$) smaller compared to the 2009–2011 period. While the international border effect fell again in 2015–2018, the estimated coefficient is not statistically different from zero.

Table 2 presents the estimates of our preferred specification restricting the analysis sample to forced international migration flows of countries from Africa, Asia, or Latin America to the rest of the world. Thus, the analysis includes destination countries within and across continents. The results highlight that regional heterogeneity is significant in the impact of terrorism on asylum migration. The impact of terrorism on forced migration is positive and large in the three continents, with elasticities of 0.319 in Africa, 0.715 in Asia, and 2.341 in South America. However, in the case of Africa, it fails to be significant. It is worthwhile pointing out that the impact of terrorism by continent is not correlated with the volume of terrorism. As shown in Figure 3, Asian countries (Iraq, Afghanistan, Pakistan, and India) concentrate most of the attacks from 2009 to 2018. Latin America is the region with the lowest stock of terror and yet the highest impact. The larger effect of terrorism on forced international migration relative to IDP in Latin America is likely due to several factors. Firstly, as illustrated in Figure 5, terrorism in this region is concentrated in Colombia, while the number of terrorist attacks in other countries has been relatively low. For more than one century, Colombia has suffered from terrorism (Feldmann & Hinojosa, 2009). During our period of analysis, the Revolutionary Armed Forces of Colombia were behind most of the attacks. According to the Global Terrorism Database, during 2009–2018, 768 out of 1083 terror attacks were perpetrated by the Revolutionary Armed Forces of Colombia. This feature of Colombian terrorism probably explains why direct and indirect victims may seek to leave their country instead of migrating internally. As a result, Colombia is the primary source of asylum seekers in Latin America during our period of analysis (22% of the total). Secondly, as presented in Table 2, contrary to Africa and Asia, Latin America has a decreasing border effect over our period of analysis, indicating an increasing preference for international migration rather than internal. This should not be surprising since most Latin American countries share a common history, language, religion, and culture. In fact, during our period of analysis, asylum applications from

Table 2. Effect of terrorism on asylum applications by continent.

	(1) Africa	(2) Asia	(3) Latin America
Total terrorist attacks in t–1 to t–3	0.319 (0.205)	0.715** (0.342)	2.341*** (0.878)
Voice and Accountability	1.595** (0.671)	0.857 (0.723)	−0.573 (2.784)
Stock refugee population t–3	−0.032 (0.061)	−0.018 (0.051)	0.048 (0.100)
Regional trade agreement	−0.125 (0.192)	0.354** (0.145)	−0.261 (0.298)
Border 2012–2014	0.499* (0.300)	−0.873* (0.490)	−2.206*** (0.500)
Border 2015–2018	1.050*** (0.392)	−0.703 (0.756)	−1.743* (0.988)
Observations	20220	15951	5087
Origin-year FE	Yes	Yes	Yes
Destination-year FE	Yes	Yes	Yes
Origin-destination FE	Yes	Yes	Yes
IDP	Yes	Yes	Yes

Notes: The dependent variable includes IDP; the Voice and accountability and terrorist attacks variables are interacted by a dummy that takes 1 whenever the flow is international; standard errors are multi-way clustered at the origin country, and destination country level are in parentheses; *, **, and *** represent statistical significance at the 1%, 5%, and 10% levels, respectively.

Latin American countries to other Latin American countries, the USA, and Canada, represented 87% of the total. The neighbour countries, Ecuador and Venezuela, received 64% of the Colombian applications.

Table 3 reports different robustness checks by employing alternative measures of terrorism. The table only reports results for the target variable. First, we replace the number of terrorist attacks with the number of deceased and the number of property losses resulting from terrorist attacks during the periods t–1 and t–3. Moreover, to account for the fact that the implications of terrorism across countries may vary depending on the size of the country, we also estimate our preferred specification with three different per capita indicators (number of terrorist attacks, number of deceased, and number of damaged properties per capita). In addition, we test whether the impact of terrorism on forced international migration depends on the intensity of the

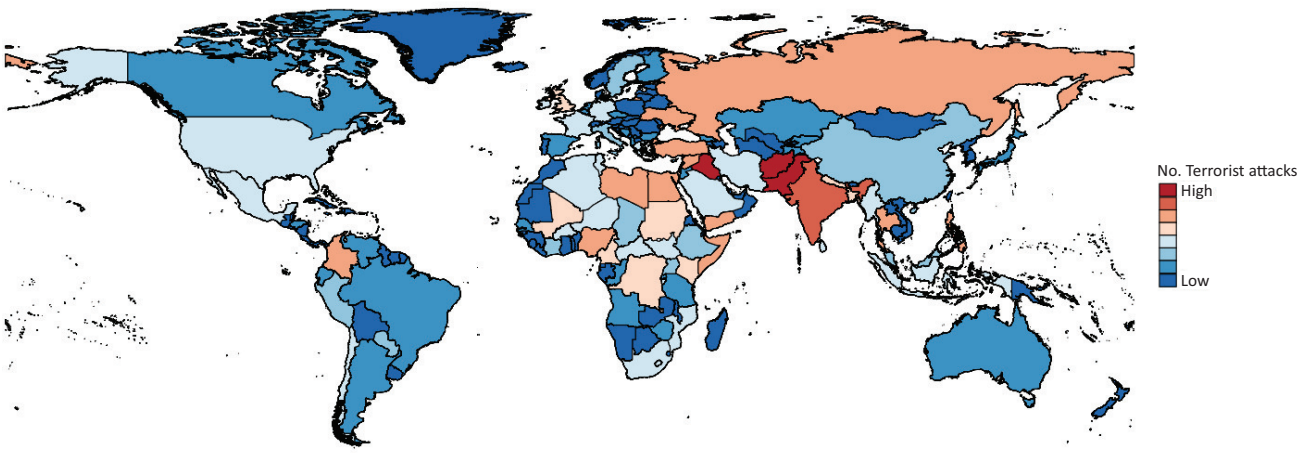

Figure 5. Geographic distribution of terrorism, 2009–2018. Notes: Total number of terrorist attacks during the period 2009–2018. Legend: High +15000 attacks, 10000–15000, 5000–10000, 1000–5000, 500–1000, 100–500, 50–100, 10–50, 0–10 Low. Source: Authors' own elaboration based on the Global Terrorism Database.

Table 3. Different measures of terrorism.

	Whole sample	Africa	Asia	Latin America
Panel A: Levels				
Total terrorist attacks in t–1 to t–3	0.300*	0.319	0.715**	2.341***
	(0.160)	(0.205)	(0.342)	(0.878)
No. Obs.	45035	20220	15951	5087
Total deceased in t–1 to t–3	0.233**	0.281**	0.333	0.574***
	(0.107)	(0.131)	(0.274)	(0.104)
No. Obs.	45035	20220	15951	5087
Total property in t–1 to t–3	0.296**	0.401**	0.701*	1.537***
	(0.150)	(0.198)	(0.363)	(0.386)
No. Obs.	45035	20220	15951	5087
Panel B: Per capita				
Total terrorist attacks in t–1 to t–3 per capita	0.314**	0.326	0.699**	2.288**
	(0.160)	(0.209)	(0.336)	(0.890)
No. Obs.	45035	20220	15951	5087
Total deceased in t–1 to t–3 per capita	0.239**	0.284**	0.317	0.545***
	(0.107)	(0.133)	(0.269)	(0.102)
No. Obs.	45035	20220	15951	5087
Total property in t–1 to t–3 per capita	0.309**	0.409**	0.676*	1.464***
	(0.151)	(0.202)	(0.356)	(0.395)
No. Obs.	45035	20220	15951	5087
Panel C: Intensity restricted sample				
No. Deceased per terrorist attack	0.383*	0.188	0.758	0.540*
	(0.233)	(0.123)	(0.535)	(0.283)
No. Obs.	26465	11007	12064	1323
No. Property per terrorist attack	0.432*	0.080	0.910*	1.050***
	(0.262)	(0.092)	(0.484)	(0.222)
No. Obs.	26125	10299	11879	1648

Notes: The dependent variable includes IDP; the Voice and Accountability and terrorist attacks variables are interacted by a dummy that takes 1 whenever the flow is international; standard errors are multi-way clustered at the origin country and destination country level are in parentheses; *, **, and *** represent statistical significance at the 1%, 5%, and 10% levels, respectively.

attack. To this end, we calculate the average number of deceased per terrorist attack and the average number of damaged properties per attack. Overall, results confirm the positive effect of terrorism on forced international migration relative to IDP.

Table 4 assess the relevance of including IDP as part of the dependent variable. It replicates the results obtained in Table 1 with structural gravity, but we do not include IDP in the dependent variable. The results indicate that omitting IDP biases the results in those specifications that do not include country-pair and origin-year fixed effects. In Columns (1–3) of Table 4, the impact of terror is not statistically significant. We obtain a positive and significant result of terror when introducing all possible fixed effects in Column (4) of Table 4. Even in this case, the magnitude is lower than in the preferred estimate (0.132 vs. 0.300). However, these elasticities should be interpreted with caution because the effect of our preferred specification is relative to terror's effect on IDP, and the results of Table 4 are not. Therefore, on the one hand, the coefficient associated with terrorism in Table 4 tells us how terrorism affects forced migration from *i* to *j*. On the other hand, the associated coefficient to the variable of terrorism in Table 1 reveals the extent to which terrorism affects forced international migration relative to IDP.

We also replicated Table 2 (continents) and Table 3 (robustness) without IDP, obtaining the same pattern: omitting IDP biases the effect of terrorism downwards. These results are not reported for brevity but are available on request.

Table 4. Determinants of the number of asylum applications. Standard gravity model without IDP.

	(1)	(2)	(3)	(4)
Total terrorist attacks in t–1 to t–3	0.003	0.101	0.066	0.132***
	(0.105)	(0.069)	(0.058)	(0.047)
Voice and Accountability	−1.066***	−0.823***	−0.907***	−0.468**
	(0.213)	(0.234)	(0.225)	(0.228)
Stock refugee population t–3	0.292**	−0.114**	0.454***	0.070
	(0.115)	(0.046)	(0.054)	(0.054)
GDPpc (origin)	−1.283***	−0.849**	−1.002***	−0.489**
	(0.481)	(0.335)	(0.299)	(0.200)
GDPpc (destination)	1.142	0.904		
	(0.749)	(0.723)		
Population (origin)	4.097***	2.552*	2.250*	1.994*
	(1.316)	(1.511)	(1.304)	(1.081)
Population (destination)	−4.789*	−5.403**		
	(2.695)	(2.160)		
Distance	−0.962***		−0.575***	
	(0.143)		(0.158)	
Contiguity	0.584		0.555*	
	(0.409)		(0.321)	
Common language	0.309		0.122	
	(0.219)		(0.227)	
Common legal origins	−0.080		0.018	
	(0.151)		(0.159)	
Colonial ties	0.487		0.612	
	(0.494)		(0.446)	
Religious affinity	−0.258		−0.491	
	(0.595)		(0.560)	
Regional trade agreement	0.842*	0.043	1.030**	0.093
	(0.493)	(0.215)	(0.437)	(0.167)
Observations	47380	44843	46356	43921
Origin FE	Yes		Yes	
Destination FE	Yes			
Country pair FE		YES		YES
Year FE	Yes	Yes		
Origin-year FE				
Destination-year FE			YES	YES
IDP	No	No	No	No

Notes: Standard errors are multi-way clustered at the origin country and destination country level are in parentheses; *, **, and *** represent statistical significance at the 1%, 5%, and 10% levels, respectively.

6. Conclusions

In this article, we investigate the effect of terrorism on asylum migration with the lens of structural gravity. The article is novel in constructing a dataset that includes both IDP and forced international migration to identify the country-specific effect of terrorism attacks.

The main takeaway from the empirical exercise is that terrorism in origin countries is a robust driver of bilateral asylum migration. The results presented in the article highlight that terrorism's effect is not homogeneous across regions, having a larger impact on Latin America than on Asia and Africa.

In addition, we also quantify an unexplored trait of asylum migration: the border effect. The results indicate that the border effect is significant in forced migration and higher than usual estimates of the border effect for traded goods.

The study presents evidence that could drive better-informed policies. For example, policies focused on ameliorating terrorism could be more effective if combined with asylum policies. Further, by acknowledging

the border effect, policymakers have the opportunity to design better national and international interventions. Finally, the article opens exciting avenues for new research. The study showcases the importance of adopting theoretically driven empirical methods to understand forced international migration with terrorism. Studies that apply this methodology revisiting the literature's findings and opening new paths are undoubtedly welcome.

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Conflict of Interests

The authors declare no conflict of interest.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

References

Anderson, J. E. (2011). The gravity model. *Annual Review of Economics*, *3*(1), 133–160.

Anderson, J. E., & Van Wincoop, E. (2003). Gravity with gravitas: A solution to the border puzzle. *American Economic Review*, *93*(1), 170–192.

Anderson, J. E., Larch, M., & Yotov, Y. V. (2019). Trade and investment in the global economy: A multi-country dynamic analysis. *European Economic Review*, *120*, 103–111.

Bandyopadhyay, S., Sandler, T., & Younas, J. (2018). Trade and terrorism: A disaggregated approach. *Journal of Peace Research*, *55*(5), 656–670.

Bergstrand, J. H., Larch, M., & Yotov, Y. V. (2015). Economic integration agreements, border effects, and distance elasticities in the gravity equation. *European Economic Review*, *78*, 307–327.

Bertoli, S., & Fernández-Huertas Moraga, J. (2013). Multilateral resistance to migration. *Journal of Development Economics*, *102*, 79–100.

Beverelli, C., Keck, A., Larch, M., & Yotov, Y. V. (2018). *Institutional quality, trade and development: A quantitative analysis* (Working Paper No. 6920). CESifo.

Carril-Caccia, F., Milgram-Baleix, J., & Paniagua, J. (2019). *Does terrorism affect foreign direct investment?* (Working Paper No. 1913). University of Valencia.

Correia, S., Guimarães, P., & Zylkin, T. (2020). Fast Poisson estimation with high-dimensional fixed effects. *The Stata Journal*, *20*(1), 95–115.

Davenport, C., Moore, W., & Poe, S. (2003). Sometimes you just have to leave: Domestic threats and forced migration, 1964–1989. *International Interactions*, *29*(1), 27–55. https://doi.org/10.1080/03050620304597

Dreher, A., Krieger, T., & Meierrieks, D. (2011). Hit and (they will) run: The impact of terrorism on migration. *Economics Letters*, *113*(1), 42–46.

Egger, P., & Gassebner, M. (2015). International terrorism as a trade impediment? *Oxford Economic Papers*, *67*(1), 42–62.

Egger, P., & Larch, M. (2008). Interdependent preferential trade agreement memberships: An empirical analysis. *Journal of International Economics*, *76*(2), 384–399.

Egger, P., & Tarlea, F. (2015). Multi-way clustering estimation of standard errors in gravity models, *Economics Letters*, *134*, 144–147.

Feldmann, A. E., & Hinojosa, V. J. (2009). Terrorism in Colombia: Logic and sources of a multidimensional and ubiquitous phenomenon. *Terrorism and Political Violence*, *21*(1), 42–61.

Figueiredo, E., Lima, L. R., & Orefice, G. (2016). Migration and regional trade agreements: A (new) gravity estimation. *Review of International Economics*, *24*(1), 99–125.

Fourie, J., Rosselló-Nadal, J., & Santana-Gallego, M. (2020). Fatal attraction: How security threats hurt tourism. *Journal of Travel Research*, *59*(2), 209–219.

Giménez-Gómez, J. M., Walle, Y. M., & Zergawu, Y. Z. (2019). Trends in African migration to Europe: Drivers beyond economic motivations. *Journal of Conflict Resolution*, *63*(8), 1797–1831.

Hatton, T. J. (2009). The rise and fall of asylum: What happened and why? *The Economic Journal*, *119*(535), F183–F213.

Hatton, T. J. (2016). Refugees, asylum seekers, and policy in OECD countries. *American Economic Review: Papers & Proceedings*, *106*(5), 441–445.

Hatton, T. J. (2020). Asylum migration to the developed world: Persecution, incentives, and policy. *Journal of Economic Perspectives*, *34*(1), 75–93.

Head, K., & Mayer, T. (2014). Gravity equations: Toolkit, cookbook, workhorse. In G. Gopinath, E. Helpman, & K. Rogoff (Eds.), *Handbook of international economics* (Vol. 4, pp. 131–195). Elsevier.

Heid, B., Larch, M., & Yotov, Y. V. (2021). Estimating the effects of non-discriminatory trade policies within structural gravity models. *Canadian Journal of Economics*, *54*(1), 376–409.

Hogetoorn, B., & Gerritse, M. (2020). The impact of terrorism on international mergers and acquisitions: Evidence from firm-level decisions. *Journal of Peace Research*, *58*(3), 523–538.

Kang, Y. D. (2020). Refugee crisis in Europe: Determi-

nants of asylum seeking in European countries from 2008–2014. *Journal of European Integration*, *43*(1), 33–48.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues. *Hague Journal on the Rule of Law*, *3*(2), 220–246.

LaFree, G. (2010). The global terrorism database (GTD) accomplishments and challenges. *Perspectives on Terrorism*, *4*(1), 24–46.

Moore, W. H., & Shellman, S. M. (2004). Fear of persecution: A global study of forced migration, 1952–1995. *Journal of Conflict Resolution*, *48*(5), 723–745.

Moore, W. H., & Shellman, S. M. (2006). Refugee or internally displaced person? To where should one flee? *Comparative Political Studies*, *29*(5), 599–622.

Neumayer, E. (2005). Bogus refugees? The determinants of asylum migration to Western Europe. *International Studies Quarterly, 49*(3), 389–409.

Nitsch, V., & Schumacher, D. (2004). Terrorism and international trade: An empirical investigation. *European Journal of Political Economy*, *20*(2), 423–433.

Paniagua, J., Peiró-Palomino, J., & Picazo-Tadeo, A. J. (2021). Asylum migration in OECD countries: In search of lost well-being. *Social Indicators Research*, *153*(3), 1109–1137.

Piermartini, R., & Yotov, Y. (2016). *Estimating trade policy effects with structural gravity* (Working Paper ERSD-2016-10). World Trade Organization.

Powers, M., & Choi, S. W. (2012). Does transnational terrorism reduce foreign direct investment? Business-related versus non-business-related terrorism. *Journal of Peace Research*, *49*(3), 407–422.

Salehyan, I., & Gleditsch, K. S. (2006). Refugees and the spread of civil war. *International Organization*, *60*(2), 335–366.

Santana-Gallego, M., & Fourie, J. (2020). Tourism falls apart: How insecurity affects African tourism. *Tourism Economics*. Advance online publication. https://doi.org/10.1177/1354816620978128

Santana-Gallego, M., & Paniagua, J. (2020). Tourism and migration: Identifying the channels with gravity models. *Tourism Economics*. Advance online publication. https://doi.org/10.1177/1354816620972597

Schmeidl, S. (1997). Exploring the causes of forced migration: A Pooled time-series analysis, 1971–1990. *Social Science Quarterly*, *78*(2), 284–308.

Silva, J. M. C., & Tenreyro, S. (2006). The log of gravity. *The Review of Economics and Statistics*, *88*(4), 641–658.

Simsek, Y. (2006). *Impact of terrorism on migration patterns in Turkey* [Doctoral thesis, The University of Virginia Commonwealth]. VCU Scholars Compass. https://doi.org/10.25772/6C8A-YV37

The National Consortium for the Study of Terrorism and Responses to Terrorism. (2018). *The global terrorism database (GTD)* [Data set]. https://www.start.umd.edu/gtd

UN High Commissioner for Refugees. (2020). *Global trends: Forced displacement in 2019*. The UN Refugee Agency.

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Article

Explaining Attitudes Towards Immigration: The Role of Economic Factors

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Abstract
In this article, we investigate the determinants of individuals' opinions concerning the economic impact of immigrants. Unlike most previous studies, we use a large sample of 61 countries (Joint WVS/EVS 2017–2020 dataset) that are either net receivers or net emitters of migrants. Using a multilevel model, we test the effect of individuals' characteristics and of several macroeconomic variables on the assessment of immigrants' impact on development. We highlight that natives' evaluation of the economic consequences of immigration is more influenced by age, trust, education, and income than by contextual variables such as growth, inflation, inequalities, income level, or number of immigrants in the country. Our results match with the hypothesis that immigrants are considered substitutes for low- and medium-skilled workers in capital-abundant countries. However, neither labour-market nor welfare-state considerations can be considered as the main drivers of the appraisals made about the economic impact of immigration. Our results tend to confirm the prediction that greater contact with immigrants reduces anti-immigrant opinions, in particular for skilled people. In contrast, immigrant inflows lead low- and medium-skilled people to make worse judgments concerning the economic consequences of immigration. All in all, our results validate the view that education comprises a major part of the cognitive assessment of the role played by immigrants in the economy, at least in high-income countries.

Keywords
attitudes towards immigration; economic impacts; immigrants; labour-market

Issue
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1. Introduction

In the last few decades, politicians' standpoints on immigration policies have played a central role in election debates. In practice, immigration policy has proven to be influenced more by interest groups (Facchini & Mayda, 2008, 2010) than by public opinion towards immigration (Arregui & Creighton, 2018; Sides & Citrin, 2007). However, the position taken by candidates regarding immigration policy during campaigns is capable of influencing votes significantly (Hatton, 2021). Since attitudes partly reflect objective threats but also perceived threats (Kusow & DeLisi, 2020), there is no need to say that the narratives of far-right parties may increase negative attitudes towards some specific groups and, in particular, immigrants, undermining social trust and making the success of integration policies and the potential for social cohesion more unlikely. The topic is also timely because the functioning of democracy is changing considerably due to the abundant sources of information that substantially modify how individuals perceive reality and build their knowledge (Dahlgren, 2018). Even though immigration has been proven to have only small or negligible effects on the wages of native-born workers (Ottaviano & Peri, 2012), and to have a minimal or negligible impact on public finances (Dustmann et al., 2010; Nyman & Ahlskog, 2018), the perceived threat of competition for material resources may well influence native workers'

opinions. Therefore, the success of immigration policies may well depend on our understanding of the elements shaping these individuals' attitudes.

The literature on attitudes towards immigration has focused on different theories. On the one hand, the group-threat theory posits that exposure to a higher proportion of ethnic outgroups (including immigrant populations) may lead individuals to increasingly perceive individuals from out-groups as a threat (Blalock, 1967). Furthermore, prejudice as a sense of group position would be primarily derived from feelings, and is therefore subjective in nature (Blumer, 1958). On the other hand, intergroup theory argues that interaction with immigrants could improve intergroup attitudes under "optimal conditions" (Allport, 1954). In contrast, the political economy approach explains attitudes toward immigration about individual personal economic interest. However, these attitudes may be connected to the perception of the economic, social, and cultural impact of immigration on the nation as a whole more than on the expected effect on the individual (Hainmueller & Hopkins, 2014).

The purpose of this study is to outline how the context of countries interplays with individuals' characteristics to explain whether they perceive immigrants as beneficial for the development of their country. To this end, we focus on a large and heterogeneous sample of 61 countries from the Joint WVS/EVS 2017–2021 dataset, unlike most studies, which focus only on developed countries (with the recent exception of Cooray et al., 2018, who investigates the "taste for discrimination" in 53 countries). Thanks to a multilevel approach, we investigate the effect of both individual- and country-level variables on individuals' attitudes towards immigrants. We focus on the relationship between these beliefs and macroeconomic contexts such as wealth, size of the migrant population (stock), the recent entry or exit of migrants (flows), and inequality level, a question mainly overlooked by the literature. To bring new elements into the understanding of cognitive mechanisms that translate macro-level appraisal into individual perceptions, we investigate whether education and personal income influence these attitudes in a different manner, depending on macro-economic contexts.

Among our most important results, we find that people's appreciation of the consequences of immigration for economic development is more closely related to age, trust, education, and income than to other socioeconomic characteristics. Our results tend to confirm the view that labour-market considerations cannot be considered the main drivers of the assessment of immigrants' economic impact, and neither do we find clear evidence that the impact on the welfare state influences these views. Contextual variables have no influence per se, but we do detect salient differences in sensitivity to the country's context between individuals with different levels of education. Overall, highly educated people are more conscious of the economic benefits brought by immigration, especially in high-income countries. Our results do not match with the in-group/out-group theory that predicts that the higher the size of the out-group, the higher the feeling of threats by individuals of the in-group. In contrast, our results generally confirm the prediction of the intergroup contact theory, in particular for skilled people.

The structure of the article is as follows. In Section 2, we review the theory and evidence on attitudes toward immigration. In Section 3, we present an overview of the data used in this study and the hypotheses we aim to test. The empirical results are presented in Section 4, while we draw conclusions and discuss possible policy implications in Section 5.

2. Theoretical and Empirical Evidence Concerning Support for Immigration

Much of the research has approached the question of attitudes towards immigrants through the group-threat versus intergroup-contact theoretical frameworks. The group-threat hypothesis is based on Blumer's (1958) theory of prejudice and leads to the conjecture that negative views about immigration are based on the threats perceived by natives. These threats are derived from the real or imagined differences between themselves and immigrants. This idea relates to the power-threat hypothesis of Blalock (1967), which posits that the larger the size of an out-group, the stronger the sense of threat experienced by the in-group. In contrast, according to intergroup-contact theory, increasing proximity to immigrants in one's environment under "optimal conditions" (Allport, 1954) can improve intergroup attitudes, via greater opportunities for interaction with immigrants. In short, contact between races or between natives and migrants could either foster mutual understanding, or breed conflict or negative views.

Researchers have found mixed results supporting both theories (for a meta-analysis of the intergroup contact theory see Pettigrew & Tropp, 2006; for a full discussion see Hainmueller & Hopkins, 2014, or Fussell, 2014). While Hatton (2016) and Gorodzeisky and Semyonov (2018) report that high immigration levels favour negative attitudes towards immigrants, other studies support the intergroup contact theory (Baláž et al., 2021; Cooray et al., 2018; Economidou et al., 2020) or find no evidence of stronger anti-immigrant opinions in high-immigration areas (Citrin et al., 1997; Citrin & Sides, 2008; Hood & Morris, 1997; Scheve & Slaughter, 2001; Sides & Citrin, 2007). Consistent with the intergroup contact hypothesis, Fussell (2014) emphasizes that racial diversity favours a more positive attitude if the education level of the area (county) is high, but that it would lead to the opposite outcome in low-education counties, consistent with the group-threat hypothesis. Citrin and Sides (2008) show that attitudes toward immigration are surprisingly unrelated to the number and composition of the foreign-born population, even when natives tend to overestimate the

number of immigrants in their countries or have a distorted perception of the racial and ethnic composition (Alba et al., 2005). As a matter of fact, the literature has stressed the role of media, information, and narratives in shaping preference regarding immigration (Alesina et al., 2019; De Poli et al., 2017; Facchini et al., 2017; Grigorieff et al., 2018; Haaland & Roth, 2020; Héricourt & Spielvogel, 2014). However, Hopkins et al. (2019) find that providing accurate information about the size of minority populations does not significantly alter attitudes towards immigration. Change in the foreign-born population might be more relevant for attitudes to immigration than group size per se (see Kaufmann, 2017; Kaufmann & Goodwin, 2018, for a recent meta-analysis; and Laurence & Kim, 2021). This is in line with recent studies that state that recent changes in the environment, such as economic downturns (Davis & Deole, 2020; Heizmann & Huth, 2021) or migration crises (Baláž et al., 2021), exert a salient influence on group positioning and perceived prejudice.

Hostility towards "others" is related to the perceived interests and identity of the group that individuals consider they belong to. However, the features that identify a social group are eclectic and vary between individuals. Accordingly, attitudes towards immigrants are found to be related to education, income, social class, and gender, and some studies also identify other determinants such as cultural values, life experiences, worldviews, racial concerns, ideology, and social trust (Citrin & Sides, 2008; Dustmann & Preston, 2007; Economidou et al., 2020; Espenshade & Hempstead, 1996; Ferrera & Pellegata, 2018; Hellwig & Sinno, 2017; Sides & Citrin, 2007; Tabellini, 2020; Thomsen & Rafiqi, 2020; Valentino et al., 2017). However, each characteristic may exert different influences on individuals' attitudes, depending on where individuals live and on their cognitive and emotional assessment of the contexts. Hence, this literature does not always lead to clear and testable proposals (Hainmueller & Hopkins, 2014).

Education has a robust positive effect on reported attitude toward immigrants in all studies, but the underlying reason for this is not straightforward. Educated people may have a more realistic view of the economic benefits of immigration, because they interpret information from media with caution or select information more rationally. Education is also related to how and whether individuals consider immigrants as competition in the labour market. Indeed, the political economy approach, which explains attitudes to immigration in reference to personal economic interest, produces clear predictions derived from the effect of migrants on the labour market or on the welfare state.

As long as wages are mainly determined by skills, native workers might fear a drop in wages where new immigrants have similar skills, in line with the Heckscher-Ohlin model of international trade and the factor-proportions analysis model. Indeed, the labour-market hypothesis has been successfully verified by several empirical studies (Facchini & Mayda, 2009, 2012; Mayda, 2006; O'Rourke & Sinnott, 2006; Scheve & Slaughter, 2001). In addition, natives may fear that immigrants "take their jobs." Nonetheless, this hypothesis is not fully backed by evidence, since the effect of being unemployed on attitudes towards immigration is not robust (Cooray et al., 2018; Economidou et al., 2020; Hatton, 2016; Mayda, 2006). Moreover, higher-skilled immigrants are preferred to their lower-skilled counterparts, regardless of the native socio-economic status of respondents (Facchini & Mayda, 2012; Valentino et al., 2017), showing that labour market considerations are only part of the story. Moreover, most studies find the old to be more anti-immigrant than the young, which could reflect the belief that immigrants would lower pension benefits or, alternatively, that old people are more concerned about preserving social values (O'Rourke & Sinnott, 2006). Nonetheless, several studies lend support to the welfare hypothesis (Dustmann & Preston, 2007; Facchini & Mayda, 2009, 2012; Hatton, 2016). Finally, d'Hombres and Nunziata (2016) demonstrate that higher levels of education lead to a more positive reported attitude toward immigrants, both because they are less exposed to the negative effects of migration, and because they display more positive attitudes towards diversity and integration.

Our study is related to the aforementioned literature. However, our sample covers countries from almost all continents, with different economic structures, wealth levels, social structures, and institutional contexts. We revisit the main hypothesis of the literature in this broader context and examine the role played by education and income in individuals' assessment of the economic role of immigrants. Thanks to the heterogeneity of our sample and the wide range of characteristics considered, we aim to confirm these hypotheses in a more universal context and with a systematic approach.

3. Empirical Strategy

3.1. Econometric Model and Data

We seek to explain differences in beliefs between countries and individuals regarding the economic impact of immigration. To this end, we use the Joint WVS/EVS 2017–2021 dataset, which provides information about socio-demographics characteristics, income, education level, societal attitudes, and tolerance towards immigrants (among other values) for 61 countries. Our dependent variable *IMM_IMPACT* is based on the following question: "Now we would like to know your opinion about the people from other countries who come to live in your country—the immigrants. How would you evaluate the impact of these people on the development of your country?" Answers range from 1 (*very bad*) to value 5 (*very good*). An alternative to this question focuses on people's opposition to having immigrants as neighbours or their "taste for discrimination"

(with the questions, respectively, "On this list there are various groups of people. Could you please mention any that you would not like to have as neighbours? Immigrants/foreign workers," and "When jobs are scarce, should employers give priority to people of this country over immigrants?"). Since the first question explicitly refers to the impact on the development of the country, this question seems less biased towards cultural or security concerns about migrants. As the impact on development is more related to an assessment of economic mechanisms, we expect *IMM_IMPACT* to have a more robust relationship with macroeconomic factors. Card et al. (2012) show that compositional concerns (concerns about whether it is better to have common traditions, religion, language, or if immigration enriches cultural life or increases social tensions) explain more of the variation in individual attitudes toward immigration policy, while being less relevant in explaining opinions concerning the impact of immigration on the economy. Nonetheless, the answers to the three questions are highly correlated: Our dependent variable *IMM_IMPACT* is associated with the rejection of immigrants as neighbours (*Pearson chi-squared* = 2038.51, *p-value* = 0.000) and with the rejection of people of a different race as neighbours (*Pearson chi-squared* = 3789.86, *p-value* = 0.000).

Since *IMM_IMPACT* is an ordered categorical variable, the natural way to estimate it is using ordinal models. However, as discussed in van Praag and Ferrer-i-Carbonell (2008), when a dependent variable relates to subjective scores, the use of linear models instead of ordinal models does not affect the basic results. In addition, the interpretation of interaction terms is easier.

The hierarchical nature of our data, individuals (*i*, first level) clustered into countries (*c*, second level) leads us to choose multilevel models as the most appropriate econometric method. Let IMM_IMPACT_{ic} denote how individual *i* evaluates the impact of immigrants on the development on their country *c*. Null model specification of a multilevel model allows testing whether there are country differences in the evaluation of the impact of immigrants. The null model specification is:

$$IMM\_IMPACT_{ic} = \beta_0 + u_{0c} + e_{ic}$$

where u_{0c} represents the random intercept and e_{ic} the individual level residuals. It is assumed that both residuals are independent and follow normal distribution. The *Variance Partition Coefficient* (*VPC*) of the null specification model is defined by:

$$VPC = \frac{\sigma_u^2}{\sigma_u^2 + \sigma_e^2}$$

where σ_u^2 is the between-country variance and σ_e^2 is the within-country between-individual variance. The *VPC* measures the proportion of the total variance due to differences between countries. Initially the *VPC* of our sample is around 15.25%, so the use of multilevel specification is justified (in addition, the likelihood test also confirms that differences by country are significantly different from zero).

The main model to explore is:

$$IMM\_IMPACT_{ic} = \left(\beta_0 + u_{0c}\right) + \alpha_1 X_{ic} + \alpha_2 Z_c + e_{ic}$$

where the vector X_{ic} contains the individual characteristics and the vector Z_c includes the contextual variables.

A full description of the individuals' variables and their descriptive statistics are reported in the Supplementary Material. Several country-specific characteristics are considered. As a proxy of capital labour ratios, we include GDP per capita (in logarithms). We also control for macroeconomic contexts by including GDP growth rate, unemployment rate, and inflation. All these variables are obtained from the World Development Indicators for the year 2017. As a proxy for the social cohesion of the countries, we use the Gini index obtained from SWIID for the year 2017. We also consider the presence of immigrants by including the international migrant stock as a percentage of the total population for 2019 (UN, 2019a) and the net migration rate per 1,000 population averaged on the period 2015–2020 (UN, 2019b). Summary statistics for the contextual variables by countries (Table SM1) and correlation (Table SM2) are provided in the Supplementary Material.

To explore the idea that education level and household income may affect the view on immigrants differently depending on the context of the country, we include several interaction terms in the previous model, generating different models of this type:

$$IMM\_IMPACT_{ic} = \left(\beta_0 + u_{0c}\right) + \alpha_1 X_{ic} + \alpha_2 Z_c + \alpha_3 I_{ic} + e_{ic}$$

where I_{ic} represents successively the interaction terms between educational level and GDP per capita, migrant stock, net immigration rate, and Gini index, respectively; or the interactions between household income and these four contextual variables, respectively.

As a robustness check, we have estimated multilevel logistic regressions using the positive opinion about the impact of immigrants (a dichotomous variable) as a dependent variable. The results obtained are similar to those presented below and are available upon request.

3.2. Hypotheses

We test the labour-market hypothesis. Following the prediction derived from the Heckscher-Ohlin model, skilled people would rate higher *IMM_IMPACT* in capital-abundant countries while unskilled people would rate higher *IMM_IMPACT* in labour-abundant countries. We hence expect a positive coefficient for the interaction between Education level and GDP per capita. This effect should be observed among working people while a non-significant effect should be obtained for people outside the workforce. Another perception based on labour-market considerations is that immigrants are taking natives' jobs, which should be confirmed by a negative coefficient of being unemployed.

Welfare state concerns are more difficult to isolate. A positive coefficient for retired people would point out a positive assessment of immigration on pensions funding or on access to cheap personal services, while a negative coefficient would reflect the belief that immigration may lower pension benefits. Finally, a non-significant coefficient would express that, on average, assessment of immigration is not related to pension-funding concerns. The welfare state is also based on redistribution from richest to poorest. As long as more equal countries perform higher redistribution, which translates into high income-tax rates, we expect a positive and significant sign for the interaction between GINI and household income. As long as income is driven by skills, a similar effect may be observed for the interaction between GINI and education level. Additionally, a negative effect of net immigration rate and migrant stocks would indicate that immigrants are considered a threat for public finance or a threat to social cohesion.

Based on the intergroup contact theory, greater contact with immigrants reduces threat perceptions and prejudice against immigrants. This hypothesis would be confirmed by a positive coefficient for stock of migrants. Conversely, a negative sign would give support to the hypothesis that the larger the "out-group" population, the larger the competition for scarce resources. For similar reasons, the signs of net immigration rate would have the same interpretation.

3.3. Overview of the Data

Table 1 presents summary statistics for our dependent variable by country. We have data for 61 countries (77,433 observations). The average immigrant impact is 2.94 for the whole set of countries. Most of the countries consider immigration as having neither a good nor a bad impact on the economy. The respondents who consider that immigrants have a good or very good impact on the

Table 1. Descriptive statistics of opinions on the economic impact of immigration (*IMM_IMPACT*) by country.

Country	Sample size	Mean	Standard deviation	% quite good and very good
Iceland (IS)	1366	3.84	0.86	66.76
Nigeria (NG)	1173	3.83	1.14	69.99
New Zealand (NZ)	601	3.79	0.92	63.23
Albania (AL)	1182	3.77	1.00	64.30
Philippines (PH)	1196	3.56	0.88	61.12
Armenia (AM)	1218	3.48	0.94	48.36
Norway (NO)	1007	3.48	0.83	51.44
Vietnam (VN)	1200	3.37	0.71	39.25
Spain (ES)	817	3.37	0.85	46.39
Switzerland (CH)	2686	3.35	0.89	42.33
Peru (PE)	1310	3.31	0.81	39.24
Finland (FI)	1001	3.23	0.89	39.36
Montenegro (ME)	706	3.22	0.92	30.17
Azerbaijan (AZ)	1280	3.21	0.94	37.34
Bangladesh (BD)	1140	3.17	0.94	36.05
Indonesia (ID)	3073	3.15	1.06	38.14
Sweden (SE)	1017	3.13	1.08	41.99
Kazakhstan (KZ)	915	3.12	0.82	25.14
Slovenia (SI)	816	3.12	0.77	25.25
South Korea (KR)	1245	3.05	0.73	27.23
Brazil (BR)	1260	3.05	0.90	29.68
Denmark (DK)	1572	3.05	0.86	28.50
Belarus (BY)	1039	3.04	0.77	20.40
Bolivia (BO)	1855	3.04	0.94	25.23
Poland (PL)	845	3.02	0.93	28.64
Mexico (MX)	1541	3.00	0.89	27.51
France (FR)	1481	3.00	0.99	27.89
Georgia (GE)	1806	2.99	0.98	23.81
Germany (DE)	2693	2.99	0.94	29.86
Kyrgyzstan (KG)	1029	2.95	1.07	24.10
Japan (JP)	585	2.95	0.97	31.45
Ukraine (UA)	812	2.93	0.68	13.67
North Macedonia (MK)	657	2.92	0.94	22.83
Chile (CL)	742	2.92	0.78	10.95

Table 1. (Cont.) Descriptive statistics of opinions on the economic impact of immigration (*IMM_IMPACT*) by country.

Country	Sample size	Mean	Standard deviation	% quite good and very good
Romania (RO)	1825	2.88	0.93	19.78
Italy (IT)	1483	2.85	0.97	24.41
Lithuania (LT)	816	2.84	0.87	20.10
Estonia (EE)	873	2.84	0.79	15.46
Austria (AT)	1150	2.83	0.98	24.43
Russia (RU)	2607	2.82	0.83	15.61
Iran (IR)	1375	2.81	1.17	27.35
Croatia (HR)	1125	2.79	0.79	13.69
Ecuador (EC)	108	2.76	1.19	20.49
Hong Kong (HK)	1962	2.76	0.80	13.71
Serbia (RS)	1748	2.72	0.94	13.73
Cyprus (CY)	778	2.67	0.89	15.30
Slovakia (SK)	870	2.67	0.98	19.43
Bulgaria (BG)	1142	2.67	0.87	10.42
Nicaragua (NI)	1199	2.63	0.94	9.92
Guatemala (GT)	1008	2.59	0.97	8.83
Tunisia (TN)	989	2.58	0.91	12.64
Greece (GR)	1055	2.50	1.00	15.36
Thailand (TH)	1187	2.50	0.88	7.50
Colombia (CO)	1487	2.44	1.07	9.68
Myanmar (MM)	1198	2.44	1.17	20.62
Egypt (EG)	966	2.39	1.00	14.39
Bosnia (BA)	1473	2.37	1.03	10.18
Hungary (HU)	1059	2.36	1.00	10.10
Czech (CZ)	1063	2.25	0.96	7.43
Turkey (TR)	2012	2.14	0.94	7.95
Iraq (IQ)	1009	2.06	1.03	10.21
Whole sample	77433	2.94	1.01	26.91

Source: Authors' calculations using WVS/EVS (2021).

development represent 26.9%. However, there is a huge heterogeneity across countries, with values ranging from 7.4% to 69.9%.

For an overview of the data, we plot the average value of *IMM_IMPACT* over some selected contextual variables (Figure 1). The correlation between country income and the opinion concerning the impact of immigrants on the economy is not at all clear. In particular, the views in middle-income countries are quite heterogeneous. Most countries of the sample have a small stock of immigrants and display a huge heterogeneity in their beliefs concerning *IMM_IMPACT*, while the data tend to show that the higher the migrant stock, the higher the belief that immigration has a positive impact, on average. The heterogeneity of opinions is striking in countries that are net receivers of immigration rate, but also salient in countries that are a source of emigration.

4. Results

4.1. Individual Versus Contextual Variables

In this section, we study the impact of individual and country characteristics on individual beliefs concerning the impact of immigration on the development of a person's country. Model 1 only includes individual characteristics. Model 2 includes only contextual variables, and Model 3 combines both types of determinants. The results are displayed in Table 2.

Given that immigration may have important effects on social, cultural, and political life, non-economic factors are found to play an important role in shaping attitudes towards immigrants. Most of the results of Model 1 are standard. Like other studies, we find that gender does not have a significant impact and neither do the number of children or marital status. As expected, people who are immigrants themselves, or whose mother or father immigrated, are more likely to support immigration. Also, like other studies, we find that older people evaluate the impact of immigration more negatively. We also discover that living in a larger town increases support for immigration. To the extent that the ratio of immigrants is higher in big cities, this would support the hypothesis that more contact with immigrant communities increases positive views about them. Concerning employment status, we find no evidence that unemployed people would most fear the competition of immigrants, nor that retired people would be more concerned while students would see

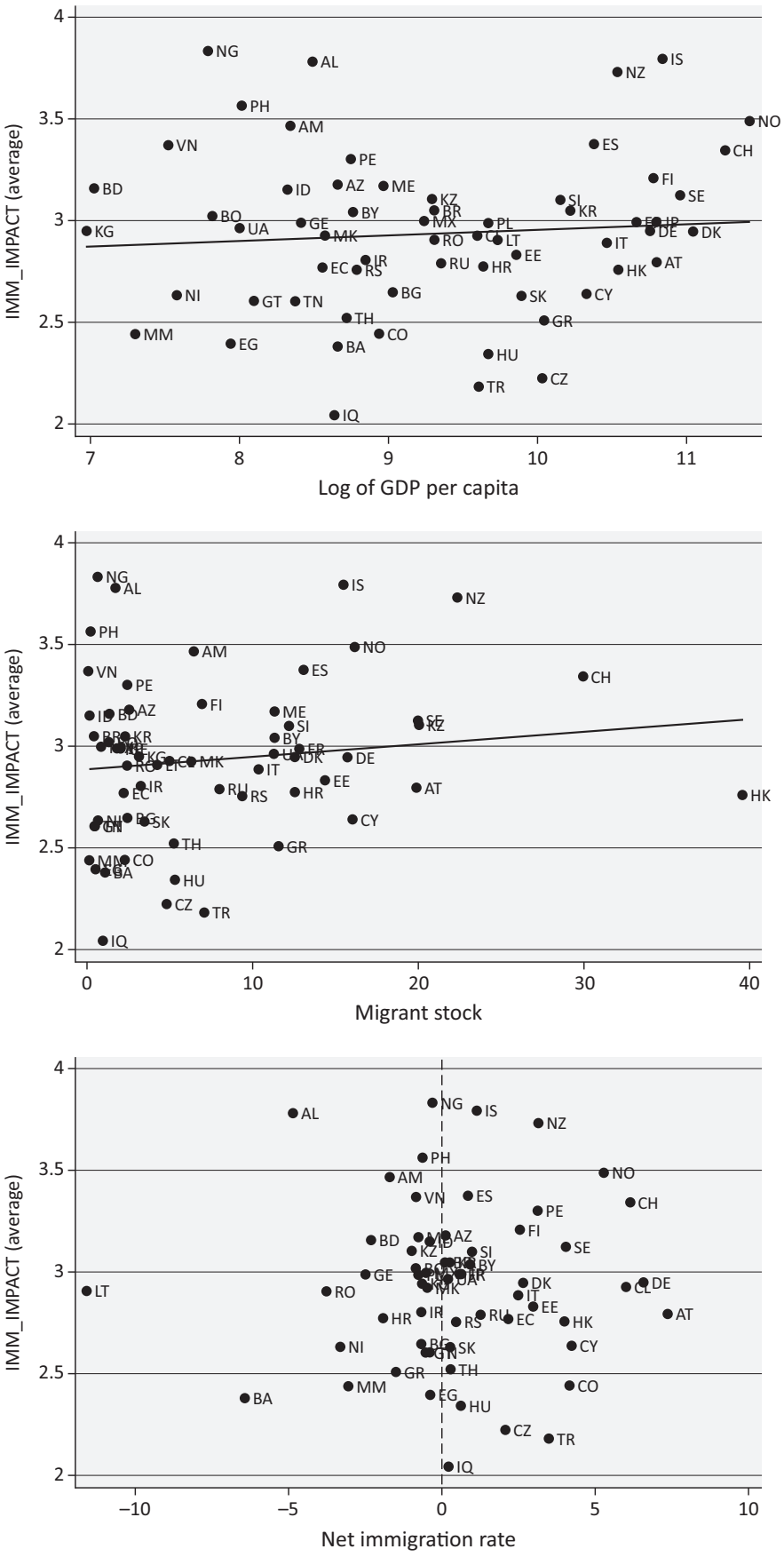

Figure 1. Correlations between selected contextual variables and average opinions regarding the economic impact of immigration (*IMM_IMPACT*) by country. Source: Authors' calculations using UN (2019a, 2019b), World Bank (2020), WVS/EVS (2021).

Table 2. Influence of individual and contextual variables on opinion about immigrants' impact.

	Dependant variable: *IMM_IMPACT*		
Variable	Model 1	Model 2	Model 3
Contextual variables			
Log GDP per capita		0.01 (0.07)	–0.01 (0.07)
GDP growth		0.02 (0.03)	0.02 (0.03)
Unemployment		–0.01 (0.01)	–0.01 (0.01)
Inflation		–0.00 (0.01)	–0.00 (0.01)
Gini index		0.00 (0.01)	0.01 (0.01)
Migrant stock		0.01 (0.01)	0.00 (0.01)
Net immigration rate		–0.01 (0.02)	–0.01 (0.02)
Individual variables			
Male	0.01 (0.01)		0.01 (0.01)
Age	–0.02***(0.00)		–0.02***(0.00)
Number of children	0.00 (0.00)		–0.00 (0.00)
Marital status			
Married	Ref.		Ref.
Divorced	–0.01 (0.01)		–0.01 (0.01)
Separated	0.02 (0.02)		0.02 (0.02)
Widowed	–0.01 (0.01)		–0.01 (0.01)
Single/Never married	0.01 (0.01)		0.01 (0.01)
Education			
Lower	Ref.		Ref.
Middle	0.02** (0.01)		0.02** (0.01)
Upper	0.09*** (0.01)		0.09***(0.01)
Employment			
Full time	Ref.		Ref.
Part time	0.00 (0.01)		0.00 (0.01)
Self employed	0.01 (0.01)		0.01 (0.01)
Retired/pensioned	–0.01 (0.01)		–0.01 (0.01)
Housewife	–0.00 (0.01)		0.00 (0.01)
Student	0.07***(0.02)		0.07***(0.02)
Unemployed	0.01 (0.02)		0.01 (0.02)
Other	–0.06**(0.03)		–0.06**(0.03)
Household income scale	0.01***(0.00)		0.01***(0.00)
Size of town	0.01***(0.00)		0.01***(0.00)
Religion attendance	0.00***(0.00)		0.00***(0.00)
Immigrant	0.21***(0.02)		0.21***(0.02)
Mother is immigrant	0.06**(0.02)		0.06**(0.02)
Father is immigrant	0.08**(0.02)		0.08**(0.02)
Most people can be trusted	0.19***(0.01)		0.19***(0.01)
Trust people another nation	0.12***(0.01)		0.12***(0.01)
Trust people another religion	0.06***(0.01)		0.06***(0.01)
Constant	2.40***(0.05)	2.71***(0.83)	2.31***(0.80)
σ_e^2	0.840	0.878	0.840
Log-likelihood	–103272.72	–105016.27	–103271.32
VPC	0.1437	0.1441	0.1386
Sample size	77433	77433	77433
Countries	61	61	61

Notes: ** p-value < 0.05, *** p-value < 0.01; standard error into brackets. Source: Authors' calculations using SWIID (Solt, 2020), UN (2019a, 2019b), World Bank (2020), WVS/EVS (2021).

immigration more positively than full-time workers (the reference group). Our results concerning unemployment are in line with Cooray et al. (2018), Gorodzeisky and Semyonov (2018), and Hatton (2016), but Economidou et al. (2020) and Mayda (2006), for instance, find a significant negative effect.

To the extent that the age variable is significant, and retirement is not, consideration about the cohesion of social norms seems to have more weight than considerations on fiscal benefits for pension funding. We do not report results regarding ideology because this would considerably reduce our sample from 61 countries to 53 countries, but for this reduced sample, we find, as with other studies, that people placing themselves on the right of the political spectrum have a more negative opinion about the impact of immigration. Individuals who attend religious services are also more likely to consider the economic impact of immigration positively. Finally, all variables concerning trust (most people can be trusted, trust people from another nation, trust people of another religion) have positive and significant effects. As is common in the related literature, we also demonstrate that pro-immigration preferences are positively and robustly correlated with higher household income and individuals' level of human capital. We discuss these two findings in more detail below.

Model 3, including both individual and contextual variables, displays similar coefficients for both individual and contextual variables to Models 2 and 1, respectively. Models 2 and 3 reveal that none of the contextual variables have a significant effect on the opinion studied. Indeed, the *VPC* only decreases slightly compared to Model 1. Wealth and other macroeconomic indicators such as growth, unemployment rates or inflation are not important determinants of individuals' opinion about immigration. This indicates that macroeconomic context does not explain much of the variation between countries in the attitude studied. The level of inequality does not play any role per se either. Of the variables related to the presence of immigrants in the economy, migrant stock has a positive effect.

4.2. Effect of Education According to the Context of the Country

We test whether education affects the view concerning the economic impact of immigration in a different way, depending on the context of the country. To this end, we interact the contextual variable of interest with the highest educational level attained by the individuals (Table SM3 in the Supplementary Material and Figure 2). In most cases, the coefficients of the variable resulting from multiplying the education level with a contextual variable are significant, showing that education has a different influence between countries. These effects are illustrated through several graphs in Figure 2, which shows the marginal effects of each level of education on the opinion studied, for realistic values of each contextual variable.

The results are in line with the hypothesis derived from the Heckscher-Ohlin model, according to which wages of skilled people in capital-abundant countries would be less impacted by immigration (as long as

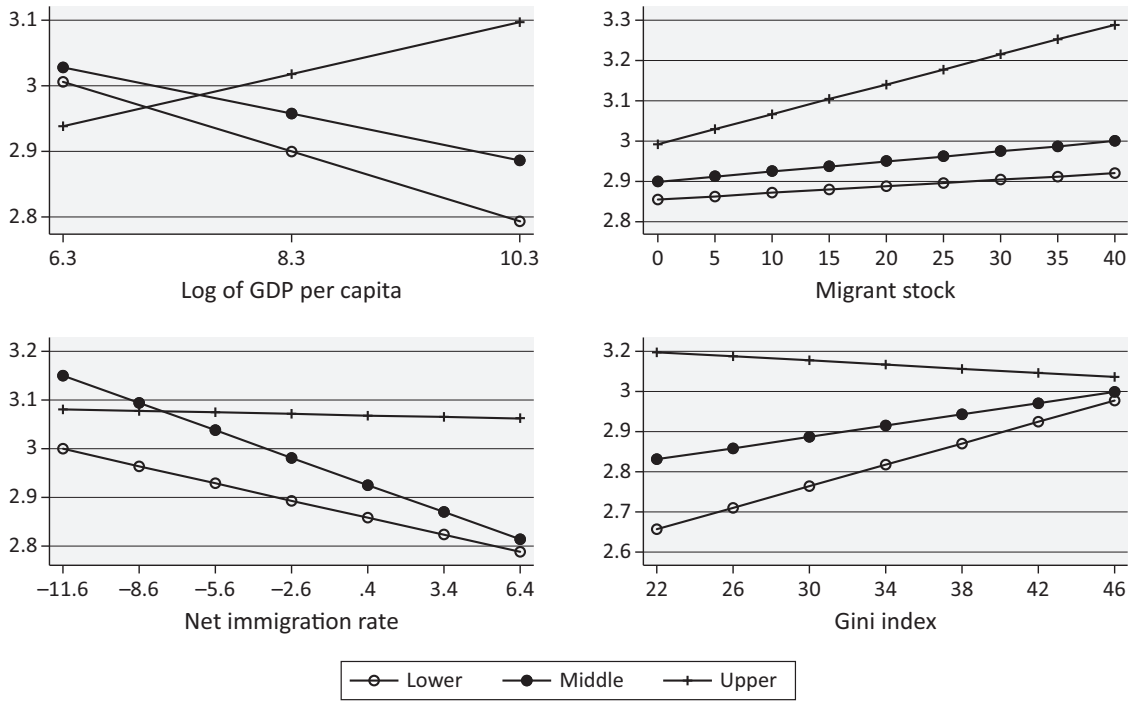

Figure 2. Predictive margins of educational level on opinion about immigrants' impact, depending on the context of the country of residence. Source: Authors' calculations based on models 4A-4D using SWIID (Solt, 2020), UN (2019a, 2019b), World Bank (2020), WVS/EVS (2021).

immigrants are less skilled than natives) than in poor countries. Accordingly, more-educated people in countries with higher GDP per capita tend to consider the impact of immigrants on the economy more positively than educated people in countries with less income per capita. The graph illustrates clearly that the opposite occurs for people with medium or low levels of education, who assess the economic role of immigrants in poorer countries more positively than in rich countries.

Since the interactions with migration stock and net immigration rate (only for the highest education level) are positive, the support of educated people also proves to be higher in countries that receive more immigrants. This confirms the hypothesis that the effect of education is not only driven by expected personal income but also by other processes enhanced by education. As demonstrated by the graph plotting the predictive margins according to the stock of migrants, this enhancing effect also exists for the other education levels, as suggested by the intergroup contact theory, but it is more salient for the highest category. The graph for net immigration rate shows the opposite phenomenon. The net entry of immigrants does not influence the judgements made by more-educated people but does decrease the support of other categories of individuals. Our results echo those for the UK from Kaufmann (2017), who highlights a different impact of education levels and changes in ethnic diversity.

Finally, Figure 2 shows that there is a huge disparity in countries with lower levels of inequality between the most educated and the rest, while the marginal effect is almost similar for all categories in highly unequal countries. Remarkably, the support of educated people is almost the same regardless of the inequality level. Again, the opinions of educated people prove to be less influenced by economic concerns than other categories of people. The support of people with a lower education level is considerably less than that of educated people in countries with low levels of inequalities and hence countries performing high redistribution. These results do not fit with the hypothesis that individuals with a high education level believe that immigration could translate into higher income tax levels (tax adjustment hypothesis). Conversely, our results could be compatible with a system in which public balance is guaranteed by adjusting benefits, meaning that people would compete with immigrants for welfare benefits. Our results are at odds with O'Rourke and Sinnott (2006), who find a positive interaction between skills and inequality. However, these authors do not include the variable inequality itself, which raises some doubts about the interpretation of the coefficient of the interaction. Additionally, the difference may be driven by their sample, which comprises mainly high- and middle-income countries. O'Rourke and Sinnott (2006) consider that their results are compatible with a trade model where technologies are different between countries and where inequality is a proxy for skill premium.

4.3. Effect of Income According to the Context of the Country

Turning to the influence of personal income depending on the context of the country, we perform a similar exercise as before (Table SM4 in the Supplementary Material and Figure 3 below). In all cases, the interacted variable is significant. However, considering realistic values of the variables, Figure 3 shows that behaviours appear similar across individuals of different income levels in different countries, regardless of the wealth of the country and inequality level.

Regarding the influence of the stock of migrants on individuals with different income, the differences are not salient either. If at all, the opinions of the poorest are less positive towards immigration, regardless of the stock of migrants, and the opinions of people living in countries with few migrants are less positive than the opinions of people living in countries with a high proportion of migrants. People with higher income are more aware of the positive impact of immigration and this is more overt where the stock of migrants is higher. All else being equal, people's opinion is more positive regarding immigrants in countries where the net immigration rate is negative, but household income does not matter.

4.4. Effect of Education for People Inside Versus Outside the Labour Force

We perform several robustness checks. First, we conjecture that if the effect of education is mainly driven by labour market channels, then the effect of education should be different for people who are employed or self-employed, compared to non-working people (unemployed, retired, students, housewives, etc.). Figure 4 illustrates the predicted effect of each education level according to GDP per capita (interaction between GDP per capita and education levels). To conserve space, we do not report all the coefficients (available upon request). Coefficients of individual and contextual variables are very similar for both subsamples, and similar to those obtained for Model 3 (Table 2) and 4A (Table SM3 in the Supplementary Material) for the whole sample. O'Rourke and Sinnott (2006) perform a similar exercise for a sample of 24 middle- and high-income countries but their results differ sharply from ours. Gender and age are only relevant for people outside the labour force while the results regarding skills are maintained for the sample in the labour force and not for the outside sample. In the study by O'Rourke and Sinnott (2006), the findings concerning the effect of skills seem to reflect only the functioning of labour markets. In contrast, our results, based on a much more heterogeneous sample and more recent data, require a more nuanced conclusion. Indeed, the graphs for people inside and outside the labour market are quite similar, thus confirming that labour market considerations may not be the main driver of individuals' assessment of the impact of immigrants on economic development.

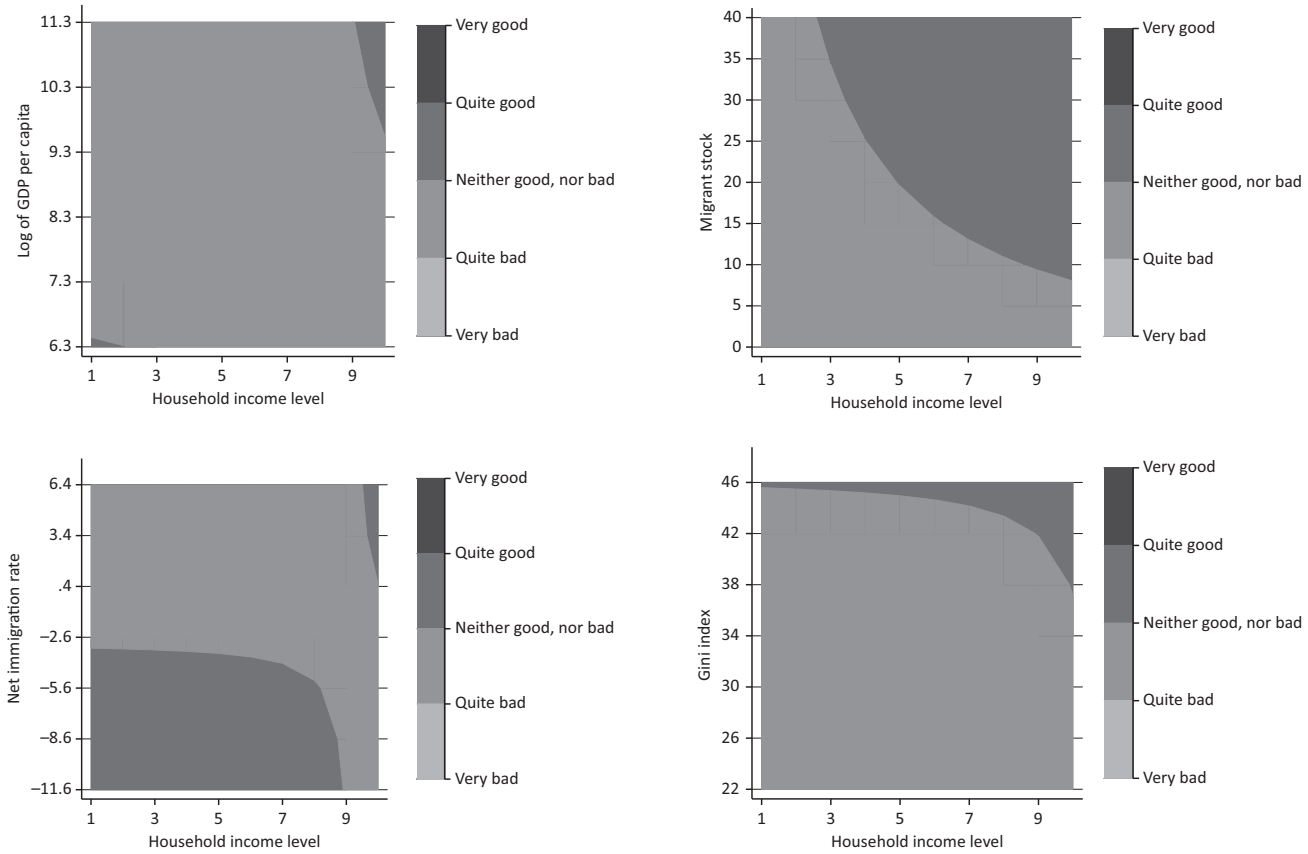

Figure 3. Predictive margins of income level on opinion about immigrants' impact, depending on the context of the country of residence. Source: Authors' calculations based on models 5A-5D using SWIID (Solt, 2020), UN (2019a, 2019b), World Bank (2020), WVS/EVS (2021).

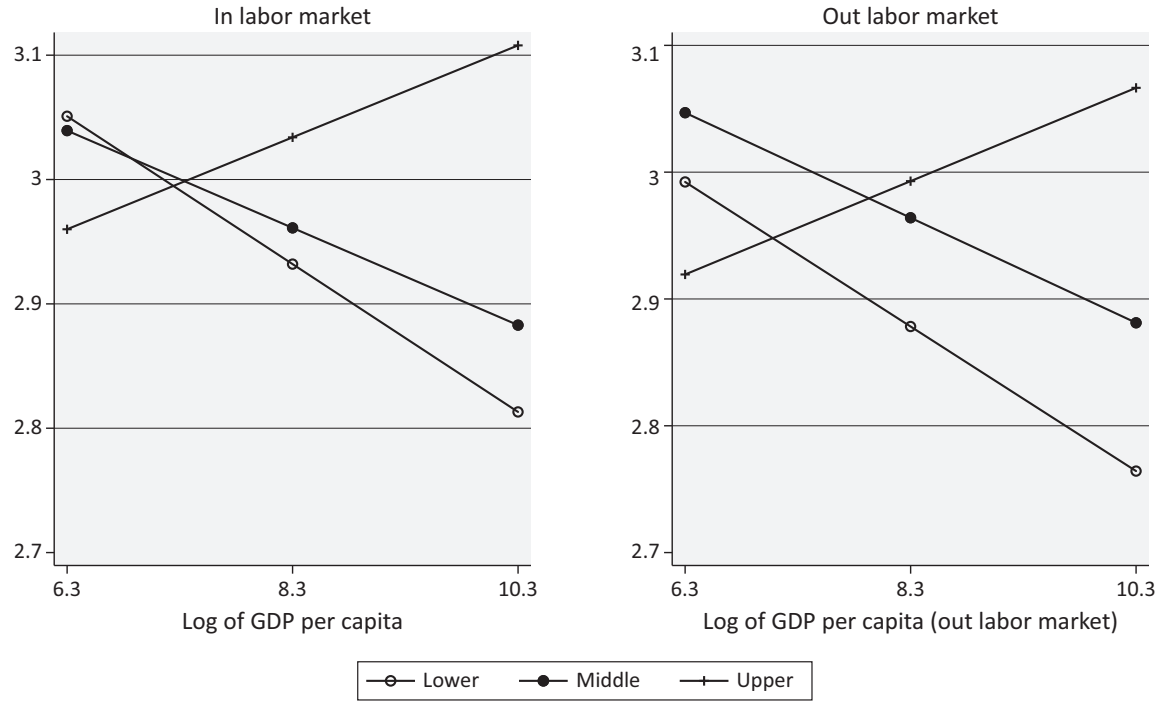

Figure 4. Predictive margins of education on the opinion about immigrants' impact, for individuals inside and outside the labour market. Source: Authors' calculations based on Model 4A by sub-samples using World Bank (2020) and WVS/EVS (2021).

4.5. Effect of Education in High- Versus Middle-Income Countries

We also explore the possibility that patterns concerning the interplay between education and national income may differ according to country development level. To this end, we split the sample into three income groups according to the World Bank classification: lower-middle, upper-middle, and high-income countries, which account, respectively, for 13, 22, and 26 countries. The results are presented in Table SM5 (in the Supplementary Material) and Figure 5.

The patterns are similar for lower and higher middle-income countries but differ from the behaviour observed in high-income countries. In middle-income countries, the richer the country, the more people report more negative judgements about immigrants' contribution to economic development. The opposite occurs in rich countries where the richer the country the more people express more positive assessments. The marginal effect of education on these opinions, and its interaction with the country's level of development, is only significant for high-income countries. All in all, our results demonstrate that education only has an influence on opinion in rich countries and is higher the richer the country. Therefore, special attention should be paid to middle-income countries with positive net immigration rates (see table SM1 in the Supplementary Material). In countries such as Brazil, Russia, and Turkey, opinion regarding migrants is not influenced by macroeconomic contexts, and there is no difference between the low- and high-educated about how this context affects their decision. Opinion towards migrants in these countries is thus based more on social identity concerns, values, and beliefs, which are, by nature, more subjective.

5. Discussion and Conclusions

We estimate a multilevel model to disentangle the effects of individual-level characteristics and macro-level variables on individual attitudes towards the economic impact of immigration, for a wide sample of middle- and high-income countries. We conclude that micro-level variables (such as age, being a student or from an immigrant's family, trust, income, and education) explain most of the variation between countries in the assessment of the economic impact of immigrants. Furthermore, our results show that opinions are not directly based on "objective" measures of wellbeing, inequality levels, migrant stock, and net immigration rate. Finally, our study emphasizes that education is a more important differentiating characteristic for studying attitude towards immigrants than personal income.

Our study does not validate the group-threat hypothesis. If at all, our results lend more support to the intergroup hypothesis, since we find that, the higher the share of migrants in the country, the more education increases positive views about immigrants. Obviously, we cannot be sure that a higher share of migrants in a country leads to greater contact with immigrants for respondents. Indeed, a higher share of immigrants may reflect historical and cultural ties with immigrants' countries of

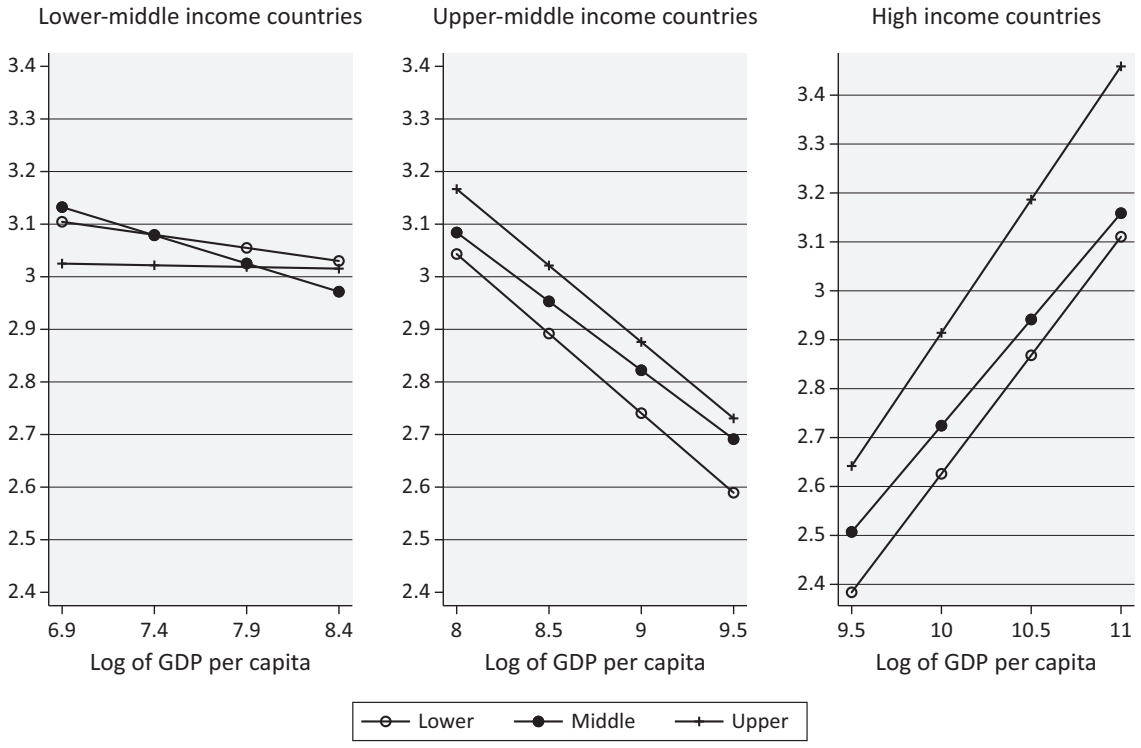

Figure 5. Predictive margins of education level on the opinion about immigrants' impact, for different levels of country income. Source: Authors' calculations based on Model 4A by sub-samples using World Bank (2020) and WVS/EVS (2021).

origin, a more permissive policy towards immigration in the past, or a historical tradition of integration and tolerance of diversity that may also foster positive attitudes towards immigration. Nevertheless, if the current entry of immigrants is high, people with lower education levels have a less positive view.

We find weak support for the welfare-state channel. Indeed, opinions of the richest and the poorest seem homogeneous across countries even if they provide very different welfare services. Older people judge the effect of immigration on development more negatively even if they are still working, while being retired has no significant effect. Therefore, the feelings of older people regarding immigration would seem to be guided more by their worries about preserving existing social norms. Additionally, the support of educated people (and the richest) for immigration is almost the same, regardless of the inequality level. However, the support of people with lower education levels is considerably lower in more equal countries than in unequal countries.

Our results are in line with the hypothesis derived from trade models, according to which the wages of skilled people in capital-abundant countries would be less impacted by immigration than in labour-abundant countries, while the opposite occurs for people who have attained a lower level of education. However, education (and other individual characteristics) proves to have the same impact on the opinion of individuals regardless of their employment status. Therefore, our findings are compatible with the labour-market hypothesis but also highlight the fact that personal economic interest is not the main determinant of natives' assessment, even when we include low- and middle-income countries in the sample. We thus extend the results of the literature that highlights the limited role of self-interest in attitude formation—mostly based on studies for North America and Western Europe—to a broader context. Immigration-related attitudes are mostly driven by perceptions of the impact of immigration on the nation, which are not accurately captured by "objective" measures such as the ones included in this study.

All in all, our results give more support to socio-psychological approaches to immigration attitudes such as subjective appreciation of the consequences of immigration moderated by education rather than to political-economy approaches to immigration attitudes. Formal education therefore appears to be an effective tool for creating conditions for the better integration of newcomers. This study also highlights that individuals with a lower level of formal education are also more sceptical when immigration increases or are more concerned about preserving redistribution. Thus, a sine qua non for integration policies to succeed is to devote more effort to addressing the worries of less-educated people. This is especially challenging nowadays since the way people build their knowledge is changing considerably, due to the mass of information received through new technologies. Policymakers must therefore rethink strategies to increase social trust and consider how to communicate these strategies to deal with the social and political consequences of large inflows of immigrants.

Obviously, our data does not allow us to address important concerns such as ethnic or racial considerations, as suggested by the group-threat theory, or to test the positive and negative mechanisms that may emerge from intergroup contacts. However, cross-sectional studies such as ours naturally complement more detailed studies. This study draws attention to the overlooked case of middle-income countries registering positive net immigration rates, such as Brazil, Russia, and Turkey. There, opinion towards immigrants is not explained by education level or macroeconomic context. This is a worrisome situation that presages significant conflicts in the future. More work is needed to understand attitudes towards immigrants in emergent countries to enhance the basis of social cohesion in the future.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

References

Alba, R. D., Rumbaut, R. G., & Marotz, K. (2005). A distorted nation: Perceptions of racial/ethnic group sizes and attitudes toward immigrants and other minorities. *Social Forces*, *84*(2), 901–919.

Alesina, A., Miano, A., & Stantcheva, S. (2019). *Immigration and redistribution* (NBER Working Paper No. 24733). The National Bureau of Economic Research. https://doi.org/10.3386/w24733

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.

Arregui, J., & Creighton, M. J. (2018). Public opinion and the shaping of immigration policy in the European council of ministers. *Journal of Common Market Studies*, *56*(6), 1323–1344. https://doi.org/10.1111/jcms.12745

Baláž, V., Nežinský, E., & Williams, A. M. (2021). Terrorism, migrant crisis and attitudes towards immigrants from outside of the European Union. *Population, Space and Place*, *27*, Article e2424. https://doi.org/10.1002/psp.2424

Blalock, H. M. (1967). *Toward a theory of minority group relations*. Wiley.

Blumer, H. (1958). Race prejudice as a sense of group

position. *Pacific Sociological Review*, *1*(1), 3–7.
Card, D., Dustmann, C., & Preston, I. (2012). Immigration, wages, and compositional amenities. *Journal of the European Economic Association*, *10*(1), 78–119. https://doi.org/10.1111/j.1542-4774.2011.01051
Citrin, J., Green, D. P., Muste, C., & Wong, C. (1997). Public opinion toward immigration reform: The role of economics. *The Journal of Politics*, *59*(3), 858–881.
Citrin, J., & Sides, J. (2008). Immigration and the imagined community in Europe and the United States. *Political Studies*, *56*(1), 33–56.
Cooray, A., Marfouk, A., & Nazir, M. (2018). Public opinion and immigration: Who favours employment discrimination against immigrants? *International Migration*, *56*(6), 5–23. https://doi.org/10.1111/imig.12457
d'Hombres, B., & Nunziata, L. (2016). Wish you were here? Quasi-experimental evidence on the effect of education on self-reported attitude toward immigrants. *European Economic Review*, *90*, 201–224. https://doi.org/10.1016/j.euroecorev.2016.02.007
Dahlgren, P. (2018). Media, knowledge and trust: The deepening epistemic crisis of democracy. *Javnost—The Public*, *25*(1/2), 20–27. https://doi.org/10.1080/13183222.2018.1418819
Davis, L. S., & Deole, S. S. (2020). Refining the salience hypothesis: Does the response to immigration differ across countries? *International Migration*, *59*(1). https://doi.org/10.1111/imig.12711
De Poli, S., Jakobsson, N., & Schüller, S. (2017). The drowning-refugee effect: Media salience and xenophobic attitudes. *Applied Economics Letters*, *24*(16), 1167–1172. https://doi.org/10.1080/13504851.2016.1262513
Dustmann, C., Frattini, T., & Halls, C. (2010). Assessing the fiscal costs and benefits of A8 migration to the UK. *Fiscal Studies*, *31*, 1–41.
Dustmann, C., & Preston, I. P. (2007). Racial and economic factors in attitudes to immigration. *The B.E. Journal of Economic Analysis & Policy*, *7*(1). https://doi.org/10.2202/1935-1682.1655
Economidou, C., Karamanis, D., Kechrinioti, A., & Xesfingi, S. (2020). The role of social capital in shaping Europeans' immigration sentiments. *IZA Journal of Development and Migration*, *11*(1). https://doi.org/10.2478/izajodm-2020-0003
Espenshade, T. J., & Hempstead, K. (1996). Contemporary American attitudes toward U.S. immigration. *International Migration Review*, *30*(2), 535–570.
Facchini, G., & Mayda, A. M. (2008). From individual attitudes towards migrants to migration policy outcomes: Theory and evidence. *Economic Policy*, *23*(56), 651–713. https://doi.org/10.1111/j.1468-0327.2008.00212.x
Facchini, G., & Mayda, A. M. (2009). Does the welfare state affect individual attitudes toward immigrants? Evidence across countries. *Review of Economics and Statistics*, *91*(2), 295–314. https://doi.org/10.1162/rest.91.2.295
Facchini, G., & Mayda, A. M. (2010). What drives immigration policy? Evidence based on a survey of governments' officials. In G. S. Epstein & I. N. Gang (Eds.), *Migration and culture* (pp. 605–648). Emerald Group Publishing.
Facchini, G., & Mayda, A. M. (2012). Individual attitudes towards skilled migration: An empirical analysis across countries. *World Economy*, *35*(2), 183–196. https://doi.org/10.1111/j.1467-9701.2011.01427.x
Facchini, G., Mayda, A. M., & Puglisi, R. (2017). Illegal immigration and media exposure: Evidence on individual attitudes. *IZA Journal of Development and Migration*, *7*, Article 14.
Ferrera, M., & Pellegata, A. (2018). Worker mobility under attack? Explaining labour market chauvinism in the EU. *Journal of European Public Policy*, *25*(10), 1461–1480. https://doi.org/10.1080/13501763.2018.1488886
Fussell, E. (2014). Warmth of the welcome: Attitudes toward immigrants and immigration policy. *Annual Review of Sociology*, *40*, 479–498.
Gorodzeisky, A., & Semyonov, M. (2018). Competitive threat and temporal change in anti-immigrant sentiment: Insights from a hierarchical age-period-cohort model. *Social Science Research*, *73*, 31–44. https://doi.org/10.1016/j.ssresearch.2018.03.013
Grigorieff, A., Roth, C., & Ubfal, D. (2018). *Does information change attitudes towards immigrants? Representative evidence from survey experiments*. https://doi.org/10.2139/ssrn.2768187
Haaland, I., & Roth, C. (2020). Labor market concerns and support for immigration. *Journal of Public Economics*, *191*, Article 104256. https://doi.org/10.1016/j.jpubeco.2020.104256
Hainmueller, J., & Hopkins, D. J. (2014). Public attitudes toward immigration. *Annual Review of Political Science*, *17*, 225–249.
Hatton, T. J. (2016). Immigration, public opinion and the recession in Europe. *Economic Policy*, *31*(86), 205–246. https://doi.org/10.1093/epolic/eiw004
Hatton, T. J. (2021). Public opinion on immigration in Europe: Preference and salience. *European Journal of Political Economy*, *66*, Article 101969. https://doi.org/10.1016/j.ejpoleco.2020.101969
Heizmann, B., & Huth, N. (2021). Economic conditions and perceptions of immigrants as an economic threat in Europe: Temporal dynamics and mediating processes. *International Journal of Comparative Sociology*, *62*(1), 56–82. https://doi.org/10.1177/0020715221993529
Hellwig, T., & Sinno, A. (2017). Different groups, different threats: Public attitudes towards immigrants. *Journal of Ethnic and Migration Studies*, *43*(3), 339–358. https://doi.org/10.1080/1369183X.2016.1202749
Héricourt, J., & Spielvogel, G. (2014). Beliefs, media exposure and policy preferences on immigration: Evidence from Europe. *Applied Economics*,

46(2), 225–239. https://doi.org/10.1080/00036846.2013.844330

Hood, M. V., & Morris, I. L. (1997). ¿Amigo o enemigo? Context, attitudes, and anglo public opinion toward immigration. *Social Science Quarterly*, *78*, 309–23.

Hopkins, D. J., Sides, J., & Citrin, J. (2019). The muted consequences of correct information about immigration. *The Journal of Politics*, *81*(1), 315–320. https://doi.org/10.1086/699914

Kaufmann, E. (2017). Levels or changes?: Ethnic context, immigration and the UK Independence Party vote. *Electoral Studies*, *48*, 57–69. https://doi.org/10.1016/j.electstud.2017.05.002

Kaufmann, E., & Goodwin, M. (2018). The diversity wave: A meta-analysis of ethnic diversity, perceived threat and native white backlash. *Social Science Research*, *76*, 120–131.

Kusow, A. M., & DeLisi, M. (2020). Attitudes toward Immigration as a sense of group position. *The Sociological Quarterly*, *62*, 323–342. https://doi.org/10.1080/00380253.2020.1756518

Laurence, J., & Kim, H. H. (2021). Foreign-born population growth, negative outgroup contact, and Americans' attitudes towards legal and unauthorized immigration. *Political Studies*. Advance online publication. https://doi.org/10.1177/00323217211005920

Mayda, A. M. (2006). Who is against immigration? A cross-country investigation of individual attitudes toward immigrants. *Review of Economics and Statistics*, *88*(3), 510–530. https://doi.org/10.1162/rest.88.3.510

Nyman, P., & Ahlskog, R. (2018). *Fiscal effects of intra-EEA migration*. Uppsala University. https://www.understandfreemovement.eu/wp-content/uploads/2020/01/D4.1.pdf

O'Rourke, K. H., & Sinnott, R. (2006). The determinants of individual attitudes towards immigration. *European Journal of Political Economy*, *22*(4), 838–861.

Ottaviano, G. I. P., & Peri, G. (2012). Rethinking the effect of immigration on wages. *Journal of the European Economic Association*, *10*, 152–97.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*, 751–783.

Scheve, K. F., & Slaughter, M. J. (2001). Labor market competition and individual preferences over immigration policy. *Review of Economics and Statistics*, *83*(1), 133–145. https://doi.org/10.1162/003465301750160108

Sides, J. M., & Citrin, J. (2007). European opinion about immigration: The role of identities, interests, and information. *British Journal of Political Science*, *37*, 477–504.

Solt, F. (2020). Measuring income inequality across countries and over time: The standardized world income inequality database. *Social Science Quarterly*, *101*(3), 1183–1199.

Tabellini, M. (2020). Gifts of the immigrants, woes of the natives: Lessons from the age of mass migration. *The Review of Economic Studies*, *87*(1), 454–486. https://doi.org/10.1093/restud/rdz027

Thomsen, J. P. F., & Rafiqi, A. (2020). Ideological biases weaken the impact of social trust on ethnic outgroup threat. *Political Studies*, *68*(2), 523–540. https://doi.org/10.1177/0032321719862751

UN. (2019a). *International migrant stock 2019*.

UN. (2019b). *World population prospects 2019*.

van Praag, B. M. S., & Ferrer-i-Carbonell, A. (2008). *Happiness quantified: A satisfaction calculus approach*. Oxford University Press.

Valentino, N. A., Soroka, S. N., Iyengar, S., Aalberg, T., Duch, R., Fraile, M., & Kobayashi, T. (2017). Economic and cultural drivers of immigrant support worldwide. *British Journal of Political Science*, *49*(4), 1201–1226. https://doi.org/10.1017/S000712341700031X

World Bank. (2020). *World development indicators* [Data set]. https://databank.worldbank.org/source/world-development-indicators

WVS/EVS. (2021). *Joint EVS/WVS 2017-2020 data-set (version 2.0.0)* [Data set]. World Values Survey. https://doi.org/10.14281/18241.11

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Article

"Refugees" as a Misnomer: The Parochial Politics and Official Discourse of the Visegrad Four

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Abstract
Attitudes towards migrants and refugees are created and reflected at the level of public policies, as well as in local communities which cultivate traditional approaches and a specific worldview. The refugee crisis in Europe in the mid-2010s showed how public opinion translated into voting behaviour and became a source of strength for nationalist anti-immigrant movements and parties across the continent. East-Central Europe was no exception, regardless of the absence of a long-term, massive inflow of refugees. Nevertheless, the migration crisis created a new political narrative which exploited deeply rooted resentments, complexes, and fears. This article aims to analyse the official policy responses to the refugee crisis in the four East-Central European countries: Poland, Hungary, Slovakia, and the Czech Republic, which together constitute the so-called Visegrad Four. It puts the emphasis on the discriminatory practice of misnaming the refugees, which became deeply anchored in the political discourse of these countries. Based on a qualitative content analysis supplemented by the findings of public opinion polls, the argument developed in the article is that reluctant and defensive attitudes towards the refugees have been determined by the revival of parochialism as a radical reaction to the challenges of global trends and supra-local processes. The theoretical framing of the refugee problem is built on politicization, in connection with the concept of parochialism, seen from political and social perspectives, and the meaning of the use of the misnomer as a policy instrument. The article concludes that the migration crisis petrified traditional cleavages at the supra-local level, reinforcing simultaneously the sense of parochial altruism and hostility towards "the other."

Keywords
anti-refugee discourse; migration; misnomer; parochialism; politicization; public discourse; refugees; Visegrad Four

Issue
This article is part of the issue "Migration and Refugee Flows: New Insights" edited by Inmaculada Martínez-Zarzoso (University of Göttingen, Germany / Jaume I University, Spain).

1. Introduction

The refugee crisis in Europe has fuelled nationalist and xenophobic attitudes among citizens of the European Union. "The politics of phobias" (Taras, 2009, pp. 83–86; cf. Bauman, 2004, p. 99) unwrapped the dynamics of ethnocentric and discriminatory campaigns against immigrants. It emboldened right-wing populist parties to unleash a new wave of xenophobic mobilisation against "the enemy from abroad" (Pelinka, 2013, p. 9) by creating fear of the consequences of immigration (Wodak, 2015). Public opinion translated into voting behaviour and political decisions became a source of strength for nationalist anti-immigrant movements and parties across Europe. East-Central Europe is no exception, although the region has not experienced a long-term, massive inflow of these refugees thus far. However, the issue of immigrants coming to Europe from the Middle East and Africa has left a deep mark on political discourse and for now has brought about specific political consequences. A new political narrative has exploited deeply rooted resentments, complexes, and fears, which has led to the politicisation and securitisation of the migration and refugee issues. East-Central Europe is one of the arenas of the public discourse on immigration and the international protection of refugees. The political arena has been stigmatized

by ethno-nationalist narratives, projected onto societies by governments and some nationalist and populist political parties.

This article aims to analyse and explain the radical policy response to the Europe-wide refugee crisis in East-Central Europe in the mid-2010s. The growing resentment against immigrants accompanied the exceptional inflow of "strangers" from Asian and African countries. Regardless of the unprecedented scale of the migration crisis, popular preferences for fending off foreigners and preserving national integrity were nothing unusual; they had occurred on various occasions in Europe prior to the developments of the mid-2010s. Ethnocentric, xenophobic and racist attitudes have been intensified in times of emergency caused by internal cleavages, integration challenges, and external pressures (De Master & Le Roy, 2000; Gibson, 2002; Hargreaves & Leaman, 1995; Levy, 2010; Van der Brug et al., 2000; Wistrich, 1999).

Against that background, the case of the four East-Central European countries—Poland, Hungary, Slovakia, and the Czech Republic, which together constitute the so-called Visegrad Four (or the Visegrad Group)—is taken up for three reasons. Firstly, the governments of the Visegrad Four adopted an uncompromising stance against refugees and coordinated their policies on the regional level. Secondly, they deliberately disavowed the rights of refugees by considering them a sub-category of voluntary migrants. Accordingly, they expunged the term "refugee" from the official discourse of migration. Thirdly, the semantic eradication of refugees was a deliberate ploy for deflecting criticism of intolerance towards exiles and the de-legitimisation of asylum seekers.

The article puts the emphasis on the discriminatory practice of misnaming the refugees, which became deeply anchored in the political discourse of the four East-Central European countries. While the method of applying alternative terms for refugees to the public discourse has usually accompanied refugee crises (see Bello, 2017, pp. 55–59; Long, 2013; Zetter, 1991, 2007), the Visegrad Four's enduring and reckless disregard for the ontological status of refugees has been exceptional, especially in comparison with the other EU member states. The latter highlighted the issue of refugees and the EU's asylum policy during the migration crisis by pointing to its legal, political, institutional, and financial determinants. The very term "refugee" was present in many varieties in official documents adopted by the EU institutions and issued by national governments of the member states (Menéndez, 2016, pp. 395–407; Morsut & Kruke, 2018, pp. 149–155; Niemann & Zaun, 2018; Sigona, 2018, pp. 457–458)—except for the Visegrad Four.

The aversion to refugees underpinning that practice should be interpreted as a behavioural trait of parochial politicians in East-Central Europe. Consequently, parochialism is considered as a post-Communist anti-modernisation backlash against the consequences of globalisation and cosmopolitanism (cf. Malešević, 2004, pp. 115–117).

The adopted time frame encompasses the climax of refugee inflow to European countries in 2015 and subsequent developments lasting to the evident subsiding of the migratory wave in 2017.

The conceptual framing of the refugee problem in connection with parochialism has been built on politicisation, conceived as the making of a matter a subject of public dispute within the political system (see De Wilde, 2011; De Wilde & Zürn, 2012, p. 139; Grande & Hutter, 2016, pp. 7–8). In East-Central Europe the issue of refugees was politicised by the governments through discursive shifts towards discriminatory opinions about refugees and immigrants (Krzyżanowski, 2017; Krzyżanowski et al., 2018, pp. 4–6). The contours of political ethnography (Kubik, 2009; Schatz, 2009) can be noticed wherever particularism, localism, familism, in-group homogeneity and exclusionary practices are highlighted. In that context, the concept of parochial altruism is applied to capture the "we" versus "them" divide (see Leudar et al., 2004, 2008) as a combination of social solidarity and cooperative engagement with discriminatory tendencies and hostility towards other groups. Parochial altruism as a motivational factor behind conflicting identities and political cleavages is confronted with regional integration processes in Europe. Internal divisions in the EU, which facilitated ethnopolitical mobilization and populism, contributed to the perception of parochialism as "false uniqueness" (Buhari-Gulmez & Gulmez, 2020). Accordingly, parochial Europe was conceptualised as a single and exceptional polity that inspires instrumental loyalties, and rewards provincial actors for their dedication and engagement in local affairs. The hypothetical assumption that the rejection of refugees by parochial actors, motivated by the exclusionary and confrontational nature of parochial altruism, is strengthened by the application of the concept of the misnomer. Based on Sartori (1991), Rancière (1992, 1999), and Hadland (2002), a misnomer is interpreted as a premeditated political tool for the denial of a true identity to the individual. Hence, the misnaming of refugees serves to strip them of their political, legal, and human rights.

Concerning the method, this study employs an interpretive political analysis approach (Schwartz-Shea & Yanow, 2012; Yanow, 2000) to the study of public discourse. It is based on a qualitative content analysis of 64 texts (transcripts), embracing public speeches, official statements, and joint declarations adopted in the years 2015–2017. The samples were carefully selected according to their substance (reference to migration and refugee matters), political status (top-level politicians) and impact on public opinion (approval ratings). Selected documents adopted by the Visegrad Group were included in the text corpus. "Refugee" was determined to be the keyword; synonyms and related words ("migrant," "immigrant," "asylum seeker", and their derivatives) served as referential terms. Transcripts were tagged manually. The examination of the texts

was focused on the contextual absence of the keyword and its relational analysis (Krippendorff, 2003, pp. 66–68). The most illustrative examples of the anti-refugee discourse were interpreted within the framework of parochial politics. The findings of the content analysis were supplemented by data from public opinion polls.

The argument developed in the article is that reluctant and defensive attitudes towards the refugees in the Visegrad countries have been determined by the revival of parochialism as a radical reaction to the challenges of cultural modernisation in post-Communist societies. The argument holds that the politicisation of the topic of refugees in official discourse caused a discriminatory practice of misnaming them and denigrating them as public foes.

The article proceeds as follows. First, it presents the conceptualisation of parochialism in the contexts of political, sociological, and European integration studies. It explains the meaning of parochial altruism and interprets it against the backdrop of European integration. It then introduces the term "misnomer," clarifying its semantic content and utility for the interpretation of parochial politics. The next section explains the use of the term "refugee" as a misnomer by top political decision-makers in the Visegrad countries for the management of the refugee crisis in the mid-2010s. This is followed by another case of the misnaming of refugees based on ethno-cultural and religious factors: The figure of the "Arab" as equivalent to a refugee is interpreted with reference to political discourse and public opinion polls.

2. Parochial Politics and the Role of Misnomers

Parochialism is commonly seen as an anachronistic remnant of the past, an anti-modernist posture characterized by a narrowness of views, keen interest in local affairs, petty provincialism, and the lack of a global perspective (Parochialism, 2005). Rephrasing the environmental slogan, parochialism recommends that we "think locally, act locally." Parochialism is conceived as an individual or group attitude towards social reality which structures collective behaviour around local, indigenous, and inner-circle affairs. It is associated in the social sciences with a tendency to focus on issues that are being debated within a given group, a community, or a society (Poulson & Campbell, 2010, p. 32). From a political culture perspective, parochialism is marked by a passive attitude towards the political system, the diffusion of roles along political, economic, and religious orientations, and a focus on autonomous local communities (Almond & Verba, 1989, p. 17). From a social network perspective, parochialism, as Bowles and Gintis (2004, p. 18) argue, "makes networks not only smaller, but more homogeneous as well, corresponding efficiency-enhancing effects of similarity or social affinity with parochial networks may be important." However, in-group relative homogeneity determines ways of belonging and fosters exclusionary practices. As De Dreu et al. (2014, p. 4) put it, "parochial cooperation is motivated by, and manifested in (1) protecting and promoting the in-group (henceforth in-group love), and (2) derogating and fighting more or less rivalling out-groups (henceforth out-group hate)." Due to that, parochial behaviour is identified with particularism, localism, familism, and un-civic loyalties. It endorses sentiments and practices underpinning archaic social distinctions and intolerance of strangers (Bowles & Gintis, 2004, p. 3). Concurrently, parochialism prefers in-group homogeneity and reduces the pool of potential outsiders that can migrate into the network (Bowles & Gintis, 2004, p. 9; Poulson & Campbell, 2010). Thus, social exclusion is inscribed in the group logic of parochialism and reduces tolerance and the diversity of interactions within a given group, as well as with external actors.

Parochialism stands in a stark opposition to a cosmopolitan perspective. Parochial life is situated on the grass-roots level. It addresses local actors (autonomous local authorities, religious leaders, grassroots activists) and, if necessary, local representatives of central authorities or nation-wide political parties and social movements (Della Porta & Diani, 2006, p. 168; Tilly, 1986, pp. 391–392). Bowles and Gintis (2004) argue that parochialism, as an endogenously determined network of interactions, increases specific problem-solving capacities. Specifically, parochialism arouses altruistic sentiments within a community or social group bound by kinship, ethnicity, race, cultural affinity, or national identity. In-group altruism promotes mutual trust and reduces communication difficulties. The intersection of parochialism and altruism, aptly conceptualised by Choi and Bowles (2007, pp. 636–640), addresses the social solidarity and group benefits resulting from hostility towards other groups. Parochial altruism is based on a combination of in-group tendencies to discriminate and cooperatively engage in violent aggression against out-group members (De Dreu et al., 2015; Rusch, 2014). Parochial altruists "give preferentially to their own members and punish those who harm group members more severely than if the victim is not an insider" (Choi & Bowles, 2007, p. 638). Parochial behaviour, consisting in preferences for favouring the members of one's own social group, is altruistically internalized through egalitarian norm taking and expressed by a determination to enter conflict with norm-breakers and punish them for disobedience (Bernhard et al., 2006, p. 912).

The "we" versus "them" divide, emphasised in the classical studies on parochial altruism, has been analysed from a more nuanced angle with regard to conflicting identities and complex diversities. Kustov has recently proven that parochial altruism is what gives motivational power to conflicting identities and triggers important political cleavages (Kustov, 2020). Buhari-Gulmez et al. (2020) make a reference to internal divisions and divergent directions in the case of European integration. They put forward a four-fold

taxonomy of Europe's multiple transformation paths ("many Europes"). "Parochial" Europe, which is "unmaking European integration and transforming Europe along (micro)nationalist lines" is one of the four facets of the transformation of contemporary European politics and society. Parochial Europe is nested in the conventional nation-state model which advocates the pre-eminence of national sovereignty, territorial jurisdiction and state borders. Vertical dependencies are essentially unwelcome and contested. Supranational powers and mechanisms are denounced as hegemonic, elitist, and even detrimental. State authorities at the central level are criticized for excessive fiscalism, cumbersome bureaucracy, and disregard for local affairs. Sometimes, in the context of EU politics, they are blamed for approving the "Brussels' dictatorship" and neglecting "genuine" national interests: "Rather than a civilizationist discourse for Europe-wide harmony, Parochial Europe resorts to nationalist, populist and divisive rhetoric seeking nation-wide harmony without European interference" (Buhari-Gulmez & Gulmez, 2020, p. 7).

Buhari-Gulmez and Gulmez (2020, p. 9) argue that nationalist discourse and critical attitudes towards supranational integration, which characterize parochialism, should not be identified completely with anti-Europeanism or hard Euroscepticism. They are often more nuanced, based on selectivity or the relativisation of integrationist policies and mechanisms. They stem from rationalized, nation-centred, even egoistic prerequisites, such as economic interest, political influence, or religious imperatives. Hence, parochial Europe inspires instrumental loyalties which reward provincial actors for their care for local resources by means of a specific "parochial entrepreneurship." Practical goals, usually political and economic ones, are often pursued under the cover of the outspoken contestation of supranationalist and cosmopolitan ideas with the use of a specific discourse.

The linguistic factor is relevant for in-group interactions and inter-group communication. The language of messages circulated within a local community seeks to augment the group identity and value orientation. It may tend to emphasise exclusive contents and favour a specific vernacular. As to the latter, Leigh (2000) warns that the received meaning of the messages expressed through or embedded in various parochial behaviours may sometimes be found offensive by external audiences. Terminology is among the key tenets of Sartori's conceptualisation of parochialism. He conceived parochialism as "single-country studies *in vacuo*, that purely and simply ignore the categories established by general theories and/or by comparative frameworks of analyses, and thereby unceasingly invent, on the spur of the moment, an ad hoc, self-tailored terminology" (Sartori, 1991, p. 247). The argument concerning the total neglect of categories established by general theories and comparative frameworks is particularly strong in the context of the discursive and descriptive features of parochial communication. Sartori (1991, p. 248) notes that parochialism causes mislabelling and accepts misnomers.

The word "misnomer" refers to a name or term that is wrong or inappropriate for the thing or person it describes. It comes from the Old French *mesnommer*, which meant "to name wrongly." According to Webster's New World Dictionary of the American Language, the noun misnomer refers to: "1. a) the act of applying a wrong name or epithet to some person or thing b) such a name or epithet 2. an error in naming a person or place in a legal document" (Guralnik, 1986, p. 909).

The use of a misnomer may presumably be regarded as a mistake, although it should not be used as a synonym for this. It applies to a specific kind of mistake, that which results from a misunderstanding, poor knowledge, false analogy, or bad intentions. Hence, it can be either accidental or, more often, premeditated.

In parochial discourse, misnomers are used to simplify and even vulgarize complex diversities and multidimensional processes, particularly in the realm of politics. Hadland (2002, p. 41) claims that "misnomers play a central role in the battle for vocabulary in political speech." Misnomers often serve to consolidate the public around catchy words, "headlines" which offer a straightforward and immediate explanation of topical problems.

Rancière (1992) holds that misnomers are policy instruments used to deny a true identity to an individual. He writes: "Politics is about 'wrong' names—misnomers that articulate a gap and connect with a wrong" (Rancière, 1992, p. 62). Misnomers are intended to produce subjectivization (subjectification) by forming one's identity in relation to others' identities (Rancière, 1999, pp. 35–36). Rancière illustrated this practice with reference to immigrants in France in the 1960s. The category "immigrant" was transformed over time and—due to racist and xenophobic tendencies, as well as to problems raised by the immigrant population—got a new connotation, identified with feelings of fear and rejection (Rancière, 1992, p. 63). Recently that practice was noted by Stierl (2019, pp. 43–44) in the context of the migrant crisis in Europe.

In parochial politics misnomers serve a dual role: They enhance populist "othering" (Benveniste et al., 2017, pp. 54–61) in public discourse and consolidate the indigenous population around the exclusionary discursive practice of making refugees "disappear" (Chandler, 2013, pp. 39, 45–46; Macklin, 2005). The latter role entails an active engagement of predominant actors (political leaders, government officials, state-controlled media tycoons) in the erasure of the refugees from official discourse.

3. Post-2015 Anti-Migration Discourses in the Visegrad Four: Misnaming the Refugee

The slow yet constant decline of socialist and liberal parties in the 2010s in the four East-Central European

countries opened a space for conservative, nationalist and populist forces, which either won popular support sufficient to form a government or mobilised a considerable proportion of the citizenry around a nationalist or populist discourse, exerting therefore intense pressure on the ruling parties and framing domestic politics in an ethnopolitical context (Agh, 2015; Bauerova, 2018; Czarnecka, 2018; Koß & Séville, 2020). Even though migration policies have accompanied the social and economic development of the four Visegrad countries in recent decades, they have been revised and modified by the nationalist-populist governments which took power in the 2010s (Bugaric & Kuhelj, 2018; Havlík, 2019; Sadurski, 2019; Vachudova, 2019). The concept of "illiberal" democracy, propagated by the Hungarian Prime Minister Viktor Orbán, added impetus to the populist and nationalist discourse, and enabled the emergence of migration issues in the national and security contexts (Buzogány & Varga, 2018; Halmai, 2019; Lorenz & Anders, 2021).

The surge of immigration and massive inflow of refugees into Europe in 2015 greatly contributed to the display of the migration question as a political priority and as a security issue. Even though the Visegrad Four did not absorb a significant number of refugees, with the exception of Hungary in 2015, it being an EU "frontline" state perceived as a corridor to the rich countries of the western part of Europe (mostly Germany and Sweden), the panic over the wave of migrants and refugees hit the Visegrad Four as well.

The open attitude towards refugees presented by many EU member states (with Germany practicing *Wilkommenskultur* at the forefront) contrasted sharply with the asylum policies of the Visegrad Four, which were based on a restrictive approach and a relatively low level of approval measured by the number of positive decisions on asylum applications (Klaus, 2017; Krastev, 2017).

The terrorist assault on the Charlie Hebdo newspaper office in Paris in January 2015 triggered defensive and exclusionary reactions throughout the East-Central European countries. Fear and anxiety were channelled into mobilisation against immigrants and Muslims—two categories identified with the perpetrators of the terrorist attack. Immediately after the Charlie Hebdo shooting, Prime Minister Viktor Orbán declared that Hungary would not accept any migrants ("Orbán villás nyelven," 2015). He said: "The best immigrant is one who does not come here at all" (Orbán, 2016). Consequently, the Hungarian government adopted a hawkish posture towards immigrants in Europe (Glied, 2020, p. 38). That anti-migrant rhetoric was fuelled by the surge of the migration crisis in mid-2015 and a massive influx of refugees into Hungary.

The arrival of nationals from Muslim countries the Middle East and South Asia, and their immediate claim for the status of international refugee, alarmed the Hungarian authorities and awakened nationalist parties in the other Visegrad Four. International obligations derived from the Geneva Convention on Refugees and enshrined in European law (European Convention on Human Rights, EU Charter of Fundamental Rights, EU asylum system) required that the national authorities comply with international standards of protection for asylum seekers. In addition, these arrangements set the minimum standard of treatment of refugees, determined their juridical status, and, most importantly, opened up the possibility of applicants remaining in a given territory either permanently or until an alternative solution is found. Lastly, international legal standards make governments guarantee the right to effectively claim international protection without obstructions or undue delay. Accordingly, Orbán did not hesitate to declare that "we pursue a migration policy which of course grants political refugees all the possibilities afforded by international law, but which does not allow anyone else in" (Orbán, 2016).

Therefore, denying people the ontological status of refugee was the simplest way of containing the incoming asylum seekers and stripping them of the right to international protection. This was made by a discursive shift in official migration discourse using the word "refugee" as a misnomer. Consequently, a widespread tendency to replace it with other synonymous or euphemistic terms led to a recontextualization of the discourse on migration along the lines of the political imperatives derived from the dominant nationalist and populist rhetoric of the ruling party.

Despite over 177,000 applications for refugee status were submitted to the Hungarian authorities throughout 2015, the Hungarian government insisted on labelling refugees as "economic migrants" (*megélhetési bevándorlók*) and emphasized the burden they placed on the Hungarian state and economy (Uitz, 2020, p. 17). Viktor Orbán denied, on many occasions, the existence of a serious humanitarian and legal issue of international refugees. He announced that "we are not witnessing the arrival of refugees, but a Europe being threatened by mass migration" ("PM Orbán asks," 2016). He added: "This is not a refugee crisis. This is a mass migratory movement composed of economic migrants, refugees, asylum seekers and also foreign fighters. This is an uncontrolled and unregulated process" (UN, 2015). He even suggested that the figure of the refugee is a form of disguise, hiding an individual's real nature, displaying those external features and behavioural traits which present the migrant as if he or she were a refugee. In the national consultation letter on immigration and terrorism, issued in May 2015, Orbán emphasized the following: "Economic immigrants cross the borders illegally, and while they act as refugees, they come for social benefits and work opportunities" (Orbán as cited in Marton, 2017, p. 35).

The locution "economic migrant" was made widespread in the official language of the Visegrad Four governments, as well as at the level of the Visegrad Group. The prime ministers of the Visegrad Four, in a joint statement on migration adopted in July 2017,

declared that "we believe that the precondition to any efficient strategy related to mixed migratory flows is to distinguish between genuine asylum seekers and economic migrants" (V4 Connects, 2017). That position was confirmed in a letter from the Prime Ministers of the Visegrad Four to Italian Prime Minister Paolo Gentiloni of 19 July 2017 addressing the pressure that migration was causing; the heads of the Visegrad Four governments stated that "the vast majority of the mixed migration flows are composed of economic migrants" (Visegrad Group, 2017). It is significant that the documents adopted by the Visegrad Group about refugees and migration since the outbreak of the crisis in Europe have never contained the very term ' "refugee," substituting it—if required—with "asylum seeker" or, incidentally, "people who satisfy asylum criteria" and "those in genuine need of international protection."

The narrative based on misnaming the refugee and replacing him or her with an "economic migrant" went viral among top government officials in the Visegrad Four. Slovak Prime Minister Robert Fico ascertained in late 2015 that "ninety-five percent of those arriving in Slovakia were economic migrants and not refugees" (Stepper, 2016, p. 66). A similar differentiation between refugees (*uprchlíky*) and migrants (*migranty*) was adopted by the Czech government led by Prime Minister Andrej Babiš (Hampejs, 2018; Jelínková, 2019). Polish Prime Minister Ewa Kopacz, representing the liberal Civic Platform government which was replaced in November 2015 by Law and Justice (PiS), expressed the reservation, in the context of EU plans for a refugee relocation system, that Poland was committed to host "as many refugees, but not economic migrants, as we can handle" (Potyrała, 2016, p. 80). During a parliamentary debate on the migration crisis in Europe, Jarosław Kaczyński, the leader of the PiS, said "it is necessary to clearly distinguish between refugees, who are actually fleeing the war, and economic emigrants. It is necessary to differentiate between them" (Kaczyński, 2015).

Marton (2017, pp. 38–39) aptly captures the semiotic context of the migration-related key words. He clarifies this in the following terms:

> Using the expression "economic immigrant" instantly gives away the intentions of the government on how they want Hungarians to see refugees: People who come for economic purposes, putting in danger the workplace and wellbeing of Hungarians. Even 'immigrant' (migráns in Hungarian) as a choice of word evokes mistrust, as 'immigrant' is a foreign word in Hungarian, unfamiliar and not widely used, therefore it serves the purpose of alienation and negative connotation towards the subject of the word. In opposition, "refugee" (menekült in Hungarian) is a more familiar word for Hungarian citizens and channels a positive connotation (a person who is running away from something and needs some sort of an aid).

4. An Ethno-Nationalistic Misnomer: Denigrating "Arabs"

Religious and cultural factors have been yet another trait of parochial politics in the Visegrad Four. Antipathy towards "others" ("strangers," "aliens") was extended to the migration conundrum throughout Europe. The highlighting of national values, cultivating local traditions and "closing ranks," reactions typical for parochial altruism, have reflected hypersensitivities to migrants' customs and behaviours. Prospects for hosting large groups of refugees and granting them official protection and assistance were damaged by the governments of the Visegrad Four with growing acceptance from their nationals (Pachocka, 2016). The goodness of "welcome politics" and generosity towards refugees were conceived as erroneous and unfounded, evidencing political myopia (Pacek, 2020, pp. 95–96).

Factual or alleged cases of wrongdoing and offenses committed by immigrants were interpreted as: (1) disregard for hospitality and assistance provided by the hosting states; (2) the lack of adaptability to local conditions due to cultural, religious and language differences; and (3) a sense of "impunity" due to lengthy procedures, ineffective mechanisms for returning unsuccessful applicants and a relatively wide scope of tolerance to irregular migrants. Therefore, the religious and ethnic distinctiveness of others was contrasted with parochial virtues and the goodness of "NIMBY-ism"–"Not In My Back Yard" (Hunter & Hutchinson, 1994, p. 1164).

The prevalence of nationals of Syria, Afghanistan, and Pakistan in the huge wave of refugees that reached Europe in the mid-2010s made the migration problem commonly identified with massive flow of Muslims ("Arabs"). The xenophobic narrative constructed by ethno-nationalistic actors in the Visegrad Four portrayed refugees as barbarians who flood the European countries, undermine the public order, and abuse their right to international humanitarian assistance (Kalmar, 2018; Kende & Krekó, 2020; Pickel & Öztürk, 2018). Viktor Orbán, in an interview for the German daily *Bild* (Blome & Stenzel, 2018), said: "We don't see these people as Muslim refugees. We see them as Muslim invaders….We believe that a large number of Muslims inevitably lead to parallel societies, because Christian and Muslim society will never unite." In addition, he argued against the reception of Muslim migrants: "If you take masses of non-registered immigrants from the Middle East into your country, you are importing terrorism, crime, anti-Semitism, and homophobia," he said in the interview (Blome & Stenzel, 2018). In a similar mood Robert Fico, the leader of the then-ruling Smer-SD in Slovakia, asserted that the multiculturalism project had failed, and that Slovakia was reluctant to see the arrival of large numbers of Muslims, the erection of mosques, and changes in the culture of the country (Nyzio, 2017, p. 51). The Slovak prime minister claimed that migrants coming from the Middle East posed a serious threat to

his country. He bluntly said that "it may look strange but sorry….Islam has no place in Slovakia" (Chadwick, 2016). He declared firmly that his government "will never make a voluntary decision that would lead to formation of a unified Muslim community in Slovakia" (Reuters Staff, 2016).

Czech President Miloš Zeman warned Europe of an "organised invasion" of migrants and advised young men coming from the Middle East to take up arms and fight against the Islamic State instead of heading for Europe to seek asylum ("Czech president," 2015). He also said that the migration wave in Europe in 2015 was made up of Islamists. He added: "We should make sure that they will not even be able to enter our territory" ("Czech President Miloš Zeman", 2015). Petr Fiala, the leader of the right-of-centre Civic Democratic Party (ODS), assured Czech citizens that "radical Islam is a threat. Uncontrolled masses of refugees do constitute a security threat" ("Prior to Angela Merkel's," 2016). In a similar vein, another influential Czech politician, Prime Minister Andrej Babiš, was said, prior to the election of 2016, to have taken "a sharply defined stance against continuing immigration… and against the potential formation of a large Muslim community in the Czech Republic" (Klima, 2016).

The popular dislike to Muslims among the ruling politicians correlated with the attitudes of the public opinion towards the migration crisis and foreigners (Simonovits & Szeitl, 2019). Surveys conducted in the 2010s proved that nationals of the Visegrad Four strongly dislike ethnic and religious communities, such as Muslims (commonly identified with "Arabs"), Roma and Jews. The antipathy to Roma and Muslims has remained strong since 2002. A surge of anti-Muslim and anti-Arab sentiment has been observed since mid-2015. In Poland, antipathy to "Arabs" reached the level of 67% in March 2016 and was maintained in the following years, amounting to 65% in January 2019 (CBOS, 2019, p. 2). Accordingly, most respondents (64%) highlighted intolerance and aggressive features of Islam: 57% thought that it encourages violence and 51% believed that Muslims approve violent actions against other religions (CBOS, 2015). In the Czech Republic, according to an opinion poll conducted in March 2017 by the Czech Public Opinion Research Centre, antipathy to "Arabs" was declared by 75% of the respondents (Colborne, 2017). This negative attitude decreased slightly later, reaching in March 2020 the level 66–69% (Centrum pro výzkum veřejného mínění, 2020). A similar level of negative attitudes towards Muslims was displayed in an opinion poll in Hungary in early 2016: 72% of the respondents declared an unfavourable view of Muslims in their country (Manevich, 2016). In Slovakia, this level is slightly lower: 54% of the respondents to a poll carried out in December 2017 declared they "did not want to have a Muslim as a neighbour" ("Čoraz viac Slovákov," 2017).

The above attitudes reflect the application of some principles of parochial politics to migration policy. Nation and faith were chosen as criteria of belonging and identity-shaping with direct reference to indigenisation and religious exclusionism. The figure of a refugee misnamed as an "Arab" and associated with the "alien," or the "other," was inculcated in the public consciousness in the context of a parochial sense of ontological insecurity.

5. Conclusions

The exclusionary, deterrent approach to immigrants and refugees arriving in Europe from the beginning of the 2010s was one of the most remarkable features of European politics at that time. The anti-immigrant narrative became a permanent part of everyday communication and public discourse. Though not particularly unique when compared to earlier immigration waves in Europe or to some EU member states, the Visegrad Four deserve a critical assessment regarding the outburst of aversion and hostility towards migrants coinciding with the denial of refugees as migrants deserving protection based on international humanitarian law.

This may be partly explained by ideological factors. The liberal model was challenged by, and—in the case of Hungary and Poland—substituted with a specific illiberal project entailing the restoration of traditionalist patterns of parochial communities mobilized by the top-down, persuasive transmission of a strange blend of nationalist, xenophobic, anti-cosmopolitan, anti-elitist, and conspiratorial views. That project also underlaid the ideological construction of immigration policy and influenced attitudes towards migrants and refugees.

Concurrently, it must be pointed out that the values and norms of European Union politics, especially those concerning the freedom of movement of persons, were used selectively to justify and legitimize the Visegrad Four's ethnocentric postures via integrationist policies and mechanisms which accentuated protective measures and security imperatives. The parochial realms cultivated in the Visegrad Four were intimately tied to their territories, enhancing therefore the deterrent and repulsive functions of border, immigration, and asylum policies.

The above analysis has shown that parochial politics petrifies the traditional cleavages at the supra-local level, reinforcing simultaneously the sense of provincial altruism and hostility towards the others. Discourse and communication play a critical role in augmenting exclusionary attitudes and constructing a reversed image of transnational processes. The use of misnomers has been exemplified by nationalistic and xenophobic rhetoric in excluding refugees from the humanitarian regime or denigrating selected religious or ethnic groups.

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References

Agh, A. (2015). De-Europeanization and de-democratization trends in ECE: From the Potemkin democracy to the elected autocracy in Hungary. *Journal of Comparative Politics*, *8*(2), 4–26.

Almond, G. A., & Verba, S. (1989). *The civic culture. Political attitudes and democracy in five nations*. SAGE.

Bauerova, H. (2018). Migration policy of the V4 in the context of migration crisis. *Politics in Central Europe*, *14*(2), 99–120.

Bauman, Z. (2004). *Europe: An unfinished adventure*. Polity Press.

Bello, V. (2017). *International migration and international security. Why prejudice is a global security threat*. Routledge.

Benveniste, A., Lazaridis, G., & Puurunen, H. (2017). Populist othering and Islamophobia. In G. Lazaridis & G. Campani (Eds.), *Understanding the populist shift: Othering in a Europe in crisis* (pp. 50–69). Routledge.

Bernhard, H., Fischbacher, U., & Fehr, E. (2006). Parochial altruism in humans. *Nature*, *442*(7105), 912–915.

Blome, N., & Stenzel, C. (2018, January 7). "Ihr wolltet die Migranten, wir nicht!" ["You wanted the migrants, we didn't"]. *Bild*. https://www.bild.de/bild-plus/politik/ausland/viktor-orban/orban-interview-54403736,jsRedirectFrom=conversionToPay,view=conversionToPay.bild.html

Bowles, S., & Gintis, H. (2004). Persistent parochialism: Trust and exclusion in ethnic networks. *Journal of Economic Behavior & Organization*, *55*(1), 1–23.

Bugaric, B., & Kuhelj, A. (2018). Varieties of populism in Europe: Is the rule of law in danger? *Hague Journal on the Rule of Law*, *10*(1), 21–33.

Buhari-Gulmez, D., & Gulmez, S. B. (2020). Theorizing many Europes: A four-fold taxonomy. *European Politics and Society*. Advance online publication. https://doi.org/10.1080/23745118.2020.1842697

Buhari-Gulmez, D., Kaunert, C., & Gulmez, S. B. (2020). Transforming Europe through crises: Thin, thick, parochial and global dynamics. *European Politics and Society*. Advance online publication. https://doi.org/10.1080/23745118.2020.1842696

Buzogány, A., & Varga, M. (2018). The ideational foundations of the illiberal backlash in central and eastern Europe: The case of Hungary. *Review of International Political Economy*, *25*(6), 811–828.

CBOS. (2015). *Attitude to Islam and Muslims* (Report No. 037). http://www.cbos.pl/EN/publications/reports/2015/037_15.pdf

CBOS. (2019). *Attitude to other nationalities* (Report No. 017). https://www.cbos.pl/EN/publications/reports/2019/017_19.pdf

Centrum pro výzkum veřejného mínění. (2020). *Tolerance k vybraným skupinám obyvatel—březen 2020* [Tolerance of selected population groups—March 2020]. https://cvvm.soc.cas.cz/media/com_form2content/documents/c6/a5202/f77/ov200430.pdf

Chadwick, V. (2016, May 26). Robert Fico: "Islam has no place in Slovakia." *Politico*. https://www.politico.eu/article/robert-fico-islam-no-place-news-slovakia-muslim-refugee

Chandler, D. (2013). Rethinking the subject of human security. In M. K. Pasha (Ed.), *Globalization, difference, and human security* (pp. 38–50). Routledge.

Choi, J.-K., & Bowles, S. (2007). The coevolution of parochial altruism and war. *Science*, *318*(5850), 636–640.

Colborne, M. (2017, April 27). Surveying some surveys: Czechs & refugees, immigrants and Islam. *Michael Colborne*. https://michaelcolborne.com/2017/04/27/surveying-some-surveys-czechs-refugees-immigrants-and-islam

Čoraz viac Slovákov nechce susediť s moslimom či homosexuálom [More and more Slovaks do not want a Muslim or a homosexual as neighbours]. (2017, December 18). *Aktuality*. https://www.aktuality.sk/clanok/548957/coraz-viac-slovakov-nechce-susedit-s-moslimom-ci-homosexualom

Czarnecka, A. (2018). Migration crisis in 2013 as an example of the lack of political cohesion of EU countries. *Torun International Studies*, *1*(11), 135–145.

Czech President Miloš Zeman: The immigrants are islamists. They are trying to subjugate Europe. (2015, November 5). *Britske listy*. https://blisty.cz/art/79737-czech-president-milos-zeman-the-immigrants-are-islamists-they-are-trying-to-subjugate-europe.html

Czech president: Migrants should be fighting Isis, not "invading" Europe. (2015, December 27). *The Guardian*. https://www.theguardian.com/world/2015/dec/27/czech-president-migrants-should-be-fighting-isis-not-invading-europe

De Dreu, C. K., Balliet, D., & Halevy, N. (2014). Parochial cooperation in humans: Forms and functions of self-sacrifice in intergroup conflict. *Advances in Motivation Science*, *1*, 1–47.

De Dreu, C. K., Dussel, D. B., & Velden, F. S. T. (2015). In intergroup conflict, self-sacrifice is stronger among pro-social individuals, and parochial altruism emerges especially among cognitively taxed individuals. *Frontiers in Psychology*, *6*(572), 1–9.

De Master, S., & Le Roy, M. K. (2000). Xenophobia and the European Union. *Comparative Politics*, *32*(4), 419–436.

De Wilde, P. (2011). No polity for old politics? A framework for analyzing the politicization of European Integration. *Journal of European Integration*, *33*(5), 559–575.

De Wilde, P., & Zürn, M. (2012). Can the politicization of European integration be reversed? *Journal of Common Market Studies*, *50*(1), 137–153.

Della Porta, D., & Diani, D. (2006). *Social movements: An introduction* (2nd ed.). Blackwell Publishing.

Gibson, R. K. (2002). *The growth of anti-immigrant parties in Western Europe*. Edwin Mellen Press.

Glied, V. (2020). The populist phenomena and the reasons for their success in Hungary. *Politics in Central Europe*, *16*(1S), 23–45.

Grande, E., & Hutter, S. (2016). Introduction: European integration and the challenge of politicisation. In S. Hutter, E. Grande, & H. Kriesi (Eds.), *Politicising Europe. Integration and mass politics* (pp. 3–31). Cambridge University Press.

Guralnik, D. B. (Ed.). (1986). *Webster's new world dictionary of the American language* (2nd ed.). Prentice Hall Press.

Hadland, E. (2002). The battle for vocabulary in political speech: Historical perspective on misnomers, euphemisms, aspersions, and shibboleths. *Tokyo University of Information Sciences Research Review*, *5*(2), 39–60.

Halmai, G. (2019). *Illiberalism in East-Central Europe* (EUI Working Paper LAW 2019/05). European University Institute.

Hampejs, M. (2018, December 18). Uprchlíky ano, migranty ne. ČSSD přesvědčila Babiše k přijetí paktu o uprchlících [Refugees yes, migrants no. The ČSSD persuaded Babiš to accept the pact on refugees]. *Lidovky.cz*. https://www.lidovky.cz/svet/uprchliky-ano-migranty-ne-cssd-presvedcila-babise-k-prijeti-paktu-o-uprchlicich.A181218_143213_ln_zahranici_mha

Hargreaves, A. G., & Leaman, J. (Eds.). (1995). *Racism, ethnicity and politics in contemporary Europe*. Edward Elgar Publishing.

Havlík, V. (2019). Technocratic populism and political illiberalism in Central Europe. *Problems of Post-Communism*, *66*(6), 369–384.

Hunter, Jr., M. L., & Hutchinson, A. (1994). The virtues and shortcomings of parochialism: Conserving species that are locally rare, but globally. *Common Biology*, *8*(4), 1163–1165.

Jelínková, M. (2019). A refugee crisis without refugees: Policy and media discourse on refugees in the Czech Republic and its implications. *Central European Journal of Public Policy*, *13*(1), 33–45.

Kaczyński, J. (2015). *Wypowiedzi na posiedzeniach Sejmu, Posiedzenie nr 100 w dniu 16–09-2015* [Statements made at the sessions of the Sejm, Session no. 100 on September 16, 2015]. http://sejm.gov.pl/Sejm7.nsf/wypowiedz.xsp?posiedzenie=100&dzien=1&wyp=7&view=1

Kalmar, I. (2018). "The battlefield is in Brussels": Islamophobia in the Visegrád Four in its global context. *Patterns of Prejudice*, *52*(5), 406–419.

Kende, A., & Krekó, P. (2020). Xenophobia, prejudice, and right-wing populism in East-Central Europe. *Current Opinion in Behavioral Sciences*, *34*, 29–33.

Klaus, W. (2017). Closing gates to refugees: The causes and effects of the 2015 "migration crisis" on border management in Hungary and Poland. *Yearbook of the Institute of East-Central Europe*, *15*(3), 11–34.

Klima, M. (2016, September 7–10). *The private business firm party—As a sub-category of the modern elite party. Movement ANO 2011—The case of the Czech Republic* [Paper presentation]. ECPR General Conference, Prague, Czech Republic.

Koß, M., & Séville, A. (2020). Politicized transnationalism: The Visegrád Countries in the refugee crisis. *Politics and Governance*, *8*(1), 95–106.

Krastev, I. (2017). The refugee crisis and the return of the East–West divide in Europe. *Slavic Review*, *76*(2), 291–296.

Krippendorff, K. (2003). *Content analysis: An introduction to its methodology* (2nd ed). SAGE.

Krzyżanowski, M. (2017). Discursive shifts in ethno-nationalist politics: On politicization and mediatization of the "refugee crisis" in Poland. *Journal of Immigrant & Refugee* Studies, 16(1/2), 76–96.

Krzyżanowski, M., Triandafyllidou, A., & Wodak, R. (2018). The mediatization and the politicization of the "refugee crisis" in Europe. *Journal of Immigrant & Refugee Studies*, *16*(1/2), 1–14.

Kubik, J. (2009). Ethnography of politics: Foundations, applications, prospects. In E. Schatz (Ed.), *Political ethnography: What immersion contributes to the study of power* (pp. 25–52). University of Chicago Press.

Kustov, A. (2020). Borders of compassion: Immigration preferences and parochial altruism. *Comparative Political Studies*. Advance online publication. https://doi.org/10.1177/0010414020938087

Leigh, J. (2000). Implications of universal and parochial behavior for intercultural communication. *Intercultural Communication*, *2000*(4). http://mail.immi.se/intercultural/nr4/leigh.htm

Leudar, I., Hayes, J., Nekvapil, J., & Turner Baker, J. (2008). Hostility themes in media, community and refugee narratives. *Discourse & Society*, *19*(2), 187–221.

Leudar, I., Marsland, V., & Nekvapil, J. (2004). On membership categorisation: "Us," "them" and "doing violence" in political discourse. *Discourse & Society*, *15*(2/3), 243–266.

Levy, C. (2010). Refugees, Europe, camps/state of exception: "Into The Zone," the European Union and extraterritorial processing of migrants, refugees, and asylum-seekers (theories and practice). *Refugee Survey Quarterly*, *29*(1), 92–119.

Long, K. (2013). When refugees stopped being migrants: Movement, labour and humanitarian Protection. *Migration Studies*, *1*(1), 4–26.

Lorenz, A., & Anders, L. A. (Eds.). (2021). *Illiberal trends and anti-EU politics in East Central Europe*. Palgrave Macmillan.

Macklin, A. (2005). Disappearing refugees: Reflections on the Canada–US Safe Third Country Agreement. *Columbia Human Rights Law Review*, *36*, 365–426.

Malešević, S. (2004). *The sociology of ethnicity*. SAGE.

Manevich, D. (2016). *Hungarians share Europe's embrace of democratic principles but are less tolerant of refugees, minorities*. Pew Research Center. http://www.pewresearch.org/fact-tank/2016/09/30/hungarians-share-europes-embrace-of-democratic-principles-but-are-less-tolerant-of-refugees-minorities

Marton, Z. (2017). Populism and the refugee crisis: The communication of the Hungarian government on the European refugee crisis in 2015–2016 [Master's Thesis, Faculty of Culture and Society, Malmö University]. https://www.diva-portal.org/smash/get/diva2:1482071/FULLTEXT01.pdf

Menéndez, A. J. (2016). The refugee crisis: Between human tragedy and symptom of the structural crisis of European integration. *European Law Journal*, *22*(4), 388–416.

Morsut, C., & Kruke, B. I. (2018). Crisis governance of the refugee and migrant influx into Europe in 2015: A tale of disintegration. *Journal of European Integration*, *40*(2), 145–159.

Niemann, A., & Zaun, N. (2018). EU refugee policies and politics in times of crisis: Theoretical and empirical perspectives. *JCMS: Journal of Common Market Studies*, *56*(1), 3–22.

Nyzio, A. (2017). The second revival? The Visegrád group and the European migrant crisis in 2015–2017. *Politeja*, *50*(5), 47–98.

Orbán villás nyelven beszél a bevándorlókról [Orbán speaks with a forked tongue about immigrants]. (2015, January 24). *Népszava*. https://nepszava.hu/1046237_orban-villas-nyelven-beszel-a-bevandorlokrol

Orbán, V. (2016, January 22). *The route may move in any direction, but one thing is certain: It will not go through Hungary* [Speech transcript]. About Hungary. http://abouthungary.hu/speeches-and-remarks/the-route-may-move-in-any-direction-but-one-thing-is-certain-it-will-not-go-through-hungary

Pacek, M. (2020). Polish migration policy in the context of the migration crisis. *Studia Europejskie–Studies in European Affairs*, *3*, 85–108.

Pachocka, M. (2016). Understanding the Visegrad group states' response to the migrant and refugee crises 2014+ in the European Union. *Yearbook of Polish European Studies*, *19*, 101–132.

Parochialism. (2005). In *Oxford Dictionary of English* (3rd ed.). Oxford University Press.

Pelinka, A. (2013). Right-wing populism: Concept and typology. In R. Wodak, M. KhosraviNik, & B. Mral (Eds.), *Right-wing populism in Europe: Politics and discourse* (pp. 3–22). Bloomsbury.

Pickel, G., & Öztürk, C. (2018). Islamophobia without Muslims? The "contact hypothesis" as an explanation for anti-Muslim attitudes—Eastern European societies in a comparative perspective. *Journal of Nationalism, Memory & Language Politics*, *12*(2), 162–191.

PM Orbán asks "shall we live in slavery or freedom?" (2016, March 17). *About Hungary*. http://abouthungary.hu/prime-minister/pm-orban-asks-shall-we-live-in-slavery-or-freedom

Potyrała, A. (2016). Poland towards the migration crisis of 2015–2016. *Przegląd Politologiczny*, *2*, 75–87.

Poulson, S. C., & Campbell, C. (2010). Isomorphism, institutional parochialism, and the sociology of religion. *American Sociologist*, *41*(1), 31–47.

Prior to Angela Merkel's visit to Prague, Czech politicians have condemned her pro-refugee policy. (2016, August 20). *Britske listy*. https://blisty.cz/art/83404-prior-to-angela-merkel-s-visit-to-prague-czech-politicians-have-condemned-her-pro-refugee-policy.html

Rancière, J. (1992). Politics, identification, and subjectivization. *October*, *61*, 58–64.

Rancière, J. (1999). *Disagreement. Politics and philosophy*. University of Minnesota Press.

Reuters Staff. (2016, January 7). Slovak PM says will fight to keep immigration to a minimum. *Reuters*. https://www.reuters.com/article/uk-europe-migrants-slovakia-idUKKBN0UL1ZK20160107

Rusch, H. (2014). The evolutionary interplay of intergroup conflict and altruism in humans: A review of parochial altruism theory and prospects for its extension. *Proceedings of the Royal Society B*, *281*, Article 20141539. https://royalsocietypublishing.org/doi/full/10.1098/rspb.2014.1539

Sadurski, W. (2019). *Poland's constitutional breakdown*. Oxford University Press.

Sartori, G. (1991). Comparing and miscomparing. *Journal of Theoretical Politics*, *3*(3), 243–257.

Schatz, E. (2009). Ethnographic immersion and the study of politics. In E. Schatz (Ed.), *Political ethnography: What immersion contributes to the study of power* (pp. 1–22). University of Chicago Press.

Schwartz-Shea, P., & Yanow, D. (2012). *Interpretive research design: Concepts and processes*. Routledge.

Sigona, N. (2018). The contested politics of naming in Europe's "refugee crisis." *Ethnic and Racial Studies*, *41*(3), 456–460.

Simonovits, B., & Szeitl, B. (2019). Attitudes towards migration and migration policies in Hungary and Europe (2014–18). In I. G. Tóth (Ed.), *Hungarian social report 2019* (pp. 295–313). TARKI. https://www.tarki.hu/sites/default/files/2019-02/295_313_Simonovits_Szeitl.pdf

Stepper, P. (2016). The Visegrad group and the EU agenda on migration: A coalition of the unwilling? *Corvinus Journal of International Affairs*, *1*(1), 62–82.

Stierl, M. (2019). *Migrant resistance in contemporary Europe*. Routledge.

Taras, R. (2009). *Europe old and new: Transnationalism, belonging, xenophobia*. Rowman & Littlefield Publishers.

Tilly, C. (1986). *The contentious French*. Harvard University Press.

Uitz, R. (2020). Reinventing Hungary with revolutionary fervor: The declaration of national cooperation as a readers' guide to the Fundamental Law of 2011. In J. M. Kovács & B. Trencsényi (Eds.), *Brave new Hungary. Mapping the "system of national cooperation"* (pp. 9–28). Lexington Books.

UN. (2015, September 30). *Statement by H.E. Mr. Viktor Orbán Prime Minister of Hungary at the High Level side event on "Strengthening cooperation on migration and refugee movements in the perspective of the new development agenda."* https://www.un.org/en/development/desa/population/migration/events/ga/2015/docs/statements/HUNGARY.pdf

V4 Connects. (2017). *Joint statement by the prime ministers of V4 countries on migration, 19 July 2017, Budapest*. https://www.vlada.cz/assets/media-centrum/aktualne/Joint-Statement-by-the-Prime-Ministers-of-V4-Countries-on-migration.pdf

Vachudova, M. A. (2019). From competition to polarization in Central Europe: How populists change party systems and the European Union. *Polity*, *51*(4), 689–706.

Van der Brug, W., Fennema, M., & Tillie, J. (2000). Anti-immigrant parties in Europe: Ideological or protest vote? *European Journal of Political Research*, *37*(1), 77–102.

Visegrad Group. (2017). *Letter from the prime ministers of the Visegrad countries to the Italian prime minister*. https://www.visegradgroup.eu/download.php?docID=321

Wistrich, R. S. (1999). Xenophobia and antisemitism in the new Europe: The case of Germany. In R. S. Wistrich (Ed.), *Demonizing the other. Antisemitism, racism, and xenophobia* (pp. 349–363). Routledge.

Wodak, R. (2015). *The politics of fear. What right-wing populist discourses mean*. SAGE.

Yanow, D. (2000). *Conducting interpretive policy analysis*. SAGE.

Zetter, R. (1991). Labelling refugees: Forming and transforming a bureaucratic identity. *Journal of Refugee Studies*, *4*(1), 39–62.

Zetter, R. (2007). More labels, fewer refugees: Remaking the refugee label in an era of globalization. *Journal of Refugee Studies*, *20*(2), 172–192.

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Article

Governing Precarious Immigrant Workers in Rural Localities: Emerging Local Migration Regimes in Portugal

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Abstract
Over the last decades, the globalization of the food and agriculture sector has fueled international labor migration to rural areas in Southern Europe. Portugal is no exception to this trend, as the intensification of foreign investment in agriculture combined with a declining and ageing workforce created a demand for flexible immigrant labor. The Eastern European and Asian immigrant workers who answered the industry's call were confronted with poor working conditions and lacking access to public services. In this article, we zoom in on the governance challenge that the presence of precarious immigrant workers (PIWs) poses to rural municipalities in the south of Portugal. The burgeoning literature on local integration policies mainly focuses on how cities deal with the challenge posed by international labor migration. This article draws on a detailed case study of the municipality of Odemira to argue that more attention needs to be paid to emerging local migration regimes in non-urban localities. By adopting a regime-theoretical approach, we study how power relations between the local government, civil society, and the private sector play out around the question of immigrant reception. Our study suggests that immigration policies in rural localities are increasingly being developed through cooperation and coproduction between public and private actors. First, we demonstrate how the presence of PIWs is perceived as a policy "problem" by each actor. Second, we outline how a governing coalition formed around the shared concern to improve arrival infrastructures, stimulate integration, mediate socio-cultural impact, and accommodate business interests. We conclude by critically questioning the impact that emerging local migration regimes have on the rights and social position of PIWs in rural contexts.

Keywords
globalization; governance; immigrants; local impacts; precarious workers; rural localities

Issue
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1. Introduction

Over the last decades, the globalization of the food and agriculture sector has fueled international labor migration (ILM) to rural areas in Southern Europe. Portugal is no exception to this trend. Foreign investment in intensive agriculture has dramatically increased in Portugal since the 1980s (Pereira et al., 2016). At the same time, workers from Portuguese origin have been increasingly unwilling to accept the poor working conditions and low wages that characterize work in the sector (Fonseca, 2008). Together with an ageing population, this has created a demand from agricultural companies for cheap and flexible immigrant labor (Sampaio & Carvalho, 2016). As a result, rural areas in the south like Alentejo, where intensive agriculture like berry cultivation tends to be located, have become primary destinations for precarious immigrant workers (PIWs; Fonseca, 2008). We deliberately use the term "precarious immigrant workers" here to underscore both the vulnerability, job insecurity,

low pay, and lack of union representation that characterizes their working conditions and the precarity, deportability, and illegality that characterizes their legal status (Goldring & Landolt, 2012; Thornley et al., 2010).

In this article, we zoom in on the case of Odemira, the largest municipality in the region, to investigate the governance challenges that the increase and diversification of the immigrant population pose for local actors. In 2018, 6124 out of 24,621 residents in Odemira, or about 25% of the total population, were migrants who respectively originated from Bulgaria (1,098), Nepal (1,015), Thailand (825), and India (795; PORDATA, 2018a). Given the substantial amount of PIWs with a precarious legal status, it is fair to say that these numbers are an under-estimation. When asked if the municipality felt ready to adequately organize the reception of these PIWs, the mayor stated that: "The territory is not prepared to meet the demands caused by the new agriculture regarding the provision of housing for immigrants, infrastructure, social development, cultural integration and population growth in such a small period of time" (Dias, 2019). Indeed, the Eastern European and Asian immigrant workers who answered the industry's call were generally confronted with lacking access to public services and poor working conditions (Faget, 2018). Compared to PIWs who arrive and settle themselves in urban localities, immigrants in non-urban localities also have less support from established immigrant organizations and communities that they can rely on.

Since its inception, the field of migration studies has been biased towards investigating how national governments shape governance responses to international migration (see Wimmer & Glick-Schiller, 2002). In part inspired by the increasing challenges that cities face to grapple with the everyday reality of locally accommodating stranded refugees and undocumented migrants, migration studies have made a significant local turn. As Zapata-Barrero et al. (2017, p. 241) argue, the starting point for this shift in perspective is the acknowledgement that "cities and regions… are becoming more and more active agents, drawing their own agenda, policy strategies and key questions/answers to challenges related to integration and diversity accommodation." While recent scholarship has clarified the leading role that "arrival infrastructures" (Meeus et al., 2019) and "sanctuary cities" (Bauder, 2017) play in terms of developing inclusive accommodation and integration policies towards immigrants with precarious legal status, non-urban localities still remain under-investigated.

This study adopts a case-study design to gain a better insight into the dynamics and characteristics of emerging local migration regimes (LMRs) in rural localities (see Flyvbjerg, 2006). We mainly rely on expert interviews with representatives of the Parish Council, the Municipal Plan for Integration, agriculture workers' unions, work conditions inspection, and civil society organizations to map the positioning of the actors involved and the relations between them (see Supplementary File). Our study suggests that immigration policies in rural localities are increasingly being developed through cooperation and coproduction between public and private actors. Based on these findings, we argue that more attention needs to be paid to the characteristics and dynamics of emerging LMRs in non-urban localities. We borrow insights from recent scholarship in migration and urban studies (Lambert & Swerts, 2019; Schiller, 2016; Swyngedouw, 2019, 2020) to develop a regime-theoretical approach that helps to explain the following question: How do governmental and non-governmental actors in rural localities like Odemira perceive and respond to the local governance challenge posed by international labor migration?

In the remainder of this article, we first conceptualize the local governance response to ILM in rural localities and introduce the regime-theoretical approach adopted in this study. Second, we outline the methods used and contextualize the case of Odemira. Third, we demonstrate how the presence of PIWs was perceived as a policy "problem" by each actor. Next, we outline how a governing coalition formed around the shared concern to improve arrival infrastructures, mediate socio-cultural impact, and accommodate the interests of businesses. We conclude by critically questioning the impact that these emerging LMRs have on the rights and social position of PIWs in rural contexts.

2. Conceptualizing the Local Governance Response to International Labor Migration in Rural Areas

2.1. The Globalization of Agriculture and the Rise of Precarious Immigrant Work

In this section, we argue that economic globalization is to be held responsible for the restructuring of the agricultural sector, the intensification of ILM and the precarization of immigrant workers (see Piore, 1979; Sassen-Koob, 1981). Taken together, these three global trends help to explain the local transformation of the agricultural sector and the corresponding precarity of immigrant workers' social position in the Odemira region.

First, the increased volume of interactions and integration of the world economy has radically transformed the agricultural sector. As Robinson's (2018) review of the evidence suggests, the impact of globalization can be felt in terms of the production, organization, and industrial relations in global agriculture. Agricultural production has become more specialized and dependent on industrial-style farming methods. However, previous research has shown that mechanization is not always possible in labor-intensive industries like fruit and vegetable picking (see Martin, 1983). Smaller, family-owned businesses have made way for transnationally organized companies that continuously seek to expand their global production network and tap into new markets. Finally, globalized agricultural companies' incessant search to maximize profits and reduce costs has led them to rely on cheap immigrant labor, thereby increasing

the asymmetry between labor and capital (Robinson, 2018, p. 135).

International migration to rural areas like Odemira therefore needs to be regarded as a direct effect of labor shortages and a response to demand from employers in Portugal's globalized agricultural sector (Fonseca, 2008; Peixoto, 2002). In his influential labor market theory, Piore (1979) has argued that segmentation into a primary (top) and secondary (bottom) labor market fuels the demand for cheap immigrant labor for jobs that are deemed too low in wages or status by primary workers. Research on immigrant employment in the agricultural sector in Southern European countries like Spain, Italy, and Portugal has revealed the significant extent to which the sector serves as a secondary labor market for immigrant workers (see Reyneri, 2004). For a long time, the sector's dependency on immigrant labor was fairly casual, whereby immigrants were recruited as temporary workers for seasonal work like harvesting. However, rising labor costs and labor shortages in part explain why the presence of PIWs in rural areas became a more permanent fixture (Reyneri, 2004).

Besides changes in the agricultural sector and shortages on the labor market, the relative vulnerability of immigrant workers also needs to be considered to explain their increased presence in rural areas like Odemira. As Sassen-Koob has put it, the desirability of immigrant workers is narrowly interwoven with their vulnerability, because "immigrants are not necessarily that much cheaper than low-wage national workers; it is also their powerlessness which makes them profitable" (1981, p. 72). Indeed, previous research has shown that many immigrant workers in the agricultural sector have a precarious legal status referring to "forms of legal status characterized by any of the following: lack of permanent residence or permanent work authorization, limited or no social benefits, inability to sponsor relatives and deportability" (Goldring & Landolt, 2012, p. 12). What makes the impact of precarious legal status on PIWs' lives even more unpredictable is that they may be "spatially, juridically and substantively discontinuous" and can include "indefinite and unpredictable periods of living with temporary authorized and/or unauthorized precarious status" (Goldring & Landolt, 2021, p. 1). This unpredictability and uncertainty in turn makes PIWs especially vulnerable for job exploitation, violence, and other forms of abuse. Furthermore, PIWs who accept to do the "dirty work" that others refuse to do, often lack the linguistic and other skills to protest their conditions and tend to be non-unionized (Cole & Booth, 2007).

2.2. The Local Turn in Migration Governance

In the previous section, we argued that the globalization of the agricultural sector helps to explain the intensification and precarization of immigrant work in the Odemira Region. However, the political initiatives and governance arrangements that emerge in response to ILM simultaneously need to be taken into consideration. In this context, the booming literature on the local turn in migration governance offers pointers (Zapata-Barrero et al., 2017). As governance involves the interaction between public and private sector and negotiation mechanisms between them (Schiller, 2018), local governance focuses on the interaction of local actors and their political agenda (Zapata-Barrero et al., 2017). Research suggests that urban governments and local civil society have gained in importance as active agents that shape immigrant reception and integration (De Graauw, 2016; Swyngedouw, 2019, 2020). Since cities are places of arrival, transit, and destination for PIWs, local actors need to develop "arrival infrastructures," referring to "those parts of the urban fabric within which newcomers become entangled on arrival, and where their future local or translocal social mobilities are produced as much as negotiated" (see Meeus et al., 2019, p. 34). In many "hospitable" cities, policy makers and activists have responded to this challenge by taking initiatives and developing policy measures aimed at making social and cultural services more accessible and ensuring local immigrant rights (De Graauw & Bloemraad, 2017; Lambert & Swerts, 2019).

One of the main contributions this literature has made is to demand attention to the local dynamics of cooperation that emerge between public and private partners in urban settings. Swyngedouw, for example, has argued that institutionalized urban coalitions in the field of migrant reception compete to reel in newcomers as to "influence the political-cultural demographics of the city and destabilize the linguistic power balance in Brussels" (2020, p. 395). Others, like De Graauw and Bloemraad (2017, p. 115) suggest that local immigration governance often involves cooperation in the shape of public–private partnerships that produce policy innovation, immigrant leadership development, and improved service delivery to immigrant communities. Finally, Schiller (2018) argues that such partnerships can involve relations characterized by information sharing, consultation, and co-optation. However, what remains unclear is whether these insights, which are based on research performed in urban localities, can readily be transposed towards non-urban localities. Moreover, it is not always clear how power relations and competing political and economic interests between governmental and non-governmental actors determine local migration policies. To this end, we turn our attention to regime theory in urban and migration studies.

2.3. A Regime-Theoretical Approach to Migration Governance in Rural Localities

We take Bernt's (2019) argument that insights from regime theory in migration studies and urban studies can potentially inform one another, as a starting point to inform our theoretical approach.

The regime concept has a long history within urban studies that can be traced back to the "community power

debate" (Harding, 2009). As Stone has argued, urban regimes are formed in response to situations of social change where "to be effective, governments must blend their capacities with those of various non-governmental actors" (1993, p. 6). Fragmentation of the capacity to act in response to social change thus motivates actors to erect urban regimes. A canonical example is Logan and Molotch's (1987, p. 53) "growth coalitions," referring to the forms of cooperation between rentiers, politicians, and other elites to intervene in the built environment to further the shared agenda of increasing economic growth. In our conceptualization of LMRs, we also consider how lacking institutional capacity and economic interests determine how governing coalitions form in Odemira.

While the previous insights could, in theory, be readily applied to the field of migration reception and integration, migration-related themes have not been of central concern in urban regime theories (Bernt, 2019, p. 13). Instead, the regime concept has found widespread use in migration studies to refer to institutionalized modes of granting membership to immigrants (citizenship regimes), deterring and removing unwanted subjects from the state territory (deportation regimes), and international sets of rules and regulations around human mobility (migration regimes; Brubaker, 1992; De Genova, 2012). Despite these wildly varying meanings, the use of the regime concept in migration studies tries to "break free of state-centrism, to urge researchers to think about a multitude of actors and relationships" (Bernt, 2019, p. 11). Critical scholarship on migration governance "beyond the state" tends to adopt a broader conceptualization of "governmentality" that focuses on how power, political rationalities, and governing logics become dispersed across multiple actors and scales (see Ilcan & Basok, 2004). For our purposes, it is particularly useful to keep in mind that the reception, management, and integration of PIWs is increasingly being outsourced to a variety of non-governmental organizations including private companies (see Ilcan & Basok, 2004; Menz, 2011). Furthermore, the migration and governmentality literature has convincingly shown that state and non-state actors actively partake in the construction and reproduction of immigrant illegality and deportability (see De Genova, 2012; De Genova & Peutz, 2010; Squire, 2011; Walters, 2015). What is not always specified in this literature, however, is how local governing coalitions emerge in the first place.

In this article, we combine insights from both traditions to explore emerging LMRs around the reception and integration of PIWs in Odemira. Building on Stone's classic definition (1989), we define LMRs as the formal and informal arrangements by which local public bodies and private interests function together in order to be able to make and carry out governing decisions around the reception and integration of immigrants. Initially, we expected LMRs in non-urban localities to be highly uneven and dominated by economic interests for three reasons. First, rural municipalities tend to lack the institutional capacity to accommodate PIWs and are therefore more inclined to turn to non-governmental actors to supply necessary knowhow and resources. Second, since economies in rural localities heavily depend on agriculture, private interests are bound to dictate LMRs. Third, since the political clout of local civil society—understood as the possibility to voice concerns and influence decision-making—in the field of migrant reception is less substantial in non-urban than in urban areas, criticisms can more easily be ignored by the governing coalition. In the sections below, we demonstrate how the emerging LMR in Odemira confirmed most of these expectations.

3. Methodology

3.1. Research Design and Data Collection

This study adopts a case study design to gain a better insight into the dynamics and characteristics of emerging LMRs in rural localities. More in particular, we focus on the emergence of governing coalitions around immigrant accommodation and integration in Odemira as a critical case (see Flyvbjerg, 2006). We rely on a combination of methods, including expert interviews and content analysis, to shed light on the underlying motivations and interests of public and private partners to join such coalitions (Bryman, 2016). By purposefully sampling representatives of the Parish Council, Odemira's Municipal Plan for Integration, agriculture workers' unions, work conditions inspection, and civil society organizations (respectively focused on immigrant rights, regional development, and environmental issues), we tried to map the positioning of the actors involved and the relations between them (Zapata-Barrero & Yalas, 2018). An overview of the interviews can be consulted in the Supplementary File. Additionally, content analysis of policy documents, meeting records, and press releases was performed to check statements made in the interviews and fill in remaining gaps in our knowledge about the case. All interviews were conducted in Portuguese and transcribed and analyzed with NVivo.

3.2. Contextualizing the Case

Both economic and political factors need to be taken into consideration in order to contextualize the Odemira case.

From an economic perspective, the region suffers from a shortage of national workers available to work in the intensive agriculture sector. In demographic terms, the region of Odemira is characterized by its low population density, with on average 14.3 individuals per km^2, as well as by its ageing population, with 238.9 elderly people per every 100 young people (PORDATA, 2018b, 2018c). However, the peculiarity of this municipality is that migration to the region has been increasing steadily

since the intensive agriculture industry started growing (Fonseca, 2008). Between 2008 and 2014, the rate of variation/change of foreign population in the municipality of Odemira was 59.2%, while at a national level the same rate was −10.2% (Esteves et al., 2017). Furthermore, between 2014 and 2020 the foreign population in the municipality of Odemira tripled from 3,320 in 2014 to 9,615 in 2020 (SEFSTAT, 2020). This migration influx is clearly related to a regional specialization on intensive agriculture in combination with a lack of national workforce. The intensive agriculture industry in the region is specialized in red fruits, which is a type of agriculture that cannot be mechanized. According to the president of AHSA—an association of 30 agricultural companies—there are 4,500 workers working in the intensive agriculture sector between the municipality of Odemira and a part of Algarve ("Covid-19: Produtores de Odemira," 2021). Agricultural work is generally considered to be physically tough and underpaid, which explains why Portuguese workers are not attracted to the sector. This in turn creates opportunities for migrant workers who are willing to accept these tough working conditions—without disregarding the employers' interest in hiring cheap PIWs. The Portuguese Migration Observatory explains the labor situation in Odemira as follows:

> The small local population, the low salaries, the harsh working conditions and the low social prestige of salaried work in agriculture in Portugal have led companies in the sector to temporarily or permanently hire foreign workers, either from EU28 countries (Romania, Bulgaria, for example) or from third countries, namely Asia. (Esteves et al., 2017)

From a political perspective, the Portuguese government took measures to provide more flexibility to companies to organize their businesses and attract and retain PIWs. In 2005, Portugal liberalized laws on the creation and dissolving of companies and cutting down on the bureaucratic paperwork involved (Ministério da Justiça, 2005). This liberalization created the possibility for less than transparent temporary work agencies to be legally conceived and dissolved rather quickly. The second liberalization process concerns national immigration laws. The 2017 amendment (Assembleia da República, 2017) to the immigration law 23/2007 (Assembleia da República, 2007) enabled immigrants to become regularized once they have a work contract and are registered in Social Security. In 2019, legal entry into the country became "assumed whenever the applicant has been working in the national territory and has had his or her social security situation in order for at least 12 months" (Assembleia da República, 2019).

4. Findings

Our research indicates that the emergence of a LMR in Odemira can be attributed to two main factors. On the one hand, the local government in Odemira was faced with an unprecedented challenge to accommodate and manage ILM that superseded their institutional capacity to act. Local constituencies grew increasingly worrisome about the social and cultural impact of PIW presence while available arrival infrastructures were lacking. On the other hand, agricultural businesses faced severe labor shortages that needed to be filled by securing a steady supply of cheap, flexible PIWs. Their efforts to support regularization and integration programs within the emerging LMR can therefore be seen as ways to promote their interests while aiding the local government to help manage the influx of PIWs in their municipalities. Below, we contextualize the case of Odemira, explore actors' perception of the local governance challenge that ILM poses, and analyze how public and private actors responded to this challenge.

4.1. The Perception of International Labor Migration as a Local Governance Challenge

In this section, we present how governmental and non-governmental actors in Odemira perceive and evaluate the governance challenges posed by ILM in the region of Odemira. Based on our research, we identify three major areas that define PIW presence as a perceived policy problem. First, while attracting PIWs is important to secure labor supply for the agricultural sector, immigrant rights are severely lacking. Second, several respondents indicated that the socio-cultural impact of PIW presence in local communities like Odemira needs to be mediated. Third, the intensification of ILM to the region poses challenges for local public services and arrival infrastructures.

In economic terms, respondents stressed the need to sustain growth while opinions were more divided with regards to the impact the sector has on the environment, hiring practices, and precarious work conditions. The interviews revealed a clear consensus between public and private actors around the fact that the agricultural sector is economically beneficial and indispensable for the region. This position is perhaps most clearly articulated by the association of agricultural companies, who regards "this agricultural development as highly positive, bringing more jobs, wealth and better living conditions to the region, in a sustainable way and through a majority of companies with highly responsible social and environmental practices" (Interview 9). However, some respondents criticized the fact that the government is prioritizing economic growth while ignoring local impact. The president of the Parish Council of one of these villages expressed this as follows:

> What we feel is an absence of the State. The State is in Lisbon and it is not worried. They want numbers, invoicing, values for the GDP growth. Impacts on the territory in environmental and social terms, they do not seem to be very interested in pursuing this matter. (Interview 1)

Furthermore, agricultural hiring practices and the high turnover of the workforce were perceived as problematic by members of local civil society. The representative for an association for immigrant rights elaborated on the lack of interest from the employers to hire Portuguese workers: "Naturally, the companies themselves are not very interested in hiring Portuguese because they are more informed, they will complain to the Labor Court, Authority for Working Conditions, etc." (Interview 2). Economic migrants tend to stay for a short period of time, which makes the workforce rather unstable and hampers integration according to several respondents (Interviews 1, 6, and 7). Lastly, precarious work conditions of PIWs are perceived as problematic (Interviews 2, 3, and 7). "Service companies" operate as temporary work agencies that "sublet" the labor of their employees to different companies, thereby undermining their position:

> In terms of stratification, I would say that those who have better conditions, both contractual and in terms of accommodation, are those who work directly for companies of reference; then, at an intermediate level, there would be workers who work for temporary work companies, but even so, already under worse conditions; and at the base of the pyramid, and that perhaps represents the majority, are workers who work for the service of "pseudo service providers companies," and where the most degrading working conditions are found. (Interview 7)

In political terms, all actors stressed mounting discontent among the citizenry about the social impact of PIW presence and the incapacity of local institutions to adequately manage ILM. A word often heard during the interviews was "quantity"—"the problem is the quantity" (Interview 1)—implying the number of immigrants is too high for what these villages can accommodate. The following quote from interview 1 serves as a good expression of how PIW presence is perceived as a sociocultural threat:

> The ladies that used to go for a walk alone at the end of the day don't feel comfortable anymore because there are groups of foreign men walking around in groups of 10 or 12….Our cultural values have taken so many centuries to conquer… I feel that we are putting our social well-being at risk.

Negative discourses mainly focused on the perceived risk that the large number of immigrants might have on the values and habits of local communities. Another respondent expressed his concern with the identity of the region: "It is clear that an oversized migration influx which isn't planned, slightly compromises the identity of the region" (Interview 4). Conversely, positive opinions emphasize the role this immigration influx might play in repopulating these villages (see interviews 2, 7, and 9).

The perceived impact of PIW presence in rural localities is further exacerbated by the lack of arrival infrastructures. An important aspect of arrival infrastructures concerns suitable housing for PIWs. Due to the increasing housing demand, prices on the housing market have been on the rise. In this respect, respondent 6 states that "there is not enough accommodation for everybody—a young couple looking for a house is going to have a lot of trouble finding it because most houses are being rented to migrants" (Interview 6). Some landlords prefer renting the houses to migrants, since migrants pay up to 100€ to 110€ per person (Interview 7). At the same time, the overcrowded houses, apartments, and establishments that PIWs are living in are often unsuitable to accommodate people. The working conditions inspector expressed this as follows:

> If I tell you I have already counted 53 people living in a 3-bedroom apartment you may think it is a lie but it is not. In an old car shop I once found approximately 43 or 44 families living there, with mattresses piled up around the floor and only one bathroom. (Interview 7)

Respondent 3 added that the region is facing additional infrastructural problems since "there is not enough water pressure in the water pipes and telephone lines are often overcharged" (Interview 3). At the same time, respondent 4 explained that public services, such as social security, tax offices, and healthcare centers, are overloaded due to the increasing number of inhabitants:

> Public services cannot handle the job, it's impossible to go to the tax office, to the social security or to the health care center, it's impossible. The publicly known fact that houses in Alentejo villages are being inhabited by dozens of people raises further questions about public health risks. (Interview 4)

4.2. The Formation of Odemira's Local Migration Regime

In the previous section, we outlined how local governments, agricultural companies, and civil society organizations found themselves grappling to respond to the rapidly changing character of economic and social life in rural localities in Odemira. In this section, we explain how a LMR was formed wherein public and private partners cooperated to produce policy measures aimed at securing growth and getting to grips with ILM. First, we outline how the LMR was formalized in public–private partnerships as reflected by the Municipal Plan for Integration and projects initiated by TAIPA—an organization that promotes the development of the municipality of Odemira. Next, we outline the projects and plans to remedy and mediate the triple governance challenge identified above.

The Municipal Plan for the Integration of Migrants in Odemira was developed between 2015 and 2017 by the

impetus of the National Strategy for Migrant Integration of the high commissioner for migration. This plan, which is part of the Project Odemira Integra +, is funded by the Asylum, Migration and Integration Fund, and covers 10 operation fields. (Odemira Município, 2019). A representative of the Municipal Plan stressed that the participation of more than 40 entities in the conception, formulation, and execution of the strategy was of key importance:

> The great added value of this Project has to do with the collaborative network that was created, the Project is not only of the municipality. Although the municipality is the coordinator… this would not be possible without the collaboration and participation of all entities. (Interview 5)

Subsequently, the Local Commission for Interculturality was created to serve as a platform where public entities like the parish councils, the public schools, Social Security, the Immigration and Borders Service and the Authority for Working Conditions and non-public entities like TAIPA, agricultural workers unions, and companies can meet (Interview 5). The platform aims to create "democratic practices, guided by local protagonism and based on horizontality, where local political decision makers are inserted, as partners" (Odemira Município, 2019). However, in practice, most of the heavy lifting is done through projects coordinated by TAIPA. As a TAIPA representative put it: "Everyone knows that TAIPA is the one who is on the ground and in the frontline in the immigration issue. It's either the municipality or TAIPA, or it comes from the municipality to TAIPA" (Interview 6). This was confirmed by the representative of the Municipal Plan, who stated that "TAIPA is a very strong partner here in the municipality" (Interview 5). Despite the horizontality that is put forward as a guiding principle within the public–private partnership, it can thus be argued that there is an imbalance within the governing coalition.

Since its inception, several initiatives and measures have been implemented by the governing coalition to address immigrants' precarious legal status, mediate socio-cultural impact, and develop arrival infrastructures.

First, the work of the Local Support Center for the Integration of Migrants from Odemira (CLAIM) exemplifies the effort by the governing coalition to improve the rights situation of PIWs through regularization. CLAIM is a project that has existed since 2014. Interestingly, the project has only been able to maintain its activities because of the joint funding by the municipality and large agricultural companies. CLAIM's main tasks are issues regarding legalization, family reunification and renewal of residence permits. In order to become regularized in Portugal, an immigrant needs to have a contract and a residence certificate from the Parish Council to prove the migrant lives in a certain locality. As explained above, it is in agricultural companies' interest that PIWs receive their legal status. The project has an office in S. Teotónio where immigrants take care of these issues. In addition, CLAIM has an "itinerary human resource officer" who travels between localities. Between July 2018 and December 2019, CLAIM performed 6,061 appointments and filed 3,645 applications (Taipa, 2019). The representative emphasizes this interaction as a positive aspect:

> There are two sides here: on the one side we have the municipalities, the parishes, the local authorities and on the other side we have companies, which have different challenges. Because sometimes, as we know, it is difficult to combine the vision of a company, whose main purpose is profit, and of a local entity whose main purpose is the well-being of its population. Combining all this has been increasingly challenging lately, but these meetings, this intervention, this sharing, I think it ends up being the added value of this consortium. (Interview 6)

A representative of a union for agricultural workers stressed the important role CLAIM has in PIWs' legalization processes: "CLAIM is here to bridge the gap between immigrant workers and SEF [Immigration and Borders Services]" (Interview 3). A TAIPA representative confirmed this close relationship with SEF, stating that: "SEF itself calls CLAIM to clarify this or that document, meaning there is a direct connection" (Interview 6). According to respondent 7, the joint efforts within the context of CLAIM have ensured that "today, talking about illegal immigrants is almost exaggerated" (Interview 7).

Second, projects and plans have been put in place by the local government as well as TAIPA to stimulate the integration of immigrants and improve the dialogue with the local community. The municipality's integration plan includes training public employees in public services, printing and disseminating the "Welcoming Kit for Migrant Citizens in Odemira," informing migrants about their tenant rights through the distribution of information materials on "Support for Housing Improvements" and "Support for Leasing," and celebrating Interculturality Day. In addition to CLAIM, TAIPA has two other projects dedicated to migrants: the S. Teotónio Project and the Giramundo Project. Since 2013, the S. Teotónio Project in the Parish of S. Teotónio is dedicated to "children, young people, and migrant families who have just arrived to establish a relationship with schools, facilitate integration at the school level and promote children's school success" (Interview 6). In addition, the project has a physical space, where school support is provided, Portuguese is taught, and more than 30 children of different nationalities attend daily after school. Since 2017, the Giramundo Project aims to improve the reception and integration of immigrants through cultural expressions and the promotion of dialogue with the local community. The project works directly with immigrants who take up a role as mediators: "We organize national days, they organize themselves, we are only facilitators.

We have thematic awareness actions, road safety, maritime safety, citizenship, the environment" (Interview 6). For example, the initiative "À Descoberta do Concelho" (Discovering the Municipality) offers a tour of the municipality to newcomers with the goal of sharing gastronomic and local traditional experiences. According to the representative, the Giramundo Project has been successful at reaching out to the target group: "We have reached more than 2000 migrants in the last 2 years" (Interview 6).

Third, the governing coalition has adopted measures to provide temporary housing for PIWs. The aforementioned 2019 resolution allowed companies to install temporary housing containers for their workers in protected natural areas. As Fonseca et al. (2021, p. 8) recently argued, agricultural companies were able to lobby and pressure public authorities into classifying these containers as "complementary structures of farming activity" for a period of 10 years. Although far from a structural solution, this allowed businesses to protect their interests as to secure and retain the PIW labor force. Meanwhile, environmental activists criticized the way in which the government blatantly allowed companies to violate environmental laws:

> This resolution of the Council of Ministers responded to the only obstacle to the growth of intensive agriculture. The only obstacle was the lack of housing for the workforce that is mostly foreign. As there was insufficient housing… for what this agricultural industry requires, the resolution allowed companies to install housing containers on the farms in the heart of the Natural Park to accommodate migrant workers to work in the agricultural industry. Almost as if considering a migrant worker to be an agricultural implement, in the end it is an accessory that they have to put inside the farms. (Interview 4)

Moreover, the unionist leader we interviewed questioned whether PIWs were actually better off with this "solution" to the housing problem offered by agricultural companies:

> Companies… keep their passports, charge them a monthly fee and… they live in temporary housing containers, sometimes there are 17 people in a house without adequate provisions, the rent in some situations is taken directly from their salary… and some of them are working in inhumane conditions. (Interview 3)

5. Conclusions

The increased mobility of PIWs has created governance challenges for local governments, communities, and private actors alike around the world. Existing scholarship has largely focused on how cities are taking up a leading role as active agents within multi-level governance arrangements around the reception and integration of immigrants (see Schiller, 2016; Zapata-Barrero et al., 2017). In this article, we argue that more attention needs to be paid to the characteristics and dynamics of such arrangements in non-urban localities. The findings of our case study in Odemira suggest that both global forces—relating to the globalization of agricultural production and the need to secure a steady supply of flexible labor—and local forces—relating to the incapacity of local governments in rural areas to tackle issues of immigrant integration by themselves—shape these dynamics. We build on and combine insights from urban and migration studies to suggest that the formal and informal arrangements that emerge in Odemira between local public bodies and private interests around the question of immigrant reception, can best be understood as emerging LMRs. Our case study suggests that Odemira's LMR is characterized by a high degree of collaboration and cooperation between the local government and agricultural companies in the form of public–private partnerships. The coordinated interaction between TAIPA and the municipality enables them to share resources and information. This insight thus confirms the findings of recent scholarship on local migration governance, which suggests that immigration policies are increasingly being developed through cooperation and coproduction between actors in local settings (see De Graauw, 2016; Schiller, 2016).

However, we argue that the finality and make-up of the LMR in Odemira exhibits several characteristics that are specific to non-urban settings. As exemplified by the financing of the initiative CLAIM by agricultural companies, there is an unusual agreement between partners in the LMR about the need to facilitate the regularization of PIWs' legal status. Although scholarship on sanctuary city policies (see De Graauw, 2016) has shown how civil society organizations play a crucial role in pressuring local governments to adopt inclusive measures towards PIWs, this explanation does not hold in the case of Odemira. Compared to the strength and presence of civil society in urban settings, it can be argued that local immigrant rights associations in a rural area like Odemira lack teeth. Furthermore, the fact that CLAIM is financed by the private sector not only reveals the strategic importance of this project to the companies involved, but also the highly uneven distribution of resources between partners in the LMR. Despite the consensus around the need to improve the accommodation and legal status of PIWs, no significant steps are undertaken to improve their worker rights or marginalized socio-economic position. This begs the question whether the "inclusive" policy arrangements initiated by partners in the LMR do little more than securing a steady supply of—relatively better accommodated—cheap immigrant labor while appeasing discontent among citizens about the social and cultural impact of PIW presence.

The findings from this case study open up various promising pathways for future research. First, in order to have a more in depth-understanding of the impact of

emerging LMRs on PIWs' rights, it seems indispensable to do protracted fieldwork to further document how they experience and act upon the legal and socio-economic precarity they face (see Swerts 2020). Second, comparative research could reveal how the dynamics and characteristics of LMRs vary between urban and non-urban localities while paying attention to the changing relationalities and political rationalities of public–private partnerships. Third, due to the exploratory and interview-based nature of this research, relatively more emphasis has been placed upon formal governance arrangements. Therefore, gaining more insight into the more informal practices and arrangements that uphold LMRs could help provide a complete picture of how formal arrangements come into being. If anything, this study underscores the importance for scholars, policy makers, and practitioners committed to advancing the rights and social position of PIWs to widen their gaze beyond the city and expand collective action and reflection to rural areas.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

References

Assembleia da República. (2007). *Lei nº 23/2007* [Law no. 23/2007]. Diário da República. https://dre.pt/pesquisa/-/search/635814/details/maximized

Assembleia da República. (2017). *Lei n.º 59/2017* [Law no. 59/2017]. Diário da República. https://dre.pt/home/-/dre/107781373/details/maximized

Assembleia da República. (2019). *Lei nº 28/2019* [Law no. 28/2019]. Diário da República. https://dre.pt/pesquisa/-/search/121712771/details/maximized

Bauder, H. (2017). Sanctuary cities: Policies and practices in international perspective. *International Migration*, *55*(2), 174–187.

Bernt, M. (2019). 'Urban regimes' and 'migration regimes': Contradictions, connections and potentials. *Erdkunde, 73*(1), 9–17.

Brubaker, W. R. (1992). *Citizenship and nationhood in France and Germany*. Harvard University Press.

Bryman, A. (2016). *Social research methods*. Oxford University Press.

Cole, J. E., & Booth, S. S. (2007). *Dirty work: Immigrants in domestic service, agriculture, and prostitution in Sicily.* Lexington Books.

Covid-19: Produtores de Odemira alertam para "impacto económico" da cerca sanitária [Covid-19: Odemira's producers warn of "economic impact" of local lockdown]. (2021, April 30). *Agência Lusa*. https://www.lusa.pt/article/NGNuPZmpRYTuWSuQ6atc6DMSZM5iuSI1/covid-19-produtores-de-odemira-alertam-para-impacto-econ%C3%B3mico-da-cerca-sanit%C3%A1ria

De Genova, N. (2012). Migrant "Illegality" and deportability in everyday life. *Annual Review of Anthropology*, *31*(1), 419–447.

De Genova, N., & Peutz, N. (2010). *The deportation regime: Sovereignty, space, and the freedom of movement*. Duke University Press.

De Graauw, E. (2016). *Making immigrant rights real: Nonprofits and the politics of integration in San Francisco*. Cornell University Press.

De Graauw, E., & Bloemraad, I. (2017). Working together: Building successful policy and program partnerships for immigrant integration. *Journal on Migration and Human Security*, *5*(1), 105–123.

Dias, C. (2019, March 17). Odemira já mal respira sob o plástico das estufas [Odemira barely breathes under the greenhouses' plastic]. *Público*. https://www.publico.pt/2019/03/17/local/noticia/culturas-intensivas-vieram-agravar-realidade-ambiental-social-concelho-odemira-1864562

Esteves, A., Estevens, A., Amílcar, A., MCGarrigle, J., Malheiros, J., Moreno, L., Fonseca, M. L., & Pereira, S. (2017). *Condições de vida e inserção laboral de imigrantes em Portugal: Efeitos da crise de 2007–2008* [Living conditions and labour insertion of imigrants in Portugal: Effects of the 2007–2008 crisis]. Observatórios das Migrações.

Faget, J. (2018, March 19). Illegal immigrants provide cheap labor in Portugal's agricultural sector. *Deutsche Welle*. https://www.dw.com/en/illegal-immigrants-provide-cheap-labor-in-portugals-agricultural-sector/a-43039465

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, *12*(2), 219–245.

Fonseca, M. L. (2008). New waves of immigration to small towns and rural areas in Portugal. *Population, Space and Place*, *14*(6), 525–535. https://doi.org/10.1002/psp.514

Fonseca, M. L., Esteves, A., & Moreno, L. (2021). Migration and the reconfiguration of rural places: The accommodation of difference in Odemira, Portugal. *Population, Space and Place*. https://doi.org/10.1002/psp.2445

Goldring, L., & Landolt, P. (2012). *The impact of precarious legal status on immigrants' economic outcomes*. IRPP Study.

Goldring, L., & Landolt, P. (2021). From illegalised migrant toward permanent resident: Assembling precarious legal status trajectories and differential inclusion in Canada. *Journal of Ethnic and Migration Studies*. Advance online publication. https://doi.org/

10.1080/1369183X.2020.1866978
Harding, A. (2009). The history of community power. In J. S. Davies & D. L. Imbroscio (Eds.), *Theories of urban politics* (pp. 27–39). SAGE.
Ilcan, S., & Basok, T. (2004). Community government: Voluntary agencies, social justice, and the responsibilization of citizens. *Citizenship Studies*, *8*(2), 129–144.
Lambert, S., & Swerts, T. (2019). From sanctuary to welcoming cities': Negotiating the social inclusion of undocumented migrants in Liège, Belgium. *Social Inclusion*, *7*(4), 90–99. https://doi.org/10.17645/si.v7i4.2326
Logan, J., & Molotch, H. (1987). *Urban fortunes: The political economy of place*. University of California Press.
Martin, P. (1983). Labor-intensive agriculture. *Scientific American*, *249*(4), 54–59.
Meeus, B., Arnaut, K., & van Heur, B. (2019). *Arrival infrastructures: Migration and urban social mobilities*. Palgrave Macmillan.
Menz, G. (2011). Neo-Liberalism, privatization and the outsourcing of migration management: A five-country comparison. *Competition & Change*, *15*(2), 116–135.
Ministério da Justiça. (2005). *Decreto-Lei n.º 111/2005* [Decree-Law no. 111/2005]. Diário da República. https://dre.pt/pesquisa/-/search/235906/details/maximized
Odemira Município. (2019, January 17). *Odemira Integra +, Plano Municipal para a Integração de Migrantes* (2018–2020) [Odemira Integra +, Municipal Plan for the Integration of Migrants (2018–2020)]. https://www.cm-odemira.pt/pages/1100
Peixoto, J. (2002). Strong market, weak state: The case of recent foreign immigration in Portugal. *Journal of Ethnic and Migration Studies*, *28*(3), 483–497.
Pereira, S., Moreno, L., Estevens, A., Esteves, A., & Malheiros, J. (2016). Reconfiguración de áreas rurales y explotación de mano de obra inmigrante: el caso de Odemira, Portugal [Reconfiguration of rural areas and the exploitation of migrant labour: the case of Odemira, Portugal]. *Centro de Estudios Migratorios Latinoamericanos*, *81*, 227–250.
Piore, M. J. (1979). *Birds of passage*. Cambridge University Press.
PORDATA. (2018a). *População residente, estimativas a 31 de Dezembro* [Resident population, 31 December estimates] [Data set]. https://www.pordata.pt/Municipios/Popula%C3%A7%C3%A3o+residente++estimativas+a+31+de+Dezembro-120
PORDATA. (2018b). *Densidade populacional* [Population density] [Data set]. https://www.pordata.pt/Municipios/Densidade+populacional-452
PORDATA. (2018c). *Índice de envelhecimento* [Aging index] [Data set]. https://www.pordata.pt/Municipios/%c3%8dndice+de+envelhecimento-458
Reyneri, E. (2004). Immigrants in a segmented and often undeclared labour market. *Journal of Modern Italian Studies*, *9*(1), 71–93.
Robinson, G. (2018). Globalization of agriculture. *Annual Review of Resource Economics*, *10*(1), 133–160.
Sampaio, D., & Carvalho, R. F. (2016). From the Al-Maghrib to the Al-Gharb: An anatomy of the recruitment and labour incorporation of Moroccan agricultural workers in the Algarve, Southern Portugal. In A. Corrado, C. de Castro, & D. Perrotta (Eds.), *Migration and agriculture* (pp. 255–269). Routledge.
Sassen-Koob, S. (1981). Towards a conceptualization of immigrant labor. *Social Problems*, *29*(1), 65–85.
Schiller, M. (2016). *European cities, municipal organizations and diversity: The new politics of difference*. Palgrave Macmillan.
Schiller, M. (2018). The local governance of immigrant integration in Europe: The state of the art and a conceptual model for future research. In T. Camponio, P. Scholten, & R. Zapata-Barrero (Eds.), *The Routledge handbook of the governance of migration and diversity in cities* (pp. 204–215). Routledge.
SEFSTAT. (2020). População estrangeira residente em Portugal 2008–2020 [Foreign population living in Portugal 2008–2020] [Data set]. https://sefstat.sef.pt/forms/distritos.aspx
Squire, V. (2011). *The contested politics of mobility: Borderzones and Irregularity*. Routledge.
Stone, C. N. (1989). *Regime politics: Governing Atlanta, 1946–1988.* University Press of Kansas.
Stone, C. N. (1993). Urban Regimes and the Capacity to Govern. *Journal of Urban Affairs*, *15*, 1–28.
Swerts, T. (2020). Power and empowerment. In H. F. Wilson & J. Darling (Eds.), *Research ethics for human geography: A handbook for students* (pp. 59–66). SAGE.
Swyngedouw, E. (2019). Governing newcomers' conduct in the arrival infrastructures of Brussels. In B. Meeus, K. Arnaut, & B. van Heur (Eds.), *Arrival Infrastructures*. Palgrave Macmillan. https://doi-org.eur.idm.oclc.org/10.1007/978-3-319-91167-0_4
Swyngedouw, E. (2020). Reeling in newcomers: Urban competition around migrant reception in Brussels. *International Journal of Urban and Regional Research*, *44*(3), 395–414.
TAIPA. (2019). *CLAIM Odemira info* [Brochure]. TAIPA.
Thornley, C., Jefferys, S., & Appay, B. (2010). *Globalisation and precarious forms of production and employment: Challenges for workers and unions*. Edward Elgar.
Walters, W. (2015). On the road with Michel Foucault: Migration, deportation, and viapolitics. In S. Fuggle, Y. Lanci, & M. Tazzioli (Eds.), *Foucault and the history of our present* (pp. 94–110). Houndmills.
Wimmer, A., & Glick-Schiller, N. (2002). Methodological nationalism and beyond: Nation-state building, migration and the social sciences. *Global Networks*, *2*, 301–334.
Zapata-Barrero, R., Caponio, T., & Scholten, P. (2017). Theorizing the 'local turn' in a multi-level governance framework of analysis: A case study in immigrant poli-

cies. *International Review of Administrative Sciences*, *83*(2), 241–246.

Zapata-Barrero, R., & Yalaz, E. (Eds.). (2018). *Qualitative research in European migration studies*. Springer.

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Article

Undocumented Migration and Electoral Support: Evidence From Spain

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Abstract
Unwrapping the political discourse against immigration is key to understanding the rise of populism in Western democracies. A growing body of literature has found ample evidence that immigration pays a premium to conservative political forces that propose tighter policies. Using data on presidential elections in Spain from 2008 to 2019, we shed light on this debate by highlighting the role played by irregular migration. Some studies show that undocumented immigrants consume less and earn lower wages than documented immigrants with similar observable characteristics. In addition, since they are relegated to working in the informal sector, they cannot contribute to the welfare state with direct taxes. This suggests that undocumented migration might intensify support for right-wing politics and that the effect is independent from the one caused by the presence of documented migrants. We apply an instrumental variable strategy to deal with the non-random distribution of migrants across political districts. Our findings indicate that increasing undocumented migration increases support for the right, while increasing documented migration rises support for the left. When we consider the irruption of the far-right into electoral competitions, we find that undocumented migration redistributes votes from the left to the right, as has been observed in other countries.

Keywords
extreme right; immigration; instrumental variables; political economy; undocumented migration; voting

Issue
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1. Introduction

Unwrapping the political discourse against immigration has become key to understanding the growing wave of populism that has hit Western democracies in the last decade. In the 2016 US presidential election, Donald Trump proposed the construction of a border wall to fight against illegal entry into the country. More recently, on a single day in May 2021, an unprecedented number of 8,000 individuals illegally crossed the Spain–Morocco border in Ceuta. Spain's new far-right political party, VOX, classified the event as an invasion, and the center-right Popular Party (PP) claimed that Spain's territorial integrity was threatened by the entry of illegal immigrants. In Europe, it is certainly common to find far-right parties that oppose immigration and have broad support among voters (Dennison & Geddes, 2019): the National Front in France, the Northern League in Italy, the Dutch Freedom Party, and the United Kingdom Independence Party in the UK, just to name a few. The political divide around immigration in Europe reached its peak with the so-called "refugee crisis" in the summer of 2015. Large immigration shocks, including those caused by asylum seekers and massive border crossings, cause concern among political parties. Those on the extreme right frequently use the visibility given by the media to these episodes to promote anti-immigration messages, exacerbating xenophobic sentiments.

The literature has dealt with the economic and non-economic effects of immigration considering several

dimensions: natives' employment and wages (Card, 2001; Peri, 2016), public finances (Dustmann & Frattini, 2014; Preston, 2014), gains from cultural diversity (Ottaviano & Peri, 2005), criminality (Alonso-Borrego et al., 2012; Chalfin, 2014), and natives' attitudes towards immigrants (Mayda, 2006). More recently, a rising number of studies are documenting that immigration is affecting voting behavior, with different outcomes. Mendez and Cutillas (2014) provide evidence that immigration led to more relative electoral support for the left than for the right in presidential elections in Spain. However, other studies have shown that immigration is favoring far-right political parties in national elections (e.g., for Italy, Barone et al., 2016; for France, Edo et al., 2019; for Austria, Halla et al., 2017; and for Greece, Roupakias & Chletsos, 2020) or the Republican Party in the US when it embraced anti-immigration discourse (Mayda et al., 2020).

Motivated by the so-called "Iberian exceptionalism" (Dennison & Mendes, 2019), this article analyzes the role of immigration, both documented and undocumented, in shaping voters' political preferences in Spain. We make use of both terms, regular and irregular, as synonyms for documented and undocumented immigrants, respectively, since both are found in the literature. The main contribution of this article is that it studies the effects that immigration has on voting, differentiating between regular and irregular immigrants. Spanish voters are often exposed (via considerable media attention) to dramatic episodes of illegal border crossings at sea. The traditional literature provides us with general ideas on the underlying mechanisms through which immigrants affect natives' welfare. However, with few exceptions, legal status is absent from the discussion and, therefore, the way in which irregular immigration shapes voters' opinions is still an unexplored field.

It has been shown that some immigrant characteristics vary with legal status. For example, Dustmann et al. (2017) provide evidence that, once conditioned on background characteristics, undocumented immigrants consume 40% less than documented immigrants. These lower levels of consumption are likely the consequence of lower incomes and a higher risk of being deported. Similarly, Albert (2021) shows that, in the labor market, undocumented immigrants earn conditionally lower wages and have higher job-finding rates than documented immigrants and natives. As irregular immigrants are expelled from the formal sector, they are relegated to work in worse conditions than natives (and regular immigrants). Gálvez-Iniesta (2020) documents that irregular immigrants in Spain are disproportionally concentrated in low-wage sectors such as those related to hospitality, food service, and household activities. To understand the labor market impact of irregular immigration, Albert (2021) uses a job search model where natives and immigrants are perfect substitutes, inducing a strong competition effect. He quantitatively explores the consequences of an immigration shock, uses a model to make estimations, and finds that an increase in the number of undocumented migrants enhances natives' wages and employment, while an increase in documented immigration decreases the native employment rate and has an ambiguous effect on wages. Thus, undocumented migrants hardly harm voters' jobs or wages, and relaxing the perfect substitutes assumption leads to even more job creation.

On the other hand, voters might reject irregular immigration to the extent that it places a tax burden on them since these immigrants cannot contribute to the direct financing of public services that they are entitled to enjoy, such as education and public health, a claim often made by far-right parties. In Spain, documented and undocumented immigrants acquire the right to access health and education services when they register in local municipal registers. Using data from the UK, Dustmann and Preston (2007) found that welfare concerns play a larger role in determining attitudes about immigration than concerns over wages or employment. According to the most recent wave of the survey Attitudes Towards Immigration (2017), carried out by the Spanish Sociological Research Center (CIS), 55% of Spaniards believe that immigrants receive more from the public system than they contribute. Around 20% said that immigrants receive as much as they contribute and only 9% believe that their contribution is greater than their benefit. Understanding how these opinions are formed is not a straightforward task, given the methodological challenges associated with accounting for individuals' net contributions to public finances and the fact that the limited number of studies on this topic do not support such claims (Collado et al., 2004; OECD, 2013). On the other hand, it is likely that these figures simply reflect the scope of the anti-immigration messages pushed by anti-redistribution parties.

A different approach to the issue involves assessing the extent to which irregular immigrants sort into areas where the public provision of public services is scarce. That is, voters might respond negatively to immigration not due to the fiscal burden imposed on natives, but to the lack of supply of public services in the neighborhoods where irregular migrants settle (Rickardsson, 2021). A natural way to estimate how much tax revenue is lost due to irregular migration is to evaluate amnesty programs. In this regard, Monras et al. (2020) document that payroll tax revenue increased yearly by 4,000 euros per each newly legalized immigrant after the 2005 regularization carried out by the socialist party (PSOE) in Spain. This suggests that the cost of implementing an amnesty program will be overcome by the large increase in tax revenues.

Voters may have non-economic reasons to reject illegal migration. A common argument has to do with the changing value of compositional amenities in neighborhoods after an immigration shock. Halla et al. (2017) provide evidence that natives care about the quality of schooling since children have to commute longer

distances to schools and parents have fewer childcare options in areas where the share of immigrants is higher. This type of argument applies to both documented and undocumented immigrants without distinction, and it becomes an issue when the geographic distribution of irregular migrants differs from regular ones, as will be shown below. A different approach emphasizes the role of cultural identity and locally provided public goods. For example, voters might perceive the presence of irregular migrants on the streets as a threat to their cultural identity, reinforcing xenophobia sentiments, given that almost half of the irregular population is made up of immigrants from African (Morocco and Sub-Saharan Africa) and Non-EU Eastern European countries, all of whom have different languages and ethnic traits, and many of whom have different religious practices. Alternatively, illegal immigration might stoke natives' fears that the immigrants will carry out criminal activities. Although the literature on immigration and criminality is inconclusive, some evidence reveals a causal relationship between undocumented immigrants in Spain and drug trafficking (Mccully, 2020).

Last but not least, moderate voters might reject irregular immigration, including border crossings, simply because of the belief that the rule of law, as a national public good, should prevail over other humanitarian principles and that international labor flows should be regulated. However, the enforcement of immigration rules is an imperfect task undertaken by governments, and illegal entry is, to some extent, inevitable. To this end, voters might perceive that the implementation of immigration amnesties has a magnet effect that might lead to out-of-control migration in the future. However, Monras et al. (2020) and Orrenius and Zavodny (2003) are unable to find changes in long-term patterns of undocumented immigration after the implementation of two significant amnesty programs in Spain (2005) and in the US (1986), respectively.

Thus, the presence of irregular immigrants might intensify economic and non-economic channels and may have discernible effects on voting behavior that would be independent from those caused by regular immigrants. Provided that the differential impact of irregular immigration is mostly non-economic, anti-immigration politics are likely to be grounded in the supply of xenophobia. As Glaeser (2005) emphasizes, anti-redistribution politicians have incentives to spread unfounded hate-inspiring stories about poor minorities simply because their opponents support policies that benefit minorities.

We present evidence that migrants' legal statuses affect political outcomes across the political spectrum. As in Dustmann et al. (2019) and in Roupakias and Chletsos (2020) we explore the conjecture that immigration divides society into extreme groups and examine which parties might stand to gain and which might stand to lose. We find that an increase in the share of irregular migrants increases the share of votes to the conservative party but has no impact on the vote share of the PSOE. However, voters respond to rising regular migration the other way around, favoring the PSOE and having no effect on the vote share of the right. Our results are in sharp contrast with those from Mendez and Cutillas (2014) who found that immigration favored left political parties over right political parties in electoral contests held between 1996 and 2011. We include new political forces, such as VOX, to test the role played by immigration and national-identity discourse in the general elections that took place after the refugee crisis of 2015. Our results indicate that, after considering the increased political competition, greater proportions of irregular immigrants produce a change in the distribution of the share of votes from the left to the right. In contrast, greater proportions of regular immigrants reduce support for the right and the far-right, although the parties on the left do not seem to benefit from this. That is, our results indicate that the right has capitalized on the narrative of restricting irregular migration. We shed light on the controversy and find that Spaniards did not act much differently than their European counterparts.

2. Background

2.1. Historical Context

Spain has migration figures similar to other advanced economies. The share of foreign-born residents is 13%, not far from the proportions seen in Italy (10%), France (12%), the UK or Germany (13%), and the US (15%), though it remains below levels seen in Switzerland, Australia, Canada, and Sweden. From a historical perspective, however, Spain differs from these developed economies in two salient ways. On the one hand, during the 20th century Spain experienced large-scale episodes of emigration to Latin American countries and Europe. On the other hand, the current migration rate is the result of a very high inflow that has occurred over just one or two decades, while migration in other countries responds to more parsimonious processes.

Spain is an interesting case to study for several reasons. First, it plays an important role in the context of European migration given its prominent geographical location as a border country with the African continent; thus, it has to deal with a constant pressure to control illegal border crossers aimed at reaching other European countries. Moreover, the common historical roots shared with Latin American and Arabic countries makes Spain a preferred destination for immigrants from many developing countries. Secondly, Spain's immigration policy is one of the most active at the bilateral level; it is targeted to control irregular flows both in countries of origin and along the migrants' routes towards Europe, and it establishes special legal procedures for immigrants from certain countries of origin. Thirdly, a stable political consensus between Spain's two major political parties, one on the left (PSOE) and one on the right (PP), has dominated Spanish immigration policy in recent decades. For

example, since 1985, Spain has implemented six regularizations of undocumented immigrants, carried out with indifference to which of the two aforementioned political parties were in power. The first regularization took place between 1985 and 1986, and was followed by others in 1991, 1996, 2000, 2001, and 2005. Most of these processes were aimed at regularizing workers who could demonstrate their roots in Spain; however, at times they have been extended to other categories of migrants such as families (1996, 2000, and 2001), asylum seekers (2000), or specific nationalities, such as that which occurred in 2001 with Ecuadorian citizens. The most important regularization was undertaken by the PSOE in 2005. Fourthly, until the arrival of a far-right political party, VOX, in 2015, the anti-immigration political discourse was subtle and did not garner significant political support. It is not clear what role the anti-immigration rhetoric exerted by VOX leaders played in its electoral success, especially at a time during which two salient issues dominated the political battlefield: the numerous corruption scandals plaguing the center-right PP and the unfriendly bout for independence undertaken by the regional authorities in Catalonia. Both issues may have played a major role in explaining the recent incursion of a populist radical right party. Lastly, after a steady downward trend in the incidence of irregularity (mainly due to the previously mentioned regularizations and the emergence of the Great Recession), the number of irregular immigrants has increased by a factor of six since 2013 and has recently accelerated with the political crisis afflicting Venezuela, which has also increased the number of asylum seekers.

Although de facto the PP and the PSOE broadly share a consensus on how to manage migration inflows, their narratives during electoral contests have been quite different. For example, in 2006 the number of irregular immigrants arriving in the Canary Islands by boat (i.e., cayuco) reached an unprecedented 39,180 migrants. The PP proposed, during the 2008 electoral campaign, a contract of integration whereby immigrants would commit to respecting Spanish customs and in the event of long-term unemployment, they would return to their countries of origin. Simultaneously, the ruling party at the time, the PSOE, was able to curb the number of arrivals in Spain by signing direct agreements with the immigrants' countries of origin.

2.2. Data

Migration policies are defined at the national level, and therefore we focus on presidential elections. We collect data on the outcomes of the elections that took place in 2008, 2011, 2015, 2016, and 2019 at the province level. Two presidential elections took place in 2019, first in April and then again in November. As our main explanatory variables (regular and irregular immigrant share) are calculated yearly, we restrict our analysis to the most recent election (November). Spain is divided into 50 provinces and two autonomous cities (Ceuta and Melilla), each of which are electoral districts. We restrict the sample to provinces from 2008 onwards. The reason for this is that the previous presidential election, in 2004, falls very near 2002, which is the base year for the instrument used to calculate the share of immigration (see Section 4). Data on votes was taken from the Spanish Ministry of the Interior. The dataset records the number of registered votes, valid and invalid. We compute shares of votes for the main political parties (PSOE, PP, Podemos, and VOX) by dividing the number of votes cast for each party by the number of valid votes. In Subsection 5.2 we split the political parties based on their ideologies (right-wing for PP and VOX, left-wing for PSOE and Podemos).

The number of regular immigrants is given as the number valid residence permits in each province granted to non-EU immigrants. The data was collected from the Spanish Ministry of Social Security and Migrations, which also provided the information on the number of residences permits in each province for each foreign nationality. This is key to constructing our instrument for regular and irregular migration, as explained below. As EU workers can legally reside (and work) in Spain without the need for a residence permit, we refer to regular immigrants as non-EU immigrants legally residing in the country. That is, our measure of regular immigrants does not include EU nationalities.

To the extent that irregular immigrants are by definition not entitled to live in a country, the estimation of the size of the irregular immigrant population in a country is not straightforward. However, Spain constitutes a unique case for delivering high-quality estimates of irregular immigration, as it provides high incentives for all immigrants (regardless of their legal status) to enroll in local population registers. Precisely, irregular immigrants are encouraged to register to obtain health benefits (Bertoli & Fernández-Huertas Moraga, 2013) and because they can use this as proof of residence for later regularization. This institutional feature allows us to apply the residual method (as per, Gálvez-Iniesta, 2020; González Ferrer & Cebolla Boado, 2008) to estimate the total count of irregular migrants by subtracting the number of valid residence permits held by non-EU migrants from the total number of non-EU migrants enrolled in the local population registers.

Despite this feature of Spanish law, applying the residual method is not free from limitations. First, it is common that people leaving the country do not unregister from local population registers, leading to overestimates of the irregular population. To tackle this issue, since 2003, the foreign-born population without permanent residence permits must renew their enrollment every two years (Izquierdo et al., 2015; Jandl et al., 2008), which makes our estimates more reliable. Secondly, the naturalization of immigrants may put an upward bias on the estimation, as those granted Spanish nationality would be dropped from the number of people with valid residence permits (since they do not need it

anymore) but it would take time for the local registers to update their legal statuses. Notice that these limitations mainly introduce temporary imbalances, which could affect the accuracy of the year-point estimator. However, as explained in the next subsection, our empirical strategy relies on long-term changes in the size of the irregular population, as we look at changes between electoral cycles (i.e., every four years). Therefore, small year-to-year disparities do not represent a serious threat to our identification strategy.

In the estimation we add a battery of controls, including the unemployment rate, the share of population by age group (less than 25, prime-age (25-64), and older than 65), and the share of workers by sector of activity and education level (less than high school degree (high-school dropouts), at least high-school degree but without college (intermediate-educated), and college graduates). The data was obtained from the Spanish Labor Force Survey. We also control for the average income per capita, using the GDP per capita as reported by the Spanish Regional Accounts.

Table 1 shows descriptive statistics. By construction, the share of non-EU immigrants is given by the sum of regular and irregular immigrants. In the five election years considered, the average of the provincial immigration share was around 9.5% of the total population. The share of non-EU immigrants was 5.36%. That is, around 56% of immigrants were from non-EU countries. Most of these are classified as regular immigrants: the share of regular (non-EU) immigrants was 4.7%, while the share of irregular immigrants is the remaining 0.6%. In other words, for the years under consideration, irregular immigrants accounted for around 11% of all non-EU immigrants.

We take advantage of regional variations in changes in the share of regular and irregular immigrants. To illustrate this regional variation, we built heat maps of the Spanish provinces: For each province, we plotted the average change in the share of regular (Figure 1) and irregular immigrants (Figure 2) from each of the two consecutive election years considered in the estimation. A comparison of the two figures clearly illustrates that the effect of regular and irregular immigrants can potentially be very different. The increase in the share of regular migrants was particularly notable in the south and along the Mediterranean coast. In contrast, changes in the share of irregular immigrants were concentrated in provinces in the center and the northwest, and to some extent, the northeast of the country. The disparity between changes in the share of regular and irregular immigrants is particularly striking in southern and southeastern Spain.

To shed light on the relevance of irregular migration, in Figure 3 we plot the correlation between the changes in the share of each two immigration types and changes in the log of the ratio of votes for the PSOE over the PP. We use this ratio as a dependent variable to replicate the

Table 1. Descriptive statistics.

	Obs.	Mean	Std. dev	Min	Max
Share of total immigrants (%)	250	9.49	5.40	2.4	24.3
ΔShare of total immigrants	200	−0.15	1.37	−5.7	2.6
Share of non-EU immigrants (%)	250	5.36	3.21	1.2	15.3
ΔShare of non-EU immigrants	200	0.09	0.85	−2.3	2.2
Share of regular immigrants (%)	250	4.73	2.90	1.2	13.5
ΔShare of total immigrants	200	−0.01	0.43	−1.6	1.7
Share of irregular immigrants (%)	250	0.62	0.77	−1.5	3.0
ΔShare of total immigrants	200	0.10	0.57	−1.4	1.5
PP vote share (%)	250	36.19	13.17	4.9	64.2
PSOE vote share (%)	250	30.00	9.39	12.4	58.1
VOX vote share (%)	113	6.84	8.52	0.1	27.9
PODEMOS vote share (%)	150	16.20	5.56	5.4	30.9
ΔShare of PP votes	200	−4.26	13.25	−34.5	43.7
ΔShare of PSOE votes	200	−3.61	8.56	−31.3	10.6
ΔShare of VOX votes	58	9.43	9.39	−0.2	27.6
ΔShare of PODEMOS votes	100	−3.46	4.77	−14.4	5.3
Log ratio PSOE over PP	250	−0.15	0.44	−1.1	1.2
Change in log ratio PSOE over PP	200	0.04	0.50	−1.7	0.9
ΔUnemployment rate	200	0.77	6.12	−9.8	15.3
ΔLog GDP per capita	200	0.02	0.09	−0.3	0.2
ΔShare of younger than 25	200	−0.34	0.44	−1.2	0.6
ΔShare of older than 65	200	0.62	0.44	−0.4	1.9
ΔShare of high school dropouts	200	−3.68	3.53	−27.5	5.4
ΔShare of college graduates	200	1.68	1.86	−3.8	7.6
ΔShare of workers in agriculture	200	−0.49	158.95	−650.0	760.0

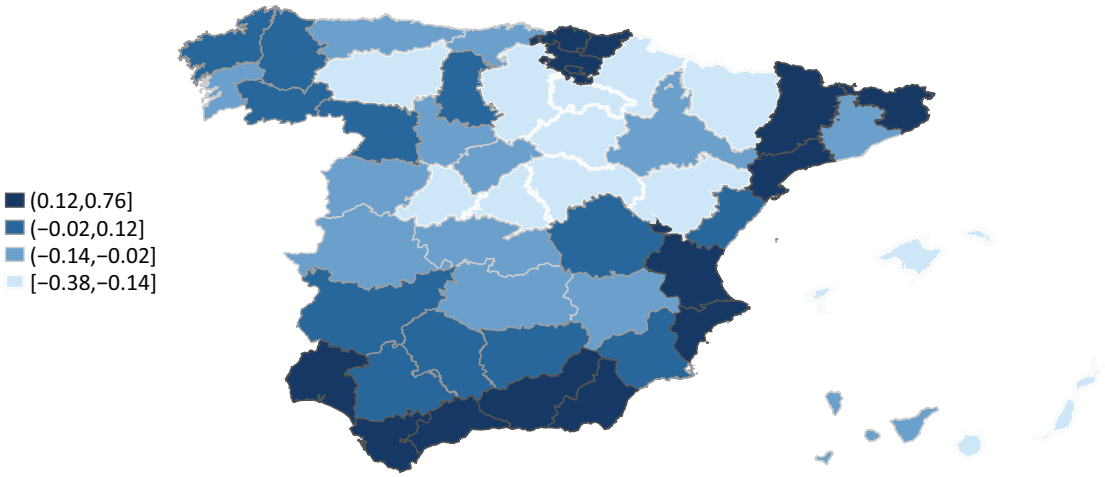

Figure 1. Average increase in the share of regular immigrants from two consecutive presidential election years (2008–2019).

results of Mendez and Cutillas (2014). Consistent with their work, the left panel of the figure suggests that an increase in the share of regular immigrants is associated with an increase in support for the major leftist party over the major conservative party. In contrast, when we replicate the same analysis with changes in the share of irregular immigrants, we find evidence of close-to-zero correlation. These figures should be viewed with caution, as changes in the share of regular and irregular immigrants are far from exogenous, which prevent us from claiming causality. However, they make very clear the that the sign of the effect of irregular immigration can be very different from the standard estimates found in previous literature. In the next section we further examine the causal effect of immigration on voting by instrumenting our main regressors.

3. Empirical Strategy

We start by proposing a simple equation to estimate the impact of immigration on vote shares. We model the change of the vote share for party p at election occurred at time t in electoral district i as follows:

$$\Delta \text{vote}_{it}^{p} = \beta_R^p \Delta\left(\frac{\text{Regular}_{it}}{\text{Pop}_{it}}\right) + \beta_I^p \Delta\left(\frac{\text{Irregular}_{it}}{\text{Pop}_{it}}\right) + \Delta X_{it}'\delta^p + \lambda_t^p + \Delta\varepsilon_{it}^p, \quad (1)$$

where $(\text{Regular}_{it} / \text{Pop}_{it})$ and $(\text{Irregular}_{it} / \text{Pop}_{it})$ are regular and irregular immigrant shares of the population in province i at time t. The difference operator indicates changes between electoral years. By taking differences in the model, we assume that idiosyncratic, time-invariant fixed effects that determine the vote are removed, and by introducing time fixed effects we account for aggregate shocks that vary from election to election and affect voting patterns in all political districts simultaneously. A set of economic and demographic controls at the province level (X_{it}) are also included to account for other changes that might determine political support. Note that a province is an administrative division that is fairly equivalent to a local labor market (e.g., Donoso et al.,

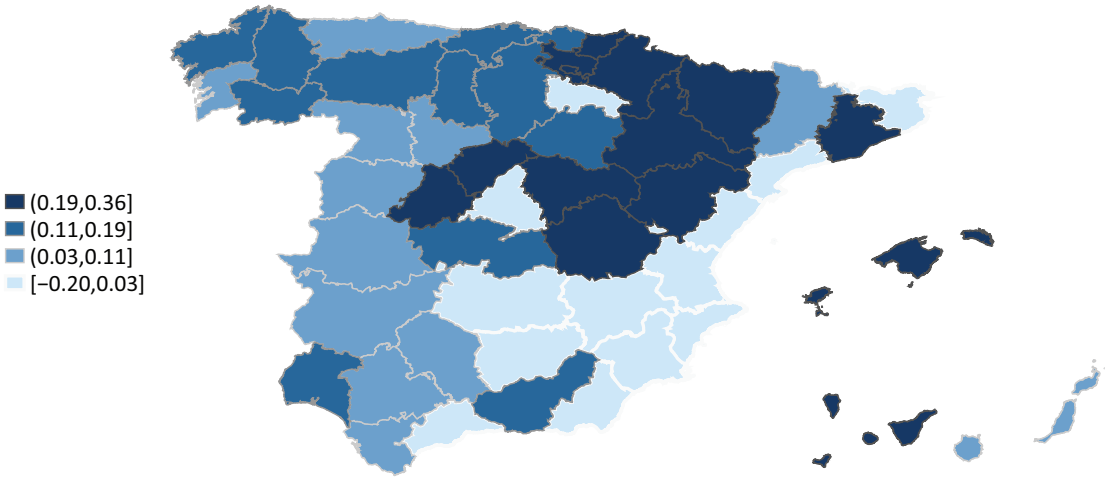

Figure 2. Average increase in the share of irregular immigrants from two consecutive presidential election years (2008–2019).

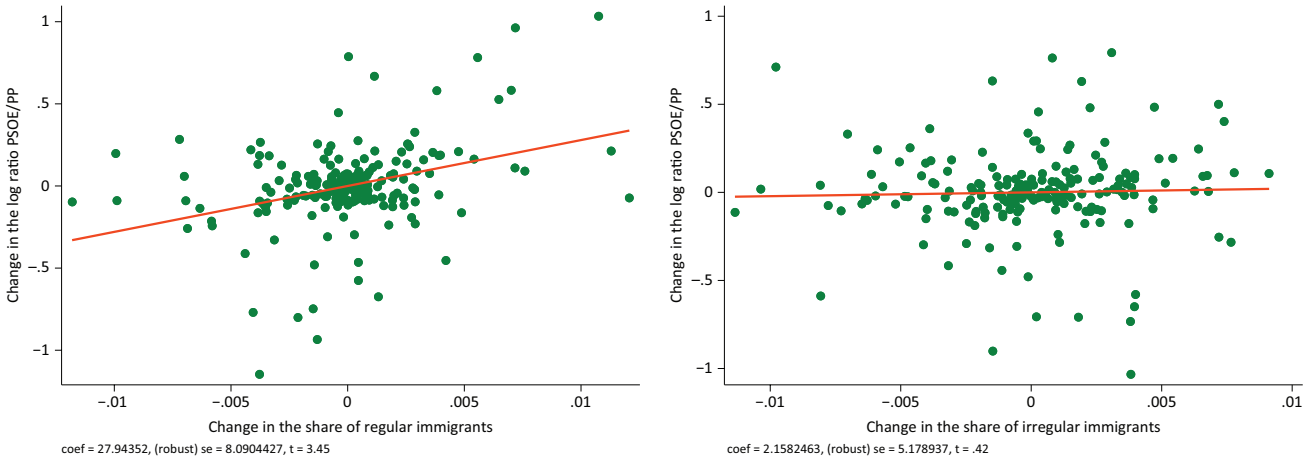

Figure 3. Scatter plot of changes in the share of regular and irregular immigrants against the changes in the log of the ratio of votes for the PSOE over the PP.

2015; González & Surovtseva, 2020). The standard errors from the estimated parameters of Equation 1 need to be adjusted for clustering at the province level to control for possible serial correlation. Spain's 17 autonomous communities are divided into 50 provinces. We use province-level clustering instead of clustering the standard errors at the autonomous community-level because of the high levels of heterogeneity within some autonomous communities in terms of voting behavior, shares of immigrants, and many of the control variables included in the specification. However, as a robustness check, we also run the estimation with the standard errors clustered at the autonomous community-level, and the results barely change.

From a methodological point of view, we have to deal with the fact that the distribution of migrants across political districts is not random and, therefore, unobservable determinants of voting captured in the error term $\left(\varepsilon_{it}^{p}\right)$ are likely to be correlated with the shares of regular or irregular migrants. Thus, simple OLS estimates of the parameters of interest $\left(\beta_{R}^{p}, \beta_{I}^{p}\right)$ would lead to erroneous inferences. To be more precise, there are two main reasons why OLS estimates are likely biased. First, migrants might locate systematically in provinces where voters prefer left-wing parties or reject right-wing political options. Secondly, it is also plausible that both migration decisions to locate in a province and political attitudes to vote are driven by common economic or demographic factors. To address these concerns, we rely on an instrumental variables (IV) approach.

The source of identification takes advantage of regional variations in the change of regular and irregular migrations which are unrelated to other political or economic changes that affect voting at the district-level once other shocks are controlled for. Our identification strategy benefits from the fact that changes in regular and irregular migration shares are, in general, differentiated spatially, as shown in Figures 1 and 2. We, therefore, instrument recent migration inflows by the settlement patterns across electoral districts and country of nationality in 2002 interacted with the subsequent national inflow of immigrants from each country. Given that we are considering two groups of immigrants by legal status, we build one instrument per category. This method was popularized by Card (2001) and is widely used in the literature (e.g., Edo et al., 2019; Mayda et al., 2020; Mendez & Cutillas, 2014).

Let us define $\widehat{Z}_{it}$ as the shift-share projection of variable Z_{it}, with $Z_{it} = \left\{\text{Regular}_{it}, \text{Irregular}_{it}\right\}$ being a different immigrant group defined as follows:

$$\widehat{Z}_{it} = \sum_{c}\left(\frac{Z_{ci,2002}}{Z_{i,2002}}\right)\Delta Z_{ct},$$

where the term in the parenthesis is the proportion of immigrants of nationality c residing in province i in the base year, 2002, and ΔZ_{ct} is the national inflow of immigrants from origin country c in election year t after the base year.

The instrument for the share of Z_{it} in the total population is the simple ratio of $\widehat{Z}_{it}$ over the total predicted population (i.e., including national residents and both regular and irregular immigrants). The predicted population is also obtained using the same shift-share principle. We end up with two instruments, one for the share of regular immigrants $\left(\widehat{\text{Regular}}_{it}/\widehat{\text{Pop}}_{it}\right)$ and another for the share of irregular immigrants $\left(\widehat{\text{Irregular}}_{it}/\widehat{\text{Pop}}_{it}\right)$. The instruments used in our model as differences are, therefore,

$$\Delta\left(\frac{\widehat{Z}_{it}}{\widehat{\text{Pop}}_{it}}\right) = \left(\frac{\widehat{Z}_{it}}{\widehat{\text{Pop}}_{it}}\right) - \left(\frac{\widehat{Z}_{it-1}}{\widehat{\text{Pop}}_{it-1}}\right).$$

4. Results

4.1. Immigration and Votes for the Two Major Political Parties

Table 2 reports the OLS estimates of the effect of changes in the share of regular and irregular immigrants on the

change in the vote share for the PP, for various specifications. In Column 1 we do not control for year fixed effects, while in Columns 2 to 6 we control for year fixed effects and sequentially add different controls, which allows us to understand the impact of the inclusion of each control variable on the estimation of the coefficients of interest. All standard errors are clustered at the province level. Column 6 shows the results obtained from the baseline estimation (i.e., with all controls) of Equation 1. The OLS estimates indicate that irregular immigration is not significantly correlated with changes in the share of votes for the PP, while regular immigration is negatively correlated and significant at the 5% level (and only at the 10% level in the baseline estimation: Column 6, with all controls).

As explained in the previous section, the OLS estimates cannot be used to infer causality, as regular and irregular immigrants are not randomly distributed across provinces. In Table 3 we use the same specifications as in Table 2 and provide the IV estimates of Equation 1. The bottom panel of Table 3 provides the Kleibergen-Paap rk Wald F statistics: For all the specifications our results indicate that we can clearly reject the null that our IV estimates suffer from a weak instrument problem (Stock et al., 2002). According to the IV estimates, an increase in the share of irregular immigrants has a positive and significant impact on the share of votes for the PP. In contrast to this result, the effect of an increase in the share of regular immigrants is negative and is not significant. The magnitude of the estimated coefficient on the share of irregular immigration implies that a 1% increase in the share of irregular immigrants increases the share of votes for the PP by 5 to 6%. As we see in Column 1, if we do not control for time-varying unobserved effects, we would overestimate the absolute effect of both regular and irregular immigrants. Moving from Column 2 to 6 we can see that the result is robust to the inclusion of all sets of controls. We find that the OLS estimates of the impact of irregular immigration on the vote share of the PP is biased downward. Finding a larger effect when using IV instead of OLS is consistent with the idea that irregular immigrants are more likely to migrate to provinces where the vote share for PP is decreasing.

Now, considering the IV impact of immigration on votes for the PSOE (Table 5), we find that a 1% increase in the share of regular immigrants produces an increase in the vote share of the PSOE of 3.1%. In contrast, the estimated effect of irregular immigration is not significant. The results are robust to including demographic and socioeconomic characteristics of provinces as controls (Columns 2–6). The IV estimates based on irregular migration are lower (as well as negative and not significant) than the corresponding OLS estimates (which are positive and significant, see Table 4), suggesting that where irregular immigrants choose to settle is not

Table 2. OLS impact of immigration on the share of votes for the PP.

	(1)	(2)	(3)	(4)	(5)	(6)
ΔShare of irregular immigrants	−0.141	3.034	3.224	2.675	2.706	2.918
	(1.807)	(1.998)	(1.997)	(2.124)	(2.146)	(2.268)
ΔShare of regular immigrants	−3.136	−6.979**	−7.426**	−6.728**	−6.693**	−6.736**
	(3.258)	(2.996)	(2.959)	(3.106)	(3.112)	(3.189)
ΔUnemployment rate			0.00364	0.00317	0.00394	0.00292
			(0.00400)	(0.00378)	(0.00383)	(0.00368)
ΔLog GDP per capita			−0.0408*	−0.0852*	−0.0902**	−0.0928**
			(0.0220)	(0.0427)	(0.0436)	(0.0443)
ΔShare of younger than 25				5.949*	5.944	6.192*
				(3.519)	(3.564)	(3.580)
ΔShare of older than 65				−0.405	−0.0136	0.199
				(1.894)	(1.878)	(1.919)
ΔShare of high school dropouts					−0.145	−0.137
					(0.165)	(0.180)
ΔShare of highly educated					0.318	0.262
					(0.304)	(0.296)
ΔShare of workers in agriculture						−0.00201
						(0.00385)
ΔShare of workers in construction						−0.00448
						(0.00633)
ΔShare of workers in industry						−0.00242
						(0.00507)
Year FE	NO	YES	YES	YES	YES	YES
N	200	200	200	200	200	200

Notes: The dependent variable is the change in the share of votes for the PP between two consecutive presidential elections. Regressions are run at the province level. Standard errors are clustered at the province level and reported in parenthesis. Significance levels are denoted by *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 3. IV impact of immigration on the share of votes for the PP.

	(1)	(2)	(3)	(4)	(5)	(6)
ΔShare of irregular immigrants	6.253***	5.959**	5.639**	5.075**	4.941**	5.403**
	(2.093)	(2.341)	(2.259)	(2.315)	(2.278)	(2.599)
ΔShare of regular immigrants	−9.834***	−3.104	−3.530*	−2.337	−2.436	−2.340
	(3.609)	(2.094)	(2.085)	(1.951)	(2.082)	(2.096)
ΔUnemployment rate			0.00306	0.00249	0.00331	0.00214
			(0.00386)	(0.00357)	(0.00361)	(0.00343)
ΔLog GDP per capita			−0.0408*	−0.0849*	−0.0901**	−0.0922**
			(0.0220)	(0.0438)	(0.0445)	(0.0447)
ΔShare of younger than 25				6.233*	6.238*	6.556*
				(3.627)	(3.632)	(3.579)
ΔShare of older than 65				−0.848	−0.437	−0.126
				(1.673)	(1.623)	(1.645)
ΔShare of high school dropouts					−0.147	−0.147
					(0.166)	(0.185)
ΔShare of highly educated					0.335	0.274
					(0.293)	(0.286)
ΔShare of workers in agriculture						−0.00205
						(0.00369)
ΔShare of workers in construction						−0.00588
						(0.00627)
ΔShare of workers in industry						−0.00138
						(0.00429)
Year FE	NO	YES	YES	YES	YES	YES
K.-P. rk Wald F statistic	9.407	11.59	15.62	20.78	18	11.67
N	200	200	200	200	200	200

Notes: The dependent variable is the change in the share of votes for the PP between two consecutive presidential elections. Significance levels are denoted by *** p < 0.01, ** p < 0.05, * p < 0.1.

random: They are more likely to settle in provinces where support for the PSOE is on the rise. On the other hand, the OLS estimates are downward biased for regular immigration, suggesting that regular migrants tend to settle in provinces in which the electoral support for the PSOE is lower.

4.2. Immigration and Votes for the Far-Right and the Far-Left

Until 2015, the national political battle was dominated by the two major political parties that had governed Spain since the early eighties: the PP and the PSOE. However, the dominance of the two main parties was challenged by the incursion into the political arena of new parties from both sides of the ideological spectrum: VOX on the right and Podemos on the left. We check the robustness of the previous results to the impact that the rise of political competition exerted by these more extreme political forces might have had since the 2015 elections. We are especially interested in testing whether the emergence of VOX, a far-right political party that advocates for new immigration policies and stricter law enforcement against undocumented immigrants, is changing the observed distribution of votes. On the left, Podemos emerged almost simultaneously in national elections, competing with the socialist PSOE. The discourse on immigration in right-wing parties is clearly differentiated from left-wing parties' discourse, but it is hard to disentangle whether VOXs support in the polls is due to its anti-immigration narrative or to other confounding factors, such as concerns regarding the independence of Catalonia.

To check the robustness of our results we simply aggregate the vote shares of the two political parties from the right (PP plus VOX) and from the left (PSOE plus Podemos) and analyze them in Tables 6 and 7, respectively. We find that including VOX does not alter one of the previous results: namely that irregular immigration has a positive impact on the votes for right-wing parties. However, and in contrast to our previous findings, the new estimation suggests that regular immigrants do have a negative and significant impact on the support for the right. Regarding the results for the left, we find that an increase in regular immigration does not have any significant effect on the share of votes for the PSOE or Podemos. This is surprising, as our previous specification suggested that regular immigration had a strong positive effect on the PSOE's vote share. This result implies that increased political competition from the left has reduced the political gains that the PSOE garnered from regular immigration.

Table 4. OLS impact of immigration on the share of votes for the PSOE.

	(1)	(2)	(3)	(4)	(5)	(6)
ΔShare of irregular immigrants	6.278***	2.114**	2.342***	2.380***	2.424***	2.712***
	(1.100)	(0.796)	(0.743)	(0.701)	(0.704)	(0.730)
ΔShare of regular immigrants	2.204	0.513	0.00955	0.00681	−0.0296	0.0778
	(2.017)	(0.959)	(0.818)	(0.883)	(0.887)	(0.875)
ΔUnemployment rate			0.00397**	0.00400**	0.00392**	0.00372**
			(0.00154)	(0.00156)	(0.00148)	(0.00165)
ΔLog GDP per capita			−0.0475***	−0.0367**	−0.0355**	−0.0327**
			(0.0105)	(0.0142)	(0.0153)	(0.0153)
ΔShare of younger than 25				−1.057	−1.072	−1.069
				(1.274)	(1.312)	(1.314)
ΔShare of older than 65				−0.566	−0.514	−0.308
				(0.922)	(0.845)	(0.844)
ΔShare of high school dropouts					−0.110	−0.136
					(0.125)	(0.130)
ΔShare of highly educated					−0.155	−0.166
					(0.240)	(0.233)
ΔShare of workers in agriculture						0.00189
						(0.00186)
ΔShare of workers in construction						−0.00244
						(0.00275)
ΔShare of workers in industry						0.00232
						(0.00190)
Year FE	NO	YES	YES	YES	YES	YES
N	200	200	200	200	200	200

Notes: The dependent variable is the change in the share of votes for the PSOE between two consecutive presidential elections. Significance levels are denoted by *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 5. IV impact of immigration on the share of votes for the PSOE.

	(1)	(2)	(3)	(4)	(5)	(6)
ΔShare of irregular immigrants	−1.594	−0.113	−0.551	−0.662	−0.664	−0.565
	(2.028)	(1.174)	(1.362)	(1.349)	(1.367)	(1.460)
ΔShare of regular immigrants	10.41**	3.324***	3.040***	3.227***	3.036***	3.066***
	(4.870)	(0.804)	(0.979)	(0.940)	(0.958)	(0.984)
ΔUnemployment rate			0.00379***	0.00368**	0.00364***	0.00381***
			(0.00142)	(0.00144)	(0.00139)	(0.00147)
ΔLog GDP per capita			−0.0359***	−0.0313**	−0.0304*	−0.0279*
			(0.0131)	(0.0158)	(0.0164)	(0.0165)
ΔShare of younger than 25				0.154	0.121	0.0996
				(1.448)	(1.487)	(1.486)
ΔShare of older than 65				−1.298	−1.237	−1.137
				(0.945)	(0.878)	(0.897)
ΔShare of high school dropouts					−0.0859	−0.105
					(0.115)	(0.115)
ΔShare of highly educated					−0.121	−0.109
					(0.227)	(0.223)
ΔShare of workers in agriculture						0.00143
						(0.00187)
ΔShare of workers in construction						−0.000584
						(0.00287)
ΔShare of workers in industry						0.00269
						(0.00184)
Year FE	NO	YES	YES	YES	YES	YES
K.-P. rk Wald F statistic	9.407	11.59	15.62	20.78	18	11.67
N	200	200	200	200	200	200

Notes: The dependent variable is the change in the share of votes for the PSOE between two consecutive presidential elections. Significance levels are denoted by *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 6. IV impact of immigration on the share of votes for the right (PP + VOX).

	(1)	(2)	(3)	(4)	(5)	(6)
ΔShare of irregular immigrants	15.52***	5.882*	6.138**	5.691*	5.620*	5.920*
	(2.598)	(3.333)	(3.113)	(3.190)	(3.163)	(3.524)
ΔShare of regular immigrants	−8.477***	−3.547*	−5.204**	−4.278**	−4.087**	−3.875*
	(2.855)	(2.101)	(2.050)	(1.839)	(1.997)	(2.047)
ΔUnemployment rate			0.000209	−0.000243	0.000266	−0.000236
			(0.00344)	(0.00321)	(0.00330)	(0.00328)
ΔLog GDP per capita			−0.100***	−0.130***	−0.134***	−0.136***
			(0.0263)	(0.0425)	(0.0433)	(0.0435)
ΔShare of younger than 25				4.518	4.563	4.868
				(3.193)	(3.207)	(3.198)
ΔShare of older than 65				−1.110	−0.960	−0.828
				(1.755)	(1.720)	(1.750)
ΔShare of high school dropouts					0.0285	0.0363
					(0.187)	(0.203)
ΔShare of highly educated					0.341	0.325
					(0.309)	(0.310)
ΔShare of workers in agriculture						−0.00268
						(0.00374)
ΔShare of workers in construction						−0.00283
						(0.00647)
ΔShare of workers in industry						0.000141
						(0.00425)
Year FE	NO	YES	YES	YES	YES	YES
R-squared	−0.030	0.487	0.515	0.522	0.524	0.523
K.-P. rk Wald F statistic	9.407	11.59	15.62	20.78	18	11.67
N	200	200	200	200	200	200

Notes: The dependent variable is the change in the share of votes for the right (PP) and the far-right (VOX) between two consecutive presidential elections. Significance levels are denoted by *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 7. IV impact of immigration on the share of votes for the left (PSOE + Podemos).

	(1)	(2)	(3)	(4)	(5)	(6)
ΔShare of irregular immigrants	−13.94***	−1.972	−2.251*	−2.175*	−2.154*	−2.100
	(1.606)	(1.253)	(1.253)	(1.300)	(1.286)	(1.395)
ΔShare of regular immigrants	8.048***	0.191	−0.0608	−0.155	−0.214	−0.179
	(2.998)	(0.952)	(0.954)	(1.079)	(1.106)	(1.116)
ΔUnemployment rate			0.00251	0.00258	0.00243	0.00268
			(0.00161)	(0.00159)	(0.00158)	(0.00165)
ΔLog GDP per capita			−0.0276**	−0.0407**	−0.0395**	−0.0373**
			(0.0129)	(0.0182)	(0.0184)	(0.0183)
ΔShare of younger than 25				0.699	0.685	0.658
				(1.628)	(1.641)	(1.641)
ΔShare of older than 65				1.746**	1.703**	1.759**
				(0.890)	(0.842)	(0.892)
ΔShare of high school dropouts					−0.00984	−0.0249
					(0.124)	(0.122)
ΔShare of highly educated					−0.103	−0.0867
					(0.199)	(0.200)
ΔShare of workers in agriculture						0.00118
						(0.00202)
ΔShare of workers in construction						−9.71e−06
						(0.00314)
ΔShare of workers in industry						0.00245
						(0.00206)
Year FE	NO	YES	YES	YES	YES	YES
R-squared	−0.366	0.822	0.826	0.830	0.830	0.832
K.-P. rk Wald F statistic	9.407	11.59	15.62	20.78	18	11.67
N	200	200	200	200	200	200

Notes: The dependent variable is the change in the share of votes for the left (PSOE) and the far-left (Podemos) between two consecutive presidential elections. Significance levels are denoted by *** p < 0.01, ** p < 0.05, * p < 0.1.

5. Conclusion

The political impact of immigration is under scrutiny in many countries. The literature reveals a consistent pattern across countries, whereby immigration favors right-leaning political parties that defend heavy-handed policies. Spain was considered an exception in the European context, as previous evidence indicated that immigration yielded a political premium to the left. In this article, we claim that distinguishing between documented and undocumented migration is key to understanding voters' responses in national elections. Previous literature has shown that undocumented immigrants consume less, earn lower wages, and are concentrated in specific regions, sectors, and occupations. We argue that irregular immigration is unlikely to affect natives through the labor market. However, there might be other reasons why voters might react to irregular migration. For instance, since undocumented immigrants are relegated to working in the informal sector, they cannot contribute to the welfare state with direct taxes, though they are often allowed to benefit from public health care and education. In addition, voters might respond to non-economic factors and to the indirect effects of irregular immigration when immigrants are concentrated in areas with a low supply of public services, thus, changing the compositional amenities of the neighborhoods.

We find that an increase in undocumented immigration increases support for the right-leaning PP and has no effect on the vote share of the PSOE. In contrast, a rise in the share of regular immigrants does not increase support for the PP while it does increase the vote share of the PSOE. Moreover, when we take into consideration the emergence of VOX and Podemos in electoral competitions, we observe that rising undocumented migration favors political support for the right and reduces support for the left, and conversely, that increasing documented migration reduces support for the right but does not affect support for the left. This evidence suggests that the rise of irregular immigration is being capitalized on by the right and not by the left, thereby refuting the idea that undocumented migration is polarizing society. This result is in line with others, such as Dustmann et al. (2019), who, instead of using the IV approach, employ a quasi-random allocation of immigrant refugees across locations in Denmark. Our findings complement previous evidence and open the door for further research on why voters react differently to regular versus irregular immigration.

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Conflict of Interests

The authors declare no conflict of interests.

References

Albert, C. (2021). The labor market impact of immigration: Job creation versus job competition. *American Economic Journal: Macroeconomics*, *13*(1), 35–78. https://doi.org/10.1257/mac.20190042

Alonso-Borrego, C., Garoupa, N., & Vázquez, P. (2012). Does immigration cause crime? Evidence from Spain. *American Law and Economics Review*, *14*(1), 165–191. https://doi.org/10.1093/aler/ahr019

Barone, G., D'Ignazio, A., de Blasio, G., & Naticchioni, P. (2016). Mr. Rossi, Mr. Hu and politics. The role of immigration in shaping natives' voting behavior. *Journal of Public Economics*, *136*, 1–13. https://doi.org/10.1016/j.jpubeco.2016.03.002

Bertoli, S., & Fernández-Huertas Moraga, J. (2013). Multilateral resistance to migration. *Journal of Development Economics*, *102*, 79–100. https://doi.org/10.1016/j.jdeveco.2012.12.001

Card, D. (2001). Immigrant Inflows, native outflows, and the local labor market impacts of higher immigration. *Journal of Labor Economics*, *19*(1), 22–64. https://doi.org/10.1086/209979

Chalfin, A. (2014). What is the contribution of Mexican immigration to US crime rates? Evidence from rainfall shocks in Mexico. *American Law and Economics Review*, *16*(1), 220–268. https://doi.org/10.1093/aler/aht019

Collado, M. D., Iturbe-Ormaetxe, I., & Valera, G. (2004). Quantifying the impact of immigration on the Spanish Welfare State. *International Tax and Public Finance*, *11*(3), 335–353. https://doi.org/10.1023/B:ITAX.0000021975.20256.ff

Dennison, J., & Geddes, A. (2019). A rising tide? The salience of immigration and the rise of anti-immigration political parties in Western Europe. *Political Quarterly*, *90*(1), 107–116. https://doi.org/10.1111/1467-923X.12620

Dennison, J., & Mendes, M. (2019). *When do populist radical right parties succeed? Salience, stigma, and the case of the end of Iberian 'exceptionalism'* (Research Paper No. RSCAS 2019/26). Robert Schuman Centre for Advanced Studies. https://doi.org/10.2139/ssrn.3372847

Donoso, V., Martín, V., & Minondo, A. (2015). Do differences in the exposure to chinese imports lead to differences in local labour market outcomes? An analysis for spanish provinces. *Regional Studies*, *49*(10), 1746–1764. https://doi.org/10.1080/00343404.2013.879982

Dustmann, C., Fasani, F., & Speciale, B. (2017). Illegal migration and consumption behavior of immigrant households. *Journal of the European Economic Association*, *15*(3), 654–691. https://doi.org/10.1093/jeea/jvw017

Dustmann, C., & Frattini, T. (2014). The fiscal effects of immigration to the UK. *Economic Journal*, *124*(580), F593–F643. https://doi.org/10.1111/ecoj.12181

Dustmann, C., & Preston, I. P. (2007). Racial and economic factors in attitudes to immigration. *B.E. Journal of Economic Analysis and Policy*, *7*(1), Article 62. https://doi.org/10.2202/1935-1682.1655

Dustmann, C., Vasiljeva, K., & Piil Damm, A. (2019). Refugee migration and electoral outcomes. *The Review of Economic Studies*, *86*(5), 2035–2091. https://doi.org/10.1093/restud/rdy047

Edo, A., Giesing, Y., Öztunc, J., & Poutvaara, P. (2019). Immigration and electoral support for the far-left and the far-right. *European Economic Review*, *115*, 99–143. https://doi.org/10.1016/j.euroecorev.2019.03.001

Gálvez-Iniesta, I. (2020). *The Size, socio-economic composition and fiscal implications of the irregular immigration in Spain*. https://drive.google.com/file/d/1SHDXCyKOy3vsycGQqAanME8Y_WHlpyu7/view?usp=sharing

Glaeser, E. L. (2005). The political economy of hatred. *The Quarterly Journal of Economics*, *120*(1), 45–86. https://doi.org/10.1162/0033553053327434

González Ferrer, A., & Cebolla Boado, H. (2008). *La inmigración en España 2000–2007* [Immigration in Spain 2000–2007]. Centro de Estudios Políticos y Constitucionales. http://hdl.handle.net/10261/93165

González, L., & Surovtseva, T. (2020). *Do more tourists promote local employment?* (Working Paper No. 1208). BGSE.

Halla, M., Wagner, A. F., & Zweimüller, J. (2017). Immigration and voting for the far right. *Journal of the European Economic Association*, *15*(6), 1341–1385. https://doi.org/10.1093/jeea/jvx003

Izquierdo, M., Jimeno, J. F., & Lacuesta, A. (2015). *Spain: From immigration to emigration?* (Working Paper No. 1503). Banco de España. https://doi.org/10.2139/ssrn.2566723

Jandl, M., Vogel, D., & Iglicka, K. (2008). *Report on methodological issues*. CLANDESTINO.

Mayda, A. M. (2006). Who is against immigration? *Review of Economics and Statistics*, *88*(3), 510–530.

Mayda, A. M., Peri, G., & Steingress, W. (2020). The political impact of immigration: Evidence from the United States. *American Economic Journal: Applied Economics*. Advance online publication. https://www.aeaweb.org/articles?id=10.1257/app.20190081&&from=f

Mccully, B. A. (2020). *Immigrants, legal status, and illegal trade*. Brett A. McCully. https://www.brettmccully.com/files/jmp.pdf

Mendez, I., & Cutillas, I. M. (2014). Has immigration affected Spanish presidential elections results? *Journal of Population Economics*, *27*(1), 135–171. https://doi.org/10.1007/s00148-013-0471-y

Monras, J., Vázquez-Grenno, J., & Elias, F. (2020). *Understanding the effects of granting work permits to undocumented immigrants* (Working Paper No. 1228). Barcelona GSE.

OECD. (2013). *The fiscal impact of immigration in OECD countries*. https://doi.org/10.1787/migr_outlook-2013-6-en

Orrenius, P. M., & Zavodny, M. (2003). Do amnesty programs reduce undocumented immigration? Evidence from IRCA. *Demography*, *40*(3), 437–450. https://doi.org/10.2307/1515154

Ottaviano, G. I. P., & Peri, G. (2005). The economic value of cultural diversity: Evidence from US cities. *Journal of Economic Geography*, *6*(1), 9–44. https://doi.org/10.1093/jeg/lbi002

Peri, G. (2016). Immigrants, productivity, and labor markets. *Journal of Economic Perspectives*, *30*(4), 3–30. https://doi.org/10.1257/jep.30.4.3

Preston, I. (2014). The effect of immigration on public finances. *Economic Journal*, *124*(580), F569–F592. https://doi.org/10.1111/ecoj.12180

Rickardsson, J. (2021). The urban–rural divide in radical right populist support: The role of resident's characteristics, urbanization trends and public service supply. *The Annals of Regional Science*, *67*, 211–242. https://doi.org/10.1007/s00168-021-01046-1

Roupakias, S., & Chletsos, M. (2020). Immigration and far-right voting: Evidence from Greece. *Annals of Regional Science*, *65*(3), 591–617. https://doi.org/10.1007/s00168-020-00996-2

Stock, J. H., Wright, J. H., & Yogo, M. (2002). A survey of weak instruments and weak identification in generalized method of moments. *Journal of Business & Economic Statistics*, *20*(4), 518–529. https://doi.org/10.1198/073500102288618658

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Article

Migration and Asylum Flows to Germany: New Insights Into the Motives

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Abstract
This study analyzes the determinants of both total migration and asylum migration to Germany. For the analysis, a comprehensive empirical model is set up that includes climate change, economic opportunities, such as per capita income differentials, links to Germany, home country characteristics (population growth, poverty, consumer confidence, unemployment), the political and institutional situation in the sending countries (measured by internal and external conflict, ethnic and religious tensions, government stability, law and order, military in politics), and a control for migration opportunities to alternative destinations. Panel data techniques (Poisson pseudo-maximum likelihood) for the estimation of the parameters of interest are employed using a panel of 115 (134) origin countries for asylum migration (total migration) over the period of 1996–2017 or 2001–2017, depending on data availability. The analysis reveals that political, socioeconomic, and economic factors determine both total migration and asylum migration. Economic factors are also determinants of asylum applications, as asylum seekers most often come for several reasons. Poverty plays a distinct role in total migration and asylum migration. An alleviation of poverty in origin countries is associated with less overall migration to Germany but with more asylum migration. Increases in average temperature also impact asylum migration in the expected direction, thus, increasing forced migration. The most interesting findings are revealed when considering country groupings (main migration countries, major asylum countries, countries whose asylum applicants enjoy high, intermediate, or low recognition rates).

Keywords
asylum flows; Germany; migration; migration motives; Poisson pseudo maximum likelihood estimation

Issue
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1. Introduction

In 2015, Germany experienced more immigration flows from non-German born populations than any other year in this century. Since then, the inflow of migrants has been large but has started to slow. Asylum requests followed the migration with a 1-year lag peaking in 2016. The question remains as to what is still to come: Will there be smaller numbers of new (asylum) migrants, or will there be greater numbers of new arrivals in Germany in the medium or long run?

The varied reasons for migration and the difficulty to distinguish migration in the data makes statements on the desirability of immigration and a cost-benefit analysis of immigration to Germany rather difficult. Therefore, rather than focus on a cost-benefit analysis, which above all is not appropriate for asylum migration, in this article, we seek to investigate the most relevant reasons for migration and how migration responds to economic, socioeconomic, political, and climate-related changes in the countries of origin. Our analysis will allow us to ascertain the relative importance of the factors analyzed and to draw conclusions for several countries of origin that dominate migration flows to Germany. We analyze whether individuals from countries with high migration flows differ in their motivation to come to Germany from

individuals coming from countries with lower migration flows. Finally, we investigate the extent to which asylum migration reacts to improvements in political factors such as ethnic tension and internal conflict, improvements in economic and socioeconomic conditions, and to variations of the asylum recognition rate.

Our study contributes to the existing literature by examining the impact and depth of the above-mentioned factors that potentially influence total migration and asylum migration and by identifying the relative importance of these factors in relevant sub-groups of origin countries. To gain new and relevant insight, we first identify the top migrant-sending countries and the top home countries of asylum seekers (Section 2). Section 3 lays the ground for the empirical analysis, describing previous migration studies, data used, the modeling approach, and estimation techniques. In Section 4, we analyze the drivers and impediments of migration and asylum flows in general and for relevant sub-groups. We assess the type of factors (economic, socioeconomic, political, as well as climate-related factors) that have the greatest impact on migration and asylum migration, also for important country groups. We close with Section 5, in which we discuss the results and derive a tentative policy conclusion.

2. Migration and Asylum Migration

In this section, we analyze the evolution over time and across origin countries of total migration, which includes asylum seekers, asylum migration—more precisely, gross migration and gross asylum migration inflows—and recognition rates. The many reasons for migration and/or asylum are not only at the macro level, which is considered in this article, but also at the individual level. Zahra (2016) speaks of "the great departure" and "mass migration" from Eastern Europe that includes migrants who migrate for not only work but also for family reunification. Migration inflows also capture migrants who relocate for studying, internships, or professional training, as well as refugees who travel to Germany to escape persecution, war, or a difficult humanitarian situation.

2.1. Migration Flows

Total immigration flows to Germany more than doubled from 574,800 to 1,384,000 in the period 2007–2017 (see Table A1 in the Supplementary File). However, these inflows which also include late repatriates have been declining over the last three years, especially compared to 2015 when total immigration inflows reached 2,0162,000 (Bundesinstitut für Bevölkerungsforschung, 2020; OECD, 2019).

2.2. Asylum Migration

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

2.3. Recognition Rates

Since 2008, about 14–18% of annual asylum requests were approved. However, recognition rates of asylum seekers, i.e., positive asylum decisions (first instance asylum decisions) as a percentage of total asylum requests in a specific year vary by country of origin. Considering the period 2011–2017, recognition rates for individuals from major asylum-seeking countries were low (interval [3%; 15%]) for Bosnia and Herzegovina, Georgia, and Macedonia, which we classify as low-range recognition origin-countries (*lrecog*). In the intermediate-range (interval [10%; 35%]) are Pakistan, Nigeria, Turkey, and Russia, classified as medium-range recognition countries (*mrecog*) and in the high-range (interval [40%; 90%]) are Afghanistan, Iraq, Syria, Eritrea, and Somalia, classified as high-range recognition countries (*hrecog*). The classification is based on figures and assessments of the Federal Office for Migration and Refugees (BAMF) and first instance administrative courts, and is used for further analysis.

3. Empirical Analysis

3.1. Influential Studies

This study builds on several case studies on Germany and on international migration that have examined migration flows from developing countries. Among them is the groundbreaking study by Rotte and Vogler (1998) who examined migration and asylum migration from developing countries to Germany for the period 1981–1995 and 1984–1995 respectively. Using a random effects model, the estimation results point to the importance of income differentials between countries, the potential existence of a U-shaped relationship between development and migration, as well as to the importance of network effects. The political factors entering the model contradict each other. Deteriorations of the political terror scale increase emigration whereas a deterioration of political rights or civil liberties seem to decrease emigration. In more recent years, Grote (2018) and Ayoub (2019) investigated Germany's response to (asylum) migration. Müller et al. (2012), as well as Gröschl and Steinwachs (2017), analyzed migration due to climate change and natural disasters. The former found it difficult to disentangle climate-related migration from other motives due to data constraints and methodological

issues, whereas the latter found little evidence that natural hazards affect medium to long-run international migration. Other relevant studies that focus on the determinants of migration and asylum migration and for other migrant receiving countries are Bertoli et al. (2016, 2020), Hatton (2004, 2009, 2016, 2017, 2020), Hatton and Moloney (2015), Hoeffler (2013), Kang (2021), and Winter (2020), among others.

Studies covering several destination countries, such as Grogger and Hanson (2011), stress the importance of self-selection depending on the migrant's education and opportunities in the destination countries; Bertoli and Fernández-Huertas Moraga (2013a, 2013b) and Bertoli et al. (2016) point to the sequential nature and the importance of alternative destinations in the migration decision. In both their 2013 papers, Bertoli and Fernández-Huertas Moraga show that ignoring the sequential nature of migration decisions gives rise to multilateral resistance to migration, thus substantially biasing the estimates.

Concerning the drivers of international migration, Grogger and Hanson (2011) provide an integrated framework to examine the fraction of population that emigrates addressing migrant selectivity according to skills and evaluating the importance of wage differences in the migration process. Their findings indicate that destinations with liberal asylum policies attract relatively low-skilled immigrants, controlling for other factors. However, the authors conclude that the sparseness of data for which to compare destination country regimes limits their ability to examine the influence of policies. Hatton (2016) investigates the determinants of asylum flows from 48 origin countries to 19 OECD destinations over the period 1997–2012 and finds that political terror has one of the strongest effects among the factors at origin, while lack of civil liberties shows a weaker effect. However, lack of political rights does not have the expected effect, and neither does civil war deaths. Similarly, Kang (2021) investigates the determinants of asylum seeking, for a sample of seven EU receiving countries and 145 origin countries, finding that greater political stability in the origin country significantly reduces emigration rates.

More recently and parallel to our study, Winter (2020) investigates the dynamics of the determinants of immigration to EU member countries over almost two decades focusing on political and economic factors. He finds that the latter appear to outweigh the former in importance. In particular, better economic conditions can have a two-sided effect as they can reduce the incentive to migrate or make migration feasible due to an eased budget constraint, whereas improvements in political conditions in the origin country decrease migration.

Some of the findings from the previous studies could benefit from further clarification, calling for a study that addresses the impact and depth of all factors that potentially influence migration and asylum migration in more detail. For instance, the potential U-shaped relationship addressed by Rotte and Vogler (1998) and Winter (2020) between economic development and migration needs further study and a close look at socioeconomic factors (in particular, the role of poverty in origin countries). Moreover, the results concerning the role of political factors are inconsistent in Rotte and Vogler (1998) for the case of Germany as a destination country. Thus, we think that data from the *International Country Risk Guide* (ICRG; PRS Group, 2019) to describe the political situation in the countries of origin are a better choice (also see Table A3 in the Supplementary File).

We contribute to the literature by performing an in-depth analysis of the role of economic, socioeconomic and political factors in origin countries. By splitting the socioeconomic factors in their sub-categories—poverty, unemployment, and consumer confidence—and the political factors in their sub-categories—ethnic tension and internal conflict—we also gain a nuanced understanding of the main differences between migration and asylum migration.

Finally, we contribute to the existing literature by taking a close look at the socioeconomic determinants of migration from specific country groups, such as high and medium inflow countries and from EU and non-EU countries. Moreover, we study the relative importance of political and socioeconomic aspects of asylum migration, and differentiate the analysis by country groups with high, medium, and low recognition rates and differentiate between major origin countries and countries with a "no return policy."

3.2. Data and Variables

We build on OECD (2019, 2020) data to depict migration inflows to Germany and the development of asylum requests in Germany. The data on sending-country-specific migration, asylum, and recognition rates in Germany are taken from the OECD, which in turn collects data from different national and international sources. Unfortunately, the data does not include the education and skill level of the migrants.

Relevant bilateral migration-related data have been collected by country of origin and destination (Germany). Original migration data for Germany stem from the local population registers; asylum-related data come from the BAMF and the local registers which are usually informed by the BAMF and administrative courts (*Verwaltungsgerichte*) on asylum requests, pending decisions, and positive (accepting) and negative (rejecting) decisions. Asylum seekers are classified according to their passports, i.e., Afghans who resettle from Iran to Germany after their situation in Iran has deteriorated are counted as asylum seekers from Afghanistan.

Migrant stocks prior to arrival, an indicator of migrant networks, have also been obtained from the OECD. Data on demographics (population, population growth, per capita income, etc.) were collected from the World Bank (2020). To control for the relative attractiveness

of non-German destinations we construct a bias control variable. To this end we have used OECD data with information on bilateral migration (asylum flows) to all OECD countries. Using this larger database, we compute the flows to non-German destinations as a share of total flows (to Germany and non-German destinations) for each origin country and year. Data on socioeconomic, political, and institutional factors in the sending countries stem from the ICRG. The ICRG's computed political risk measures are the only ones accepted by courts in commercial disputes, transnational firms, institutional investors, hedge funds, central banks, and multilateral organizations. In the ICRG data, points are given for each category, where higher scores mean an improvement of the situation (see Table A3 in the Supplementary File). From the ICRG dataset, we utilize the following variables: socioeconomic conditions (poverty, unemployment, and consumer confidence) and political factors (ethnic tensions and internal conflict). Climate-related data, such as average, minimum, maximum temperature, and precipitation data are taken from the World Bank (2020).

3.3. Modeling Approach and Estimation Technique

Since Germany is the host country for all sending countries in this study, we mainly focus on the push factors of emigration. This implies that we model the host country, i.e., Germany, rather parsimoniously, including the relevant (bilateral) migrant networks, the income differential between Germany and the sending country, and year dummies.

Moreover, we emphasize not only the demographic, economic, and socioeconomic factors in sending countries (i.e., population pressure, unemployment, consumer confidence, poverty), but also investigate political factors such as government stability, military in politics, institutional factors such as law and order, and security aspects such as ethnic tensions, external conflict, internal conflict, and religious tensions. Among the political-institutional-security aspects, only ethnic tensions and internal conflict proved to be robust determinants of (asylum) migration and hence only the latter eventually appear in the regressions. Network effects are considered as well (Beine et al., 2011) and climate-related aspects such as average temperature or average precipitation are also included (Backhaus et al., 2015).

We use panel data techniques for the estimation of the parameters of interest using a panel of a maximum of 134 origin and sending countries over a maximum period of 22 years so that regressions run from 1996 to 2017 (2001–2017) for total migration (asylum inflows), and from 2000 to 2018 for sending country-specific asylum recognition rates. The periods differ due to data availability, since asylum inflows are only reported after 2000 and the ICRG data on poverty, unemployment, and consumer confidence are only available after 2001. We have an unbalanced panel as we have missing values. Because we also have true zeros, we utilize the Poisson pseudo-maximum likelihood estimation technique, which also takes account of heteroscedasticity in the error terms.

Since migration is a complex process, for example, migration and asylum migration and recognition rates might be intertwined, we analyze their determinants in two different models. We investigate two types of bilateral flows to Germany, looking at two different dependent variables: (a) migrant inflows and (b) asylum seeker inflows (both as a function of migrant networks and demographic, economic, socioeconomic, political, and climate-related factors).

We use country fixed effects for sending countries to control for sending country's time-invariant characteristics, such as geography, being land-locked, ethnic composition or fractionalization, language, colonial history, etc. As origin country fixed effects allow us to completely control for time-invariant country heterogeneity, they are preferred to the inclusion of time-invariant characteristics given that these are sometimes difficult to quantify or to observe. Following Bertoli and Fernández-Huertas Moraga (2013a, 2013b) and Bertoli et al. (2016), we also control for bias induced by time-varying attractiveness of alternative destinations by including a variable that measures the share of alternative (non-German) migration flows in total OECD migration flows over time. This variable reflects not only differences in economic attractiveness but also differences in migration and asylum policy between destination countries.

To control for potential endogeneity of the independent variables, we lag these variables by one year. These lags are meant to also capture the reaction-lags related to migration decisions as information has to be gathered and assessed since emigration must be prepared and these steps take some time. It is important to mention that using lags only mitigates endogeneity due to reverse causality but cannot address endogeneity issues due to omitted variables.

4. Empirical Model and Findings

4.1. Migration Inflows

We follow the general migration literature to develop our model of migrant inflows. Given that the migration literature is extensive, we concentrate on a few key articles and their findings. Mayda (2010) uses push and pull factors in her analysis of bilateral immigration flows into 14 OECD countries using per capita income at the destination and origin, distance, common language, colony, years of schooling, capital per worker at destination and origin, demographics, such as share of young population at origin, and changes in immigration policy at destination as relevant factors of international migration. Her econometric analysis shows that changes in immigration policy in the destination country are a crucial determinant of immigration flows. Per capita income in the destination countries acts as a pull factor, whereas per capita income at the origin seems irrelevant. The share

of young population at origin and distance between origin and destination also contributes to explaining migration flows. The rest of the factors are insignificant. Other studies (Giulietti et al., 2013; van Meeteren & Pereira, 2018; Villarrubia-Mendoza, 2016) emphasize the role of migrant networks in facilitating immigration and finding housing and a job. De Haas et al. (2019) discuss the push and pull factors of international migration in their excellent overview paper also pointing to the role of political rights and political freedom as drivers of emigration. Based on their econometric analysis, they state that the impact of political factors is not so clear-cut saying that while authoritarianism might increase migration aspirations, it might decrease migration capabilities. In our study, we build on these studies to try to establish the relative strength of the impact of single factors on international migration to be better able to shape the policy response towards immigration.

The dependent variable in our model is the inflow of migrants $migrant\_in_{jt}$ from country-of-origin j at time t (Equation 1) respectively:

$$migrant\_in_{jt} = \exp\Big(\alpha_j + \beta_1 \ln(migrant\_stock_{jt-1}\Big) + \beta_2\ population\_pressure_{jt-1} + \beta_3\ relative\_pcincome_{jt-1} + \beta_4\ socioecon\_factors_{jt-1} + \beta_5\ political\_factors_{jt-1} + \beta_6\ weather\_factors_{jt-1}\Big) + \beta_7\ bias\_control_{jt-1} + \phi_t\Big) \times u_{jt}$$

Migration inflows $migrant\_in_{jt}$ are assumed to react with a certain time lag to changes in network size, demography, real per capita income, socioeconomic conditions, such as poverty, unemployment, consumer confidence, and changes in political factors, such as ethnic tensions and internal conflict that affect security.

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

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

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

Also, an improvement in socioeconomic conditions, $socioecon_{jt-1}$, which goes hand in hand with higher consumer confidence, lower unemployment, and lower poverty, could detain individuals from migrating and hence, a negative sign is expected. Hence, the subcategories of socioeconomic factors provided by ICRG are poverty, unemployment, and consumer confidence (see Table A3 in the Supplementary File).

An increase in political risk factors, $political\_factors_{jt-1}$, is defined as an improvement in the political, institutional, and security situation, in the year prior to emigration. Hence, we expect that an improvement will lead to a decrease in emigration, and we expect a negative coefficient. The sub-categories that proved robust are ethnic tensions and internal conflict (see Table A3 in the Supplementary File).

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

An increase in the share of migration to non-German destinations reduces migration to Germany and serves as $bias\_control_{t-1}$. It takes account of the fact that migrants can choose among destinations.

Equation 1 is slightly altered (in Table 1, columns 1–4) to check whether results are robust. In Table 1, column 1, time-invariant gravity variables are used instead of origin fixed effects. This model performs worst in terms of explanatory power (pseudo-R^2). Origin country fixed and year fixed effects (Table 1, column 4) are used in Equation 1 and the results produced there are compared to models that include either a time trend (Table 1, column 3) or a time dummy (Table 1, column 2) which takes the value of 1 after 2014.

The coefficients of the variables in logs depict elasticities and can be interpreted directly, whereas the coefficients of unlogged variables are semi-elasticities. To compute their impact, we calculate: $[\exp(\beta) - 1] \times 100$, where beta is the regression coefficient listed in the tables. All our explanatory variables are lagged by one period to reflect reaction lags but also to mitigate endogeneity issues. The right-hand side variables can be considered predetermined variables and their impact can be considered as causal since migration at time '*t*' will hardly have

Table 1. Determinants of immigration to Germany from 134 countries.

Dependent variable Immigration to Germany from all countries	(1) Immigration	(2) Immigration	(3) Immigration	(4) Immigration
Explanatory variables (all lagged by one period)				
Accumulated migration stock (in logs) (Network effect)	0.712*** (0.002)	0.772*** (0.002)	0.716*** (0.002)	0.708*** (0.002)
Population pressure	0.041*** (0.011)	0.079*** (0.000)	0.040*** (0.000)	0.026*** (0.001)
Relative per capita income	−0.018*** (0.000)	−0.017*** (0.000)	−0.018*** (0.000)	−0.016*** (0.000)
ICRG rating poverty	−0.154*** (0.002)	−0.106*** (0.002)	−0.167*** (0.002)	−0.142*** (0.002)
ICRG rating unemployment	−0.068*** (0.001)	−0.063*** (0.001)	−0.064*** (0.001)	−0.053*** (0.001)
ICRG rating consumer confidence	−0.056*** (0.001)	−0.042*** (0.001)	−0.062*** (0.001)	−0.044*** (0.001)
ICRG rating ethnic tensions	−0.178*** (0.001)	−0.209*** (0.001)	−0.176*** (0.001)	−0.188*** (0.001)
ICRG rating internal conflict	−0.077*** (0.001)	−0.116*** (0.000)	−0.078*** (0.001)	−0.065*** (0.001)
Average temperature, in Celsius	−0.022*** (0.001)	0.018*** (0.001)	−0.021*** (0.001)	−0.012*** (0.001)
Average precipitation, in mm	0.003*** (0.000)	0.005*** (0.000)	0.003*** (0.000)	0.001*** (0.000)
Contiguity	0.461 (0.780)			
Common official language	1.111 (0.954)			
Former colony	−0.497 (0.922)			
Distance in logs (simple distance between most populated cities, km)	−0.390** (0.131)			
Share of migration to all other countries (bias control)	−1.114*** (0.011)	−2.809*** (0.012)	−1.107*** (0.011)	−2.645*** (0.016)
Time trend			0.032*** (0.000)	
Dummy for year_after_2014		−0.017*** (0.001)		
Observations	1,959	1,968	1,968	1,968
Number of origin countries	133	134	134	134
Origin fixed effects	No	Yes	Yes	Yes
Time fixed effects	Yes	Time dummies	Trend	Yes
Pseudo-R^2 (not adjusted for degrees of freedom)	0.854	0.954	0.957	0.958

Notes: Standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1; period 2001–2017; an increase in the socioeconomic (poverty, unemployment, and consumer confidence) and political variables (ethnic tensions and internal conflict) implies an improvement so that a negative sign is expected; the sub-components poverty, unemployment, and consumer confidence are only available from 2001 onwards; all variables are from the perspective of the origin country.

an impact on migrant stock, nor on the political, socioeconomic, economic, and climate-related factors of the previous period.

In Table 1, most of the coefficients carry the expected sign. To demonstrate the robustness of our results we show in column 1 a version of the model with year fixed effects but without origin fixed effects. Instead, gravity factors, such as contiguity, common language, colonial relationship, and distance are included. Here, pseudo-R^2 is lowest as expected since other time-invariant factors of origin countries are not captured. Column 2 presents the model with origin fixed effects and a time dummy after 2014 and column 3 includes origin fixed effects and a time trend.

We focus on column 4 with origin country and year fixed effects. Larger migrant networks make immigration easier and can decrease immigration costs. Hence, they are associated with an increase in migration inflows to Germany. A 1% increase in migrant networks increases emigration by about 0.71%. A higher population pressure at origin makes the home country relatively less attractive and Germany an even more promising choice. We find that an increase in relative population pressure by 1 percentage point increases immigration by about 3%. When per capita income in the country of origin improves in relative terms (e.g., by 1 percentage point) this improvement in per capita income reduces immigration by about 2%.

In contrast, the interpretation of the socioeconomic and political factors is not straightforward because the point range can vary from factor to factor. The point range for the ICRG-factors (socioeconomic conditions, political risk categories) is listed in Table A3 in the Supplementary File and is crucial for the computation of semi-elasticities.

4.1.1. Impact of Socioeconomic and Political Factors (Proportional, Less Than, or More Than Proportional)

We choose the wording "proportional" to have a measure of the relative strength. We do not imply that a proportional reaction is a normal reaction and that disproportionately high/low are abnormal reactions.

Socioeconomic conditions (poverty, unemployment and consumer confidence) are measured by points ranging from 0 (lowest/worst level) to 4 (best condition). One point (unit) corresponds to 20 percentage points. An improvement of socioeconomic conditions (i.e., less poverty, less unemployment, and higher consumer confidence which may indicate better employment opportunities) in the country of origin reduces migration in a less than proportional way. For instance, a 1-unit increase (which corresponds to an improvement of 20 percentage points of poverty, unemployment, and consumer confidence) reduces immigration by 13%, 5%, and 4%, respectively. The results are computed in the following way:

- Poverty: $[\exp(-0.142) - 1] = -0.13$
- Unemployment: $[\exp(-0.053) - 1] = -0.052$
- Consumer confidence: $[\exp(-0.044) - 1] = -0.043]$

As to the role of political factors, a 1-unit improvement in ethnic tensions (1 unit corresponds to 14 percentage points) reduces immigration by 17%. A 1-unit improvement in internal conflict (1 unit corresponds to eight percentage points) decreases immigration by 6%. The results are computed as follows:

- Ethnic tensions: $[\exp(-0.188 - 1) = -0.171]$
- Internal conflict: $[\exp(-0.065) - 1 = -0.063]$

The regression coefficients so far are all statistically significant and robust across columns 1–4.

Increases in average temperature (by 1 degree Celsius) slightly decrease emigration (columns 1, 3, and 4) but increase immigration using a time dummy that is coded as 1 after 2014 (column 2). Hence, the result concerning the role of temperature is not robust. A 1-unit change by 1 mm in precipitation increases immigration by 0.1%.

An increase in the migration share to destinations different from Germany is associated with less migration to Germany, which implies a substitution effect and could be the result of stricter immigration measures in Germany. Please note that this variable should be considered as bias control since it reflects the attractiveness of alternative destinations.

4.1.2. Important Findings for Sub-Groups

Table B1 in the Supplementary File looks deeper into migration patterns of "high inflow" (hinflow) and "intermediate inflow" (minflow) countries which comprise China and India. In the "high inflow" group are countries mostly from the South and South-East European region, such as Romania, Poland, Bulgaria, Croatia, Italy, Hungary, Greece, Turkey, Serbia and Montenegro, and Bosnia and Herzegovina. Individuals from these countries mainly come to work or for family reunification (Sachverständigenrat deutscher Stiftungen für Integration und Migration, 2010). China and India represent "medium inflow" countries. Individuals from these countries go to Germany to study, to complete internships, and to work (Deutscher Bundestag, 2014). In general, the results obtained for all countries are not always corroborated in our two sub-samples.

We find high heterogeneity in our sub-group results. We observe that the results for non-EU countries drive our overall results. Socioeconomic conditions have different effects in different sub-groups. Improvements in poverty, unemployment and consumer confidence by 1 point reduce immigration from non-EU countries by 5%, 15%, and 10% respectively. An improvement in ethnic tensions reduces immigration flows from all sub-groups.

4.2. Asylum Migration

We build our study on previous work, include additional socioeconomic and political variables, and add a new aspect, namely the role played by asylum recognition rates. Davenport et al. (2003) studies asylum migration identifying the role of civil war, genocide, and political regimes on worldwide asylum migration. Hatton (2009, 2017) shows that political terror and a lack of civil liberties are drivers of asylum migration, more than conflict. Proximity and access are also relevant for the volume of asylum flows and, to a smaller extent, economic conditions as well (Bertoli et al., 2020; Hatton, 2009). The growth of transit routes and migrant networks lead to an upward trend of asylum applications from more distant countries of origin (Hatton, 2020). According to Capps et al. (2019), travel in caravans, existing migrant networks, droughts and conflict at home, and immigration policy of the destination country fuel increases in asylum inflows from Central America to the US. Moreover, Missirian and Schlenker (2017) find that asylum applications respond to temperature fluctuations. Our dependent variable is the number of asylum seekers $asylum\_in_{jt}$ (Equation 2) from country-of-origin j at time t respectively:

$$\begin{aligned} asylum\_in_{jt} = \exp\Big(&\alpha_j + \beta\ recogniton\_rate_{jt-1} \\ &+ \chi_1 \ln\left(migrant\_stock_{jt-1}\right) \\ &+ \chi_2\ population\_pressure_{jt-1}\Big) \\ &+ \chi_3\ relative\_pcincome_{jt-1} + \chi_4\ socioecon_{jt-1} \\ &+ \chi_5\ political\_factors_{jt-1} + \delta\ weather\_factors_{jt-1}\Big) \\ &+ \gamma\ bias\_control_{jt-1} + \phi_t\Big) \times \nu_{jt} \end{aligned}$$

The inflow of asylum seekers is assumed to react with a certain time lag to changes in the explanatory variables: the recognition rates for asylum seekers of the country of origin in Germany; the stock of compatriots already living in Germany (network size); population growth in the country of origin (population pressure), which leads to fierce competition for resources; changes in socioeconomic factors and political factors relating to security (internal conflict and ethnic tensions); weather factors; and the attractiveness of other European asylum destinations (bias control). The time lag also reflects the fact that asylum requests can be filed even months after arrival in Germany. Moreover, asylum migration of family members does not take place at short notice but takes place in a more orderly manner, usually after the head of the household/family has been granted asylum.

Equation 2 is slightly altered (in Table 2, columns 1–4) to check whether results are robust. In Table 2, column 1, time-invariant gravity variables are included instead of origin fixed effects. This model performs worst in terms of explanatory power (pseudo-R^2). Origin country and year fixed effects (Table 2, column 4) are used in Equation 2 and compared to models that include either a time trend (Table 2, column 2) or a time dummy (Table 2, column 3), which takes the value of 1 after 2014, zero otherwise.

The year fixed effects are supposed to absorb changes over time that concern all origin countries. Hence, they can reflect changes in the German asylum policy over the years that are common to all origin countries. Iglit and Klotz (2018) illustrate the multiple shades of German asylum policy. They point out that German asylum policy since the mid-1990s until present day has always included both progressive/liberal and restrictive/conservative elements. On the progressive side, persecution by non-state agents was recognized as a reason for asylum and there were relaxed residence and employment restrictions for refugees. In May 2016, the First Refugee Integration Law offered asylum seekers easier access to the German labor market. On the restrictive side, the list of safe countries was extended, including Serbia, Bosnia and Herzegovina, Macedonia, Kosovo, and Albania. Since March 2016, Syrians have been required to apply for asylum individually, as opposed to the earlier procedure of full protection for this population group.

We also include as a control variable $bias\_control_{jt-1}$, which is the share of asylum migration that goes to non-German European destinations. This variable captures not only the relative economic attractiveness of other destinations, but also the role played by asylum policy in Germany and other destinations over time and takes account of the fact that Germany is not the only destination for asylum seekers.

The asylum recognition rate of the previous period, $recognition\_rate_{jt-1}$, is also included as an additional explanatory variable. It is assumed that information on the chances of getting recognized as an asylee by German authorities when coming from a specific home country is shared via social media (Facebook, WhatsApp, Instagram) and email. We expect that an increase in recognition rates induces more people to leave their home country given the political, institutional, and (socio)economic problems that prevail in the sending country.

Similarly, as we did for total migration, we start by interpreting the results in Table 2, column 4, which shows regression results for a model with origin and year fixed effects.

An increase in the recognition rate (by 1 percentage point) in the previous period increases the number of asylum requests by about 2%, which can be considered a minor change.

The network effect is not very substantial either since an increase in network size by 1% increases asylum requests by 0.2%. This implies that other motives to seek asylum are much more relevant.

Population pressure in the country of origin does not carry the expected positive sign in column 4. Results in columns 2 and 3 indicate that population pressure strongly increases the number of asylum seekers in

Germany. These models are potentially superior to the model in column 4 with year fixed effects as the adjusted pseudo-R squared is larger because more degrees of freedom remain in the regressions. If the population growth accelerates by 1 percentage point (which is a huge increase), asylum requests would increase by 55% (column 2) or 44% (column 3).

An increase in relative per capita income of the country of origin with respect to Germany's per capita income by 1 percentage point reduces asylum requests by about 13%. This impact is disproportionately high.

As before, the interpretation of the socioeconomic and political factors is trickier: A 1-point improvement in consumer confidence and unemployment in the home country reduces asylum requests by about 5% and 3% respectively. This impact is *disproportionately low* given that both consumer confidence and unemployment range from 0 to 4 points and 1 point corresponds to about 20 percentage points. However, a 1-point improvement (20 percentage points) in poverty leads to a more than proportionate increase in asylum migration by 45%. This phenomenon is known from microeconomic studies in which income is shown to have an inverse U-shaped impact on migration. The poorest cannot afford to emigrate, but the middle class can cover travel expenses and the first weeks abroad and leave the home country. The richer segments of society migrate less as they are well respected members of society that can lead a pleasant life back home.

Interestingly, improvements in poverty have a reverse effect on asylum migration as they seem to spur emigration making emigration feasible and affordable. This is different when we look at general migration (Table 1). Here, an alleviation of poverty diminishes migration by improving the relative per capita income with respect to the destination country. This might signal a U-shaped relationship between economic development and migration and has been discussed by Winter (2020).

In terms of political factors, we find the following results for the sub-categories of political risk: ethnic tensions and internal conflict, which proved to be robust drivers of asylum migration. A 1-point improvement in ethnic tension reduces asylum requests by 11% and a 1-point improvement in internal conflict reduces asylum requests by 3%. Given that 1 point corresponds to about 14/8 percentage points, respectively (ethnic tensions range from 0 to 6 points and internal conflict ranges from 0 to 12 points), these are less than proportionate declines.

Both temperature increases and increases in precipitation by 1 unit (1 degree Celsius and 1 mml respectively), increase asylum requests by 24% and 2% respectively. We argue that this is due to a deterioration of living conditions.

A further finding is that a higher share of asylum flows to other European countries reduces asylum flows to Germany.

In Table B2 in the Supplementary File we present several robustness checks in columns 2–4. In column 2 we use a different bias control, namely the share of asylum migration that goes to transit countries (Greece, Hungary, Spain, and Turkey). In column 3 we do not utilize the recognition rate which is the share of positive asylum decisions in total decisions (negative and closed) but the log of positive asylum decisions. In column 4 we substitute asylum applications by recognized asylum applications (positive asylum decisions). As expected, the alteration of the dependent variable increases the role played by an improvement of ethnic tensions and internal conflict in granting less asylum and reducing positive asylum decisions.

4.2.1. Main Findings for Sub-Groups

To elaborate on what happens within the group of asylum seekers, we analyze the reaction to changes and improvements in (a) ethnic tensions and (b) internal conflict for two sub-groups (see Table B3 in the Supplementary File).

In the group of major asylum-seeking countries, abbreviated as "major" (Syria, Iraq, Afghanistan, Bosnia and Herzegovina, Serbia, Macedonia, Albania, Georgia, Russia, Turkey, Somalia, Nigeria, Eritrea, and Pakistan; see Table B3, column 1, in the Supplementary File) we find that a 1-point improvement of *ethnic tensions* reduces immigration to Germany by 7%, and a 1-point improvement of *internal conflict* decreases immigration to Germany by 8%. Asylum seekers of this sub-group react only moderately to improvements in ethnic tensions and about proportionately to improvements in internal conflict.

Furthermore, we find that a 1-point improvement of *ethnic tensions* reduces immigration to Germany by 10% and a 1-point improvement of *internal conflict* reduces immigration to Germany by 10% in countries with non-return policy, "non-return." These include countries such as India, Pakistan, Bangladesh, Lebanon, Algeria, Egypt, Morocco, Mali, Nigeria, Niger, Ethiopia, Tunisia, Ghana, Guinea, Guinea-Bissau, Burkina Faso, and Benin, that have difficulties in taking back asylum seekers whose asylum request has been rejected by German authorities (see Table B3, column 3, in the Supplementary File). Asylum seekers of this sub-group seem to react moderately with respect to improvements of ethnic tensions and to react more strongly with respect to improvements of internal conflicts.

4.2.2. The Role of Recognition Rates for Certain Sub-Groups

When looking at the determinants of recognition rates we find that almost all political and institutional factors are considered relevant by decision-makers (see Table B4 in the Supplementary File).

Table 2. Determinants of asylum requests in Germany from 115 nationalities.

Dependent variable Asylum requests from all countries	(1) Asylum	(2) Asylum	(3) Asylum	(4) Asylum
Explanatory variables (all lagged one period)				
Recognition rate for asylum requests	0.017*** (0.000)	0.019*** (0.000)	0.019*** (0.000)	0.017*** (0.000)
Accumulated migration stock (in logs)	0.211*** (0.005)	−0.099*** (0.005)	−0.065*** (0.005)	0.210*** (0.005)
Population pressure	−0.016*** (0.004)	0.444*** (0.004)	0.363*** (0.004)	−0.016*** (0.004)
Relative per capita income	−0.139*** (0.001)	−0.215*** (0.001)	−0.176*** (0.001)	−0.140*** (0.001)
ICRG rating consumer confidence	−0.050*** (0.003)	−0.210*** (0.003)	−0.199*** (0.003)	−0.050*** (0.003)
ICRG rating unemployment	−0.034*** (0.004)	0.092*** (0.004)	0.023*** (0.004)	−0.033*** (0.004)
ICRG rating poverty	0.375*** (0.006)	0.175*** (0.006)	0.316*** (0.006)	0.374*** (0.006)
ICRG rating ethnic tensions	−0.123*** (0.003)	−0.132*** (0.003)	−0.156*** (0.003)	−0.122*** (0.003)
ICRG rating internal conflict	−0.033*** (0.001)	−0.076*** (0.001)	−0.051*** (0.001)	−0.034*** (0.001)
Average temperature (in Celsius)	0.213*** (0.004)	0.199*** (0.003)	0.143*** (0.003)	0.216*** (0.004)
Average precipitation (in mm)	0.021*** (0.000) (0.004)	0.012*** (0.000)	0.014*** (0.000)	0.021*** (0.000) (0.004)
Contiguity	−0.186 (2.470)			
Common official language	5.757* (3.130)			
Former colony	−8.532** (3.297)			
Distance in logs (simple distance between most populated cities, in km)	−0.476 (0.607)			
Asylum requests to other European countries (bias control)	−3.343*** (0.041)	−3.649*** (0.016)	−0.479*** (0.019)	−3.353*** (0.041)
Time trend		0.089*** (0.000)		
Dummy for year_after_2014			1.454*** (0.004)	
Observations	1,447	1,447	1,447	1,447
Number of origin countries	115	115	115	115
Origin fixed effects	No	Yes	Yes	Yes
Year fixed effects	Yes	Trend	Time dummies	Yes
Pseudo-R^2 (not adjusted for degrees of freedom)	—	0.856	0.882	0.912

Notes: Standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1; period 2001–2017; all variables are lagged by one period; an increase in the socioeconomic (consumer confidence, unemployment, and poverty) and security variables (ethnic tensions and internal conflict) implies an improvement so that a negative sign is expected; the sub-components poverty, unemployment, consumer confidence are only available from 2001 onwards; all variables are from the perspective of the origin country.

To study asylum migration for specific country groups we now differentiate origin countries according to whether they are characterized as having high *hrecog*, medium *mrecog*, or low percentages *lrecog* of asylum approvals (see Table B5 in the Supplementary File). These countries cover only the most important asylum-seeking countries as their dynamics are most interesting to understand.

In the sub-sample of *hrecog* countries (Afghanistan, Iraq, Syria, Eritrea, Somalia; see Table B5, column 1, in the Supplementary File) a 1-point improvement in *ethnic tensions* reduces asylum requests by 8%, i.e.:

$$[(\exp(-0.136 + 0.054) - 1) \times 100 = -0.08];$$

a 1-point improvement in *internal conflict* reduces asylum requests by 7%, i.e.:

$$[(\exp(+0.055 - 0.245 - 1) \times 100 = -0.07].$$

This points to a disproportionately small decline in asylum requests of *hrecog* countries if political factors improve and/or a persistence of the poor security situation in this country group.

In the sub-sample of *mrecog* countries (Pakistan, Turkey, Russia, Egypt, Nigeria, Ethiopia, Ghana, Guinea; see Table B5, column 2, in the Supplementary File) a 1-point improvement in *ethnic tensions* reduces asylum requests by 4%, i.e.:

$$[(\exp(-0.210 + 0.172) - 1) \times 100 = -0.04];$$

a 1-point improvement in *internal conflict* increases asylum requests by 3%, i.e.:

$$[(\exp(-0.057 + 0.085 - 1) \times 100 = 0.03].$$

This implies an inelastic reaction in asylum applications of *mrecog* countries and might be a plausible response by individuals who consider filing asylum requests a chance.

In the sub-sample of *lrecog* countries (Bosnia-Herzegovina, Georgia, Macedonia, Guinea-Bissau, Niger, Benin, Mali, India, Morocco; see Table B5, column 3, in the Supplementary File) a 1-point improvement in *ethnic tensions* reduces asylum requests by 28%, i.e.:

$$[(\exp(-0.093 - 0.233) - 1) \times 100 = -0.28];$$

a 1-point improvement in *internal conflict* reduces asylum requests by 17%, i.e.:

$$[(\exp(-0.037 - 0.145) - 1) \times 100 = -0.17].$$

In this group we find a disproportionately large decrease in asylum applications, supposedly because the chance of being recognized as an asylee are low anyway and become even lower due to lower political risk.

5. Discussion and Conclusions

The purpose of the present research is to analyze how economic, socioeconomic, political, and climate-related factors influence migration (total and asylum-driven) from different countries to Germany. The results, which are condensed in Tables 1 and 2, are discussed below.

We observe, for total migration levels, moderate migration-decreasing effects of factors that are related to weaker migrant networks in Germany, smaller population growth differences between the countries of origin and Germany, relative economic progress in the countries of origin compared to Germany, and an improvement of socioeconomic factors, such as poverty, unemployment, and consumer confidence (as defined by the ICRG), in the sending countries. We also find consistent migration-decreasing effects from an improvement of political factors in the sending countries. This means that an improvement of the political situation in origin countries, such as Bulgaria, Romania, Hungary, Albania, Bosnia and Herzegovina, Serbia, or Turkey, could reduce the number of migrants.

In terms of asylum migration, improvements in ethnic tensions or internal conflict are associated with a lower number of asylum applications showing that people react to political improvements. These reductions are very pronounced in countries with a low asylum recognition rate. People in this country group possibly file fewer asylum applications as they supposedly believe that there will be a low likelihood of becoming recognized as asylees if the security situation in their home country improves. Improvements in economic and socioeconomic conditions in origin countries, such as relative improvements in per capita income, consumer confidence, and a reduction in unemployment are associated with a reduction in asylum requests. However, and perhaps contrary to expectation, alleviation of poverty seems to propel asylum migration suggesting that improved economic conditions, together with the help of families and facilitators, can make emigration feasible and affordable.

Hence, poverty in origin countries seems to play a double role in explaining total and asylum migration flows. On the one hand, alleviation of poverty (for instance, in Eastern and South European countries) reduces total migration as the income differential between origin countries and Germany diminishes and the need to work in Germany becomes less pressing. On the other hand, alleviation in poverty in comparatively poorer economies (primarily developing countries) can propel migration by generating the financial means for departure.

With regards to climate variables, increasing average temperatures is mostly negatively correlated with total migration flows. However, and completely contrary to the former finding, we see that increasing average temperatures trigger emigration among asylum seekers. Interestingly, the majority of asylum seekers comes predominantly from countries located in arid and semi-arid regions, where increasing average temperatures lead to drought with concomitant high losses in agriculture. An aggravating factor is that agriculture and pastoralism are the dominant income sources in these regions

and are practiced to a great extent as subsistence agriculture is characterized by low resilience. Hence, the resulting losses also in food production cannot be compensated and destroy the means of existence leading to rural exodus to urban areas. Consequently, migration to cities can result in over-crowding and ethnic conflicts can eventually drive long-distance migration. Increases in average precipitation also due to climate change have a migration-increasing effect, having a minor impact on total migration and a somewhat higher impact on asylum migration. However, the precipitation effect is less pronounced compared to the effect of an increase in average temperature. Increasing average precipitation rates can lead to floods and a loss of livelihood, but the weaker effect on asylum migration is probably due to the expectations of recovering one's home and land after the flood. Expected aid by authorities or foreign institutions may also play a role in lowering pressure on asylum migration.

To the extent that the economic crises stemming from the Covid-19 pandemic and a deterioration of economic conditions might lead to more political turmoil and conflicts in the developing world, we should expect an increase in total migration and asylum migration flows in the coming years.

We leave for further research a specific analysis of the climate-related factors and an analysis of other OECD countries at a similar detailed level, as this could provide a comparative framework to deeper examine the determinants of migration in origin countries. Another important aspect to be examined is the role played by German aid facilitating or deterring migration depending on the level of development of the sending countries and the type of aid.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

References

Ayoub, M. (2019). Understanding Germany's response to the 2015 refugee crisis. *Review of Economics and Political Science*. Advance online publication. https://doi.org/10.1108/REPS-03-2019-0024

Backhaus, A., Martinez-Zarzoso, I., & Muris, C. (2015). Do climate variations explain bilateral migration? A gravity model analysis. *IZA Journal of Migration*, *4*(3). https://doi.org/10.1186/s40176-014-0026-3

Beine, M., Docquier, F., & Özden, C. (2011). Diasporas. *Journal of Development Economics*, *95*(1), 30–41.

Bertoli, S., Brücker, H., & Fernández-Huertas Moraga, J. (2016). The European crisis and migration to Germany. *Regional Science and Urban Economics*, *60*(6). https://doi.org/10.1016/j.regsciurbeco.2016.06.012

Bertoli, S., Brücker, H., & Fernández-Huertas Moraga, J. (2020). *Do processing times affect the distribution of asylum seekers across Europe?* (IZA Discussion Paper 13018). Institute of Labor Economics.

Bertoli, S., & Fernández-Huertas Moraga, J. (2013a). Crossing the border: Self-selection, earnings and individual migration decisions. *Journal of Development Economics*, *101*(1), 75–101.

Bertoli, S., & Fernández-Huertas Moraga, J. (2013b). Multilateral resistance to migration. *Journal of Development Economics*, 102(C), 79–100.

Bundesinstitut für Bevölkerungsforschung. (2020). *Fakten—Spätaussiedler nach Herkunftsländern (1990–2019)* [Facts—Late repatriates classified by countries of origin (1990–2019)]. https://www.bib.bund.de/Permalink.html?id=10283280

Capps, R., Meissner, D., Ruiz Soto, A. G., Jessica Bolter, J., & Pierce, S. (2019). *From control to crisis: Changing trends and policies reshaping U.S.-Mexico border enforcement*. Migration Policy Institute.

Davenport, C. A., Will, H. M., & Poe, S. C. (2003). Sometimes you just have to leave: Domestic threats and forced migration, 1964–1989. *International Interactions*, *29*(1), 27–55.

De Haas, H., Czaika, M., Flahaux, M.-L., Mahendra, E., Natter, Vezzoli, K., & Villares-Varela, M. (2019). International migration: Trends, determinants, and policy effects. *Population and Development*, *45*(4), 885–922.

Deutscher Bundestag. (2014). Schriftliche Stellungnahme des Präsidenten des Bundesamts für Migration und Flüchtlinge, Dr. Manfred Schmidt (Ausschussdrucksache 18(19)069f) [Statement of the president of the Federal Office for Migration and Refugees, Dr. Manfred Schmidt (Print issue 18(19)069f)] https://www.bundestag.de/resource/blob/282440/af27eac30d89444e26605d6122d659c7/schmid_stellungnahmet-data.pdf

Giulietti, C., Schluter, C., & Wahba, J. (2013). With a lot of help from my friends: Social networks and immigrants in the UK. *Population, Space and Place*, *19*(6), 657–670.

Grogger J., & Hanson, G. H. (2011). Income maximization and the selection and sorting of international migrants. *Journal of Development Economics*, *95*(1), 42–57.

Gröschl, J., & Steinwachs, T. (2017). Do natural hazards cause international migration? *CESifo Economic Studies*, *63*(4), 445–480.

Grote, J. (2018). *The changing influx of asylum seekers in 2014–2016: Responses in Germany*. Federal Office for Migration and Refugees.

Hatton, T. J. (2004). Seeking asylum in Europe. *Economic Policy*, *19*(38), 6–62. https://doi.org/10.1111/j.1468-0327.2004.00118.x

Hatton, T. J. (2009). The rise and fall of asylum: What happened and why? *Economic Journal*, *119*(535), F183–F213. https://doi.org/10.1111/j.1468-0297.2008.02228.x

Hatton, T. J. (2016). Refugees, asylum seekers, and policy in OECD countries. *American Economic Review*, *106*(5), 441–445. https://doi.org/10.1257/aer.p20161062

Hatton, T. J. (2017). Refugees and asylum seekers, the crisis in Europe and the future of policy. *Economic Policy*, *32*(91), 447–496.

Hatton, T. J. (2020). Asylum migration to the developed world. Persecution, incentives, and policy. *Journal of Economic Perspectives*, *34*(1), 75–93.

Hatton, T. J., & Moloney, J. (2015). Modelling asylum claims by origin and destination. In M. McAuliffe & K. Koser (Eds.), *A long way to go: Irregular migration, patterns, processes, drivers and decision-making* (pp. 227–254). ANU Press.

Hoeffler, A. (2013). *Out of the frying pan into the fire? Migration from fragile states to fragile states*. OECD. https://doi.org/10.1787/5k49dffmjpmv-en

Iglit, A., & Klotz, A. (2018). Refugee rights or refugees as threats? Germany's new asylum policy. *The British Journal of Politics and International Relations*, *20*(3), 613–631.

Kang, Y. D. (2021). Refugee crisis in Europe: Determinants of asylum seeking in European countries from 2008–2014. *Journal of European Integration*, *43*(1), 33–48.

Mayda, A. M. (2010). International migration: A panel data analysis of the determinants of bilateral flows. *Journal of Population Economics*, *23*, 1249–1274. https://doi.org/10.1007/s00148-009-0251-x

Missirian, A., & Schlenker, W. (2017). Asylum applications respond to temperature fluctuations. *Science*, *358*, 1610–1614.

Müller, B., Haase, M., Kreienbrink, A., & Schmid, S. (2012). *Klimamigration: Definition, Ausmaß und politische Instrumente in der Diskussion* [Climate migration: Definition, extent and political instruments under discussion]. Federal Office for Migration and Refugees.

OECD. (2019). *International migration outlook* [Database]. https://databank.worldbank.org/source/world-development-indicators

OECD. (2020). *International migration database* [Database]. https://stats.oecd.org/Index.aspx?DataSetCode=MIG

PRS Group. (2019). *International country risk guide*.

Rotte, R., & Vogler, M. (1998). *Determinants of international migration: Empirical evidence from migration from developing countries to Germany* (IZA Discussion Paper 12). Institute of Labor Economics.

Sachverständigenrat deutscher Stiftungen für Integration und Migration. (2010). *Einwanderungsgesellschaft 2010* [Immigration society 2010]. Jahresgutachten mit Integrationsbarometer. https://www.stiftung-mercator.de/content/uploads/2020/12/SVR_Jahresgutachten_2010.pdf

van Meeteren, M., & Pereira, S. (2018). Beyond the 'migrant network'? Exploring assistance received in the migration of Brazilians to Portugal and the Netherlands. *Journal of International Migration and Integration*, *19*, 925–944.

Villarrubia-Mendoza, J. (2016). Tú velas por los tuyos: Weak labor markets and the importance of social networks. *Journal of International Migration and Integration*, *17*(2), 631–648.

Winter, S. (2020). It's the economy, stupid: On the relative impact of political and economic determinants on migration. *Population Research and Policy Review*, *39*, 207–252.

World Bank. (2020). *World development indicators*. https://databank.worldbank.org/source/world-development-indicators

Zahra, T. (2016). *The great departure: Mass migration from Eastern Europe and the making of the free world*. W. W. Norton.

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