Natives' Attitudes and Immigration Flows to Europe

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Abstract

This paper analyses the extent to which natives' anti-immigration attitudes affect migration flows to EU countries. Using bilateral panel data on migration inflows to the EU between 2000–2019, we examine how cross-country and temporal variation in natives' anti-immigrant attitudes shapes subsequent migration from both EU and non-EU origins. To address potential reverse causality between attitudes and immigration, we employ an instrumental-variable strategy and account for interdependence across alternative EU destination countries. Our findings indicate that stronger anti-immigration attitudes significantly reduce migration inflows to EU destinations, with effects that are larger for intra-EU mobility than for migration from non-EU countries. Overall, the analysis demonstrates that public attitudes, which are often overlooked in the migration literature, play a substantial role in shaping migration patterns. More broadly, the findings underscore that negative public attitudes towards immigration can materially constrain the effectiveness of policies designed to attract skills and talent.

JEL classification: J61, F22.

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1 Introduction

Over the last two decades, opposition to immigration has increased markedly across many European countries. A substantial share of natives believe that migration levels are too high and that the presence of migrants may have adverse economic and social consequences. For example, a survey by PEW Research Centre in 2018 suggests that half of respondents in European countries believe that fewer or no migrants should be allowed in their country.[1] This view is shared by more than three quarters of respondents in major transit countries for refugees and is also widespread in the most popular European destinations. Anti-immigration attitudes exist not only in Europe, but are observed across many host countries worldwide. This has led to a large literature examining the determinants of public attitudes towards migration, however much less is known about how such attitudes affect migration inflows themselves. In particular, the question of whether natives' hostility discourages migration remains understudied. This paper addresses this gap by examining the effect of natives' anti-immigration attitudes on migration inflows to Europe.

Previous studies have examined the determinants of international migration emphasizing the role of income differentials and migration costs, see for example, Grogger and Hanson (2011). A number of papers have focused on the impact of migration policies on immigration flows, e.g. Mayda (2010); Ortega and Peri (2013). In contrast, the causal effects of public attitudes on immigration have received little attention. For example, Facchini and Mayda (2008) examine the correlation between anti-immigration attitudes in 1995 and migration inflows in 2000. Gorinas and Pytliková (2017) study the association between natives' preferences for giving scarce jobs to natives and for living near immigrants and migration to OECD countries between 1980 and 2010, a period predating the surge in refugee inflows to Europe and the rise in anti-immigration sentiments in many host countries, but they do not control for the potential reverse causality. We contribute to the migration literature by providing causal evidence on the effects of natives' attitudes on immigration flows, whilst accounting for simultaneity between anti-immigration attitudes and migration inflows in the EU, as well as for interdependence across destination countries. We further disentangle the role of migration policy from that of public attitudes by distinguishing between EU and non-EU inflows and controlling for immigration policy changes.

We use OECD data on bilateral migration flows for 22 EU destinations between 2000 and 2019 and 182 origin countries. We measure anti-immigration attitudes using Eurobarometer data, based on the percentage of natives who consider immigration to be one of the most important issues facing their country. Although this measure may capture the salience of immigration, existing evidence shows a strong link between salience of immigration and anti-immigration attitudes, see Talo (2017) and Alesina et al. (2023), and that immigration salience is the strongest predictor of voting for anti-immigration parties, see Dennison and Geddes (2019). We therefore argue that immigration salience is a good proxy for anti-immigration attitudes, and assess the robustness of this attitudes measure using alternative measures based on questions from the Eurobarometer that capture anti-immigration attitudes directly as well as other measures based on data from the European Social Survey.[2]

[1] See PEW (2018).

[2] These questions are available only for a few years, hence we use them solely as a robustness check in Section 3.

Our hypothesis is that anti-immigration attitudes in destination countries deter potential migrants from choosing those destinations. Hostile public attitudes increase immigrants' expected costs by increasing concerns about social acceptance, discrimination and the mistreatment of migrants in everyday life. These concerns may affect both economic outcomes, through reduced employment prospects and lower expected earnings, and non-economic outcomes, such as social exclusion and diminished well-being. As a result, even when formal barriers to mobility are low, migrants may reallocate towards destinations perceived as more welcoming. Empirical studies provide evidence consistent with this mechanism, showing that negative native attitudes lead to labour market discrimination, lower earnings, reduced well-being, and weaker social integration among immigrants, see Waisman and Larsen (2016), Sedović (2023), and Schilling and Stillman (2024).

At the same time, migration inflows may themselves shape public attitudes, for instance, higher inflows might trigger greater public concern about immigration, thereby increasing anti-immigration sentiment. To establish a causal link between anti-immigration attitudes and migration inflows, we adopt an instrumental variable approach to deal with this potential simultaneity bias. We instrument attitudes using broadband Internet penetration in the destination country, motivated by growing evidence that media exposure significantly shapes public opinion on immigration (see, for example, Hainmueller and Hopkins (2014) for a review). As Internet access increasingly replaces traditional media, it alters the information environment in ways that can either mitigate or exacerbate anti-immigration sentiment. While access to diverse online content may correct misinformation and reduce bias, the Internet also facilitates selective exposure and ideological polarization. The effect of Internet penetration on natives' attitudes towards immigrants is theoretically ambiguous, and the empirical literature documents both positive and negative effects (see, for example, Eberl et al. (2018) and Golin and Romarri (2024)). Importantly, there is a strong correlation between Internet penetration and public attitudes. Given that the roll-out of broadband in destination countries is largely determined by pre-existing telecommunications infrastructure, we argue that Internet penetration in the destination provides a valid and plausibly exogenous instrument for natives' attitudes towards immigration, as it should not influence bilateral immigration flows. We measure Internet penetration by the percentage of households with Internet access at home at the destination-year level based on data from the International Telecommunication Union (ITU).[3]

Another potential identification concern is omitted variable bias. In particular, current immigration policy can be influenced by previous public attitudes towards immigration. At the same time, immigration policy could directly influence immigration inflows. Hence, we control for immigration policy changes. Also, to disentangle the role played by immigration policy from that of public attitudes, we distinguish between two policy regimes, namely free immigration among EU countries and restricted/managed migration where policy dictates regulations and conditions of immigration from non-EU to EU, see Razin and Wahba (2015).

We estimate an extended Gravity model of bilateral migration flows to the EU, controlling for economic conditions, bilateral country characteristics and migrant networks. We also control for the potential attractiveness of alternative destinations, known as the multilateral resistance to migration, see Bertoli and Fernández-Huertas Moraga (2013), by adopting a similar strategy to that of Ortega and Peri (2013) and including origin-time fixed effects. We also account for bilateral migration

[3] See www.itu.int

flows using Pseudo Poisson Maximum Likelihood (PPML) estimation, and address endogeneity using Poisson instrumental variable and two-stage residual inclusion (control-function) approaches, alongside robustness checks using Generalized Method of Moments (IV-GMM). Finally, we examine migration stocks and emigration rates to assess the broader impacts of public attitudes on immigration and outmigration.

Our findings show that anti-immigration attitudes significantly reduce subsequent migration inflows to the European Union. The magnitude of this effect is greater for intra-EU migration flows than for non-EU migration inflows. For non-EU migration inflows, economic conditions are a dominant driver, whereas for intra-EU migration inflows, income differentials (proxied by GDP per capita at destination) play a relatively smaller role and public attitudes assume greater importance, particularly in the context of migration within the EU15. These results suggest that while both intra- and extra-EU flows are influenced by labour market conditions (unemployment) and social network effects, their responsiveness differs systematically: intra-EU migration is more sensitive to the social and political environment in destination countries, whereas non-EU migration is driven more strongly by economic incentives. We find similar results when examining migration stocks and emigration rates. These findings are consistent with the institutional framework of free movement within the EU, which reduces economic barriers and thereby amplifies the role of host country attitudes, while non-EU mobility remains subject to restrictive immigration policies and persistent push factors, limiting its responsiveness to public sentiment.

Overall, the results demonstrate that public attitudes play an overlooked yet substantial role in shaping migration patterns and contribute to our understanding of the determinants of migration flows. An important implication of our findings is that natives' anti-immigration attitudes deter migration inflows. At a time of widespread labour shortages, when governments seek to attract the best and the brightest workers, hostile public attitudes may discourage potential migrants. More broadly, our results underscore the role of social cohesion in mitigating social tensions and misperceptions about immigration, and suggest that policies aimed at improving integration, reducing discrimination, and fostering positive interactions between natives and immigrants are important for attracting and retaining skills and talent.

The rest of the paper is organized as follows. In Section 2 we review the related literature on the determinants of international migration and public attitudes. Section 3 describes the data, while we set out our empirical strategy in Section 4. The findings are discussed in Section 5, while Section 6 provides various robustness checks. We conclude in Section 7.

2 Previous Literature

This paper relates to two main strands of the economic literature on international migration. The first strand studies the determinants of international migration, typically within a Gravity model framework, following the approach widely used in the international trade literature (Anderson, 2011). Within this strand, a large body of work has focused on quantifying the role of income differentials and migration costs, captured by distance, colonial ties, common language and contiguity (see, for example, Grogger and Hanson (2011) and Belot and Hatton (2012)). More recent contributions have emphasized the role of migration policies, showing that less restrictive policies are an important determinant of migration flows, (Mayda, 2006; Ortega and Peri, 2013) with implications for the skill composition of migrants (Razin and Wahba, 2015). Other studies focus on policy heterogeneity across skill groups, highlighting how selective policies attract or deter highly educated migrants, Czaika and Parsons (2017). Also, several other studies within this strand have documented the importance of social networks in facilitating migration inflows, generally finding a positive association between existing migrant stocks and subsequent inflows (see for example Beine et al. (2011)).

The second related strand examines public attitudes towards immigration. A substantial literature studies the determinants of natives' attitudes documenting that individuals tend to systematically overestimate the size of immigrant populations, as shown in multiple survey sources.[4] Concerns about immigration are often driven more by misperceptions of its economic and social impacts than by actual effects, see (Alesina et al., 2023). A number of studies focus on the economic channel emphasizing perceived labour market competition between natives and immigrants, see e.g. (Scheve and Slaughter, 2001; Facchini and Mayda, 2009; Dong et al., 2024). Others highlight the importance of non-economic factors , such as identity, culture, and social cohesion.[5] Mayda (2006) shows that both economic and non-economic factors shape anti-immigration attitudes, while Dustmann and Preston (2007) find that racial and cultural concerns concur with concerns about welfare and the labour market in shaping negative attitudes towards migrants. In contrast, Card et al. (2012) find that concerns about local amenities, neighbourhood and workplace composition, play a larger role than wages or taxes in explaining variation in natives' attitudes.

A smaller but growing literature examines the consequences of negative public attitudes on immigrants' outcomes. For example, Waisman and Larsen (2016) exploit regional variation in attitudes in Sweden and show that more negative natives' attitudes reduce refugees' income and quality of life. Similarly, Schilling and Stillman (2024) use the random allocation of asylum seekers across German municipalities and find that refugees experience worse social integration and higher exposure to harassment in areas with stronger support for the far right. These studies focus on outcomes for immigrants after arrival; in contrast, our interest lies in whether public attitudes deter migration itself. Nonetheless, their findings provide suggestive evidence on the channels through which negative native attitudes may discourage potential migrants.

[4] See, for example, the data from the Council of the European Union.

[5] See, for example, Howley and Waqas (2024) who focus on the role of identity in shaping natives' attitudes towards immigration.

Despite the large literature on the determinants of attitudes towards immigration, there is relatively little evidence on how public attitudes affect migration inflows. An early contribution is Facchini and Mayda (2008), who use a question in the 1995 International Social Survey Programme on whether the number of immigrants to a country should be increased or not. They find a negative correlation between attitudes and migration inflows to a number of European and non-European countries in the year 2000. Gorinas and Pytliková (2017) study the relationship between natives' labour market, residential preferences and immigration to 30 OECD countries between 1980 and 2010. They rely on two questions taken from the Integrated Value Survey (IVS) for which data are available every 5 years on (i) when jobs are scarce, employers should give priority to nationals over immigrants and (ii) the willingness of natives to live close to a migrant. They find a negative correlation between labour discrimination and immigration but no significant relationship between residential preferences and immigration. However, their analysis does not fully address the potential endogeneity between migration flows and natives' preferences, an issue that we aim to tackle in this paper. Moreover the time span they examine predates the so-called 'Mediterranean crisis', and their focus is not specifically on EU immigration.

We focus on the EU context as the EU offers a valuable case for analysis having experienced, similar to countries such as the United States, a recent rise in inflows of both documented and undocumented migrants, as well as refugees. This is particularly evident in the period following 2015, commonly referred to as the 'Mediterranean crisis', when immigration became a salient political and social issue, and public concern over immigration intensified. This allows us to study a period that includes an increase in refugee inflows, which has also influenced public attitudes towards immigration. Moreover, the EU presents a unique institutional context that allows for a comparison between free movement within the EU and managed migration from outside, enabling us to explore how public opinion impacts immigration under different migration regimes.

This paper contributes to the literature in several ways. First, we provide causal evidence on the effects of public anti-immigration attitudes on migration inflows by explicitly addressing reverse causality between attitudes and migration. Second, by focusing on the European Union, we exploit an institutional setting that allows us to contrast free movement within the EU with managed migration from outside the EU. Third, our analysis covers the period up to 2019, encompassing the post-2015 Mediterranean refugee crisis, during which immigration became highly salient and public concern intensified. For our empirical analysis, we use annual Eurobarometer data and study immigration flows up to 2019, prior to the COVID19 pandemic. To capture the time variability of anti-immigration attitudes, we construct our measure using the question with the longest time coverage, defining anti-immigration attitudes as the percentage of natives who consider immigration to be one of the most important concerns in their country. This allows us to link time-varying public attitudes to bilateral migration flows and to provide new evidence on the role of public opinion in shaping migration patterns.

3 Data

3.1 International Migration Data

We use panel data on international migration where the unit of observation is the bilateral migration flow and restrict our focus to EU destinations. We rely on the OECD International Migration Database,[6] which provides yearly migration inflows to OECD countries by immigrants' nationality from 1995. The final sample consists of 22 destination countries observed for a time span ranging between 7 and 20 years, and up to 182 countries of origin, including 28 EU origin countries, for the period 2000-2019.[7]

3.2 Attitudes Data

To measure natives' attitudes towards immigration in the EU, we use the Eurobarometer, which is a series of surveys that the European Commission carries out every autumn and spring to monitor the public opinion in the European Union member countries. The survey is available from 1971. For the purpose of our empirical analysis, we use the waves from 1997 to 2018. The country coverage varies through the years: for the year 1997 we have information on Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom; from 2006, Czech Republic, Estonia, Hungary, Latvia, and Poland; and from 2008 we have information on all 22 EU destination countries in our sample.

To construct our attitudes measure, we choose the question for which we have the greatest number of available years, which is 'What do you think are the two most important issues facing our country at the moment?'.[8] The measure ranges between 0 and 100 and represents the percentage of native respondents who identify immigration as one of the most important issues facing their country. It is constructed by coding responses that select 'Immigration' as 1 and all other responses as 0, and then computing the country-level average. For each destination country, we calculate the percentage of native respondents who selected 'Immigration' in response to the question on the most important issues facing the country, considering only the answers of natives based on nationality.[9] The result is a variable that captures the share (%) of natives in destination who are concerned about immigration; i.e. have negative or anti-immigration attitudes. It is important to note that other 'important issues facing the country' provided in addition to immigration are unemployment, crime, climate change etc. Hence this question is capturing concerns rather than simple salience.

[6] We use the OECD International Migration Database rather than Eurostat data because the former are available from 1995, whereas the latter start only in 1998. Moreover, OECD data provide bilateral migration flows for Germany and Poland, which are not available in the Eurostat data. See Mooyaart et al. (2021) for more information on the coverage of Eurostat data.

[7] The 22 EU destination countries in our sample are Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom. Data are not available for Bulgaria, Cyprus, Croatia, Lithuania, Malta, and Romania. The number of years for which a destination country is observed, as well as the number of origin countries, varies by destination.

[8] The only exceptions are the years 1998, 1999 and 2000 for which data are not available. For the year 2000, we compute an average score based on three questions: Legally established immigrants should be sent back to their country of origin: Agree/Disagree; Immigrants enrich the cultural life of our country: Agree/Disagree; Immigrants threaten our way of life: Agree/Disagree. Excluding the year 2000 does not affect the results.

[9] While information on respondents' nationality is recorded in all Eurobarometer waves, information on respondents' country of birth is not consistently available over the period of analysis.

Table 1 presents basic statistics for the main variables included in the model. These are averages for the country pairs over the considered period, and the unit of observation is the dyad (country pair). The upper panel presents the statistics for the total sample (all migration inflows to the EU) which consists of 41,456 observations, the middle one for the sample restricted to intra-EU migration (EU origin), 6,193 observations, and the bottom one for non-EU to EU migration (non-EU origin) 35,263 observations. *Attitudes* range from 0.28 to 68.7, showing the wide disparity between EU countries over time. Figure 1 ranks the destination countries in our sample based on their average *Attitudes* over 1997-2018. We notice that the country with the worst average attitudes towards migration over the whole period is the United Kingdom, where immigration was one of the key factors in the decision to leave the European Union (Portes, 2022; Di Iasio and Wahba, 2023), followed by Denmark and Belgium. Germany, a country that experienced the largest inflows of refugees in the last years, ranks fourth. The most welcoming countries are Slovakia, Slovenia, and Latvia. In Appendix Figure A.1, we plot lagged *Attitudes* against immigration flows between 2000 and 2019, using the aggregate average values for all countries. The figure shows a negative relationship suggesting that as *Attitudes* increase, the immigration flows decrease as expected. While this Figure illustrates simple correlation, we will investigate in the next section the causal relationship, controlling for other factors and, importantly, addressing the potential endogeneity between *Attitudes* and immigration flows.

Figure 2 shows the trends in *Attitudes* measure among some of the most important European destinations (Germany, Sweden, the United Kingdom, and France) and transit countries (Italy and Spain) between 1997 and 2018. Although *Attitudes* presents a lot of variability over the years and among countries, we can notice a general pattern: anti-immigration attitudes reached a peak in 2001, coinciding with the September 11 attacks, and then relaxed between the year 2002 and the start of the refugee crisis. In Appendix Figure A.2 we focus on the comparison of the *Attitudes* trend between the United Kingdom and Sweden between 2001 and 2018, when we have yearly information on our attitudes measure for both countries. We notice that the trends are different between the two countries. In particular, the Figure suggests that, with the exception of the period from 2016 onward, the United Kingdom presents generally worse attitudes than Sweden. During the pre-Brexit period the score reached a peak and people became generally more tolerant just after the referendum. On the other hand, Sweden generally shows better attitudes but experiences a surge in negative attitudes between 2015 and 2016, which coincides with the years of the Mediterranean refugee crisis.

Interestingly, the way natives perceive immigration not only varies among countries, but also across years within the same country. Appendix Figure A.2 focuses on the United Kingdom and Sweden, where the anti-immigration score ranges between a minimum value of 9.41 and a maximum of 50.62 for the former, and between 5.61 and 39.37 for the latter. We can observe this variability not only for the countries that present the highest average scores, but also for the most welcoming ones: for instance, the score for Slovakia ranges between a minimum of 0.37 and a maximum of 13.19, and for Slovenia between 0.32 and 16.84.

Our choice of the attitudes measure is dictated by data availability: we use the question with the most comprehensive coverage of EU destinations over time. Other studies use different questions/measures based on various questions and surveys. For example, Card et al. (2012) use a battery of questions included in the European Social Survey (ESS) in 2002 for that purpose, where each of four questions reflect different aspect such as preference for immigration, or economic and cultural concerns about immigration. However these questions were only collected once in 2002, and hence

would not be appropriate for our analysis. Others choose one or two particular questions with longer time span but available at five-year intervals, such as for example Gorinas and Pytliková (2017), as discussed earlier.

Our chosen measure of attitudes could also be seen as a measure of salience of immigration.[10] Although Hatton (2021) argues that preferences and salience are two different dimensions of attitudes and depend on different determinants, there is strong evidence supporting the link between the salience of immigration and negative anti-immigration attitudes, see Talo (2017) and Alesina et al. (2023). Furthermore, Dennison and Geddes (2019) find that the salience of immigration is the most important predictor of voting for anti-immigration parties. In other words, the literature suggests that salience of immigration is a good proxy for anti-immigration attitudes.

To check whether our *Attitudes* measure indeed captures negative/anti-immigration attitudes, we estimate the relationship between our *Attitudes* measure and another question in the Eurobarometer that explicitly asks about whether 'Immigrants contribute a lot to our country?' This question is not available for the whole period considered, so we only use it as a robustness check. We use the individual level data to establish whether individuals who are more likely to be concerned about immigration (have negative attitudes) are also more likely to believe that immigrants do not contribute to the economy. Appendix Table A.1 shows that individuals who perceive immigrants as contributing negatively are about 5 percentage points more likely to consider immigration a salient issue. Since the salience variable is measured in percentage terms, this represents a sizable and meaningful association between negative attitudes and the importance individuals attach to immigration. This supports the use of our *Attitudes* measure to proxy for anti-immigration attitudes. In addition, as a robustness check, we use alternative questions/data to measure negative attitudes, despite their relative data sparsity, to check that the results are consistent irrespective of the measure of attitudes used.[11]

[10] However, as described above, the question we use is formulated as 'important issues facing the country'. Other issues listed alongside immigration include, for example, unemployment, crime, and climate change.

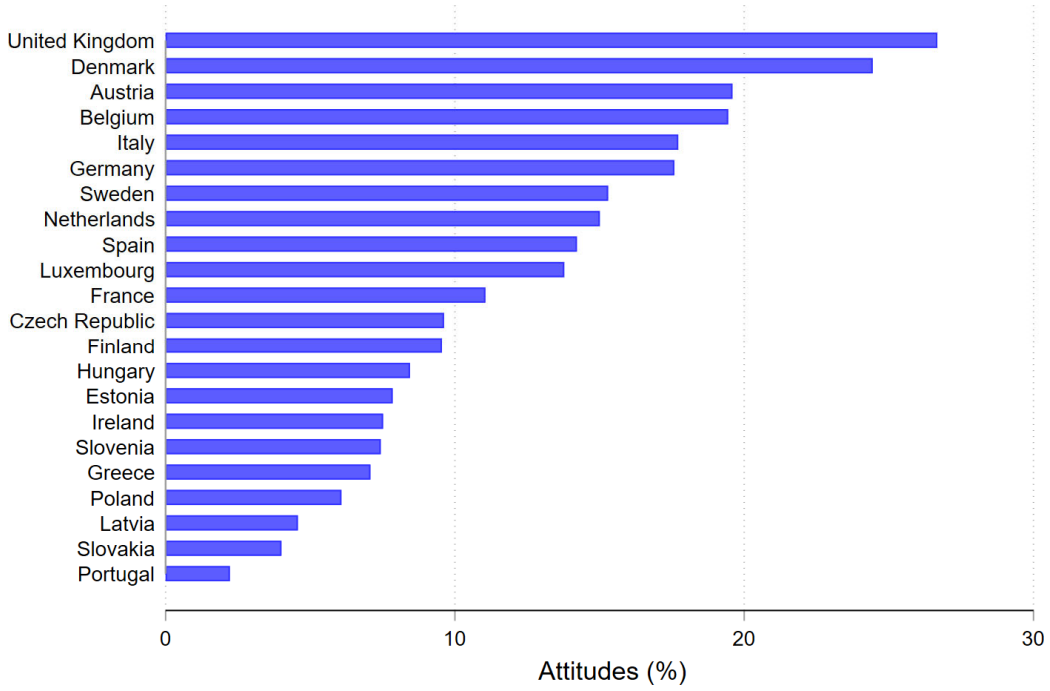
[11] To further validate our *Attitudes* variable against nationally representative surveys, we draw on data from the United Kingdom (Ipsos) and Spain (CIS) which include similarly worded questions on the main challenges facing the country. The results indicate that these national data align closely with our *Attitudes* variable constructed from the Eurobarometer.

Table 1: Summary statistics for the main variables

Total sample (N=41,456)				
Variable	Mean	Std. Dev.	Min	Max
Attitudes (%, t-3)	14.56	13.08	0.28	68.69
Bilateral migration inflows	1,165	6,666	0	309,699
GDPpc dest (ln, t-1)	10.54	0.34	9.63	11.67
Unempl. dest (ln, t-1)	7.99	3.73	2.24	26.09
Distance (ln)	8.39	0.90	4.09	9.88
Contiguity	0.03	0.16	0	1
Common language	0.06	0.23	0	1
Colonial ties	0.04	0.19	0	1
Common religion	0.20	0.25	0	0.96
Policy change (t-1)	0.00	0.38	-1	1
Networks (ln, t-5)	3.55	2.70	0	12.51
Connectivity (%, t-3)	65.08	21.53	2	97.03
EU (N=6,193)				
Variable	Mean	Std. Dev.	Min	Max
Attitudes (%, t-3)	13.85	12.98	0.28	68.69
Bilateral migration inflows	3,150	13,635	0	271,443
GDPpc dest (ln, t-1)	10.52	0.35	9.63	11.67
Unempl. dest (ln, t-1)	8.01	3.80	2.24	26.09
Distance (ln)	6.95	0.69	4.09	8.12
Contiguity	0.13	0.34	0	1
Common language	0.05	0.22	0	1
Colonial ties	0.03	0.16	0	1
Common religion	0.31	0.29	0	0.94
Policy change (t-1)	0.01	0.39	-1	1
Networks (ln, t-5)	5.40	2.45	0	12.51
Connectivity (%, t-3)	65.71	20.91	2	97.03
Non-EU (N=35,263)				
Variable	Mean	Std. Dev.	Min	Max
Attitudes (%, t-3)	14.69	13.09	0.28	68.69
Bilateral migration inflows	817	4,333	0	309,699
GDPpc dest (ln, t-1)	10.54	0.34	9.63	11.67
Unempl. dest (ln, t-1)	7.99	3.72	2.24	26.09
Distance (ln)	8.64	0.67	4.09	9.88
Contiguity	0.01	0.08	0	1
Common language	0.06	0.23	0	1
Colonial ties	0.04	0.19	0	1
Common religion	0.18	0.24	0	0.96
Policy change (t-1)	-0.00	0.38	-1	1
Networks (ln, t-5)	3.22	2.61	0	11.42
Connectivity (%, t-3)	64.96	21.63	2	97.03

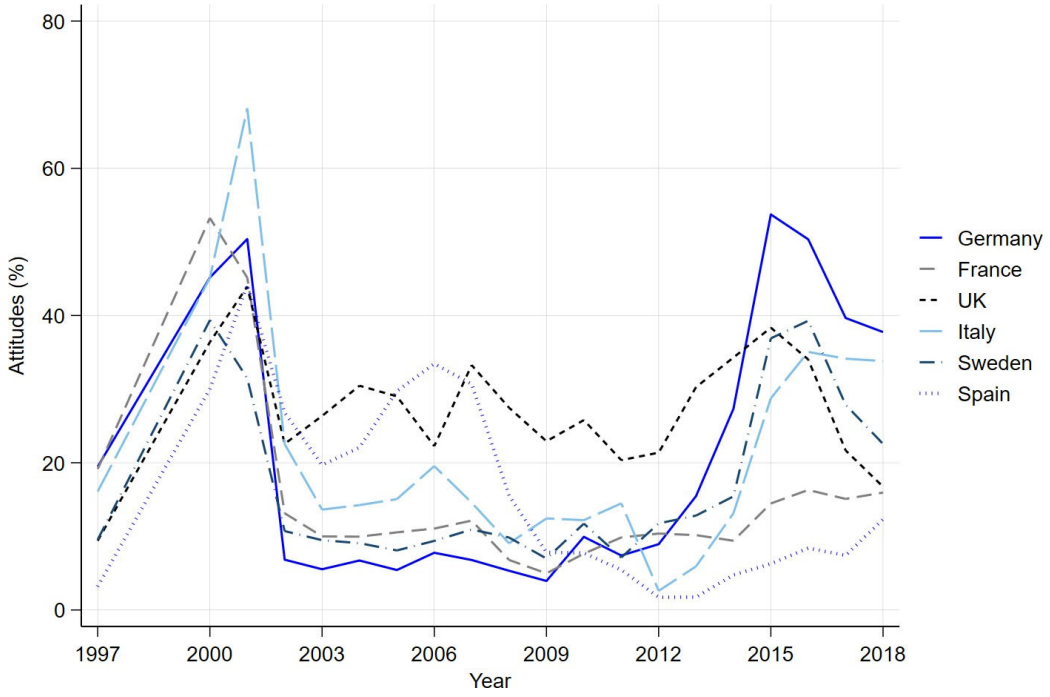
Source: Authors' calculations based on OECD International Migration Database 1995-2019, Eurobarometer, World Bank data, CEPII *Gravity* database, and ITU data.

Figure 1: EU destination countries ranked by anti-immigration attitudes, average for 1997-2018



Source: Authors' calculations based on Eurobarometer, years 1997 - 2018. **Notes:** The ranking is based on the countries' average in the total period of analysis.

Figure 2: Anti-immigration attitudes trends for selected EU countries, 1997-2018



Source: Authors' calculations based on Eurobarometer, years 1997 - 2018.

4 Empirical Strategy

Following the literature on the determinants of international migration, we estimate a Gravity model underpinned by a Random Utility Model (RUM), where an individual migration decision is based on a utility maximization problem in which income is maximized and migration costs are minimized. Within this framework, anti-immigration attitudes at destination can be seen as an additional migration cost. Thus, we expect that more negative attitudes would reduce immigration flows as anti-immigration and hostile environments for migrants are likely to be more discriminatory and hence would be more costly to integrate.

The following equation estimates the determinants of bilateral migration inflows into EU destination countries:

$$Inflows(log)_{o,d,t} = \alpha_{o,d} + \beta_1 log(GDP)_{d,t-1} + \beta_2 Unemployment_{d,t-1} + \beta_3 log(Networks)_{o,d,t-5} + \beta_4 Attitudes_{d,t-3} + \beta_5 X_{o,d} + \theta_d + \delta_{o,t} + \varepsilon_{o,d,t} \quad (1)$$

where the dependent variable is the log of migration inflows from country of origin o to country of destination d in year t. We use log of migration inflows except when we estimate PPML models. *Attitudes* is our focal variable measuring anti-immigration attitudes in destination d and year $t-3$. To mitigate concerns about reverse causality and to ensure a clear temporal ordering between attitudes and migration flows, we use destination-country attitudes measured three years prior to observed migration flows. The Eurobarometer surveys are typically conducted twice a year: in the Spring and Autumn. The three-year lag allows us to capture attitudes at least a couple of years before immigration occurs, but we also check the robustness of our results to using shorter time lags in Section 6.[12] To isolate the relationship between *Attitudes* and the dependent variable we control for a number of important determinants of migration inflows.[13] We include two controls for economic conditions at destination: lagged $log(GDP)$ which is the log of real GDP per capita at destination d at year $t-1$, and lagged *Unemployment* which is the unemployment rate at destination d at year $t-1$. Both variables are from the World Bank World Development Indicators data.

Social networks play a crucial role in international migration by lowering costs and providing support. While migrant stocks are commonly used to measure network effects, annual bilateral data on migrant stock are sparse.[14] Moreover, as shown by Beine et al. (2011), immigrant stocks are endogenous to immigration flows. Hence, we follow Mayda (2010) in using lagged immigration flows as a proxy for social networks, since these capture the impact of recent migration episodes and mitigate simultaneity bias whilst reflecting the persistence of migration through path dependence.

[12] Since actual migration takes time, we use lagged attitudes to capture the public sentiment in the destination country prevailing at the time migration decisions are made; for example, Facchini and Mayda (2008) use a five-year lag.

[13] See Beine et al. (2016) for a detailed discussion on Gravity models.

[14] For example, UN DESA International Migrant Stock data are available at five-year intervals whereas the OECD International Migration Database on migration stocks are not available for all destinations and origins.

Thus, we control for social networks, labelled *Networks*, using the log flow of migrants from country of origin o in destination d at year $t-5$; i.e. lagged by five years. $X_{d,o}$ is a vector of (dyadic) variables that control for geographical and cultural factors linking origin and destination countries. These are dummy variables taking the value 1 if the two countries share a common language, ever had colonial ties, or share a border. We also control for religious proximity using an index bounded between 0 and 1, which takes its maximum value when the country pair has a religion which comprises a vast majority of the population and is the same in both origin and destination countries.[15] We also include the distance between the capital cities of the two countries.[16]

As our analysis aims to establish a causal relationship between anti-immigration attitudes and migration inflows in the destination countries, it has to overcome several empirical challenges. Beine et al. (2016) provides a very useful guide on these challenges when estimating Gravity models on the determinants of international migration. The first challenge is the presence of zeros in our dependent variable which account for 13% of our observations. Following Silva and Tenreyro (2006) we also estimate equation (1) using PPML.

The second empirical challenge is the presence of multilateral resistance to migration. Bertoli and Fernández-Huertas Moraga (2013) define multilateral resistance to migration as an additional confounding factor represented by the attractiveness of alternative destinations that influences bilateral migration flows and may bias the coefficients of interest if ignored. They account for this issue by estimating their model with the Common Correlated Effects (CCE) technique proposed by Pesaran (2006). This approach requires a sufficiently large panel dimension and hence is too demanding for our data structure, in particular, when using Instrumental Variables (IV) estimators as well. Therefore, following the strategy of Ortega and Peri (2013), we mitigate the potential bias arising from multilateral resistance by adding origin-time fixed effects ($\delta_{o,t}$) in the main specifications.[17]

The third challenge is represented by the potential endogeneity of *Attitudes*. Our results could be biased due to reverse causality if large inflows negatively affect natives' attitudes towards migration. If this reverse causality is not properly accounted for, the estimates are likely to be biased towards zero. Indeed, previous studies have shown that there is potential correlation between attitudes and immigration. Although we lag *Attitudes* this may not be sufficient to fully minimize this bias. We address this concern by adopting an instrumental variable approach. The main challenge is to find an exclusion restriction that influences anti-immigration attitudes without being simultaneously correlated with migration inflows. We use broadband Internet penetration in the destination as an instrumental variable for attitudes towards immigration, drawing on an expanding body of literature that highlights the role of media exposure and information environments in shaping individual beliefs and preferences; see, for example, Hainmueller and Hopkins (2014) and Zhuravskaya et al. (2020). The underlying rationale is that access to information, particularly through media channels, plays a fundamental role in the formation of public opinion about migrants. With the rapid expansion of digital infrastructure, Internet access has increasingly supplanted traditional media as a dominant source of political and social information.

[15] Source: CEPII Gravity database (Head et al., 2010).

[16] These data are from the CEPII Gravity database. See Head et al. (2010).

[17] Note that the inclusion of origin-time fixed effects controls for origin-country push factors. Hence, we do not focus on push factors at origin, such as conflict, that might also be important determinants of migration. See, for example Crippa et al. (2024) who focus only on conflict and push factors.

While prior studies have documented a significant association between exposure to traditional media and more negative attitudes towards immigrants, e.g. Facchini et al. (2017) and Eberl et al. (2018), the diffusion of broadband Internet constitutes a structural transformation of the information landscape. Theoretically, the impact of increased Internet access on anti-immigration sentiment is a priori ambiguous. On one hand, broadband Internet provides individuals with low-cost access to a broader and more diverse range of information sources. This may help to alleviate informational frictions and correct biased or misinformed beliefs about migrants, particularly where prior attitudes have been shaped by selective or sensationalist reporting in traditional media, see Golin and Romarri (2024). In this context, greater access to alternative narratives and accurate data could foster more favourable views of immigration (Mullainathan and Shleifer, 2005). On the other hand, the Internet also facilitates selective exposure and ideological self-sorting, whereby individuals engage primarily with content that aligns with their preexisting beliefs. This dynamic may lead to greater belief polarization and the entrenchment of negative attitudes, particularly if online platforms disproportionately amplify anti-immigration narratives. Moreover, media framing remains crucial: as noted by Eberl et al. (2018), coverage of immigration tends to be predominantly negative and conflict oriented, which may reinforce hostile public sentiment even in the digital media environment. Hence, we argue that broadband Internet penetration in destinations is highly correlated with public attitudes. It is important here to highlight that our identification relies on the assumption that Internet penetration does not affect bilateral migration flows directly except through natives' attitudes. Our IV, broadband Internet penetration (labelled *Connectivity*), is defined at the destination-year level. Appendix Figure B.3 plots the IV time trend, for all and the main destination countries, showing that there is variation over time. In addition, Appendix Figure B.4 shows the correlation between *Attitudes* and our IV for the total sample. Similarly, Appendix Figure B.5 shows the correlation for the main destination countries. This suggests a negative relationship between *Connectivity* and *Attitudes*; that is increasing Internet connectivity reduces anti-immigration attitudes. We rely on the IV approach and estimate standard Two-Stage Least Squares (2SLS), as well as IV-Poisson models. As proposed by Tenreyro (2007) and adopted, for example, by Beine et al. (2014) and Czaika and Parsons (2017), we use an IV-Poisson model, but also use PPML two-stage residual approach (control function) to be able to include the full set of fixed effects, in particular origin-time fixed effects. We check the robustness of this specification using IV-GMM (with an external instrument), see section 6.

Another potential concern for our identification strategy, is an omitted variable bias. In particular, a negative relationship between attitudes and the dependent variable could instead capture migration policy restrictiveness, rather than the true influence of attitudes on migration inflows, see Facchini and Mayda (2008); Ortega and Peri (2013). To account for this potential concern, we run separate estimates of migration inflows between EU countries where there is free movement of people and hence where policy restrictiveness is not at play. We also control for migration policy changes, using the DEMIG-QuantMig Migration Policy database which records and classifies migration policies according to a number of criteria, for instance whether the policy change makes the existing policy more or less restrictive.[18] As the policy changes are registered on a yearly basis, the variable is defined at the destination-year level. Based on this information, we build an index of policy restrictiveness. In the year of interest, the index takes the value zero if there was no migration policy change, one if migration policy becomes less restrictive, and -1 if migration policy becomes more restrictive; i.e. negative values for more restrictive policy changes.

5 Results

5.1 Baseline results

First, we estimate both OLS and PPML models. Table 2 presents the baseline results for the total sample. Columns 1 to 4 provide the results of the OLS estimations, while Columns 5 to 8 report the PPML estimations. We start by including only the economic controls. In both the OLS and PPML estimations, *GDP* shows a positive and significant coefficient, while the coefficient of *Unemployment* is negative and significant, as expected. We then add the geographical and cultural links, all showing the expected signs except for *Contiguity*, which is not significant. Also *Networks* has a positive and highly statistically significant coefficient in all estimations. When we include *Attitudes* we find that it has a negative and strongly significant coefficient in both the OLS and PPML estimations.

In Table 3, we run separate estimations for intra-EU inflows (Column 1 for the OLS and Column 2 for the PPML) and inflows from non-EU countries (Column 3 for the OLS and Column 4 for the PPML). The results show that for both intra-EU and non-EU to EU inflows, the coefficients of *Attitudes* are negative and statistically significant. These baseline results suggest that anti-immigration attitudes are negatively associated with migration inflows. In the next section, we investigate whether the results hold when adopting an IV approach to account for potential endogeneity.

[18] The DEMIG-QuantMig Migration Policy Database tracks more than 7,600 migration policy changes enacted by 31 European (EU and non-EU) countries for the period 1990 to 2020. The database extends and updates the DEMIG Policy database developed at the International Migration Institute and follows the same methodology.

Table 2: Natives' Attitudes and Migration Inflows: OLS and PPML estimations, total sample

	OLS				PPML			
	Inflows (1+ln)	Inflows (1+ln)	Inflows (1+ln)	Inflows (1+ln)	Inflows	Inflows	Inflows	Inflows
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GDPpc dest (ln, t-1)	0.483**	0.552**	0.711***	0.947***	2.479***	2.735***	0.479	2.165**
	(0.212)	(0.206)	(0.177)	(0.179)	(0.753)	(0.718)	(0.981)	(0.971)
Unempl. dest (ln, t-1)	-0.028***	-0.027***	-0.027***	-0.033***	-0.061***	-0.061***	-0.095***	-0.104***
	(0.003)	(0.003)	(0.004)	(0.004)	(0.010)	(0.010)	(0.012)	(0.012)
Distance (ln)		-0.792***	-0.250***	-0.249***		-0.925***	-0.310***	-0.275***
		(0.157)	(0.059)	(0.059)		(0.107)	(0.060)	(0.053)
Contiguity		0.199	-0.033	-0.034		0.203	0.078	0.072
		(0.215)	(0.079)	(0.079)		(0.243)	(0.096)	(0.089)
Common language		1.474***	0.478***	0.475***		1.393***	0.360***	0.320***
		(0.120)	(0.043)	(0.043)		(0.123)	(0.070)	(0.063)
Colonial ties		1.352***	0.386***	0.383***		0.592***	0.113*	0.071
		(0.167)	(0.054)	(0.054)		(0.128)	(0.068)	(0.064)
Common religion		0.583***	0.177***	0.175***		0.228	0.331**	0.309**
		(0.129)	(0.046)	(0.046)		(0.264)	(0.129)	(0.117)
Policy change (t-1)			0.102***	0.100***			0.041	0.043
			(0.010)	(0.010)			(0.034)	(0.034)
Networks (ln, t-5)			0.691***	0.693***			0.696***	0.726***
			(0.012)	(0.012)			(0.029)	(0.026)
Attitudes (%, t-3)				-0.008***				-0.020***
				(0.001)				(0.002)
Origin-time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	41456	41456	41456	41456	41456	41456	41456	41456
R-squared	0.793	0.837	0.925	0.926				
Pseudo R-squared					0.796	0.877	0.949	0.953

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table 3: Natives' Attitudes and Migration Inflows: OLS and PPML estimations, by EU and non-EU origin

	EU		Non-EU	
	OLS	PPML	OLS	PPML
	Inflows (1+ln)	Inflows	Inflows (1+ln)	Inflows
	(1)	(2)	(3)	(4)
Attitudes (%, t-3)	-0.010***	-0.018***	-0.008***	-0.019***
	(0.002)	(0.003)	(0.001)	(0.002)
GDPpc dest (ln, t-1)	0.579*	1.726	0.893***	2.410**
	(0.330)	(1.491)	(0.197)	(0.989)
Unempl. dest (ln, t-1)	-0.069***	-0.096***	-0.026***	-0.107***
	(0.008)	(0.014)	(0.004)	(0.013)
Distance (ln)	-0.070	-0.296***	-0.550***	-0.114
	(0.099)	(0.071)	(0.063)	(0.115)
Contiguity	0.260**	-0.035	-0.058	0.883***
	(0.091)	(0.079)	(0.133)	(0.182)
Common language	0.146	0.327**	0.512***	0.351***
	(0.089)	(0.115)	(0.051)	(0.081)
Colonial ties	0.125	0.064	0.388***	0.034
	(0.103)	(0.104)	(0.064)	(0.059)
Policy change (t-1)	0.179***	0.042	0.083***	0.055
	(0.022)	(0.037)	(0.011)	(0.041)
Common religion	0.155*	0.367**	0.241***	0.617***
	(0.088)	(0.182)	(0.050)	(0.162)
Networks (ln, t-5)	0.672***	0.673***	0.671***	0.736***
	(0.041)	(0.041)	(0.011)	(0.022)
Origin-time FE	Yes	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes	Yes
Observations	6193	6193	35263	35263
R-squared	0.919		0.921	
Pseudo R-squared		0.961		0.948

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

5.2 IV estimations

Table 4 presents the results of the 2SLS model estimations. Column 1 presents the results for the total sample, Column 2 for intra-EU inflows, and Column 3 for non-EU flows to the EU. We report the Kleibergen-Paap F statistics for all the estimations, which do not indicate any concern regarding the weakness of our IV. Table B.6 in the Appendix reports the first-stage estimations of the 2SLS. The coefficient of the instrument is negative and statistically significant, reflecting the role played by connectivity, our IV, in shaping public attitudes, as suggested in previous studies. This suggests that increased Internet penetration reduces anti-immigrant attitude which could be due to access to information reducing concerns about labour market competition and cultural differences. For example, recent work by Golin and Romarri (2024), who investigate the impact of broadband Internet development on attitudes towards migrants in the context of Spain, also finds that broadband Internet penetration leads to more positive attitudes towards migrants. They argue that the availability of broadband Internet, as a new and cheap source of information, has made Spanish natives more aware of the dynamics of migration in their country and has reduced their (potentially stereotypical) concerns about migrants.

The 2SLS estimations confirm our baseline results, suggesting a negative and significant relationship between anti-immigration attitudes and inflows for both intra-EU and non-EU inflows, Table 4. This suggests that, even after controlling for endogeneity, anti-immigration attitudes negatively influence inflows of migrants within the free movement scheme of EU countries, as well as for non-EU to EU flows.

Table 5 presents the results for the IV-Poisson model which confirm the 2SLS findings: a negative and significant coefficient for *Attitudes*. However, as we are unable to control for the multilateral resistance to migration in this setting (origin-time fixed effects), we use a control function approach with the PPML model, also known as two-stage residual inclusion (see Table 6). This methodology presents several advantages for establishing causal relationships in gravity models (Atalay et al., 2019; Morten and Oliveira, 2024).[19] For our identification strategy, one of the advantages is that it's a two-stage based estimator that allows us to account for the endogeneity of *Attitudes* and estimate unbiased coefficients. In the first stage, we use a linear regression to regress our *Attitudes* measure on the instrumental variable along with the full set of controls and destination and year fixed effects. The residual from this regression is then included as an additional control in the second-stage regression, and the standard errors are bootstrapped. The second main advantage is that when estimating the second stage we are able to include the full set of fixed effects, therefore to control for multilateral resistance to migration by including origin per time fixed effects. Appendix Table B.7 reports the first stage estimations of the PPML control function approach. The results are presented in Table 6. Columns 2, 4, and 6 report the standardized coefficients for the estimation on the total sample, EU and non-EU origin respectively.[20]

The results in Table 6 suggest that a one standard deviation increase in anti-immigration attitudes

[19] In particular, Atalay et al. (2019) use Monte Carlo simulations to demonstrate the good performance of the control function approach in fixed effects Poisson models with endogenous regressors.

[20] Since we use PPML, we compute the standardized coefficients manually using the usual formula: $\beta_x * St.Dev_x / ln(St.Dev_y)$.

reduces the bilateral flow by 0.03 standard deviation, while a one standard deviation increase in unemployment reduces the bilateral inflow by 0.04 standard deviation. As expected, the effect of log GDP per capita on inflows is much larger as one standard deviation increase leads to 0.09 standard deviation increase in bilateral flows, a finding that is well established in the literature about the role of income in driving immigration. Put differently, the effect of anti-immigration attitudes is smaller than that of unemployment or GDP per capita. However, interestingly, the relative impact of anti-immigration attitudes is higher in magnitude for immigration for intra-EU compared to from non-EU countries as a one standard deviation increase in anti-immigration attitudes reduces the bilateral flow from EU by 0.03 standard deviation compared to 0.01 in the case of non-EU immigration. Also, networks play an important role for both intra EU and non-EU to EU immigration, but the standardized coefficient is larger for non-EU to EU inflows. Thus, the results reveal important differences between EU and non-EU migration. For non-EU migrants, economic conditions and networks are the dominant drivers: GDP per capita exerts a strong positive effect (0.080 standard deviation), and migrant networks (0.23 standard deviation) are the single most important factor. By contrast, for EU migrants, while networks also play a substantial role (0.17 standard deviation), the relative importance of economic conditions is smaller (GDP per capita 0.07 standard deviation). Instead, public attitudes emerge as a more significant determinant of intra-EU mobility (–0.034 standard deviation compared to –0.008 standard deviation for non-EU). This suggests that, although both groups respond to economic conditions and network effects, intra-EU mobility is more sensitive to the prevailing public mood, whereas non-EU migration is shaped primarily by economic incentives and the presence of established networks.

The finding that anti-immigration attitudes have a stronger effect on intra-EU migration than on non-EU immigration is consistent with the principle of free movement, which grants EU citizens the right to live and work in other member states without the need for a visa or work permit. As a result, intra-EU mobility is more responsive to social and political factors in destination countries, including public sentiment. In contrast, non-EU immigration is typically governed by more restrictive and selective policies. Moreover, many non-EU migrants may have limited choice over their destination or may migrate irrespective of public attitudes due to strong push factors in origin countries. Consequently, public sentiment is likely to have a less direct influence on non-EU migration flows. The stronger observed impact of anti-immigration attitudes on intra-EU migration is therefore consistent with the greater flexibility EU citizens have in choosing their destination.

To sum up, our results suggest that natives' attitudes are an important determinant of migration and that negative attitudes can discourage migration inflows. We also find that natives' attitudes do not offset the effect of other important economic and non-economic determinants (i.e. GDP per capita, unemployment, and networks), but rather play a concurrent important role. In particular, we find that the effect of natives' attitudes, if compared to other determinants, is smaller for non-EU inflows but larger for intra-EU flows. Our results hold when accounting for endogeneity, supporting a causal relationship between natives' attitudes and migration inflows.

Although we are unable to examine in depth the underlying mechanisms driving the negative relationship between anti-immigration attitudes and natives' preferences towards immigrants, we draw on Eurobarometer data for a single year (2017) to explore this relationship. Evidence from individual level attitudinal questions indicates that more negative public attitudes towards immigration are associated with greater social distance and more discriminatory perceptions of immigrants across multiple domains of everyday life. Natives expressing stronger anti-immigration views are significantly less willing to accept

immigrants in roles involving close social interaction, authority, or trust, such as managers, work colleagues, doctors, family members, or partners. Simple correlations show a consistent negative associations across these domains. Stronger anti-immigration attitudes are associated with a significantly lower probability of feeling comfortable having an immigrant as a: manager (–0.03*), work colleague (–0.05**), doctor (–0.06***), or family member or partner (–0.05**).[21] This pattern suggests a potential channel through which hostile public attitudes translate into higher expected economic and social costs for migrants. Anticipated discrimination in the workplace, reduced trust in professional interactions, and the risk of social exclusion in personal and community relationships can substantially reduce the perceived attractiveness of a destination. Consequently, even in the absence of formal policy barriers, migrants may avoid destinations where public attitudes signal a higher likelihood of discrimination and weaker social inclusion.

[21] We use Eurobarometer questions in 2017 asking respondents whether they would feel comfortable or uncomfortable having an immigrant as their manager, work colleague, neighbour, doctor, friend, or family member/partner. Simple correlations are reported in parentheses, with significance levels indicated as * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$.

Table 4: Natives' Attitudes and Migration Inflows: 2SLS, by EU and non-EU origin

	Total	EU	Non-EU
	Inflows (1+ln)	Inflows(1+ln)	Inflows (1+ln)
	(1)	(2)	(3)
Attitudes (%, t-3)	-0.011**	-0.024**	-0.007*
	(0.004)	(0.011)	(0.004)
GDPpc dest (ln, t-1)	1.012***	0.864**	0.872***
	(0.221)	(0.423)	(0.243)
Unempl. dest (ln, t-1)	-0.034***	-0.078***	-0.026***
	(0.004)	(0.012)	(0.004)
Distance (ln)	-0.249***	-0.070	-0.550***
	(0.059)	(0.098)	(0.063)
Contiguity	-0.034	0.257**	-0.058
	(0.079)	(0.090)	(0.133)
Common language	0.474***	0.146*	0.512***
	(0.043)	(0.088)	(0.051)
Colonial ties	0.383***	0.127	0.388***
	(0.054)	(0.103)	(0.064)
Policy change (t-1)	0.100***	0.179***	0.083***
	(0.010)	(0.023)	(0.011)
Common religion	0.174***	0.149*	0.241***
	(0.046)	(0.088)	(0.050)
Networks (ln, t-5)	0.693***	0.674***	0.671***
	(0.012)	(0.041)	(0.011)
Origin-time FE	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes
Observations	41456	6193	35263
R-squared	0.642	0.617	0.632
F-statistics	1064.800	175.016	869.390
Kleibergen-Paap statistics	443.137	71.646	381.937

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table 5: Natives' Attitudes and Migration Inflows: IV Poisson estimation, by EU and non-EU origin

	Total sample	EU	Non-EU
	Inflows	Inflows	Inflows
	(1)	(2)	(3)
Attitudes (%, t-3)	-0.031***	-0.035***	-0.026***
	(0.004)	(0.005)	(0.005)
GDPpc dest (ln, t-1)	2.981***	3.282**	3.015**
	(0.730)	(1.170)	(0.981)
Unempl. dest (ln, t-1)	-0.111***	-0.105***	-0.114***
	(0.009)	(0.012)	(0.011)
Distance (ln)	-0.093***	0.039	-0.089***
	(0.014)	(0.035)	(0.018)
Contiguity	-0.093*	-0.161***	0.321**
	(0.051)	(0.049)	(0.104)
Common language	-0.014	-0.047	0.015
	(0.042)	(0.051)	(0.050)
Colonial ties	0.184***	0.091	0.181***
	(0.044)	(0.080)	(0.051)
Policy change (t-1)	0.041	0.062	0.025
	(0.048)	(0.052)	(0.064)
Common religion	-0.290***	-0.222**	-0.311***
	(0.059)	(0.084)	(0.073)
Networks (ln, t-5)	0.839***	0.907***	0.804***
	(0.012)	(0.019)	(0.012)
Destination FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	41456	6193	35263

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table 6: Natives' Attitudes and Migration Inflows: PPML with control function approach estimations by EU and non-EU origin

	Total	Total (std.coeff.)	EU	EU (std.coeff.)	Non-EU	Non-EU (std.coeff.)
	Inflows	Inflows	Inflows	Inflows	Inflows	Inflows
	(1)	(2)	(3)	(4)	(5)	(6)
Attitudes (t-3, %)	-0.020*	-0.030	-0.025*	-0.034	-0.005	-0.008
	(0.012)		(0.015)		(0.012)	
GDPpc dest (ln, t-1)	2.191*	0.085	1.908	0.070	1.967	0.080
	(1.256)		(1.413)		(1.329)	
Unempl. dest (ln, t-1)	-0.105***	-0.044	-0.101***	-0.040	-0.097***	-0.043
	(0.016)		(0.020)		(0.017)	
Distance (ln)	-0.274***	-0.028	-0.293**	-0.021	-0.12	-0.010
	(0.067)		(0.103)		(0.155)	
Contiguity	0.072	0.001	-0.035	-0.001	0.877**	0.008
	(0.124)		(0.117)		(0.323)	
Common language	0.320***	0.008	0.326*	0.008	0.352**	0.010
	(0.088)		(0.182)		(0.114)	
Colonial ties	0.071	0.002	0.063	0.001	0.04	0.001
	(0.085)		(0.189)		(0.089)	
Policy change (t-1)	0.043	0.002	0.042	0.002	0.059	0.003
	(0.038)		(0.044)		(0.047)	
Common religion	0.309**	0.009	0.367	0.011	0.623**	0.018
	(0.146)		(0.244)		(0.202)	
Networks (ln, t-5)	0.726***	0.223	0.674***	0.173	0.733***	0.228
	(0.030)		(0.054)		(0.028)	
Origin-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes	Yes	Yes	Yes
First-stage residuals control	Yes	Yes	Yes	Yes	Yes	Yes
Observations	41456	41456	6193	6193	35263	35263
Pseudo R-squared	0.953	0.953	0.961	0.961	0.948	0.948

Notes: Bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Column 2, 4 and 6 report the standardised coefficients. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

6 Robustness

To assess the robustness of our results, we provide a number of checks, namely: alternative attitudes measures, different estimators, and examine the impact of attitudes on migration stocks and emigration rate.

6.1 Alternative Attitudes Measures

First, we check the robustness of our results with respect to the use of shorter lags in our *Attitudes* measure. As discussed before, the Eurobarometer surveys are typically conducted twice a year: in the Spring and Autumn. We opted for a three-year lag in order to capture attitudes at least a couple of years before immigration occurs. In Appendix Tables A.2 and A.3, we use *Attitudes* lagged two years and one year respectively. Importantly, we find that the *Attitudes* coefficients are very similar to those obtained using three-year lag, thereby confirming our previous results.

Also, in order to establish that our findings are not driven by the choice of our *Attitudes* measure, we use alternative questions/data to measure attitudes, namely: other questions in the Eurobarometer and the European Social Survey (ESS). Appendix Table A.4 presents a robustness check using the following Eurobarometer question: 'Immigrants contribute a lot to our country: Totally agree/Tend to agree/Tend to disagree/Totally disagree'. We code the answers Tend to disagree and Totally disagree as 1, and the answers Tend to agree and Totally agree as 0, so that countries with higher scores reflect more negative attitudes towards migrants. As before, we only consider natives. Data are available for the following years: 1994, 1997, 2000, 2003, 2006, 2008, 2011, 2012, and 2014. We present PPML and PPML
Control Function estimates. The results show that the coefficient of *Attitudes alternative* is negative and significant for intra-EU flows particularly once we control for the reverse causality, confirming the important role of attitudes in influencing immigration flows, and confirming that our results are not driven by how we measure Attitudes.

Secondly, using the European Social Survey (ESS), we use the following question to measure *Attitudes*: 'Immigration is good/bad for country's economy'. The response is on a scale from 0 to 10, where 0 means 'Bad for the economy' while 10 'Good for the economy'.[22] We reverse the scale of the variable so the interpretation is consistent with the *Attitudes* measure used in the main analysis (more negative attitudes towards immigrants translate in higher values of the variable). Also in this case we only consider the answers of natives.[23] Data for the ESS are only available from 2002. In Appendix Table A.5 we replicate the baseline analysis. We present PPML and PPML Control Function estimates. The results show that *AttitudesESS* has a negative coefficient in all the specification, though not always significant given the smaller sample size. Overall, these estimates confirm that our results are not driven by the measure we used to proxy attitudes.

[22] In the analysis we add one to all values, so that the scale ranges from 1 to 11.

[23] In the ESS, natives are defined based on country of birth, whereas in the Eurobarometer they are defined based on nationality.

6.2 Alternative estimations and samples

First, we run the same regressions with two alternative estimators. We first use IV-GMM with an external instrument where we can control for the multilateral resistance to ensure comparability with Table 6. Appendix Table C.8 shows that the coefficient of *Attitudes* is always negative and statistically significant confirming our earlier results.

As an additional robustness, we focus on EU15 only as destinations, and examine intra-EU15, EU28 to EU15 and non-EU to EU15 flows, see Appendix Table C.9. Interestingly, we find similar patterns as before: there is a negative relationship between *Attitudes* and immigration flows to EU15 destinations, particularly from other EU countries. When comparing intra-EU15 and non-EU migration flows to the EU15, a clear distinction emerges in the relative importance of economic conditions and attitudes. For non-EU migrants, GDP per capita exerts a strong positive effect (coefficient 3.326, equivalent to 0.122 standard deviations), indicating that income differences are a dominant driver of inflows, while anti-immigration attitudes play only a modest additional role (coefficient -0.016, equivalent to –0.025 standard deviations). By contrast, for EU15 migrants, GDP per capita is negligible, while the effect of attitudes is relatively more important (coefficient -0.018, equivalent to –0.029 standard deviations). This suggests that intra-EU15 mobility is more sensitive to the public attitudes towards immigration, whereas non-EU migration is primarily shaped by economic incentives.

6.3 Migration Stocks and Emigration Rates: Alternative dependent variables

In this sub-section we describe the estimations we run on two alternative dependent variables. The first one is the bilateral stocks of migrants. Since bilateral data on outflows are not available for all the countries and time periods, we use migration stocks to capture net migration trends i.e. the difference between inflows and outflows trends. In essence we hypothesize that anti-immigration attitudes also have a negative impact on migrant stocks. A rise in natives' hostility is likely to push immigrants to leave the host country. For example, following the Brexit vote in the UK, anecdotal evidence has suggested that the hostile environment towards EU immigrants in the UK and the feeling that they are not wanted there, have led to many immigrants leaving the UK. Similar to migration flows, we use bilateral migration stock data from the OECD International Migration Database.

Appendix Table D.10 presents the OLS and PPML estimates while Appendix Table D.11 shows the IV estimates using 2SLS and the PPML with control function. Also, Appendix Table D.12 shows the IV GMM estimates. These estimates confirm the results we found on the inflows and suggest that anti-immigration attitudes have a negative effect also on migration stocks both for EU and non-EU migration.

Following the literature, we also examine the impact of attitudes on emigration rates which is defined as the share of migrants from origin *i* in destination *j* relative to the total population of origin *i*, see for example Bertoli and Fernández-Huertas Moraga (2013) and Gorinas and Pytliková (2017). This measure captures the propensity to emigrate and allows us to examine the role played by natives' attitudes on the emigration rate. Again we distinguish between EU and non-EU countries of origin. Appendix Table D.13 presents the OLS and PPML baseline results where the coefficient of *Attitudes* is negative and significant in all estimations. Appendix Table D.14 shows the 2SLS and PPML with control function, where the 2SLS estimates are not significant while the PPML control function shows

a negative coefficient. The results also suggest that natives' attitudes have a larger relative importance for intra-EU emigration rates compared to non-EU emigration rates into the EU. A one standard deviation increase in anti-immigration attitudes reduces the emigration rate by 0.059 standard deviations (coefficient -0.032) from other EU countries and by 0.033 standard deviations (coefficient

-0.019) from non-EU countries (based on the PPML control function estimates in Appendix Table D.14). Appendix Table D.15 shows the IV GMM estimates which are also consistent with the PPML control function estimates and are negative and statistically significant. These findings confirm a negative relationship between anti-immigration attitudes and emigration rates.

Thus, overall, our findings show the role played by natives' attitudes as a negative determinant of migration which hold for immigration flows, migration stocks and emigration rates using various estimation techniques.

7 Conclusion

Against a backdrop of rising anti-immigration sentiment in Europe, this paper provides causal evidence that natives' attitudes towards immigration are an important determinant of bilateral migration flows to the EU. While most existing work focuses on how immigration shapes public attitudes, our analysis establishes the reverse channel. Negative public attitudes can deter potential migrants by increasing expected social and economic costs through discrimination, weaker labour market prospects, reduced access to social services, and concerns about social exclusion and integration, thereby influencing destination choices. Using bilateral panel data for migration flows to the EU between 2000 and 2019, we examine the effect of anti-immigration attitudes on immigration flows while controlling for the main determinants conventionally used in the literature. To address the endogeneity between public attitudes and migration flows, we implement an instrumental variable strategy using broadband Internet penetration in destination countries. We further account for the interdependence across destination countries by including origin–time fixed effects and subject our analysis to a wide range of robustness checks.

Our results show that anti-immigration attitudes have a negative and statistically significant impact on subsequent immigration flows to the EU. The relative importance of negative attitudes in discouraging immigration flows appears to be higher for intra-EU migration compared to immigration from non-EU countries. The results also highlight notable differences between EU and non-EU immigration flows. For non-EU migration, economic conditions (GDP per capita) are important drivers. In contrast, for intra-EU migration, the relative impact of economic conditions is smaller, and public attitudes play a more pronounced role, particularly for migration within the EU15. These findings suggest that, although both types of immigration flows respond to labour market conditions (unemployment) and network effects, intra-EU migration is more sensitive to public attitudes, whereas non-EU migration is driven more by economic incentives. This pattern is consistent with the principle of free movement, which makes EU migration more responsive to social and political conditions in destination countries. Non-EU inflows, by contrast, are constrained by restrictive policies and strong push factors, making them less sensitive to public sentiment.

While our analysis identifies a causal effect of public attitudes on immigration flows, data constraints prevent us from directly examining heterogeneity by migrants' skill levels or fully disentangling the underlying mechanisms, such as discrimination or perceived social exclusion.

Nonetheless, our findings are consistent with a channel whereby hostile public attitudes raise migrants' expected costs of settlement and integration, reducing the relative attractiveness of otherwise similar destinations. Future research combining attitudinal data with micro level migration and labour market information would be valuable in assessing how public sentiment affects migrant selection, integration trajectories, and long-term economic outcomes.

One important implication of our findings is that hostile public attitudes can undermine countries' ability to attract and retain migrants. In times when there are labour shortages and governments want to attract the best and the brightest, anti-immigration attitudes may discourage immigration. Importantly, anti-immigration attitudes impact migration within the EU as well, suggesting that public attitudes might pose a hurdle for intra-EU labour mobility. Overall, our results point to the importance of fostering social cohesion between natives and immigrants in order to reduce social tensions and misperceptions about immigration, and to support more efficient and inclusive labour markets.

Supplementary Material

Supplementary material is available at the Oxford Economic Papers Journal online. These are the data and replication files and the online appendix.

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Conflict of Interest

The authors declare that they have no conflicts of interest.

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Natives' Attitudes and Immigration Flows to Europe

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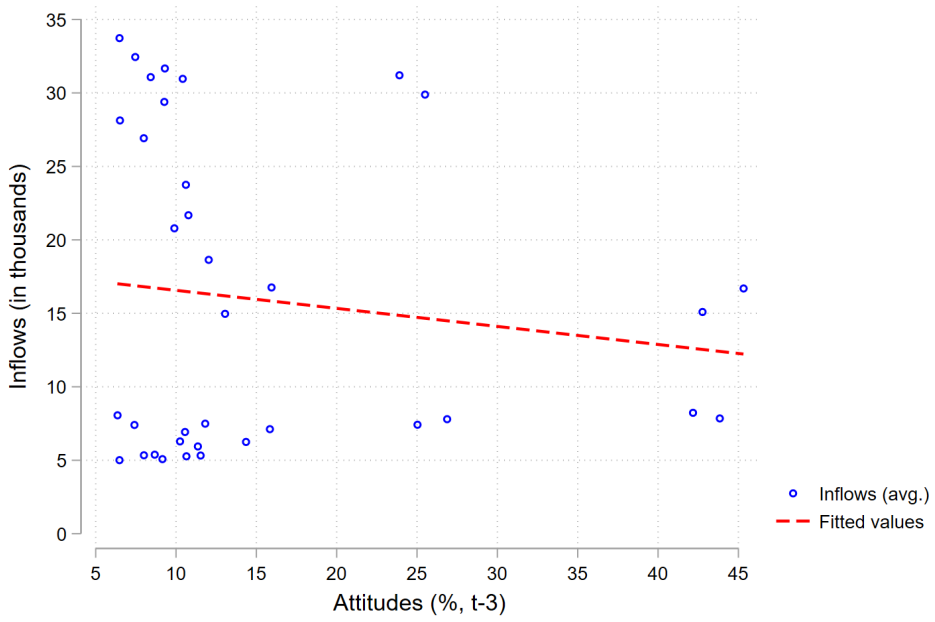
1 Online Appendix

A Attitudes Measure

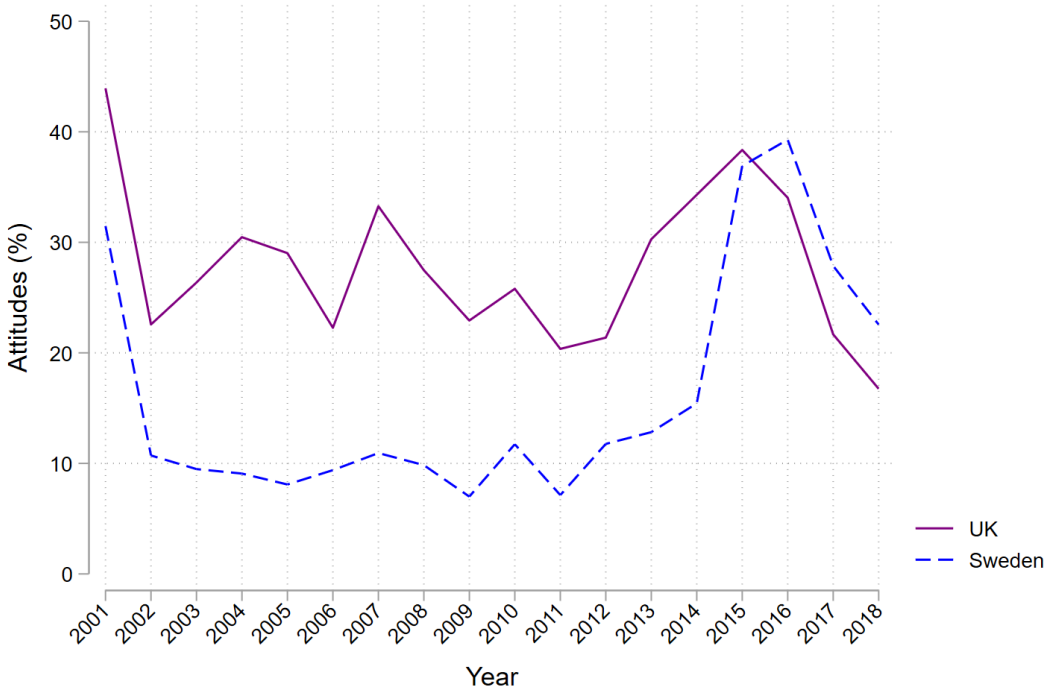
A.1 Correlation between Attitudes and immigration flows

Figure A.1: Attitudes and migration inflows: 2000-2019



Source: Authors' calculations based on Eurobarometer and OECD International Migration Database. **Notes:** The graph plots the linear relationship between *Attitudes* (lagged three years) and migration inflows based on the countries' average.

Figure A.2: Anti-immigration attitudes trends in the United Kingdom and Sweden, 2001-2018



Source: Authors' calculations based on Eurobarometer, years 2001 - 2018. **Notes:** Anti-immigration attitudes trends in the UK and Sweden in 2001-2018.

A.2 Correlation between Salience and Negative Immigrants' Contribution

First, we check the correlation between our *Attitudes* measure, which captures individuals concern about immigration (salience), and another question in the Eurobarometer that is more specifically targeted at proxying attitudes towards migrants. More specifically, we use the following Eurobarometer question: *'Immigrants contribute a lot to our country: Totally agree/Tend to agree/Tend to disagree/Totally disagree'*. We code the answers *Tend to disagree* and *Totally disagree* as 1 and the answers *Tend to agree* and *Totally agree* as 0, so that the dummy takes the value 1 if the individual has negative attitudes towards immigration. As before, we only consider the answers of natives. We have information for the following years only: 1997, 2003, 2006, 2008, 2011, 2012, and 2014. We run a simple OLS regression where the dependent variable is our original measure of attitudes based on concern/salience, which in Table A.1 is labelled *Attitudes*, and the main independent variable is the *Attitudes (Negative Contribution)* dummy described above. Differently from our main specification, the units of analysis of the regressions presented in Table A.1 are the individuals rather than the countries. In Column 1 we do not add any controls or fixed effects, in Column 2 we add year and country fixed effects, and in Column 3 we add some basic individuals' socioeconomic characteristics. The results show that the coefficient of *Attitudes* (Negative Contribution) is positive and highly significant in all three specifications, confirming a positive correlation between negative attitudes and perception of migration salience. The results also indicate that individuals who perceive immigrants as contributing negatively are about 5 percentage points more likely to consider immigration a salient issue. Since the salience variable is measured in percentage terms, this represents a sizable and meaningful association between negative attitudes and the importance individuals attach to immigration. This suggests that, although negative attitudes and salience might be two different dimensions of attitudes (Hatton, 2021), negative attitudes nevertheless play an important role in influencing individuals' perceptions of immigration salience.

Table A.1: Relationship between Attitudes (Salience) and Attitudes (Negative Immigrants' Contribution)

	OLS	OLS	OLS
	Attitudes	Attitudes	Attitudes
	(1)	(2)	(3)
Attitudes (Neg. contribution)	0.047***	0.050***	0.050***
	(0.002)	(0.002)	(0.002)
Male			0.005**
			(0.002)
Age			-0.000**
			(0.000)
Married			-0.007***
			(0.002)
Employed			0.001
			(0.002)
Age left education			-0.001**
			(0.000)
Country FE	No	Yes	Yes
Year FE	No	Yes	Yes
Observations	136248	136248	136248
R-squared	0.006	0.054	0.054

Notes: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on Eurobarometer data, various years.

A.3 Different Lags in Attitudes

Table A.2: Natives' Attitudes and Migration Inflows: PPML with control function approach by EU and non-EU origin, Attitudes lagged by two years

	Total sample	EU	Non-EU
	Inflows	Inflows	Inflows
	(1)	(2)	(3)
Attitudes (%, t-2)	-0.029**	-0.037**	-0.015
	(0.012)	(0.014)	(0.016)
GDPpc dest (ln, t-1)	1.088	0.884	1.059
	(1.001)	(1.391)	(1.115)
Unempl. dest (ln, t-1)	-0.138***	-0.138***	-0.125***
	(0.020)	(0.021)	(0.025)
Distance (ln)	-0.284***	-0.297**	-0.130
	(0.073)	(0.109)	(0.169)
Contiguity	0.085	-0.029	0.827**
	(0.124)	(0.121)	(0.322)
Common language	0.375***	0.340*	0.415***
	(0.083)	(0.183)	(0.118)
Colonial ties	0.095	0.062	0.045
	(0.084)	(0.196)	(0.098)
Policy change (t-1)	0.019	0.007	0.046
	(0.041)	(0.052)	(0.049)
Common religion	0.329**	0.341	0.691**
	(0.156)	(0.241)	(0.218)
Networks (ln, t-5)	0.704***	0.664***	0.705***
	(0.035)	(0.050)	(0.027)
Destination FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	42449	6290	36159
Pseudo R-squared	0.949	0.959	0.943

Notes: Bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, **$p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table A.3: Natives' Attitudes and Migration Inflows: PPML with control function approach by EU and non-EU origin, Attitudes lagged by one year

	Total sample	EU	Non-EU
	Inflows	Inflows	Inflows
	(1)	(2)	(3)
Attitudes (%, t-1)	-0.029**	-0.031*	-0.022
	(0.014)	(0.018)	(0.019)
GDPpc dest (ln, t-1)	-0.048	-0.432	0.257
	(0.954)	(1.513)	(0.936)
Unempl. dest (ln, t-1)	-0.151***	-0.142***	-0.143***
	(0.025)	(0.031)	(0.033)
Distance (ln)	-0.310***	-0.334**	-0.159
	(0.074)	(0.112)	(0.180)
Contiguity	0.075	-0.032	0.767**
	(0.130)	(0.133)	(0.336)
Common language	0.413***	0.368**	0.456***
	(0.092)	(0.186)	(0.126)
Colonial ties	0.119	0.078	0.041
	(0.091)	(0.201)	(0.101)
Policy change (t-1)	-0.007	-0.015	0.033
	(0.041)	(0.043)	(0.050)
Common religion	0.338**	0.296	0.764**
	(0.164)	(0.269)	(0.235)
Networks (ln, t-5)	0.684***	0.628***	0.692***
	(0.038)	(0.064)	(0.028)
Destination FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	43486	6466	37020
Pseudo R-squared	0.946	0.955	0.941

Notes: Bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

A.4 Alternative Measures of Attitudes

Table A.4: Natives' Attitudes and Migration Inflows, alternative attitude measure based on Eurobarometer: PPML and PPML with control function approach, by EU and non-EU origin

	PPML			PPML with CF		
	Total sample	EU	Non-EU	Total sample	EU	Non-EU
	(1)	(2)	(3)	(4)	(5)	(6)
	Inflows (ln)	Inflows (ln)	Inflows (ln)	Inflows	Inflows	Inflows
Attitudes alternative (%, t-3)	-0.009	-0.177	0.186	-0.267	-0.668**	-0.014
	(0.171)	(0.303)	(0.173)	(0.216)	(0.330)	(0.244)
GDPpc dest (ln, t-1)	0.023	-0.054	0.264	-0.025	-0.145	0.220
	(0.153)	(0.165)	(0.161)	(0.160)	(0.190)	(0.183)
Unempl. dest (ln, t-1)	-0.053***	-0.074***	-0.035***	-0.056***	-0.078***	-0.038***
	(0.009)	(0.014)	(0.008)	(0.011)	(0.019)	(0.009)
Distance (ln)	0.052	0.090	0.116	0.043	0.075	0.109
	(0.080)	(0.088)	(0.195)	(0.100)	(0.111)	(0.235)
Contiguity	0.045	-0.032	0.751**	0.045	-0.010	0.722*
	(0.124)	(0.126)	(0.288)	(0.158)	(0.155)	(0.407)
Common language	-0.058	-0.045	-0.020	-0.075	-0.058	-0.032
	(0.055)	(0.096)	(0.077)	(0.070)	(0.147)	(0.102)
Colonial ties	0.080	0.136	-0.003	0.058	0.111	-0.018
	(0.075)	(0.125)	(0.099)	(0.102)	(0.207)	(0.125)
Policy change (t-1)	0.153***	0.077	0.187**	0.184***	0.116	0.217**
	(0.044)	(0.065)	(0.064)	(0.051)	(0.077)	(0.072)
Common religion	0.197	0.018	0.726***	0.233	0.114	0.756***
	(0.135)	(0.189)	(0.184)	(0.163)	(0.213)	(0.217)
Networks (ln, t-5)	0.892***	0.886***	0.900***	0.898***	0.899***	0.903***
	(0.017)	(0.026)	(0.023)	(0.021)	(0.034)	(0.028)
Origin-time FE	Yes	Yes	Yes	Yes	Yes	Yes
First-stage residuals control				Yes	Yes	Yes
Observations	14382	2123	12259	14382	2123	12259
Pseudo R-squared	0.939	0.943	0.932	0.939	0.945	0.932

Notes: Column 1-3: standard errors clustered at the country-pair level in parentheses. Column 4-6: bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, **$p < 0.05$, *** $p < 0.001$. Our main variable of interest, *Attitudes_alternative* is based on the Eurobarometer question: *'Immigrants contribute a lot to our country: Totally agree/Tend to agree/Tend to disagree/Totally disagree'*. The variable ranges from 0 to 1 where 1 indicates most negative attitudes towards migrants. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table A.5: Natives' Attitudes and Migration Inflows, alternative attitude measure based on the ESS: PPML and PPML with control function approach, by EU and non-EU origin

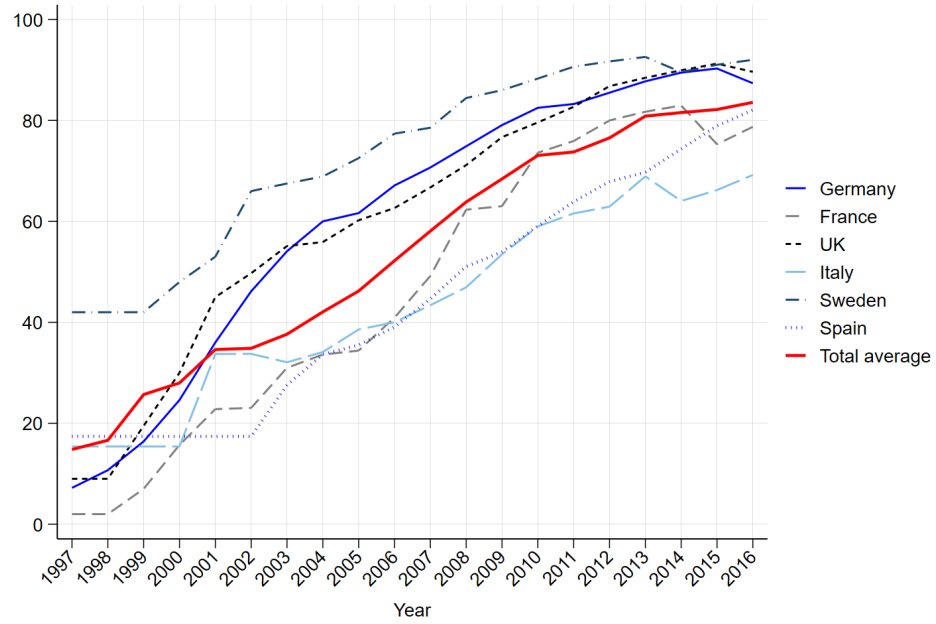
	PPML			PPML with CF		
	Inflows (ln)			Inflows		
	Total sample	EU	Non-EU	Total sample	EU	Non-EU
	(1)	(2)	(3)	(4)	(5)	(6)
Attitudes ESS (t-3)	-0.096**	0.084	-0.173***	-0.297***	-0.151	-0.320***
	(0.035)	(0.056)	(0.032)	(0.060)	(0.101)	(0.054)
GDPpc dest (ln, t-1)	-0.203	0.348**	-0.340**	-0.337**	0.126	-0.430**
	(0.153)	(0.176)	(0.139)	(0.151)	(0.190)	(0.162)
Unempl. dest (ln, t-1)	-0.069***	-0.088***	-0.052***	-0.069***	-0.084***	-0.054***
	(0.008)	(0.014)	(0.006)	(0.010)	(0.019)	(0.007)
Distance (ln)	-0.082	0.073	-0.069	-0.109	-0.002	-0.048
	(0.062)	(0.070)	(0.111)	(0.077)	(0.095)	(0.139)
Contiguity	-0.013	-0.075	0.489**	-0.051	-0.076	0.393
	(0.111)	(0.095)	(0.205)	(0.128)	(0.121)	(0.319)
Common language	-0.028	-0.083	0.051	0.084	-0.002	0.113
	(0.048)	(0.069)	(0.057)	(0.064)	(0.106)	(0.082)
Colonial ties	0.091	0.260*	-0.037	0.058	0.147	-0.037
	(0.069)	(0.138)	(0.066)	(0.083)	(0.202)	(0.091)
Policy change (t-1)	0.125***	0.136***	0.139**	0.113**	0.103**	0.135**
	(0.035)	(0.038)	(0.053)	(0.044)	(0.045)	(0.068)
Common religion	0.413***	0.394**	0.827***	0.338**	0.269	0.745***
	(0.106)	(0.164)	(0.135)	(0.129)	(0.167)	(0.160)
Networks (ln, t-5)	0.897***	0.902***	0.903***	0.892***	0.890***	0.903***
	(0.012)	(0.017)	(0.016)	(0.016)	(0.026)	(0.022)
Origin-time FE	Yes	Yes	Yes	Yes	Yes	Yes
First-stage residuals control				Yes	Yes	Yes
Observations	24244	3716	20528	24244	3716	20528
Pseudo R-squared	0.958	0.963	0.951	0.960	0.965	0.953

Notes: Columns 1-3: standard errors clustered at the country-pair level in parentheses. Columns 4-6: bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, **$p < 0.05$, *** $p < 0.001$. Our main variable of interest, *Attitudes ESS*, is based on the European Social Survey (ESS) question: *'Immigration is good/bad for country's economy'*. The variable ranges from 1 to 11 where 11 indicates most negative attitudes towards migrants. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

B IV: Variation and Validity

B.1 Variation of the IV

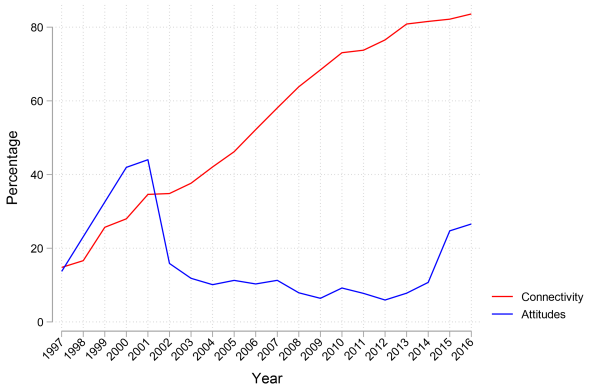
Figure B.3: IV trend, total average and selected countries, 1997-2018



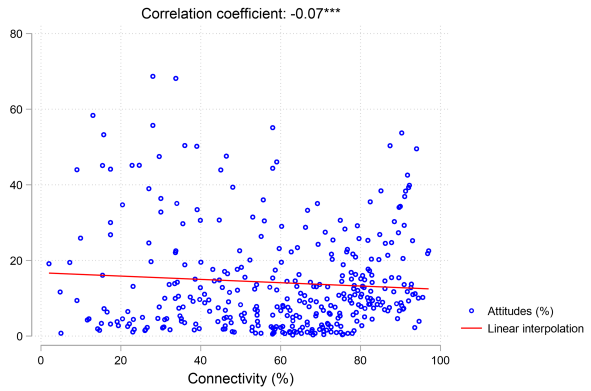
Source: Authors' calculations based on ITU data, years 1997 - 2018. The Figure plots the time trend of our IV for the total sample average and 6 selected countries.

Figure B.4: IV and attitudes correlation, 1997-2018

(a) Time trend



(b) Correlation

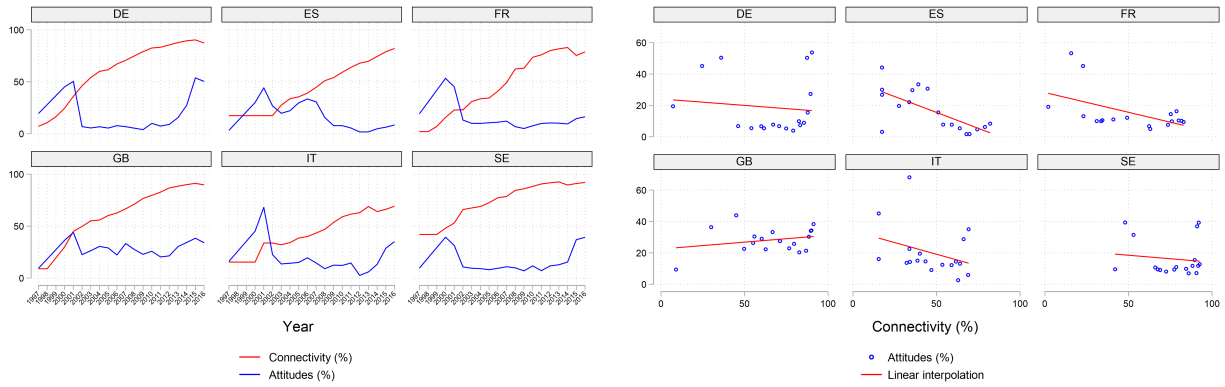


Source: Authors' calculations based on Eurobarometer and ITU data, years 1997 - 2018.

Figure B.5: IV and attitudes correlation, selected countries, 1997-2018

(a) Time trend

(b) Correlation



Source: Authors' calculations based on Eurobarometer and ITU data, years 1997 - 2018.

B.2 First stage of the 2SLS

Table B.6: First stage of the 2SLS (Table 4)

	Total	EU	Non-EU
	Attitudes (%, t-3)	Attitudes (%, t-3)	Attitudes (%, t-3)
	(1)	(2)	(3)
GDPpc dest (ln, t-1)	44.666***	35.344***	48.120***
	(2.138)	(4.978)	(2.363)
Unempl. dest (ln, t-1)	-0.583***	-0.604***	-0.566***
	(0.023)	(0.060)	(0.026)
Distance (ln)	0.059	-0.066	0.148
	(0.064)	(0.105)	(0.115)
Contiguity	-0.086	-0.153	0.273
	(0.127)	(0.143)	(0.308)
Common language	-0.310***	0.022	-0.311***
	(0.069)	(0.155)	(0.076)
Colonial ties	-0.288***	0.092	-0.425***
	(0.078)	(0.147)	(0.089)
Policy change (t-1)	-0.177**	-0.141	-0.218**
	(0.062)	(0.165)	(0.067)
Common religion	-0.219**	-0.322**	-0.179*
	(0.083)	(0.145)	(0.099)
Networks (ln, t-5)	0.222***	0.068	0.251***
	(0.021)	(0.084)	(0.023)
Connectivity (%, t-3)	-0.290***	-0.284***	-0.293***
	(0.014)	(0.034)	(0.015)
Origin-time FE	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes
Observations	41456	6193	35263
R-squared	0.816	0.811	0.818
F-statistics	422.413	46.022	383.854

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

B.3 First stage of the PPML with CF

Table B.7: First stage of the PPML with Control Function approach (Table 6)

	Total	EU	Non-EU
	Attitudes (%, t-3)	Attitudes (%, t-3)	Attitudes (%, t-3)
	(1)	(2)	(3)
GDPpc dest (ln, t-1)	44.819***	35.886***	48.027***
	(2.031)	(4.757)	(2.312)
Unempl. dest (ln, t-1)	-0.573***	-0.591***	-0.562***
	(0.022)	(0.057)	(0.025)
Distance (ln)	0.024	-0.017	0.039
	(0.015)	(0.065)	(0.026)
Contiguity	-0.047	-0.089	0.224
	(0.095)	(0.111)	(0.294)
Common language	-0.051	0.064	-0.004
	(0.048)	(0.132)	(0.047)
Colonial ties	-0.126**	0.128	-0.244***
	(0.059)	(0.129)	(0.067)
Policy change (t-1)	-0.167**	-0.108	-0.223***
	(0.059)	(0.154)	(0.065)
Common religion	-0.012	-0.126	-0.013
	(0.040)	(0.107)	(0.053)
Networks (ln, t-5)	0.083***	0.028	0.092***
	(0.009)	(0.040)	(0.010)
Connectivity (%, t-3)	-0.292***	-0.287***	-0.294***
	(0.013)	(0.032)	(0.015)
Time FE	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes
Observations	41456	6193	35263
R-squared	0.814	0.809	0.816

Notes: Bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, **$p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

C Alternative estimations and samples

Table C.8: Natives' Attitudes and Migration Inflows: IV-GMM, by EU and non-EU origin

	Total sample	EU	Non-EU
	Inflows (1+ln)	Inflows (1+ln)	Inflows (1+ln)
	(1)	(2)	(3)
Attitudes (%, t-3)	-0.009***	-0.010***	-0.008***
	(0.001)	(0.001)	(0.001)
GDPpc dest (ln, t-1)	0.892***	0.522*	0.851***
	(0.159)	(0.278)	(0.177)
Unempl. dest (ln, t-1)	-0.034***	-0.073***	-0.028***
	(0.003)	(0.008)	(0.003)
Distance (ln)	-0.228***	-0.050	-0.517***
	(0.053)	(0.085)	(0.058)
Contiguity	-0.043	0.225**	-0.057
	(0.072)	(0.080)	(0.124)
Common language	0.437***	0.136*	0.479***
	(0.039)	(0.078)	(0.047)
Colonial ties	0.347***	0.115	0.356***
	(0.048)	(0.092)	(0.058)
Policy change (t-1)	0.096***	0.170***	0.080***
	(0.008)	(0.017)	(0.009)
Common religion	0.159***	0.135*	0.228***
	(0.042)	(0.077)	(0.046)
Networks (ln, t-5)	0.719***	0.711***	0.694***
	(0.011)	(0.035)	(0.011)
Origin-time FE	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes
Observations	41456	6193	35263

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table C.9: Natives' Attitudes and Migration Inflows to EU15 Destinations Only: PPML Control Function

	(1) Intra EU15 Inflows	(2) EU28 to EU15 Inflows	(3) Non-EU to EU15 Inflows
Attitudes (%, t-3)	-0.018**	-0.027**	-0.016
	(0.008)	(0.010)	(0.011)
GDPpc dest (ln, t-1)	-0.963	2.898*	3.326*
	(0.876)	(1.631)	(1.810)
Unempl. dest (ln, t-1)	-0.098***	-0.098***	-0.095***
	(0.016)	(0.020)	(0.016)
Distance (ln)	-0.040	-0.319**	-0.077
	(0.086)	(0.118)	(0.165)
Contiguity	0.028	-0.028	0.306
	(0.088)	(0.126)	(0.219)
Common language	0.432**	0.348*	0.349**
	(0.162)	(0.198)	(0.120)
Colonial ties	-0.368	0.044	0.081
	(0.311)	(0.199)	(0.099)
Policy change (t-1)	0.102**	0.019	0.026
	(0.036)	(0.051)	(0.045)
Common religion	0.224	0.350	0.597**
	(0.171)	(0.246)	(0.198)
Networks (ln, t-5)	0.752***	0.661***	0.719***
	(0.064)	(0.061)	(0.030)
Origin-time FE	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes
First-stage residuals control	Yes	Yes	Yes
Observations	2621	4389	27030
Pseudo R-squared	0.957	0.960	0.950

Notes: Bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

D Migration Stocks and Emigration Rates

Table D.10: Natives' Attitudes and Migration stocks: OLS and PPML, by EU and non-EU origin

		OLS			PPML	
	Total	EU	Non-EU	Total	EU	Non-EU
	ln(Stocks)	ln(Stocks)	ln(Stocks)	Stocks	Stocks	Stocks
	(1)	(2)	(3)	(4)	(5)	(6)
Attitudes (%, t-3)	-0.005***	-0.003	-0.006***	-0.010***	-0.012***	-0.009***
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
GDPpc dest (ln, t-1)	0.070	0.341	0.351	-1.348***	-1.166**	-0.366
	(0.240)	(0.445)	(0.269)	(0.360)	(0.534)	(0.533)
Unempl. dest (ln, t-1)	-0.020***	-0.021**	-0.017***	-0.042***	-0.030***	-0.049***
	(0.003)	(0.007)	(0.004)	(0.005)	(0.009)	(0.010)
Distance (ln)	-0.330***	-0.147	-0.661***	-0.106*	0.092	-0.269**
	(0.097)	(0.179)	(0.085)	(0.062)	(0.077)	(0.086)
Contiguity	-0.027	0.250**	0.123	-0.121	0.151	0.442**
	(0.131)	(0.126)	(0.243)	(0.115)	(0.114)	(0.170)
Common language	0.460***	0.292**	0.514***	0.301**	0.298**	0.313***
	(0.068)	(0.136)	(0.076)	(0.095)	(0.149)	(0.092)
Colonial ties	0.380***	0.157	0.324***	-0.204	-0.468**	0.094
	(0.084)	(0.195)	(0.091)	(0.134)	(0.175)	(0.076)
Policy change (t-1)	0.076***	0.113***	0.066***	0.009	0.010	-0.003
	(0.009)	(0.020)	(0.009)	(0.022)	(0.043)	(0.024)
Common religion	0.264**	0.128	0.352***	0.227	-0.027	0.404*
	(0.082)	(0.163)	(0.082)	(0.216)	(0.244)	(0.223)
Networks (ln, t-5)	0.745***	0.749***	0.734***	0.891***	0.922***	0.873***
	(0.018)	(0.080)	(0.014)	(0.024)	(0.031)	(0.033)
Origin-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	33676	5596	28079	33676	5596	28079
R-squared	0.943	0.934	0.942			
Pseudo R-squared				0.963	0.960	0.971

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table D.11: Natives' Attitudes and Migration Stocks: 2SLS and PPML with control function approach, by EU and non-EU origin

	Total	EU	Non-EU	Total	EU	Non-EU
	ln(Stocks)	ln(Stocks)	ln(Stocks)	Stocks	Stocks	Stocks
	2SLS	2SLS	2SLS	PPML with CF	PPML with CF	PPML with CF
	(1)	(2)	(3)	(4)	(5)	(6)
Attitudes (%, t-3)	-0.022***	-0.040***	-0.019***	-0.035***	-0.064***	-0.021**
	(0.004)	(0.010)	(0.004)	(0.008)	(0.015)	(0.009)
GDPpc dest (ln, t-1)	0.889**	2.032**	1.001**	-0.457	0.377	0.044
	(0.348)	(0.690)	(0.397)	(0.517)	(0.757)	(0.775)
Unempl. dest (ln, t-1)	-0.032***	-0.045***	-0.026***	-0.059***	-0.065***	-0.058***
	(0.004)	(0.011)	(0.004)	(0.009)	(0.016)	(0.013)
Distance (ln)	-0.328***	-0.140	-0.658***	-0.103	0.099	-0.267**
	(0.096)	(0.177)	(0.084)	(0.080)	(0.115)	(0.122)
Contiguity	-0.030	0.241*	0.120	-0.124	0.148	0.444
	(0.130)	(0.124)	(0.242)	(0.189)	(0.150)	(0.288)
Common language	0.454***	0.292**	0.510***	0.299**	0.292	0.313**
	(0.068)	(0.133)	(0.076)	(0.149)	(0.205)	(0.118)
Colonial ties	0.374***	0.157	0.317***	-0.213	-0.478	0.090
	(0.084)	(0.196)	(0.091)	(0.218)	(0.489)	(0.107)
Policy change (t-1)	0.077***	0.116***	0.067***	0.004	0.007	-0.007
	(0.009)	(0.022)	(0.010)	(0.025)	(0.042)	(0.030)
Common religion	0.263**	0.123	0.352***	0.223	-0.042	0.399
	(0.082)	(0.161)	(0.082)	(0.289)	(0.305)	(0.301)
Networks (ln, t-5)	0.749***	0.761***	0.737***	0.897***	0.932***	0.875***
	(0.018)	(0.081)	(0.014)	(0.033)	(0.051)	(0.043)
Origin-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes	Yes	Yes	Yes
First-stage residuals control				Yes	Yes	Yes
Observations	33676	5596	28079	33676	5596	28079
R-squared	0.650	0.662	0.652			
Pseudo R-squared				0.963	0.960	0.971
F-statistics	544.040	90.724	535.797			
Kleibergen-Paap statistics	447.687	86.239	359.445			

Notes: Columns 1-3: standard errors clustered at the country-pair level in parentheses. Columns 4-6: bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, **$p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration stocks by nationality, years 2000-2019.

Table D.12: Natives' Attitudes and Migration Stocks: IV-GMM by EU and non-EU origin

	Total sample	EU	Non-EU
	ln(Stocks)	ln(Stocks)	ln(Stocks)
Attitudes (%, t-3)	-0.007***	-0.005**	-0.007***
	(0.001)	(0.002)	(0.001)
GDPpc dest (ln, t-1)	0.152	0.453	0.466*
	(0.217)	(0.405)	(0.246)
Unempl. dest (ln, t-1)	-0.020***	-0.023***	-0.016***
	(0.003)	(0.006)	(0.004)
Distance (ln)	-0.262**	-0.091	-0.552***
	(0.082)	(0.151)	(0.073)
Contiguity	-0.037	0.178*	0.145
	(0.115)	(0.101)	(0.223)
Common language	0.342***	0.270**	0.394***
	(0.061)	(0.115)	(0.068)
Colonial ties	0.285***	0.145	0.236**
	(0.075)	(0.178)	(0.079)
Policy change (t-1)	0.083***	0.116***	0.073***
	(0.008)	(0.017)	(0.008)
Common religion	0.217**	0.102	0.303***
	(0.072)	(0.137)	(0.074)
Networks (ln, t-5)	0.824***	0.843***	0.809***
	(0.017)	(0.074)	(0.015)
Origin-time FE	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes
Observations	33676	5596	28080

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, **$p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration stocks by nationality, years 2000-2019.

Table D.13: Natives' Attitudes and Emigration Rates: OLS and PPML, by EU and non-EU origin

	OLS			PPML		
	Total	EU	Non-EU	Total	EU	Non-EU
	ln(Infl./pop_ori)	ln(Infl./pop_ori)	ln(Infl./pop_ori)	Infl./pop_ori	Infl./pop_ori	Infl./pop_ori
	(1)	(2)	(3)	(4)	(5)	(6)
Attitudes (%, t-3)	-0.010***	-0.006***	-0.010***	-0.022***	-0.018***	-0.024***
	(0.001)	(0.002)	(0.001)	(0.002)	(0.003)	(0.003)
GDPpc dest (ln, t-1)	1.016***	0.831**	0.873***	3.455**	2.022	4.303**
	(0.200)	(0.304)	(0.232)	(1.386)	(1.339)	(1.927)
Unempl. dest (ln, t-1)	-0.038***	-0.056***	-0.035***	-0.103***	-0.095***	-0.107***
	(0.004)	(0.007)	(0.004)	(0.012)	(0.015)	(0.015)
Distance (ln)	-0.372***	-0.364***	-0.557***	-0.304***	-0.330***	-0.180*
	(0.037)	(0.072)	(0.066)	(0.049)	(0.069)	(0.107)
Contiguity	-0.178**	0.160*	-0.095	-0.065	0.036	0.419**
	(0.067)	(0.090)	(0.144)	(0.083)	(0.083)	(0.190)
Common language	0.521***	0.160	0.558***	0.377***	0.106	0.393***
	(0.049)	(0.112)	(0.056)	(0.075)	(0.101)	(0.090)
Colonial ties	0.404***	0.014	0.396***	0.154**	-0.115	0.227**
	(0.055)	(0.135)	(0.062)	(0.069)	(0.096)	(0.082)
Policy change (t-1)	0.095***	0.145***	0.083***	0.047	0.050	0.042
	(0.011)	(0.019)	(0.012)	(0.039)	(0.032)	(0.056)
Common religion	0.208***	0.183**	0.289***	0.539***	0.237	0.895***
	(0.050)	(0.080)	(0.060)	(0.115)	(0.150)	(0.183)
Networks (ln, t-5)	0.671***	0.527***	0.670***	0.741***	0.694***	0.732***
	(0.012)	(0.041)	(0.012)	(0.024)	(0.037)	(0.029)
Origin-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35710	6042	29668	41292	6193	35099
R-squared	0.907	0.891	0.901			
Pseudo R-squared				0.245	0.196	0.254

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, **$p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table D.14: Natives' Attitudes and Emigration rate: 2SLS and PPML with control function approach, by EU and non-EU origin

	Total	EU	Non-EU	Total	EU	Non-EU
	ln(Infl./pop_ori)	ln(Infl./pop_ori)	ln(Infl./pop_ori)	Infl./pop_ori	Infl./pop_ori	Infl./pop_ori
	2SLS	2SLS	2SLS	PPML with CF	PPML with CF	PPML with CF
	(1)	(2)	(3)	(4)	(5)	(6)
Attitudes (%, t-3)	0.001	-0.002	0.004	-0.030**	-0.032**	-0.019
	(0.004)	(0.009)	(0.004)	(0.012)	(0.016)	(0.016)
GDPpc dest (ln, t-1)	0.668**	0.756**	0.359	3.699**	2.389*	4.138*
	(0.242)	(0.384)	(0.280)	(1.684)	(1.333)	(2.500)
Unempl. dest (ln, t-1)	-0.031***	-0.053***	-0.025***	-0.108***	-0.105***	-0.103***
	(0.004)	(0.010)	(0.005)	(0.017)	(0.021)	(0.020)
Distance (ln)	-0.375***	-0.366***	-0.560***	-0.302***	-0.326**	-0.181
	(0.038)	(0.071)	(0.067)	(0.070)	(0.106)	(0.148)
Contiguity	-0.178**	0.161*	-0.097	-0.065	0.038	0.420
	(0.068)	(0.090)	(0.143)	(0.121)	(0.151)	(0.313)
Common language	0.526***	0.160	0.565***	0.376***	0.101	0.393**
	(0.050)	(0.112)	(0.057)	(0.106)	(0.167)	(0.135)
Colonial ties	0.408***	0.013	0.402***	0.152	-0.115	0.230*
	(0.055)	(0.135)	(0.062)	(0.107)	(0.184)	(0.130)
Policy change (t-1)	0.096***	0.145***	0.086***	0.045	0.051	0.044
	(0.011)	(0.019)	(0.012)	(0.050)	(0.038)	(0.074)
Common religion	0.211***	0.185**	0.292***	0.538***	0.233	0.897***
	(0.051)	(0.081)	(0.061)	(0.151)	(0.201)	(0.242)
Networks (ln, t-5)	0.668***	0.525***	0.665***	0.742***	0.697***	0.731***
	(0.012)	(0.041)	(0.012)	(0.032)	(0.057)	(0.039)
Origin-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes	Yes	Yes	Yes
First-stage residuals control				Yes	Yes	Yes
Observations	35710	6042	29668	41292	6193	35099
R-squared	0.634	0.574	0.634			
Pseudo R-squared				0.245	0.196	0.254
F-statistics	860.180	107.678	759.050			
Kleibergen-Paap statistics	459.044	66.645	394.779			

Notes: Columns 1-3: standard errors clustered at the country-pair level in parentheses. Columns 4-6: bootstrapped standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, **$p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration inflows by nationality, years 2000-2019.

Table D.15: Natives' Attitudes and Emigration Rates : IV-GMM by EU and non-EU origin

	Total sample	EU	Non-EU
	ln(Infl./pop_ori)	ln(Infl./pop_ori)	ln(Infl./pop_ori)
Attitudes (%, t-3)	-0.010***	-0.006***	-0.010***
	(0.001)	(0.001)	(0.001)
GDPpc dest (ln, t-1)	0.976***	0.825**	0.835***
	(0.178)	(0.265)	(0.207)
Unempl. dest (ln, t-1)	-0.040***	-0.059***	-0.036***
	(0.003)	(0.007)	(0.004)
Distance (ln)	-0.348***	-0.334***	-0.529***
	(0.035)	(0.064)	(0.062)
Contiguity	-0.177**	0.148*	-0.092
	(0.062)	(0.081)	(0.134)
Common language	0.488***	0.154	0.530***
	(0.046)	(0.102)	(0.053)
Colonial ties	0.375***	0.015	0.372***
	(0.050)	(0.123)	(0.056)
Policy change (t-1)	0.095***	0.136***	0.085***
	(0.009)	(0.014)	(0.010)
Common religion	0.193***	0.167**	0.277***
	(0.047)	(0.073)	(0.056)
Networks (ln, t-5)	0.693***	0.558***	0.688***
	(0.012)	(0.036)	(0.013)
Origin-time FE	Yes	Yes	Yes
Destination FE	Yes	Yes	Yes
Observations	35710	6042	29668

Notes: Standard errors clustered at the country-pair level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. **Source:** Authors' calculations based on OECD data on migration stocks by nationality, years 2000-2019.