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Should they stay or should they go?
Attitudes towards immigration in Europe

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Abstract:

This paper examines opposition towards immigration in Europe. Although we find evidence that both economic and non-economic variables shape attitudes towards the arrival of immigrants, the relative importance of these factors depends crucially on the race/ethnicity of the arriving immigrants. We find that more exposure to immigrants reduces opposition towards the arrival of different race immigrants, while fears over labour market competition are more likely to shape attitudes towards the arrival of same race immigrants. Social welfare considerations are also important in determining attitudes towards further immigration, but mainly towards those of a different race.

Key words: Attitudes, Immigration, European Union

JEL: F1, F22, J61

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1. Introduction

Immigration is often a hotly debated topic and one that is likely to loom large in political and media circles throughout Europe and the US as worsening economic conditions take hold. Tensions between natives and immigrants are often portrayed, in the media at least, as being at their worse in an economic downturn as immigrants and natives compete for scarce jobs and public resources.[1] With this in mind, this paper investigates the extent to which economic and non-economic factors affect opposition towards immigration in Europe, and in doing so focuses on an issue that has surprisingly received much less attention in the literature, the extent to which attitudes towards immigration vary with the race or ethnicity of the arriving immigrants.

The effect immigrants have on the native population has been investigated in a number of papers, across a wide range of countries. However, despite the plethora of studies in this area, research that focuses specifically on Europe is rare.[2] This is surprising since Europe, and especially countries within the European Union (EU) have experienced large influxes of foreign labour following the collapse of the Soviet Union and the recent expansions of the EU, and understanding how individuals perceive arriving immigrants is undoubtedly important in shaping immigration policies.[3] In addition, much of the resulting evidence on the factors that shape opposition towards immigration appears mixed. On the one hand, a large literature has developed which finds that attitudes towards the arrival of immigrants are strongly shaped by economic self-interest (see, Mayda, 2006; Scheve and Slaughter, 2001; and Kessler, 2001). Scheve and Slaughter (2001), for example, argue that an individual's attitude towards immigration is influenced by his/her position in the labour market. Similarly, Mayda (2006) finds that skilled individuals are more likely to favour immigration in countries where the relative skill composition of natives relative to immigrants is high and vice versa.[4] It would thus appear that native workers are more likely to oppose immigration when they feel threatened by labour market competition from migrants. In contrast, Hainmueller and Hiscox (2005), using European data,

[1] For example, the Daily Telegraph (UK): 'Recession will fuel racial tensions, Hazel Blears admits', January 11th, 2009; Times (UK): 'Wildcat strikes over foreign workers spread across Britain', January 30th, 2009; Irish Times (Ireland): 'Balance needed on immigration – Lenihan', November 12th, 2008.

[2] See, for example, Facchini, et al. (2007), Scheve and Slaughter (2001), Citrin et al. (1997) and Espenshade and Hempstead (1996) for the US; Dustman and Preston (2001) for the UK; Hainmuller and Hiscox (2005) for Europe; and Facchini and Mayda (2008) and Mayda (2006) for a range of countries including the US, Canada and Japan.

[3] There have been five enlargements to the EU since its creation in 1957, with the largest expansion on the 1st May 2004 when ten new members joined.

[4] Such findings are consistent with the labour market predictions of the Heckscher-Ohlin model whereby if natives are more skilled than immigrants, immigration should reduce the supply of skilled workers relative to unskilled workers and raise the skilled wage, whereas the opposite is true in countries with a low skill composition of natives relative to immigrants.

find that the relationship between education (which is often used as a proxy for skill) and attitudes towards immigrants has little to do with fears of labour market competition. Similarly, Citrin et al. (1997) find little role for personal economic circumstances in shaping attitudes towards immigrants, while Dustmann and Preston (2001) assert that racial prejudice is the most important factor.

Finally, there is a small, but growing literature which finds that welfare considerations are also important in determining attitudes towards immigration. Hanson, et al. (2005) using data for the US find that exposure to fiscal pressure from migrants increases opposition towards immigration, especially among the more-skilled. Similarly, Facchini and Mayda (2009) using a cross-country study find that individuals on a high income are more likely to oppose immigration in countries where immigrants are unskilled and therefore represent a net burden to the welfare state (and vice versa when immigrants are skilled). Dustmann and Preston (2007) also find that welfare concerns play a major role in determining attitudes towards immigration.

It should be noted that a drawback of many of these papers is that they assume that natives view all immigrants in the same way.[5] However, it is likely that attitudes towards immigration will vary with the race or ethnicity of the arriving immigrants, and be strongly affected by a country's immigration history. Thus grouping all immigrants together and pooling across countries, as is common in the literature, is likely to produce mixed results. Another limitation of much of the current work is that it focuses on a single cross-section, or a series of repeated cross-sections.

We attempt to address these limitations by conducting an analysis of attitudes towards immigration using three waves of data from the European Social Survey (ESS). The ESS is a particularly rich data set for examining some of the issues surrounding immigration. In particular, it enables us to investigate the extent to which attitudes towards the arrival of immigrants vary with the race or ethnicity of the arriving immigrants. In addition, although the ESS is not a panel and hence the same individuals cannot be 'tracked' over time we are, nevertheless, able to use the data to construct a pseudo panel (see, for example, Deaton, 1985) and track different 'cohorts' over time in order to eliminate any unobserved fixed effects.

Moreover, a common method to gauge the impact foreign workers have on the domestic labour market is to control for the relative income and education level (as a proxy for skill) of the native population. We refine this approach and match in data from the European Union Labour

[5] An exception to this is Dustmann and Preston (2007) who take the race of the immigrants into consideration.

Force Survey (EU LFS) to examine the effect the size of the immigrant population has on attitudes towards the arrival of immigrants. Indubitably there are two conflicting effects at work in this context. Firstly, individuals fear what they do not know, so more exposure to immigrants in daily life could reduce opposition towards further immigration.[6] Secondly, as already mentioned, native workers are more likely to oppose immigration when they feel threatened by labour market competition from migrants. Increased competition is likely to induce downward pressure on labour market opportunities and wages. We attempt to separate these conflicting effects by controlling for both the proportion of non-nationals in each region and the proportion of non-nationals in a given occupation. We argue that the former proxies for the degree of 'contact' respondents have with immigrants, while the latter captures the so-called 'competition effect'.

We find that contact is indeed important in shaping attitudes towards further immigration, but only towards those of a different race. In general more exposure to immigrants reduces opposition towards the arrival of different race immigrants, but perhaps not surprisingly has no effect on attitudes towards the arrival of same race immigrants.

In contrast, we find evidence of a positive association between our proxy for labour market competition and a restrictive immigration policy (Mayda, 2006, finds a similar result). However, once again race/ethnicity has an important role to play. Natives appear to regard same race immigrants as representing a greater 'threat' (whether perceived or actual) to their labour market opportunities than different race immigrants. Interestingly, this result is also correlated with the respondent's level of education. We find that highly educated Europeans (those with a post-secondary education) perceive labour market competition from same race immigrants only.

Finally, we find that public finance considerations are also important in shaping attitudes towards immigration, but mainly towards those of a different race. Natives clearly perceive that different race immigrants are more likely to make use of public funds than same race immigrants. Dustmann and Preston (2007) make a similar finding in their study on the UK.

Taking these results together the following 'story' emerges. An individual's attitude towards immigration is clearly a complex interplay of factors. It is not just shaped by economic self-interest, but is also shaped by non-economic factors, such as a 'fear' of the unknown, cultural considerations, and welfare concerns. However, perhaps more than most, this study highlights

[6] Card, et al. (2005) also suggest that greater contact with immigrants may either increase or decrease the perceived threat posed by immigrants.

that the relative importance of any factor, be it economic or non-economic, in shaping attitudes towards immigration depends crucially on the race/ethnicity of the arriving immigrants and hence the size and nature of the immigrant population. Such a finding persists after controlling for socioeconomic characteristics and exploiting the data to allow for cohort-specific effects.

The remainder of this paper is organized as follows. Section 2 illustrates our data and presents some summary statistics. In Section 3, we present our methodology. Section 4 outlines our main empirical results, while in Section 5 we conclude.

2. Data

This paper uses data from a number of sources: data on attitudes towards immigration is drawn from the European Social Survey (ESS) while information on country performance is obtained from Eurostat. The ESS is a biennial survey carried out in over 30 countries in Europe. The aim of this survey is to examine attitudes, beliefs and values across countries in Europe and some of its close neighbours, and how they change over time and across countries. There are currently three rounds to the ESS[7]: 2001/2002, 2003/2004 and 2005/2006 and we focus on the countries for which we have at least two years worth of data, which includes: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Ireland, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, and Switzerland.[8] We also restrict our analysis to individuals who are citizens of the country in which they are interviewed.

The ESS is a rich data set for examining some of the issues surrounding immigration and we use the answers to the following two questions to construct our measure(s) of the respondent's attitude(s) towards the arrival of further immigrants: 1. 'To what extent do you think [country] should allow people of the ***same race or ethnic group*** as most [country] people to come and live here?', and 2. 'How about people of a ***different race or ethnic group*** from most [country] people?' The survey allows for four ordered responses to both questions: 'allow many to come and live here', 'allow some', 'allow a few', and 'allow none'.

[7] The first round of the ESS had a specific extra module on migration and minority related issues not present in the other rounds. However, all rounds provide information on the overall attitudinal response of individuals to further immigration, and also direct responses to an array of questions concerning the perceived effect immigrants have on the economy.

[8] Table 1a in the Appendix provides the structure of the repeated cross-sections. Hungary, Italy and Ukraine also conducted the survey for at least two years but data on the proportion of non-national workers at the one-digit occupation is not available for these countries and so they are dropped from our sample.

We classify the respondents who report that they want to 'allow none' or 'allow a few' as those who want to limit the arrival of further immigrants (0 otherwise). We use this variable to gauge the respondent's attitude towards further immigration regardless of the race/ethnicity of the arriving immigrants.[9] However, we are also interested in the effect race/ethnic origin has on attitudes towards further immigration. We therefore create two further binary variables. We classify respondents who want to 'allow none' or 'allow a few' immigrants of the same race or ethnic group as those who want to limit the arrival of same race/ethnicity immigrants (0 otherwise), and those who want to 'allow none' or 'allow a few' immigrants of a different race or ethnic group as those who want to limit the arrival of different race/ethnicity immigrants (0 otherwise). For ease of notation we now refer to immigrants as simply same race or different race.

The ESS also collects a host of information on the respondent's socioeconomic background which is potentially important in shaping attitudes towards further immigration. This includes information on each individual's social and political views, religious identity, household characteristics (including age, household size, level of education, parents' country of birth), area of residence (city versus rural) and income (our proxy for economic status).

We also match in data from the EU LFS[10] to examine the effect the size of the immigrant population has on the respondent's desire to limit further immigration. As already mentioned, we argue that there are likely to be two conflicting effects at work in this context: the size of the immigrant population may be acting as a proxy for both the level of contact that individuals face from migrants and the degree of labour market competition. We separate these conflicting effects by matching in data on both the proportion of non-nationals in each region and the proportion of workers at the one-digit occupation level. We argue that the former proxies for the degree of contact the resident population has with migrants, while the latter captures the so-called 'competition effect'.

Finally, we match in data on country performance using data from Eurostat. This includes the regional unemployment rate (at NUTS level 2), social security expenditure as a percentage of

[9] Mayda (2006), for example, uses responses to the question: 'Do you think the number of immigrants to [respondent's country] nowadays should be: a) reduced a lot; b) reduced a little; c) remain the same as it is; d) increased a little; and e) increased a lot' to define a similar dependent variable. She uses this question to define a dichotomous dependent variable which takes the value 1 for those who respond that the number of immigrants should be 'increased a little' or 'increased a lot'.

[10] The EU LFS is a quarterly household survey carried out in all EU member states, candidate countries and EFTA countries (except Liechtenstein).

GDP and total crimes recorded by the police as a proportion of the population.

2.1 Descriptive Statistics

Table 1 outlines some simple descriptive statistics of the main variables used in this paper. We report mean responses and then depending on the nature of the question either standard deviations, or for the categorical variables the number reporting the highlighted response. We start our analysis with a brief outline of the main features of our data.

<< Table 1 here >>

The sample composition of the ESS is relatively constant over the three waves of the survey. Respondents are evenly split between males and females across the sample period. Our average respondent is in his/her mid-40s, lives in the city and is in a household with at least one other member (the average household size is 2.6). The majority of the sample (around 60%) has an education level of upper secondary or above. Looking at employment status, a high proportion of the sample is in paid employment, which increases slightly over time, and has an annual income of between €12,000 and €36,000.

Turning to our measures of the respondent's attitude towards immigration we find that although 47% of individuals (in 2002) want to limit the arrival of immigrants, respondents appear more likely to want to limit the arrival of immigrants of a different race than those of the same race: 45% (in 2002) want to limit the arrival of immigrants of a different race compared with only 32% for those of the same race. Respondents also appear more concerned about the effect immigrants have on the economy, or country as a whole, than they have on their country's cultural life. Overall around 35% of individuals feel that immigration is bad for the economy or that a country is made a worse place to live by people coming here from other countries, while only approximately 25% of respondents think that a country's cultural life is undermined by immigrants.

Disaggregating some of these responses by country (Table 2) we find that substantial cross-country variation emerges in attitudes towards immigration. Respondents in Greece want to limit the arrival of immigrants the most, and also believe that immigrants are bad for the economy, the country's cultural life and country as a whole. In contrast, individuals in Sweden, Switzerland and Ireland want to limit the arrival of immigrants the 'least'.

<< Table 2 here >>

Interestingly, a common finding across all countries, even our 'pro-immigration' countries, is that respondents are more likely to want to limit the arrival of immigrants of a different race compared to those of the same race. However, differences emerge in the extent to which countries prefer immigrants of the same race compared with those of a different race. The Nordic countries (here Finland, Norway and Denmark) appear prejudiced towards the arrival of different race immigrants compared to their attitudes towards the arrival of same race immigrants, while the UK and Spain appear tolerant towards the arrival of all immigrants whatever their race. Such a finding is reflective of the immigration histories of these countries. The leading foreign group within each country often reflects historical links, relationships with former colonies and ease of access (in terms of geography or immigration policy). The UK, for example, has a long history of immigration from the Commonwealth countries (especially South Asia). In contrast, given its geography and connection to Russia the vast majority of immigrants to Finland are from Russia.

This provides some initial evidence that contact (or lack of in the case of some of the Nordic countries) plays an important role in explaining attitudes towards the arrival of certain types of immigrants. People fear what they do not know, or are unfamiliar with, so it follows that more exposure to immigrants in daily life should decrease opposition. We move now to examine this effect in more detail and in order to do so look explicitly at the relationship between the size and nature of the immigrant population and opposition towards immigration.

3. Empirical methodology

3.1 Probit

We begin our multivariate analysis by estimating the probability that an individual i wants to limit the arrival of further immigrants (y_{it} = 1) using a latent variable model of the form:

$$y_{it}^{*} = X_{it}^{'} b_1 + a_i + u_{it} \qquad t=1,\ldots,T \quad \text{and} \quad i=1,\ldots,N_t \qquad (1)$$

where y_{it}^{*} is the latent (unobserved) propensity that individual *i* favours a restrictive immigration policy, X_{it} are the set of regressors thought to affect immigration including the country specific effects, a_i represents the unobserved individual specific effect, and u_{it} is a random error that is distributed standard normally. All specifications have robust standard errors clustered on region to address heteroskedasticity and to allow for any correlation across individuals within the same region.

Our exogenous variables include controls for economic variables (labour market competition, employment status, and income), non-economic variables (the degree of contact with immigrants, political ideology, and religion), and objective measures (the regional unemployment rate, social security expenditure as a percentage of GDP, and the crime rate).

It should be noted that a key methodological issue is that the ESS is not a panel and hence the same individuals are not 'tracked' over time.[11] We thus initially assume that the individual fixed effects are uncorrelated with the observed regressors and pool our observations across the three waves of data.

3.2 Pseudo Panel

Even though we cannot observe the same individual over time, we can, however, use the data to construct a pseudo panel (see, for example, Deaton, 1985) and follow different cohorts over time in order to estimate relationships based on cohort means. Moreover, this relaxes the assumption that the individual fixed effects are uncorrelated with some or all of the explanatory variables.[12] This methodology has been widely used in applied research (Attanasio, 1993, for example, examines household savings in the US; Deaton, 1997, looks at consumption patterns in Taiwan; and Pencavel, 1998, analyses labour markets in the US).

Following Deaton (1985) we define a set of *C* cohorts such that in any time *t* individual *i* only belong to one of these cohorts. The observed cohort means then satisfy the relationship:

$$\bar{y}_{ct} \equiv \bar{X}'_{ct} b_2 + \bar{a}_{ct} + \bar{u}_{ct} \qquad c=1,\ldots,C \qquad (2)$$

where $\bar{y}_{ct}$ is the average of y_{it} for all members of cohort *c* at time *t* and $\bar{a}_{ct}$ are the cohort fixed effects. Since we are not tracking the same individuals over time, $\bar{a}_{ct}$ is not constant over time *t*. Despite this, Deaton (1985) argues that if the cohort size is sufficiently large then $\bar{a}_{ct}$ is a good approximation for the cohort population $\bar{a}_c$. We thus estimate equation (2) by replacing $\bar{a}_{ct}$ with a set of dummy variables, one for each cohort.

Finally, Deaton (1985) also asserts that there is potentially a measurement error problem arising from using $\bar{y}_{ct}$ as an estimate of the unobservable population cohort mean and argues that equation (2) should be estimated using an errors in variable technique. However, as the cohort

[11] Since different individuals are observed in each period this implies that *i* runs from 1 to N_t for time period t.

[12] In a genuine panel this can be solved by using a fixed effects approach and treating α_i as a fixed unknown parameter.

size increases, measurement error becomes less of a problem and this approach is typically ignored if the number of observations per cohort (n_c) is sufficiently 'large' (see, for example, Browning et al., 1985 and Blundell et al., 1993).[13]

Unfortunately, however, there is no general rule to judge whether the number of observations per cohort is large enough to use asymptotics based on n_c. Verbeek (2008) argues that the asymptotic behaviour of pseudo panel data estimators can be derived using alternative asymptotic sequences. A second type of asymptotics is based on having a large number of cohorts of more or less constant size. Collado (1998) shows that in the case of binary choice models we need to divide the population into a large number of cohorts for our estimates to rely on asymptotics based on the number of cohorts. She further demonstrates that by doing so it is possible to obtain a consistent within-groups estimator for binary choice models.

We construct our pseudo-panel by defining cohorts based on six, ten-year interval age groups, one-digit economic sector classification, and one-digit occupation groups.[14] The first age group includes individuals born before 1937. These respondents are at least 65 years old in the first round of the ESS and are likely to be retired throughout the sample period. The second age group comprises of individuals born in the period 1938-1947, and so on until the sixth age group which is made up of respondents born after 1977.[15] For each of the six age groups we divide individuals according to their occupation and the economic sector in which they have their main activity.[16] We use the one-digit NACE economic sector classification and the one-digit ISCO88 occupation classification.

We can thus construct a maximum theoretical number of 864 cohorts from our data: 6 (age groups) x 16 (economic sectors) x 9 (occupations) = 864 cohorts.[17] Given that there are three rounds of ESS data, our pseudo-panel could have a total maximum of 2,592 observations. However, we do not observe individuals from each birth cohort in each occupation and economic

[13] Verbeek and Nijman (1992) suggest that in a cohort comprising of 100 individuals where the time variation in the cohort means is sufficiently large**,** the bias in the standard fixed-effects estimator will be small enough that the measurement error problem can be ignored**.**

[14] Variables used in the literature to define cohorts include: age (Deaton, 1985); age and education (Blundell et al., 1998); age and region (Propper et al., 2001).

[15] The ten-year interval age groups allow for unobserved differences such as quality of education, skills and attitudes, and allow for homogeneity within cohorts and heterogeneity between cohorts.

[16] This classification refers to their last job for people not currently working and their parents' job for young people still in full-time education. The proportion of young people in full-time education is small and our results hold if we drop them from the sample.

[17] We exclude individuals employed in economic sector 17 (extraterritorial organizations), and those whose occupations are classified as armed forces.

sector in all three rounds. For this reason our pseudo-panel is an unbalanced panel of 2,035 observations for a total of 710 individuals (cohorts).[18]

The important dimension of our pseudo panel is the large number of cohorts (710) as we are interested in estimating a binary choice model. Moreover, the average cohort is based on 80 individuals, which is large enough to reduce the potential measurement error discussed above. Since the average cohort size disguises large variation within cohorts, we estimate equation (2) by weighted least squares as is standard in the literature (see, for example, Propper et al., 2001). We also employ a fixed-effects estimator to eliminate any unobserved fixed cohort specific factors (age-industry-occupation effects).[19]

As an alternative specification, we could define the cohorts using country of residence, since as we have already shown attitudes towards immigration vary across countries. This would however cause the fixed effects to capture both the country specific factors together with the specific effects of the other variables used to define the cohorts. Since we want to include other country specific variables in our regressions, in this instance, we prefer to control for country specific effects explicitly through the presence of country dummies.

4. Empirical Results

Table 3 illustrates our results for a standard probit pooled over all observations and also for the fixed effects estimator. Results are reported for opposition towards the arrival of all immigrants, same race immigrants and different race immigrants, respectively. The explanatory variables are separated into economic, non-economic (social and political), and household characteristics. We also include country dummies and times dummies in all specifications.[20] For each probit regression, the table provides details of marginal effects (evaluated at the means of the regressor variables) and levels of significance. The results that follow are robust to pooling over all observations and controlling for unobserved effects in a pseudo panel.

<< Table 3 here >>

Of most interest in this context is the association between opposition towards immigration and the size of the immigrant population. As previously mentioned there are two conflicting

[18] Table 2a in the Appendix provides the structure for the unbalanced pseudo-panel dataset.
[19] The construction of the pseudo-panel controls for fixed economic sector, occupation and age group differences and thus we control for differences within cohorts only and hence cannot include economic sector, occupation and age among the regressors.
[20] In the pseudo-panel, the country dummies are the percentage of individuals from a given country.

effects at work in this context; the size of the immigrant population captures both the degree of 'contact' respondents have with immigrants and the effects of labour market competition. We separate these conflicting effects by controlling for both the proportion of non-nationals in each region, and the proportion of non-nationals in a given occupation.[21] We argue that the former acts as a proxy for 'contact', while the latter proxies for the so-called 'competition effect'. [22]

Table 3 confirms our view that 'contact' is indeed important in explaining attitudes towards immigration. Increased contact with immigrants has a negative effect on the desire to limit the arrival of different race immigrants but has an insignificant effect on the desire to limit the arrival of immigrants of the same race. Such a finding is in line with the summary statistics outlined in the previous section. Individuals 'fear' what they do not know, so more exposure to immigrants in daily life should decrease opposition. In line with these findings, we find that individuals who live in the city (pooled probit), which might also reflect the extent to which the native population comes into contact with immigrants in their daily life (since immigrants usually settle in towns and cities), are less likely to want to limit their arrival, as are those who were born abroad or have at least one parent who was born abroad.[23]

We also find evidence of a positive association between labour market competition and opposition towards immigration, which is stronger for same race immigrants than for those of a different race. Natives thus appear to regard same race immigrants as representing a greater 'threat' to their jobs (whether perceived or actual) than those of a different race. Such a finding is in line with expectations. Same race immigrants are likely to be similar to the resident population in terms of educational background, skill, and experience. We investigate this result further in the next sub-section when we disaggregate our results by education.

Interestingly few of our other measures of the economic circumstances of the household have a significant effect on the desire to limit immigration. Of our remaining significant economic variables being on a higher income has a negative effect on opposition towards further immigration, which is stronger for different race immigrants than for those of the same race.

[21] Mayda (2006) constructs a similar variable: she matches each individual with the number of immigrants relative to natives in his/her occupation. She argues that occupations with a higher ratio of immigrants to natives than average have experienced a bigger increase in supply relative to other occupations, and according to a factor-endowment story individuals in these occupations should be less likely to be pro-immigration.

[22] We use the size of the immigrant population in the respondent's education level in the pseudo panel estimations to capture the labour market effect as occupation is used to define the cohorts.

[23] Although choice of residence may be endogenous in this setting (see, for example, Dustmann and Preston, 2001 – the decision to live in the city may, for example, be driven by the desire to live in a multi-cultural environment), we argue that concerns about labour market opportunities and the desire to find a job dominate the decision on where to live.

In fact, a large part of the opposition towards the arrival of further immigrants, especially towards those of a different race arises due to non-economic factors. Those who report being religious (pooled probit) are less likely to want to limit the arrival of further immigrants, while individuals with a rightwing political ideology or who feel unsafe in the local area after dark (pooled probit) are more likely to favour a restrictive immigration policy, especially against those of a different race.

Opposition towards the arrival of immigrants also arises on cultural grounds. We find a positive association between individuals who feel that immigration is bad for a country's culture and those who want to limit the arrival of immigrants (Mayda, 2006, finds a similar result). Not surprisingly, this effect is stronger for different race immigrants than for those of the same race. Dustmann and Preston (2007) argue that prejudices of this kind may have their origins in a variety of sources, including a fear of losing national characteristics or a taste for cultural homogeneity.

Finally, we find evidence of a positive association between individuals who feel that immigrants make the country a worse place to live and opposition towards immigration. In Table 4 we investigate whether this belief is linked to more 'objective' measures such as the ratio of social security benefits to total GDP (SSGDP) or the crime rate, and include the following interaction terms: *Immigrants are bad for the country* x *SSGDP*, *Immigrants are bad for the country* x *crime rate.*[24]

<< Table 4 here >>

We find that both the dummy variable *Immigrants are bad for the country* and its interaction with the crime rate are positive and significant and the resulting marginal effects are greater for immigrants of a different race than for those of the same race. Respondents clearly believe that immigrants make the country a worse place to live, at least partly, through their impact on the crime rate. Moreover, individuals appear to oppose different race immigration more as the crime rate in the host country increases, implying that immigrants of a different race/ethnic background are perceived to contribute more to higher crime rates. [25]

[24] For the pseudo panel interpreting coefficients when two continuous variables are interacted is difficult. An alternative approach would have been to use the demeaned variable as an interaction term. We have estimated separate regressions in which we have interacted *Immigrants are bad for the country* with deviations of SSGDP and the crime rate from their respective means over time. Results are similar and available on request.

[25] Although Butcher and Piehl (1998) find that immigrants in the US have much lower rates of criminality than natives, they may indirectly contribute to crime if immigration leads to increased group conflict, or if social tensions lead to harassment or violence towards the immigrant population.

In contrast, for SSGDP only the corresponding interaction term *Immigrants are bad for the country* x *SSGDP* is highly significant (and positive) for different race immigrants (the interaction term is weakly significant for same race immigrants). Respondents thus believe that different race immigrants make the country a worse place to live, ***solely*** through their impact on the welfare state. Respondents from countries with a higher ratio of social security expenditure to total GDP may, for example, fear that different race immigrants will benefit, at their expense, from their country's welfare state. There is growing evidence that immigrants are, on average, more likely than natives to be in receipt of welfare benefits (see, for example, Boeri, et al. (2002) for the EU and Hanson, et al. (2005) for the US).

Finally, it should be noted that our results are robust to the following two sensitivity analyses. First, it is apparent from the summary statistics presented in Table 2, that we have two outliers: Sweden is the least while Greece is the most anti-immigration. Our results are robust to excluding these two countries from the analysis. Second, a number of countries in our sample (the Czech Republic, Estonia, Poland, Slovakia and Slovenia) only joined the EU in the middle of our sample period (May 2004). These countries have provided an outflow of workers to the older EU member countries. Our results are robust to excluding these new member states. The results obtained from these two restricted samples are not reported for brevity but are available on request.

4.1. Immigration and Education

Next, we examine the extent to which opposition towards immigration is correlated with the respondent's education, and estimate our model separately for each level of education (Table 5). We only present pooled probit results because the average cohort size is too small if we separate by education level.

<<Table 5 here>>

In doing so we find that although highly educated natives are less likely than other groups to oppose the arrival of different race immigrants as contact increases, interestingly they only perceive labour market competition from same race immigrants. This could arise because same race immigrants are more highly skilled than different race immigrants, and we find further indirect support for this hypothesis using additional data on education and country of birth from

the EU LFS (see Table 3a in the Appendix).[26] Table 3a confirms that immigrants born in an EU country have on average a higher level of education than natives and non-EU born immigrants. Similarly, Dustmann and Preston (2007) using data for the UK argue that economic competition from potential immigrants is perceived more strongly by higher skilled natives.

Finally we find that highly educated natives are less likely than other groups to oppose the arrival of same race immigrants on cultural grounds or because they believe that they make the country a worse place to live. However, they appear prejudiced against the arrival of immigrants of a different race on cultural grounds or because they believe they are bad for the economy.

4.2. Immigration and Country

In our final sub-section we look in more detail at the extent to which opposition towards immigration is affected by a country's immigration history. Preliminary evidence outlined in Section 2 seems to suggest that a country's immigration history has a big role to play in explaining natives reactions to 'contact' with immigrants.

Here we split our countries into four groups and estimate our pooled probit separately for each group (Table 6). In line with the descriptive statistics, we identify the following four groups: countries with a long history of immigration (Belgium, Switzerland, Germany, France, UK and the Netherlands); new receiving countries (Austria, Spain, Greece, Ireland and Portugal); Eastern European (the Czech Republic, Estonia, Slovenia, Slovakia and Poland), and the Nordic countries (i.e., Denmark, Finland, Norway and Sweden).[27]

<< Table 6 here >>

Interestingly, labour market considerations do not seem to be an important factor in determining attitudes towards further immigration for natives from the new host countries (Panel B). Moreover although exposure to immigrants could decrease opposition, the opposite is true for countries with a more recent history of immigration. In this instance increased contact with immigrants increases rather than decreases opposition (for those with a mid-level education), and contrasts with the results for the other groups, which have either a long history of immigration (Panel A), or few immigrants (Panel C). Such a finding is not unusual when a country is not used

[26] It should be noted that a limitation of this data is that we cannot separate immigrants according to their race/ethnic origin; we only know whether immigrants were born in an EU or non-EU country. In addition, to find the closest match with the ESS we focus on data for 2007, the year of the last EU enlargement.

[27] See, for example, Boeri, et al. (2002) for a review of the history of immigration to Europe, which helped to form the basis of these groupings.

to large influxes of foreign labour and is in line with the experiences of other EU countries. The UK, for example, in the late 1960s often had an uneasy relationship with its immigrant population. During the 1960s the number of immigrants from the Commonwealth countries more than doubled and led to Enoch Powell's now infamous anti-immigration speech, which received support from the general public.[28] It thus takes time before immigrants become accepted as part of a country's usual demographic make-up.

We also conduct our welfare analysis for each group of countries. While natives from groups A and B perceive that different race immigrants make their country a worse place to live because of their impact on the country's public budget, natives from Nordic countries and Luxembourg (group D) have this fear relative to same race immigrants. The dominant foreign group in these countries is of the same race as the natives.

5. Conclusions

This paper uses data from the European Social Survey and Eurostat over the period 2001 to 2006 to analyse the extent to which economic and non-economic variables affect opposition towards immigration in Europe. We delineate several problems with existing studies in this area: notably, the tendency for studies to assume that natives view all immigrants in the same way, whatever their race or ethnicity.

We find that simple cross-tabulations suggest that substantial cross-country variation emerges in attitudes towards immigration. Interestingly, a common finding across all countries is that respondents are more likely to want to limit the arrival of different race immigrants compared to those of the same race. However, differences emerge in the extent to which countries prefer immigrants of the same race compared with those of a different race. We argue that these findings are often reflective of a country's immigration history and hence the degree of contact that natives have had with immigrants.

To explore these associations further we estimate a multivariate probit pooled over all observations and control for unobserved effects in a pseudo panel. We find that, after controlling for socioeconomic characteristics and allowing for cohort-specific fixed effects the relative importance of economic and non-economic variables in shaping attitudes towards immigration depends crucially on the race of the arriving immigrants.

[28] On the 20th April 1968, a Conservative MP, Enoch Powell, spoke out against immigration from the Commonwealth in a speech that has since been called the 'Rivers of Blood' speech.

We find that contact is indeed important in shaping attitudes towards further immigration, but only towards those of a different race. In contrast, we find that fears over labour market competition are more likely to fuel opposition towards same race immigrants. Natives appear to regard same race immigrants as representing a greater 'threat' (whether perceived or actual) to their labour market opportunities than those of a different race. In contrast, immigrants of a different race are perceived to have a more negative impact on the country's culture. Finally, in line with Dustmann and Preston (2007), we find evidence that social welfare considerations are also important in determining attitudes towards further immigration, but mainly towards those of a different race.

In conclusion, immigration is clearly a very emotive issue and understanding how individuals perceive arriving immigrants is undoubtedly important in shaping a country's immigration policy. None more so is this important than within the EU where the free movement of persons is a general right. However, perhaps more than most, this paper highlights that governments need to understand the complex interplay of factors that can fuel attitudes towards immigration within their own specific countries, and caution should be met at any attempt to adopt a one size fits all policy to immigration within the EU as is currently being debated.

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Table 1: Summary Statistics

Year	**2002**		**2004**		**2006**	
Number of observations	16,590		21,146		19,633	
Variable	**Mean**	**Std. Dev or n=x**	**Mean**	**Std. Dev or n=x**	**Mean**	**Std. Dev or n=x**
=1 if want to limit the arrival of immigrants, 0 otherwise	0.471	8,073	0.480	10,390	0.476	8,899
=1 if want to limit the arrival of same race immigrants, 0 otherwise	0.315	5,520	0.317	6,760	0.314	5,664
=1 if want to limit the arrival of different race immigrants, 0 otherwise	0.451	7,738	0.459	9,979	0.450	8,583
Economic:						
Proportion of non-nationals by occupation	0.059	0.077	0.066	0.088	0.052	0.058
Proportion of non-nationals by region	0.056	0.081	0.066	0.089	0.058	0.071
Proportion of non-nationals by education	0.102	0.079	0.109	0.088	0.104	0.066
Immigrants are bad for the economy	0.351	5,565	0.383	8,019	0.344	6,255
Income<€12,000	0.173	3,286	0.238	5,469	0.199	3,755
Income >=€12,000 and <€36,000	0.516	8,243	0.504	9,700	0.496	9,330
Income>=€36,000	0.310	5,061	0.259	5,977	0.305	6,550
Employment status:						
= 1 if unemployed, 0 otherwise	0.045	603	0.060	1,044	0.046	774
= 1 if in paid work, 0 otherwise	0.576	9,705	0.573	12,056	0.595	11,598
= 1 if in education, 0 otherwise	0.040	791	0.038	877	0.035	811
= 1 if retired, 0 otherwise	0.198	3,363	0.221	4,874	0.208	4,233
= 1 if permanently sick or disabled, in community or military service, doing housework, looking after children, others, 0 otherwise.	0.142	2,128	0.109	2,295	0.115	2,219
Regional unemployment rate	0.063	0.039	0.081	0.047	0.071	0.040
Non-Economic:						
Immigrants are bad for the county's culture	0.232	3,723	0.255	5,594	0.276	4,729
Immigrants are bad for the country	0.367	5,803	0.351	7,500	0.356	6,302
Religious (= 1 if religious, 0 otherwise)	0.368	6,583	0.391	8,727	0.366	7,821
Right wing (= 1 if right wing political ideology, 0 otherwise)	0.303	5,773	0.304	7,419	0.312	6,805
Unsafe (= 1 if feel unsafe walking in local area after dark, 0 otherwise)	0.248	3,252	0.226	4,438	0.219	3,760
Household Characteristics:						
=1 if male, 0 otherwise	0.517	8,630	0.511	10,603	0.517	9,891
Age (years)	47.24	16.62	46.99	16.59	47.56	16.79
Household size	2.731	1.318	2.851	1.365	2.814	1.363
Foreign (= 1 if born abroad or have at least one parent who was born abroad, 0 otherwise)	0.110	1,825	0.106	2,386	0.118	2,217
=1 if lives in the city, 0 otherwise	0.669	10,258	0.636	13,013	0.654	12,129
Educational attainment:						
= 1 if primary, 0 otherwise	0.319	5,354	0.333	6,841	0.347	6,336
= 1 if highest education level is upper secondary, 0 otherwise.	0.379	6,446	0.343	7,810	0.265	6,010
= 1 if highest education level is post-secondary and above, 0 otherwise.	0.302	4,790	0.325	6,495	0.388	7,289
Note: Weighted mean for ESS variables only.						

Table 2: Attitudinal Responses Disaggregated by Country

	Limit the arrival of immigrants			Limit the arrival of same race immigrants			Limit the arrival of different race immigrants			Immigrants are bad for the economy			Immigrants are bad for the country's culture			Immigrants are bad for the country		
Year	2002	2004	2006	2002	2004	2006	2002	2004	2006	2002	2004	2006	2002	2004	2006	2002	2004	2006
Country																		
Austria		0.526	0.591		0.307	0.345		0.515	0.586		0.326	0.323		0.330	0.420		0.406	0.492
Belgium	0.464	0.460	0.453	0.305	0.294	0.247	0.427	0.446	0.432	0.365	0.447	0.409	0.203	0.243	0.248	0.432	0.391	0.396
Switzerland	0.364	0.373	0.407	0.191	0.155	0.157	0.347	0.369	0.400	0.187	0.272	0.177	0.187	0.229	0.210	0.228	0.293	0.243
Czech Republic	0.549	0.625		0.441	0.477		0.516	0.584		0.422	0.501		0.402	0.471		0.448	0.480	
Denmark	0.433	0.495	0.487	0.249	0.274	0.268	0.414	0.475	0.472	0.310	0.424	0.369	0.160	0.231	0.243	0.337	0.381	0.388
Germany	0.531	0.532	0.462	0.252	0.197	0.140	0.515	0.521	0.455	0.405	0.381	0.280	0.235	0.250	0.205	0.229	0.265	0.190
Estonia		0.700			0.440			0.681			0.509			0.443			0.547	
Spain	0.488	0.481	0.477	0.404	0.418	0.420	0.462	0.463	0.459	0.245	0.223	0.202	0.178	0.202	0.226	0.335	0.300	0.333
Finland	0.653	0.633	0.603	0.421	0.420	0.383	0.638	0.618	0.591	0.287	0.356	0.267	0.045	0.088	0.064	0.242	0.239	0.207
Franc		0.496	0.501		0.340	0.362		0.470	0.478		0.378	0.389		0.348	0.353		0.393	0.416
United Kingdom	0.496		0.520	0.323		0.388	0.477		0.503	0.448		0.448	0.336		0.451	0.410		0.466
Greece	0.888	0.825		0.706	0.663		0.886	0.819		0.600	0.547		0.642	0.617		0.691	0.641	
Ireland		0.351	0.286		0.228	0.202		0.326	0.261		0.222	0.191		0.242	0.240		0.235	0.218
Luxembourg	0.580	0.539		0.433	0.278		0.564	0.529		0.120	0.230		0.123	0.193		0.193	0.325	
Netherlands	0.434	0.464	0.494	0.363	0.334	0.398	0.406	0.435	0.481	0.322	0.399	0.297	0.188	0.211	0.181	0.407	0.397	0.326
Norway	0.459	0.448	0.422	0.286	0.230	0.219	0.431	0.422	0.408	0.268	0.315	0.259	0.238	0.245	0.232	0.364	0.376	0.328
Poland		0.406	0.321		0.293	0.189		0.379	0.305		0.380	0.256		0.152	0.125		0.188	0.146
Portugal	0.636	0.654	0.625	0.547	0.535	0.569	0.626	0.629	0.609	0.378	0.499	0.382	0.319	0.418	0.294	0.580	0.546	0.421
Sweden	0.171	0.166	0.147	0.100	0.109	0.097	0.163	0.159	0.136	0.266	0.333	0.284	0.089	0.101	0.110	0.153	0.180	0.165
Slovenia	0.458	0.426	0.434	0.325	0.317	0.263	0.432	0.377	0.409	0.419	0.438	0.443	0.268	0.296	0.283	0.370	0.345	0.349
Slovakia		0.377	0.441		0.230	0.290		0.343	0.404		0.460	0.399		0.278	0.287		0.377	0.317
Overall	0.471	0.480	0.476	0.315	0.317	0.314	0.451	0.459	0.450	0.351	0.383	0.344	0.232	0.255	0.276	0.367	0.351	0.356

Note: Weighted mean.

Table 3: Estimates of Opposition towards Further Immigration

	Pooled Probit			Pseudo Panel		
Variable	**All**	**Same Race**	**Diff Race**	**All**	**Same Race**	**Diff Race**
Proportion of non-nationals by occupation	0.184***	0.223***	0.184***			
	(0.061)	(0.064)	(0.060)			
Proportion of non-nationals by education				-0.141	1.076***	-0.390
				(0.267)	(0.268)	(0.268)
Proportion of non-nationals by region	-0.203**	-0.113	-0.180*	-0.858***	-0.141	-0.719**
	(0.103)	(0.094)	(0.098)	(0.306)	(0.306)	(0.307)
Income >=€12,000 and <€36,000	-0.025**	-0.019**	-0.026**	-0.098***	-0.100***	-0.112***
	(0.011)	(0.008)	(0.011)	(0.030)	(0.030)	(0.030)
Income>=€36,000	-0.075***	-0.055***	-0.069***	-0.292***	-0.204***	-0.302***
	(0.014)	(0.010)	(0.014)	(0.041)	(0.041)	(0.042)
Employment status (base case unemployed):						
= 1 if in paid work, 0 otherwise	-0.001	-0.024	0.008	0.147***	-0.007	0.126**
	(0.023)	(0.021)	(0.023)	(0.050)	(0.050)	(0.050)
= 1 if in education, 0 otherwise	-0.113***	-0.106***	-0.103***	-0.190***	-0.210***	-0.132*
	(0.034)	(0.028)	(0.036)	(0.072)	(0.073)	(0.073)
= 1 if retired, 0 otherwise	0.016	-0.023	0.028	0.231***	0.027	0.244***
	(0.025)	(0.023)	(0.023)	(0.055)	(0.056)	(0.056)
= 1 if permanently sick or disabled, in community or military service, doing housework, looking after children, others, 0 otherwise.	-0.004	-0.019	0.005	0.241***	-0.050	0.205***
	(0.029)	(0.023)	(0.029)	(0.057)	(0.057)	(0.057)
Regional unemployment rate	-0.070	0.110	-0.078	0.216	0.354	0.067
	(0.133)	(0.153)	(0.156)	(0.370)	(0.371)	(0.371)
Non-Economic:						
Immigrants are bad for the economy	0.202***	0.157***	0.204***	0.132***	0.082***	0.162***
	(0.011)	(0.009)	(0.011)	(0.026)	(0.026)	(0.026)
Immigrants are bad for the county's culture	0.172***	0.122***	0.162***	0.142***	0.047	0.123***
	(0.009)	(0.011)	(0.009)	(0.029)	(0.029)	(0.029)
Immigrants are bad for the country	0.251***	0.173***	0.249***	0.287***	0.311***	0.287***
	(0.008)	(0.007)	(0.007)	(0.028)	(0.028)	(0.028)
Religious (= 1 if religious, 0 otherwise)	-0.026***	-0.029***	-0.026***	0.035	0.015	0.041
	(0.009)	(0.006)	(0.008)	(0.025)	(0.025)	(0.025)
Right wing (= 1 if right wing political ideology, 0 otherwise)	0.086***	0.021***	0.089***	0.125***	0.026	0.147***
	(0.011)	(0.008)	(0.012)	(0.024)	(0.024)	(0.024)
Unsafe (= 1 if feel unsafe walking in the local area after dark, 0 otherwise)	0.030***	0.019**	0.028***	0.023	0.002	-0.001
	(0.011)	(0.008)	(0.009)	(0.031)	(0.031)	(0.031)
Household Characteristics:						
= 1 if male, 0 otherwise	0.007	-0.001	0.008	0.145***	0.015	0.146***
	(0.009)	(0.006)	(0.010)	(0.025)	(0.025)	(0.025)

Age cohorts :						
agegr2	-0.039***	-0.033***	-0.030**			
	(0.014)	(0.008)	(0.014)			
agegr3	-0.074***	-0.036***	-0.061***			
	(0.020)	(0.013)	(0.020)			
agegr4	-0.086***	-0.024*	-0.075***			
	(0.019)	(0.013)	(0.019)			
agegr5	-0.096***	-0.027	-0.083***			
	(0.020)	(0.017)	(0.018)			
agegr6	-0.111***	-0.058***	-0.103***			
	(0.020)	(0.017)	(0.018)			
Household size	0.005	-0.000	0.005	0.023**	0.059***	0.032***
	(0.004)	(0.003)	(0.004)	(0.010)	(0.010)	(0.010)
Foreign (= 1 if born abroad or have at least one parent who was born abroad, 0 otherwise)	-0.010	-0.019**	-0.016*	-0.014	-0.079**	-0.049
	(0.009)	(0.008)	(0.010)	(0.033)	(0.033)	(0.033)
= 1 if lives in the city, 0 otherwise	-0.036***	-0.031***	-0.035***	0.117***	0.137***	0.122***
	(0.008)	(0.007)	(0.008)	(0.023)	(0.023)	(0.023)
Educational attainment (base case primary and below):						
= 1 if highest education level is upper secondary, 0 otherwise	-0.057***	-0.040***	-0.050***			
	(0.007)	(0.008)	(0.008)			
= 1 if highest education level is post-secondary and above, 0 otherwise	-0.147***	-0.102***	-0.139***			
	(0.007)	(0.009)	(0.007)			
Pseudo R-squared	0.21	0.17	0.21			
Log likelihood	-31161.22	-29675.22	-31181.12			
Number of id				710	710	710
R-squared				0.47	0.37	0.47
Number of observations	57,371	57,371	57,371	2,035	2,035	2,035

Note: Country and time dummies are included in all specifications. All variables in the pseudo panel are actually the average of the respective variables for each cohort. Cohorts are defined using 6 year of birth groups, 9 occupations and 16 economic sectors. As the variables used in defining the cohorts cannot be used in the fixed effects estimations, we measure labour market competition in the pseudo panel with the proportion of non-nationals by region instead. Design and population size weights are used in both specifications

Table 4: Estimates of Opposition towards Further Immigration: Social Welfare Implications

	Pooled Probit						Pseudo Panel					
	Same Race			Different Race			Same Race			Different Race		
Proportion of non-nationals by occupation	0.217***	0.225***	0.218***	0.172***	0.187***	0.174***						
	(0.065)	(0.064)	(0.065)	(0.059)	(0.060)	(0.059)						
Proportion of non-nationals by education							1.038***	1.043***	1.016***	-0.466*	-0.446*	-0.484*
							(0.268)	(0.268)	(0.268)	(0.267)	(0.268)	(0.267)
Proportion of non-nationals by region	-0.115	-0.113	-0.115	-0.180*	-0.181*	-0.180*	-0.080	-0.126	-0.073	-0.632**	-0.692**	-0.626**
	(0.092)	(0.094)	(0.092)	(0.097)	(0.099)	(0.097)	(0.306)	(0.306)	(0.306)	(0.305)	(0.306)	(0.305)
Immigrants are bad for the economy	0.155***	0.157***	0.155***	0.203***	0.204***	0.202***	0.080***	0.082***	0.082***	0.157***	0.161***	0.158***
	(0.009)	(0.009)	(0.009)	(0.011)	(0.011)	(0.011)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Immigrants are bad for the county's culture	0.122***	0.122***	0.122***	0.162***	0.162***	0.162***	0.049*	0.049*	0.051*	0.124***	0.126***	0.126***
	(0.011)	(0.011)	(0.011)	(0.009)	(0.009)	(0.009)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Immigrants are bad for the country	0.067	0.139***	0.070	0.006	0.168***	0.016	0.204**	0.221***	0.234***	0.037	0.130**	0.063
	(0.053)	(0.018)	(0.056)	(0.064)	(0.022)	(0.069)	(0.085)	(0.060)	(0.087)	(0.085)	(0.059)	(0.087)
Immigrants are bad for the country*SSGDP	0.389*		0.353	0.938***		0.803**	0.510		-0.228	1.169***		0.539
	(0.201)		(0.259)	(0.249)		(0.339)	(0.372)		(0.630)	(0.370)		(0.628)
Immigrants are bad for the country*Crime rate		0.446*	0.094		1.128***	0.351		1.524*	2.182		2.650***	1.864
		(0.254)	(0.335)		(0.305)	(0.435)		(0.886)	(1.504)		(0.885)	(1.500)
Pseudo R-squared	0.17	0.17	0.17	0.21	0.21	0.21						
Log likelihood	-29311.21	-29672.32	-29311.13	-30804.58	-31167.71	-30803.78						
Number of id							710	710	710	710	710	710
R-squared							0.38	0.37	0.38	0.48	0.47	0.48
Number of observations	56,720	57,371	56,720	56,720	57,371	56,720	2,033	2,035	2,033	2,033	2,035	2,033

Note: See Note for Table 4. Other controls include all the other variables presented in Table 3.

Table 5: Estimates of Opposition towards Further Immigration by Educational Attainment

	Same Race			Different Race		
Variable	**Primary Education**	**Upper Secondary**	**Post Secondary**	**Primary Education**	**Upper Secondary**	**Post Secondary**
Proportion of non-nationals by occupation	0.188	0.252*	0.296**	0.042	0.431***	0.200
	(0.117)	(0.152)	(0.151)	(0.089)	(0.126)	(0.210)
Proportion of non-nationals by region	-0.187	0.010	-0.102	-0.110	-0.048	-0.279***
	(0.172)	(0.144)	(0.083)	(0.121)	(0.179)	(0.078)
Immigrants are bad for the economy	0.163***	0.142***	0.156***	0.180***	0.181***	0.238***
	(0.012)	(0.011)	(0.015)	(0.013)	(0.014)	(0.018)
Immigrants are bad for the county's culture	0.116***	0.128***	0.117***	0.138***	0.150***	0.196***
	(0.019)	(0.015)	(0.019)	(0.018)	(0.016)	(0.028)
Immigrants are bad for the country	0.188***	0.162***	0.155***	0.206***	0.261***	0.258***
	(0.012)	(0.009)	(0.017)	(0.010)	(0.011)	(0.013)
Pseudo R-squared	0.13	0.13	0.17	0.17	0.18	0.21
Log likelihood	-11006.98	-10837.10	-7781.07	-10523.75	-11456.14	-9092.40
Number of observations	18,531	20,266	18,574	18,531	20,266	18,574

Note: See Note for Table 4. Other controls include all the other variables presented in Table 3.

Table 6: Groups of countries

Panel A	**Same Race**					**Different Race**				
	Whole sample	Whole sample	Primary	Upper Sec.	Post Secondary	Whole sample	Whole sample	Primary	Upper Sec.	Post Secondary
Proportion of non-nationals by occupation	0.424***	0.414***	0.653***	0.225	0.467**	0.367***	0.358***	0.176	0.550***	0.398
	(0.145)	(0.147)	(0.206)	(0.206)	(0.188)	(0.115)	(0.116)	(0.150)	(0.170)	(0.244)
Proportion of non-nationals by region	-0.160**	-0.157**	-0.260	-0.148	-0.060	-0.256**	-0.254**	-0.212	-0.219	-0.244***
	(0.066)	(0.065)	(0.168)	(0.154)	(0.100)	(0.112)	(0.111)	(0.144)	(0.200)	(0.085)
Immigrants are bad for the economy	0.143***	0.143***	0.143***	0.131***	0.148***	0.196***	0.196***	0.168***	0.165***	0.235***
	(0.010)	(0.010)	(0.013)	(0.015)	(0.018)	(0.012)	(0.012)	(0.016)	(0.018)	(0.019)
Immigrants are bad for the country's culture	0.125***	0.125***	0.120***	0.139***	0.117***	0.159***	0.160***	0.129***	0.146***	0.202***
	(0.013)	(0.013)	(0.023)	(0.019)	(0.025)	(0.011)	(0.011)	(0.020)	(0.023)	(0.031)
Immigrants are bad for the country	0.179***	-0.107	0.189***	0.176***	0.165***	0.260***	-0.056	0.209***	0.276***	0.260***
	(0.009)	(0.164)	(0.015)	(0.012)	(0.022)	(0.010)	(0.188)	(0.020)	(0.012)	(0.019)
Immigrants are bad for the country*SSGDP		1.022					1.149*			
		(0.630)					(0.693)			
Pseudo Rsq	0.16	0.16	0.11	0.12	0.17	0.20	0.20	0.14	0.17	0.21
Log likelihood	-11336.68	-11334.10	-3617.96	-4191.96	-3485.33	-12009.08	-12006.82	-3418.71	-4468.54	-4065.87
Number of observations	21,882	21,882	5,950	7,721	8,211	21,882	21,882	5,950	7,721	8,211

Note: Group A countries have a long history of immigration and include Austria, Belgium, Switzerland, Germany, France, UK and the Netherlands. Country and time dummies are included in all regressions.

Panel B	**Same Race**					**Different Race**				
	Whole sample	Whole sample	Primary	Upper Sec.	Post Secondary	Whole sample	Whole sample	Primary	Upper Sec.	Whole sample
Proportion of non-nationals by occupation	-0.035	0.002	-0.192	0.509**	-0.192	-0.053	-0.026	-0.189*	0.200	-0.147
	(0.081)	(0.084)	(0.126)	(0.257)	(0.429)	(0.082)	(0.084)	(0.103)	(0.262)	(0.432)
Proportion of non-nationals by region	-0.002	0.021	-0.350	1.147***	-0.357	0.201	0.219	-0.106	1.240**	-0.124
	(0.359)	(0.353)	(0.382)	(0.364)	(0.516)	(0.368)	(0.370)	(0.335)	(0.568)	(0.562)
Immigrants are bad for the economy	0.177***	0.165***	0.145***	0.193***	0.296***	0.207***	0.197***	0.162***	0.204***	0.377***
	(0.018)	(0.022)	(0.028)	(0.042)	(0.064)	(0.019)	(0.021)	(0.025)	(0.051)	(0.062)
Immigrants are bad for the country's culture	0.102***	0.110***	0.102***	0.099**	0.120*	0.148***	0.150***	0.133***	0.147***	0.179***
	(0.020)	(0.020)	(0.027)	(0.039)	(0.067)	(0.025)	(0.026)	(0.027)	(0.046)	(0.042)
Immigrants are bad for the country	0.181***	0.209*	0.186***	0.167***	0.126***	0.213***	-0.001	0.197***	0.229***	0.190***
	(0.020)	(0.121)	(0.024)	(0.033)	(0.040)	(0.016)	(0.103)	(0.019)	(0.037)	(0.045)
Immigrants are bad for the country*SSGDP		-0.123					1.065**			
		(0.537)					(0.440)			
Pseudo Rsq	0.16	0.16	0.12	0.17	0.19	0.21	0.21	0.17	0.24	0.24
Log likelihood	-5744.18	-5361.32	-3322.80	-1215.80	-1073.67	-5399.52	-5039.10	-3028.49	-1152.73	-1078.27
Number of observations	9,921	9,270	5,485	2,190	2,246	9,921	9,270	5,485	2,190	2,246

Note: Group B countries are new destination countries and include Spain, Greece, Ireland, and Portugal. Country and time dummies are included in all regressions.

Panel C	**Same Race**					**Different Race**				
	Whole sample	Whole sample	Primary	Upper Sec.	Post Secondary	Whole sample	Whole sample	Primary	Upper Sec.	Post Secondary
Proportion of non-nationals by occupation	0.334***	0.338***	-0.127	0.281	0.638***	0.048	0.026	-0.236	0.190	0.030
	(0.115)	(0.114)	(0.420)	(0.205)	(0.184)	(0.180)	(0.194)	(0.623)	(0.227)	(0.145)
Proportion of non-nationals by region	-8.273***	-8.252***	-0.731	-8.259***	-9.586***	-3.820	-3.854*	-16.330**	-0.928	-9.479**
	(2.300)	(2.288)	(16.380)	(2.115)	(2.910)	(2.332)	(2.326)	(8.161)	(3.368)	(3.729)
Immigrants are bad for the economy	0.189***	0.189***	0.223***	0.168***	0.165***	0.205***	0.205***	0.194***	0.214***	0.193***
	(0.015)	(0.015)	(0.030)	(0.029)	(0.028)	(0.020)	(0.020)	(0.038)	(0.024)	(0.037)
Immigrants are bad for a country's culture	0.129***	0.129***	0.102*	0.121***	0.225***	0.162***	0.162***	0.189***	0.145***	0.140**
	(0.039)	(0.039)	(0.053)	(0.042)	(0.076)	(0.041)	(0.040)	(0.061)	(0.040)	(0.056)
Immigrants are bad for the country	0.120***	0.022	0.179***	0.070***	0.094*	0.141***	0.334**	0.129**	0.131***	0.185***
	(0.026)	(0.106)	(0.049)	(0.026)	(0.050)	(0.033)	(0.157)	(0.051)	(0.043)	(0.059)
Immigrants are bad for the country*SSGDP		0.463					-0.962			
		(0.559)					(0.905)			
Pseudo Rsq	0.17	0.17	0.16	0.15	0.23	0.16	0.16	0.14	0.17	0.16
Log likelihood	-3737.39	-3737.17	-1188.98	-1882.53	-549.17	-4247.74	-4247.07	-1319.17	-2065.38	-760.05
Number of observations	7,591	7,591	2,238	3,776	1,577	7,591	7,591	2,238	3,776	1,577

Note: Group C includes Eastern European countries: the Czech Republic, Estonia, Slovenia, Slovakia, Poland. Country and time dummies are included in all regressions.

Panel D	**Same Race**					**Different Race**				
	Whole sample	Whole sample	Primary	Upper Sec.	Post Secondary	Whole sample	Whole sample	Primary	Upper Sec.	Post Secondary
Proportion of non-nationals by occupation	0.321**	0.306**	0.180	0.743**	-0.011	0.185	0.179	0.096	0.973***	-0.608
	(0.129)	(0.129)	(0.429)	(0.322)	(0.129)	(0.244)	(0.245)	(0.584)	(0.240)	(0.429)
Proportion of non-nationals by region	-0.511**	-0.481**	-0.493	-0.447	-0.488***	-0.756**	-0.749**	-0.722	-0.550*	-1.051***
	(0.212)	(0.200)	(0.571)	(0.273)	(0.119)	(0.348)	(0.346)	(0.766)	(0.322)	(0.324)
Immigrants are bad for the economy	0.143***	0.141***	0.174***	0.146***	0.112***	0.214***	0.213***	0.218***	0.212***	0.204***
	(0.006)	(0.008)	(0.011)	(0.009)	(0.012)	(0.008)	(0.007)	(0.016)	(0.012)	(0.014)
Immigrants are bad for the country's culture	0.080***	0.075***	0.113***	0.084***	0.047	0.182***	0.180***	0.150***	0.192***	0.204***
	(0.015)	(0.015)	(0.011)	(0.016)	(0.029)	(0.011)	(0.011)	(0.024)	(0.011)	(0.021)
Immigrants are bad for the country	0.140***	-0.161*	0.167***	0.140***	0.121***	0.303***	0.151	0.269***	0.302***	0.340***
	(0.013)	(0.086)	(0.042)	(0.015)	(0.011)	(0.025)	(0.125)	(0.026)	(0.030)	(0.032)
Immigrants are bad for the country*SSGDP		1.182**					0.523		-0.019	0.011
		(0.506)					(0.358)		(0.014)	(0.010)
Pseudo Rsq	0.20	0.20	0.21	0.16	0.18	0.30	0.30	0.31	(0.013)	(0.013)
Log likelihood	-7538.36	-7524.17	-2326.73	-3096.27	-2080.98	-8344.38	-8343.16	-2307.55	-0.056	-0.057***
Number of observations	17,977	17,977	4,858	6,579	6,540	17,977	17,977	4,858	-0.002	0.002

Note: Group D includes the Nordic countries Denmark, Finland, Norway, Sweden, and Luxembourg. Country and time dummies are included in all regressions.

Appendix

Definition of Variables

Variable	Definition
Limit the arrival of immigrants	*TightIm* gives responses to the following two questions: 1) 'To what extent do you think [country] should allow people of the ***same race or ethnic group*** as most [country] people to come and live here?' 2) 'How about people of a ***different race or ethnic group*** from most [country] people?' The possible answers are: 1='allow many to come and live here'; 2='allow some'; 3='allow a few'; 4='allow none'. *TightIm* =1 if answer 'allow a few' or 'allow none' to either of the above questions; 0 otherwise.
Limit the arrival of same race immigrants	= 1 if answer 'allow a few' or 'allow none' people of the same race or ethnic group as most [country] people to come and live here; 0 otherwise.
Limit the arrival of different race immigrants	= 1 if answer 'allow a few' or 'allow none' people of a different race or ethnic group from most [country] people; 0 otherwise.
Proportion of non-nationals by occupation	Proportion of non-nationals in a given occupation. Source: European Union Labour Force Survey.
Proportion of non-nationals by region	Proportion of non-nationals in a given region. Source: European Union Labour Force Survey.
Proportion of non-nationals by education level	Proportion of non-nationals by education level. Source: European Union Labour Force Survey.
Income	The annual household income is coded in 12 intervals in thousand of Euros: j (less than €1.8); r (€1.8 to under €3.6); c (€3.6 to under €6); m (€6 to under €12); f (€12 to under €18); s (€18 to under €24); k (€24 to under €30); p (€30 to under €36); d (€36 to under €60); h (€60 to under €90); u (€90 to under €120); n (€120 or more).
Income >=€12,000 and <€36,000	= 1 if annual household income >= €12,000 and <€36,0000 (bands f, s, k, and p), 0 otherwise.
Income>=€36,000	= 1 if annual household income >=€36,000 (bands d, h, u and n), 0 otherwise.
Employment Status:	
Work	= 1 if in paid work, 0 otherwise.
Education	= 1 if in 'education', 0 otherwise.
Retired	= 1 if retired, 0 otherwise.
Unemployed	= 1 if 'unemployed, looking for a job' or 'unemployed, not looking for a job', 0 otherwise.
Other	= 1 if 'permanently sick or disabled', 'in community or military service', 'doing housework, looking after children, others', 'other', 0 otherwise.
Male	= 1 if male, 0 otherwise.
Household size	Number of people living regularly as a member of the household.
Upper secondary education	= 1 if highest education level is upper secondary, 0 otherwise.
Post-secondary education	= 1 if highest education level is post-secondary and above, 0 otherwise.
Foreign	= 1 if born abroad or if one or both parents were born abroad, 0 otherwise.

City	= 1 if the respondent lives in 'a big city', 'suburbs or outskirts of a big city', 'town or small city', 0 otherwise.
Immigrants are bad for the economy	= 1 if answer to the question: 'Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries? ' (0, bad for the economy; … ; 10, good for the economy) is <5; 0 otherwise.
Non-Economic:	
Immigrants are bad for the country's culture	= 1 if answer to the question: 'Would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries? (0, cultural life undermined; … ; 10, cultural life enriched) is <5; 0 otherwise.
Immigrants are bad for the country	= 1 if answer to the question: 'Immigrants make country worse or better place to live' (0, worse place to live; … ; 10, better place to live) is <5; 0 otherwise.
Religious	= 1 if answer to the question: 'How religious are you', (0, not at all religious; … ; 10, very religious) is >5, 0 otherwise.
Right wing	= 1 if answer to the question: 'In politics people sometimes talk of "left" and "right" … where would you place yourself on this scale, where 0 means the left and 10 means the right? (0, left; … ; 10, right)' >5; 0 otherwise.
Unsafe	= 1 if answer 'unsafe' or 'very unsafe' to the question to the question: 'How safe do you – or would you - feel walking alone in this area after dark?' (1, very safe; 2, safe; 3, unsafe; 4 very unsafe), 0 otherwise.
Objective measures:	
Regional unemployment	Regional unemployment rate at NUTS level 2 for each country. Source: Eurostat.
SSGDP	Social security benefits as percentage of GDP. Source: Eurostat.
Crime rate	Total crimes recorded by the police divided by population. Source: Eurostat.

Table 1a: Pooled sample

Country	ESS Round 1	ESS Round 2	ESS Round 3	Total
Austria	0	885	1,017	1,902
Belgium	971	1,050	1,265	3,286
Switzerland	1,135	1,247	1,122	3,504
Czech Republic	601	1,099	0	1,700
Germany	1,787	1,728	1,708	5,223
Denmark	1,053	1,095	1,131	3,279
Estonia	0	811	0	811
Spain	586	600	824	2,010
Finland	1,585	1,655	1,556	4,796
France	0	1,120	1,302	2,422
Great Britain	1,455	0	1,515	2,970
Greece	980	998	0	1,978
Ireland	0	1,260	834	2,094
Luxembourg	323	493	0	816
Netherlands	1,683	1,380	1,414	4,477
Norway	1,566	1,532	1,487	4,585
Poland	0	925	949	1,874
Portugal	626	660	651	1,937
Sweden	1,544	1,518	1,439	4,501
Slovenia	695	568	696	1,959
Slovakia	0	522	725	1,247
Total	16,590	21,146	19,635	57,371

Table 2a: Pseudo-panel

Country	*ESS Round 1*	*ESS Round 2*	*ESS Round 3*	*Total*
Austria	0	21	26	47
Belgium	47	42	47	136
Switzerland	46	40	37	123
Czech Republic	31	32	0	63
Germany	78	46	60	184
Denmark	37	25	43	105
Estonia	0	30	0	30
Spain	23	28	28	79
Finland	49	55	60	164
France	0	26	48	74
Great Britain	65	0	48	113
Greece	30	33	0	63
Ireland	0	40	20	60
Luxembourg	12	19	0	31
Netherlands	60	36	50	146
Norway	70	55	60	185
Poland	0	23	29	52
Portugal	26	20	20	66
Sweden	49	56	43	148
Slovenia	39	33	35	107
Slovakia	0	31	28	59
Total				

Table 3a: Percentage of employed people by education and country of birth

Highest level of educational attainment:	**All**	**Nationals**	**Born in an EU country**	**Born in a non-EU contry**
Up to secondary	0.23	0.22	0.21	0.28
Upper secondary	0.49	0.50	0.45	0.42
Post-upper secondary	0.28	0.28	0.33	0.28

Source: Eurostat – EU LFS

Note: The table presents averages across countries included in our sample. There are two exceptions to this: the data only allow us to separate nationals from non-nationals in Ireland and Germany.