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**Sarah Bridges and Simona Mateut\***

**Attitudes towards immigration in Europe**

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Department of Economics  
University of Sheffield  
9 Mappin Street  
Sheffield  
S1 4DT  
United Kingdom  
[www.shef.ac.uk/economics](http://www.shef.ac.uk/economics)

**Abstract:**

This paper examines attitudes towards immigration across a range of countries in Europe. In line with the current literature we find evidence that both economic and non-economic factors shape attitudes towards the arrival of immigrants. However, we also show that the relative importance of these factors depends crucially on the race of the arriving immigrants. We find that economic considerations are more likely to shape attitudes towards the arrival of same race immigrants, while immigrants of a different race are perceived to have a negative impact on the country's culture. Moreover, educated natives perceive labour market competition from arriving immigrants of the same race only.

**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 U.S. 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.<sup>1</sup> With this in mind, this paper investigates the degree to which economic and non-economic factors affect attitudes towards further immigration in Europe, and perhaps more importantly it examines the extent to which these factors 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.<sup>2</sup> 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.<sup>3</sup> In addition, the resulting evidence on the factors which shape immigration preferences appears mixed. On the one hand, a large literature has developed which finds that attitudes towards immigration are strongly shaped by economic self-interest (see, for example, Mayda, 2006; Scheve and Slaughter, 2001; and Kessler, 2001). Scheve and Slaughter (2001), for example, argue that an individual's attitude toward immigration is influenced by his/her position in the labour market and find that less skilled (more skilled) individuals are more (less) likely to oppose immigration. Facchini and Mayda (2008) argue that such a finding is consistent with the fact that, on average, immigrants to the U.S. are unskilled. 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.<sup>4</sup> 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

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

<sup>2</sup> See, for example, Facchini, et al. (2007), Scheve and Slaughter (2001), Citrin et al. (1997) and Espenshade and Hempstead (1996) for the U.S.; Dustman and Preston (2001) for the UK; Hainmueller and Hiscox (2005) for Europe; and Facchini and Mayda (2008) and Mayda (2006) for a range of countries including the U.S., Canada and Japan.

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

<sup>4</sup> 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.

Hiscox (2005), using European data, 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.

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.<sup>5</sup> However, it is likely that attitudes towards immigration may also vary with the race and ethnicity of the arriving immigrants. Thus grouping immigrants together is likely to produce mixed results since, for example, the composition of the arriving immigrants (i.e., whether same race/different race) is likely to change across countries and over time. 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 these attitudes 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) in order to track different ‘cohorts’ over time. 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 (as a proxy for skill) of natives. We refine this approach and match in data from the European Union Labour Force Survey (EU LFS) to control for the proportion of non-nationals in an individual’s occupation and economic sector.<sup>6</sup> We argue that this variable acts as a proxy for both the degree of labour market competition and the level of contact that individuals face from immigrants. The latter may have a positive effect on natives’ attitudes<sup>7</sup>, which may dominate any negative labour market effect.

In line with other studies, we find that attitudes towards the arrival of immigrants are not only related to non-economic factors such as political ideology, cultural considerations,

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<sup>5</sup> An exception to this is Dustmann and Preston (2007) who look at different race immigrants.

<sup>6</sup> 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.

<sup>7</sup> Card, et al. (2005) also suggest that greater contact with immigrants may either increase or decrease the perceived threat posed by immigrants.

and concerns about security, but are also shaped by economic factors and welfare considerations. However, perhaps crucially, we find that the relative importance of these factors depends on the race or ethnicity of the arriving immigrants and in doing so we make three important findings.

First, we find that European attitudes towards further immigration are correlated with the proportion of non-nationals in the respondent's occupation and economic sector (Mayda, 2006, finds a similar result). However, we show that in occupations/economic sectors characterized by a higher proportion of non-nationals, individuals are less likely to oppose same race immigrants, but are more likely to oppose the arrival of immigrants of a different race. Our results thus suggest that more contact with immigrants of the same race, who are more familiar to the native population, has a positive effect on attitudes towards further immigration, which prevails over any possible labour market effect. However, this is not the case for different race immigration.

Second, our results also suggest that economic considerations are more likely to shape attitudes towards the arrival of immigrants of the same race. Severe macroeconomic conditions at home, gauged by a higher regional unemployment rate, cause Europeans to be against the arrival of same race immigrants. In contrast, immigrants of a different race are perceived to have a negative impact on the country's culture.

Third, we find that the perceived impact of the arriving immigrants on the country's economy and culture is correlated with the respondent's gender and education level. Interestingly, our results suggest that highly educated Europeans only perceive labour market competition from same race immigrants. Finally, in line with Dustmann and Preston (2007), we find evidence that social welfare considerations are also important in determining attitudes towards further immigration.

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<sup>8</sup>: 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.<sup>9</sup>

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 attitudes 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'. We use these questions to construct three dichotomous variables. *TightIm* which takes the value 1 if the individual responds 'allow none' or 'allow a few' to either of the above questions (0 otherwise). We use this variable to gauge the respondent's attitude towards immigration regardless of the race of the arriving immigrants.<sup>10</sup> However, we are also interested in the effect race has on attitudes towards immigration. We therefore create two further binary variables: *TightImSame*, which takes the value 1 if the individual responds 'allow none' or 'allow a few' immigrants of the same race or ethnic group (0 otherwise), and *TightImDiff*, which takes the value 1 if the individual responds 'allow none' or 'allow a few' immigrants of a different race/ethnicity (0 otherwise).<sup>11</sup>

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, demographics (including age, household size, education, parents' country of birth), area of

<sup>8</sup> 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.

<sup>9</sup> 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 and economic sector is not available for these countries and so they are dropped from our sample.

<sup>10</sup> 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'.

<sup>11</sup> For ease of notation we now refer to immigrants as simply same race or different race.

residence (city versus rural) and income (our proxy for economic status).

Finally we use data from Eurostat to match in more objective measures of a country's economic performance. We match data from the EU LFS<sup>12</sup> on the size of the immigrant population in a particular occupation and economic sector: the proportion of non-national workers at the one-digit occupation and economic sector. We also match in data from Eurostat on the regional unemployment rate (at NUTS level 2), social security expenditure as a percentage of GDP, GDP per capita in purchasing power standards, and total crimes recorded by the police as a proportion of the population. A full list of the variables used in this paper is given in Table 1.

### 2.1 *Summary Statistics*

Summary statistics of our main variables are given in Table 2. We find that although a high proportion of respondents want to limit the arrival of immigrants (48% in 2002 want to 'allow none' or 'allow a few' immigrants), respondents appear less likely to want to limit the arrival of same race immigrants than those of a different race: 33% (in 2002) want to limit the arrival of same race immigrants compared to 46% (in 2002) for those of a different race, with similar proportions in other years. 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 respondents 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 these responses by country (Table 3) we find that there is substantial cross-country variation in attitudes towards immigration. A high proportion of Greeks (around 80%) want to limit the arrival of immigrants, while respondents in Sweden, Switzerland and Ireland appear to favour immigrants.

<< Table 3 here >>

### 3. **Empirical methodology: Pseudo Panel**

A key methodological issue is that the ESS is not a panel and hence the same individuals cannot be 'tracked' over time in order to examine how attitudes towards immigration in Europe have changed over time. We can, however, use the data to construct a

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<sup>12</sup> The EU LFS is a quarterly household survey carried out in all EU member states, candidate countries and EFTA countries (except Liechtenstein).

pseudo panel (see, for example, Deaton, 1985) in order to follow different cohorts over time in order to estimate relationships based on cohort means. This methodology has been widely used in applied research (Attanasio, 1993, for example, examines household savings in the U.S.; Deaton, 1997 looks at consumption patterns in Taiwan; and Pencavel, 1998 analyses labour markets in the U.S.).

Suppose that our basic regression model is of the form:

$$y_{it} = x'_{it}\beta + \alpha_i + \varepsilon_{it} \quad t=1, \dots, T \quad (1)$$

where  $i$  indexes individuals<sup>13</sup> and  $t$  time periods,  $y_{it}$  is our dichotomous dependent variable for individual  $i$  at time  $t$ , which takes the value 1 if the respondent wants to limit the arrival of immigrants (defined in the previous section),  $x_{it}$  is our vector of explanatory variables thought to affect attitudes towards the arrival of immigrants with corresponding coefficients  $\beta$ ,  $\alpha_i$  is the individual fixed effect and  $\varepsilon_{it}$  is the error term. In this context, the individual fixed effects are likely to be correlated with some or all of the explanatory variables, which makes pooling the repeated observations an inappropriate approach.<sup>14</sup>

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:

$$\bar{y}_{ct} = \bar{x}'_{ct}\beta + \bar{\alpha}_{ct} + \bar{\varepsilon}_{ct} \quad c=1, \dots, C \quad (2)$$

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

Finally, Deaton (1985) also argues that there is potentially a measurement error problem arising from using  $\bar{y}_{ct}$  as an estimate of the unobservable population cohort mean and equation (2) should therefore be estimated using errors in variables techniques. However, the larger the cohort, the less important the measurement error problem is, and thus this approach is typically ignored if the number of observations per cohort ( $n_c$ ) is sufficiently

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<sup>13</sup> Since different individuals are observed in each period this implies that  $i$  runs from 1 to  $N_t$  for time period  $t$ .

<sup>14</sup> In a genuine panel this can be solved by using a fixed effects approach and treating  $\alpha_i$  as a fixed unknown parameter.

'large' (see, for example, Browning et al. 1985 and Blundell et al. 1993).<sup>15</sup>

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 behavior of pseudo panel data estimators can be derived using alternative asymptotic sequences. A second type of asymptotics is based on 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 on the number of cohorts. He further demonstrates that 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.<sup>16</sup> 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. 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.<sup>17</sup> We use the one-digit NACE economic sector classification with 17 economic sectors and the one-digit ISCO88 occupation classification with 10 main occupations.

It should be noted that we use both occupation and economic sector to define our cohorts since we want to include a proxy for both labour market competition and the level of contact that individuals face from immigrants. We argue that while occupation mainly captures the competition effect, economic sector allows natives to interact with immigrants in different occupations in the same sector. The other dimension of our cohort (ten-year interval age groups) allows for unobserved differences such as quality of education, skills and attitudes, and allows for homogeneity within cohorts and heterogeneity between cohorts.<sup>18</sup>

We can thus construct a maximum theoretical number of 864 cohorts from our data: 6

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<sup>15</sup> 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.

<sup>16</sup> 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).

<sup>17</sup> This classification refers to their last job for retired people and their parents' job for young people still in full-time education.

<sup>18</sup> As we have already shown, attitudes towards immigration vary across countries. However, using countries to define our cohorts would cause the fixed effects to capture both the country specific effects together with age, occupation and economic sector effects. Since we include other country specific variables in our regressions, we prefer to control for country specific effects by including country dummies.

(age groups) x 16 (economic sectors) x 9 (occupations) = 864 cohorts.<sup>19</sup> 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 sector in all three rounds. For this reason our pseudo-panel is an unbalanced panel of 2,134 observations for a total of 798 individuals (cohorts).<sup>20</sup>

The important dimension of our pseudo panel is the large number of cohorts (798) as we are interested in estimating a binary choice model. Moreover, the average cohort size is 134 individuals, which is large enough to reduce the measurement error as discussed above. Since the average cohort size disguises large variation within cohorts, we estimate by weighted least squares as is standard practice (see, for example, Propper et al, 2001). We also exploit the pseudo-panel nature of our data and employ a fixed-effects estimator which eliminates any unobserved fixed cohort specific factors (age-industry-occupation).<sup>21</sup>

#### 4. Empirical Results

Table 4 reports our fixed effects estimates of opposition towards immigration (whether same race or different).<sup>22</sup> The explanatory variables are separated into demographic, economic, and non-economic (social and political). We also include country dummies<sup>23</sup> and times dummies in all our regressions.<sup>24</sup>

We begin by looking at our baseline model (column 1) and find that males are less likely to favour the arrival of immigrants, as are those living in the city. Similarly, individuals from larger households are more likely to oppose the arrival of immigrants – these respondents may be more likely to make use of the welfare state (in terms of health services, education and social security benefits) and may perceive immigrants as competing with them

<sup>19</sup> We exclude individuals employed in economic sector 17 (extraterritorial organizations), and those whose occupations are classified as armed forces. In doing so, we drop 72 observations only and our pooled cross-section contains a total of 95,131 observations (see Table 1a in the Appendix).

<sup>20</sup> Table 2a in the Appendix provides the structure for the unbalanced pseudo-panel dataset.

<sup>21</sup> 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.

<sup>22</sup> Although we argue in Section 3 that pooling the data would be inappropriate in this setting, our main results are, nevertheless, robust to using a pooled probit. These results are not reported for brevity but are available on request.

<sup>23</sup> In the pseudo-panel, the country dummies are the percentage of individuals from a given country.

<sup>24</sup> In what follows our results are robust to the following two sensitivity analyses: 1. It is apparent from our summary statistics presented in Table 3, that Greece is the most anti-immigration country, while Sweden appears to favour immigration the most. Our results are robust to excluding these two countries from the analysis, and 2. Five of the countries in our sample (the Czech Republic, Estonia, Poland, Slovakia and Slovenia) only joined the EU in May 2004 (the middle of our sample period). These countries have provided an outflow of workers to the older EU member countries. Our results are robust to excluding the new member states. The results obtained on these two restricted samples are not reported for brevity but are available on request.

for the same welfare benefits. Not surprisingly, respondents who were born abroad or who have at least one parent who was born abroad are less likely to want to limit immigration.

Turning to our economic variables we begin by looking at the relationship between attitudes towards immigration and the size of the immigrant population in the respondent's occupation/economic sector. As previously mentioned, we argue that this variable acts as a proxy for both the degree of labour market competition and the level of contact that individuals face from immigrants. Here we find that in occupations/industries characterized by a higher proportion of non-nationals, individuals are more likely to oppose immigration; the negative labour market effect prevails over any possible positive effect arising from increased contact with immigrants. Mayda (2006) finds a similar result. In contrast, we find that those on a higher income are less likely to want to limit the arrival of immigrants, while the opposite holds for those who believe that immigrants are bad for the economy. Employment status also has a role to play in this setting; individuals who define their main activity (in the last 7 days) as being in education appear to have more liberal views towards immigration. Interestingly those who classify their main activity as 'other' are more likely to oppose immigration than those who classify their main activity as unemployed (base category).<sup>25</sup> Such a finding is clearly not due to competitive pressure from the arriving immigrants (these respondents are not in the labour market), but could arise due to the impact immigrants are thought to have on a government's finances, security and crime levels.<sup>26</sup> We investigate this further in what follows.

Turning to our non-economic variables we find a positive association between individuals who feel that immigration is bad for a country's culture (Mayda, 2006, finds a similar result) and those who want to limit the arrival of immigrants. Immigrants often come from different social backgrounds and may thus be perceived as undermining the cultural identity of the native population. 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. In contrast, we find that individuals who are religious are less likely to oppose the arrival of immigrants while respondents with a rightwing political ideology are more likely to favour a restrictive immigration policy.

Finally, we find a positive association between individuals who feel that immigrants make the country a worse place to live (*Bad for country*) and opposition to immigration. In

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<sup>25</sup> The category 'other' includes individuals who are permanently sick or disabled, those doing housework or looking after children, those doing community or military service and other.

<sup>26</sup> Blackaby et al. (2007) suggest that the economically inactive react in similar ways to benefit increases as the unemployed.

the last three columns of Table 4 (columns 2, 3 and 4) we investigate whether this belief is linked to more objective measures such as the ratio of social security benefits in total GDP, the crime rate, or economic performance (GDP per capita), and include the following interaction variables: *Bad for country* x *SSGDP* (column 2), *Bad for country* x *crime rate* (column 3), and *Bad for country* x *GDP per capita* (column 4). Here we find that in each specification the interaction terms have a positive sign, but are only significant in the case of social security spending.<sup>27</sup> Thus, individuals perceive immigrants to worsen conditions through their impact on social security benefits, but believe that immigration makes a country a worse place to live irrespective of the crime rate or the overall level of economic prosperity.<sup>28</sup> Respondents from countries with a higher ratio of social security expenditure to total GDP may fear that immigrants will benefit, at their expense, from their country's welfare state. Dustmann and Preston (2007) also find that welfare concerns play a major role in determining attitudes towards immigration.

#### 4.1. Do attitudes depend on the race of the arriving immigrants?

We now examine the extent to which our results depend on the race of the arriving immigrants (Table 5) and split our sample between immigrants of the same race (Panel A) and different race (Panel B).

We begin by looking at our baseline model (columns 1 and 6) and find that in occupations/economic sectors characterized by a higher proportion of non-nationals, individuals are less likely to oppose immigration if the arriving immigrants are of the same race, but are more likely to oppose immigrants of a different race. Our results thus suggest that more contact with immigrants of the same race, who are more familiar to the native population has a positive effect on attitudes towards immigration, which prevails over any possible labour market effect. However, this is not the case for different race immigration.

We also find that economic considerations are more likely to shape attitudes towards immigrants of the same race. Severe macroeconomic conditions at home, gauged by a higher regional unemployment rate, cause Europeans to be against the arrival of same race immigrants, but has an insignificant effect on those of a different race. In contrast, individuals who work appear to have more liberal attitudes towards same race immigration, suggesting

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<sup>27</sup> Here we find that in each specification *Bad for country* becomes less significant with a smaller coefficient.

<sup>28</sup> 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 *Bad for country* with deviations of *SSGDP*, crime rate and *GDP per capita* from their respective means over time. Results are similar and available on request.

that individuals who work do not fear labour market competition from same race immigrants. This supports our earlier finding that the positive effect of more contact with immigrants of the same race dominates the labour market effect. Another interesting finding is that those who classify their main activity as ‘other’ are more likely to oppose different race immigration than those who classify their main activity as unemployed (the base category). We argue that such a finding is not due to competitive pressure from arriving immigrants (these respondents are not in the labour market), but could, for example, arise due to the perceived impact immigrants have on a government’s finances, security and crime levels.

Opposition towards immigrants of a different race appears to be based on cultural grounds; believing that immigration undermines the country’s culture is only significantly (and positively) associated with efforts to restrict immigration if the arriving immigrants are of a different race. In contrast, we find a positive association between individuals who feel that immigration makes the country a worse place to live and a restrictive immigration policy regardless of the race of the arriving immigrants. As before we investigate whether this belief is linked to more objective measures, and add the following interaction terms to our baseline specification: *Bad for country x SSGDP* (columns 3 and 6), *Bad for country x crime rate* (columns 4 and 9), and *Bad for country x GDP per capita* (columns 5 and 10). Here we find that the interaction terms only have a significant effect on attitudes towards immigration in the case of same race immigrants, which suggests that individuals from countries with a more generous welfare system, a higher crime rate<sup>29</sup>, and higher GDP per capita are more likely to oppose immigrants of the same race. In contrast, individuals perceive that different race immigration makes the country a worse place to live irrespective of the generosity of its welfare system, crime rate or the level of economic prosperity.

<< Table 5 here >>

#### 4.2. *Gender and education*

Finally, we examine whether the economic, and perceived cultural threat posed by immigrants differs significantly with the respondent’s gender or educational attainment (Table 6) and in doing so interact gender (Panel A) and education dummies (Panel B) with some of our key variables.

<< Table 6 here >>

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<sup>29</sup> Although Butcher and Piehl (1998) find that immigrants in the U.S. 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. We find that individuals appear to oppose same race immigration more as the crime rate in the host country increases, implying that immigrants are perceived to contribute to higher crime rates.

We begin by looking at the effects of gender and find that for males, the higher the proportion of non-nationals in the respondent's occupation/economic sector the more likely they are to oppose the arrival of same race immigrants; men are clearly exposed to more competitive pressure from same race immigrants than women. In contrast, although overall immigrants are perceived as being bad for the economy, the gender interaction is negative; females are more likely than males to oppose immigration because they believe that immigrants have a detrimental effect on the economy. Finally, males are less likely than females to oppose the arrival of same race immigrants due to cultural concerns, but are more likely than women to oppose immigration because they believe that immigrants make the country a worse place to live.

Turning to look at the effects of education (Panel B) we find that the higher the proportion of non-nationals in a given occupation/economic sector the more likely highly skilled natives are to oppose the arrival of same race immigrants<sup>30</sup>; highly skilled natives clearly perceive labour market competition from same race immigrants. This could arise because same race immigrants are more highly skilled.

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).<sup>31</sup> Table 3a confirms that immigrants born in an EU country are on average more educated 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.

Highly educated natives are also more likely than our base category (lower secondary and below) to oppose the arrival of different race immigration because they believe that immigrants have a negative impact on the economy, but are less likely than our base category to oppose the arrival of different race immigrants on cultural grounds or because they believe that they make the country a worse place to live.

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<sup>30</sup> Interacting the proportion of non-nationals in a given occupation and industry with our two education dummies (Panel B) we find that for immigrants of the same race the interaction terms are highly significant with a positive sign. Moreover, the coefficient is almost three times larger in magnitude for those with the highest level of education (post secondary) than for those educated to upper secondary; same race immigrants are clearly perceived by natives as being more educated/skilled.

<sup>31</sup> 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.

## **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 attitudes towards the arrival of immigrants in Europe. We find that, after controlling for various observed socioeconomic characteristics and allowing for cohort-specific fixed effects the relative importance of these factors in shaping attitudes towards immigration depends crucially on the race of the arriving immigrants.

In particular, we find that economic considerations are more likely to shape attitudes towards the arrival of immigrants of the same race. Severe macroeconomic conditions at home, for example, captured by a higher regional unemployment rate, cause Europeans to oppose the arrival of same race immigrants, but have an insignificant effect on immigrants of a different race. Moreover, our results suggest that highly educated Europeans only perceive labour market competition from the arrival of same race immigrants. In contrast, immigrants of a different race are perceived to have a 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.

To conclude, immigration is clearly a very emotive issue and understanding how individuals perceive arriving immigrants is undoubtedly important in shaping a country's immigration policy. This is particularly important within the EU where the free movement of persons is a general right. According to estimates from Eurostat, in 2006 alone, about 3.5 million individuals settled in a new country in the EU.<sup>32</sup> However, perhaps more importantly, understanding how individuals perceive arriving immigrants may help policy makers and the government alike identify and correct any misperceptions that may have arisen with respect to the effect immigrants have on their jobs and cultural life, and in doing so create a more integrated and harmonious society.

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<sup>32</sup> Eurostat: Statistics in focus: 98/2008.

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**Table 1: Definition of Variables**

Variable	Definition
<i>TightIm</i>	<i>TightIm</i> gives responses to the following two questions: 1) ‘To what extent do you think [country] should allow people of the <i>same race or ethnic group</i> as most [country] people to come and live here?’ 2) ‘How about people of a <i>different race or ethnic group</i> 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’. <i>TightIm</i> =1 if answer ‘allow a few’ or ‘allow none’ to either of the above questions; 0 otherwise.
<i>TightImSame</i>	= 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.
<i>TightImDiff</i>	= 1 if answer ‘allow a few’ or ‘allow none’ people of a different race or ethnic group from most [country] people; 0 otherwise.
<i>Male</i>	= 1 if male, 0 otherwise.
<i>Household size</i>	Number of people living regularly as a member of the household.
<i>Upper secondary education</i>	= 1 if highest education level is upper secondary, 0 otherwise.
<i>Post-secondary education</i>	= 1 if highest education level is post-secondary and above, 0 otherwise.
<i>Foreign</i>	= 1 if born abroad or if one or both parents were born abroad, 0 otherwise.
<i>City</i>	= 1 if the respondent lives in ‘a big city’, ‘suburbs or outskirts of a big city’, ‘town or small city’, 0 otherwise.
<i>Proportion of non-nationals</i>	Proportion of non-nationals in a given occupation and economic sector. Source: European Union Labour Force Survey.
<i>Bad for economy</i>	= 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.
<i>Income</i>	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).
<i>Income &gt;=€12,000 and &lt;€36,000</i>	= 1 if annual household income >= €12,000 and <€36,000 (bands f, s, k, and p), 0 otherwise.
<i>Income&gt;=€36,000</i>	= 1 if annual household income >=€36,000 (bands d, h, u and n), 0 otherwise.
<b>Employment Status:</b>	
<i>Work</i>	= 1 if in paid work, 0 otherwise.
<i>Education</i>	= 1 if in ‘education’, 0 otherwise.
<i>Retired</i>	= 1 if retired, 0 otherwise.
<i>Unemployed</i>	= 1 if ‘unemployed, looking for a job’ or ‘unemployed, not looking for a job’, 0 otherwise.
<i>Other</i>	= 1 if ‘permanently sick or disabled’, ‘in community or military service’, ‘doing housework, looking after children, others’, ‘other’, 0 otherwise.
<b>Non-Economic:</b>	
<i>Bad for culture</i>	= 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; ... ;

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	10, cultural life enriched) is <5; 0 otherwise.
<i>Bad for country</i>	= 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.
<i>Religious</i>	= 1 if answer to the question: ‘How religious are you’, (0, not at all religious; ... ; 10, very religious) is >5, 0 otherwise.
<i>Right wing</i>	= 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.
<i>Feel unsafe</i>	= 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.
<b>Objective measures:</b>	
<i>Regional unemployment</i>	Regional unemployment rate at NUTS level 2 for each country. Source: Eurostat.
<i>SSGDP</i>	Social security benefits as percentage of GDP. Source: Eurostat.
<i>Crime rate</i>	Total crimes recorded by the police divided by population. Source: Eurostat.
<i>GDP per capita</i>	GDP per capita in PPS. Source: Eurostat.

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**Table 2: Summary Statistics**

<b>Year</b>	2002		2004		2006	
<b>Variable</b>	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.
<i>TightIm</i>	0.483	0.500	0.486	0.500	0.449	0.497
<i>TightImSame</i>	0.329	0.470	0.315	0.465	0.285	0.451
<i>TightImDiff</i>	0.463	0.499	0.468	0.499	0.433	0.495
<i>Male</i>	0.522	0.500	0.502	0.500	0.504	0.500
<i>Age</i>	4.709	1.657	4.761	1.654	4.784	1.674
<i>Household size</i>	2.623	1.317	2.689	1.367	2.663	1.365
<b>Educational attainment:</b>						
<i>Primary</i>	0.321	0.467	0.324	0.468	0.321	0.467
<i>Upper Secondary</i>	0.387	0.487	0.364	0.481	0.303	0.459
<i>Post-secondary education</i>	0.292	0.455	0.312	0.463	0.376	0.484
<i>Foreign</i>	0.140	0.347	0.149	0.356	0.143	0.350
<i>City</i>	0.620	0.485	0.622	0.485	0.620	0.485
<b>Economic:</b>						
<i>Proportion of non-nationals</i>	0.061	0.095	0.068	0.106	0.052	0.069
<i>Bad for economy</i>	0.328	0.470	0.373	0.484	0.314	0.464
<i>Income&lt;€12,000</i>	0.197	0.397	0.255	0.436	0.189	0.391
<i>Income &gt;=€12,000 and &lt;€36,000</i>	0.496	0.500	0.459	0.498	0.477	0.499
<i>Income&gt;=€36,000</i>	0.307	0.461	0.286	0.452	0.335	0.472
<i>Regional unemployment rate</i>	0.063	0.038	0.081	0.047	0.071	0.040
<b>Employment Status:</b>						
<i>Work</i>	0.587	0.492	0.573	0.495	0.594	0.491
<i>Education</i>	0.048	0.214	0.041	0.198	0.041	0.199
<i>Retired</i>	0.199	0.399	0.225	0.418	0.211	0.408
<i>Other</i>	0.129	0.335	0.110	0.313	0.114	0.317
<b>Non-Economic:</b>						
<i>Bad for culture</i>	0.220	0.414	0.259	0.438	0.237	0.426
<i>Bad for country</i>	0.342	0.475	0.350	0.477	0.317	0.465
<i>Religious</i>	0.347	0.476	0.347	0.476	0.345	0.475
<i>Right wing</i>	0.400	0.490	0.413	0.492	0.401	0.490
<i>Feel unsafe</i>	0.195	0.396	0.212	0.409	0.192	0.394
Number of observations	16,886		21,701		20,182	

**Table 3: Attitudinal Responses Disaggregated by Country**

Country	Favours Tight Immigration			Favours Tight Immigration (same race /ethnic origin)			Favours Tight Immigration (different race /ethnic origin)			Immigration is bad for the economy			Immigration is bad for a country's culture			Immigration is bad for the country			
	2002	2004	2006	2002	2004	2006	2002	2004	2006	2002	2004	2006	2002	2004	2006	2002	2004	2006	
Austria	0.689	0.543	0.594	0.568	0.340	0.348	0.673	0.526	0.588	0.242	0.378	0.319	0.234	0.333	0.402	0.362	0.438	0.490	
Belgium	0.487	0.483	0.459	0.327	0.312	0.258	0.456	0.467	0.439	0.387	0.448	0.410	0.228	0.243	0.244	0.443	0.395	0.397	
Switzerland	0.357	0.363	0.406	0.195	0.161	0.183	0.341	0.359	0.397	0.184	0.245	0.196	0.168	0.210	0.210	0.217	0.266	0.248	
Czech Republic	0.573	0.634		0.449	0.491		0.540	0.589		0.445	0.503		0.429	0.466		0.471	0.499		
Germany	0.460	0.525	0.523	0.277	0.320	0.309	0.445	0.510	0.506	0.312	0.466	0.402	0.171	0.262	0.266	0.351	0.413	0.427	
Denmark	0.533	0.542	0.481	0.253	0.207	0.146	0.520	0.531	0.474	0.403	0.394	0.287	0.233	0.257	0.223	0.237	0.264	0.204	
Estonia		0.692	0.683		0.436	0.406		0.677	0.672		0.512	0.458		0.438	0.420		0.558	0.525	
Spain	0.503	0.459	0.519	0.441	0.401	0.466	0.483	0.442	0.500	0.261	0.235	0.237	0.201	0.204	0.240	0.358	0.300	0.349	
Finland	0.649	0.638	0.609	0.421	0.428	0.395	0.635	0.624	0.597	0.292	0.362	0.272	0.049	0.090	0.070	0.250	0.247	0.213	
France	0.485	0.506	0.516	0.358	0.358	0.378	0.467	0.482	0.492	0.282	0.373	0.397	0.334	0.353	0.365	0.372	0.396	0.424	
Great Britain	0.515	0.496	0.546	0.355	0.349	0.411	0.498	0.477	0.525	0.442	0.453	0.464	0.341	0.403	0.456	0.418	0.439	0.477	
Greece	0.856	0.803		0.696	0.659		0.854	0.798		0.582	0.558		0.606	0.589		0.633	0.630		
Ireland	0.372	0.381	0.318	0.210	0.263	0.219	0.351	0.366	0.295	0.353	0.241	0.213	0.274	0.241	0.245	0.284	0.261	0.244	
Luxembourg	0.597	0.543		0.457	0.330		0.581	0.525		0.123	0.228		0.102	0.160		0.204	0.321		
Netherlands	0.441	0.461	0.516	0.365	0.334	0.420	0.414	0.436	0.501	0.330	0.393	0.301	0.185	0.206	0.175	0.413	0.384	0.315	
Norway	0.453	0.441	0.425	0.281	0.224	0.217	0.426	0.417	0.412	0.266	0.315	0.266	0.243	0.245	0.240	0.360	0.365	0.329	
Poland		0.433	0.334		0.312	0.211		0.407	0.322		0.406	0.276		0.162	0.126		0.207	0.157	
Portugal	0.620	0.685	0.667	0.557	0.606	0.613	0.612	0.657	0.649	0.382	0.497	0.396	0.286	0.424	0.281	0.558	0.570	0.465	
Sweden	0.179	0.172	0.160	0.113	0.116	0.109	0.170	0.164	0.148	0.274	0.340	0.293	0.095	0.109	0.112	0.162	0.192	0.167	
Slovenia	0.463	0.476	0.464	0.338	0.362	0.309	0.436	0.425	0.435	0.429	0.499	0.479	0.273	0.341	0.328	0.382	0.404	0.377	
Slovakia		0.427	0.446		0.273	0.310		0.394	0.416		0.482	0.405		0.306	0.296		0.381	0.325	

**Table 4: Fixed Effect Estimates of Opposition towards Immigration  
(whether same race or different)**

<i>Variable</i>	(1)	(2)	(3)	(4)
<i>Constant</i>	0.014 (0.009)	0.023** (0.011)	0.018* (0.010)	0.018* (0.010)
<b>Demographic:</b>				
<i>Male</i>	0.138*** (0.027)	0.134*** (0.027)	0.136*** (0.027)	0.137*** (0.027)
<i>Household size</i>	0.059*** (0.008)	0.057*** (0.008)	0.058*** (0.008)	0.058*** (0.008)
<i>Highest level of educational attainment:</i>				
<i>Upper secondary</i>	0.006 (0.027)	0.008 (0.027)	0.006 (0.027)	0.006 (0.027)
<i>Post-secondary education</i>	0.006 (0.031)	0.007 (0.031)	0.005 (0.031)	0.005 (0.031)
<i>Foreign</i>	-0.181*** (0.029)	-0.185*** (0.029)	-0.184*** (0.029)	-0.184*** (0.029)
<i>City</i>	0.103*** (0.023)	0.102*** (0.023)	0.103*** (0.023)	0.103*** (0.023)
<b>Economic:</b>				
<i>Proportion of non-nationals</i>	0.528*** (0.076)	0.521*** (0.076)	0.532*** (0.076)	0.523*** (0.076)
<i>Bad for economy</i>	0.124*** (0.025)	0.123*** (0.025)	0.123*** (0.025)	0.124*** (0.025)
<i>Income &gt;=€12,0000 and &lt;€36,000</i>	-0.065** (0.026)	-0.076*** (0.027)	-0.073*** (0.027)	-0.068** (0.026)
<i>Income&gt;=€36,000</i>	-0.195*** (0.039)	-0.202*** (0.039)	-0.198*** (0.039)	-0.196*** (0.039)
<i>Regional unemployment</i>	0.188 (0.356)	0.164 (0.357)	0.164 (0.357)	0.201 (0.357)
<i>Employment status dummies (base case -unemployed):</i>				
<i>Work</i>	0.021 (0.044)	0.017 (0.044)	0.012 (0.044)	0.020 (0.044)
<i>Education</i>	-0.313*** (0.061)	-0.315*** (0.061)	-0.315*** (0.061)	-0.313*** (0.061)
<i>Retired</i>	0.059 (0.053)	0.046 (0.053)	0.047 (0.054)	0.057 (0.053)
<i>Other</i>	0.151*** (0.050)	0.144*** (0.050)	0.142*** (0.051)	0.151*** (0.050)
<b>Non-Economic:</b>				
<i>Bad for culture</i>	0.142*** (0.028)	0.143*** (0.028)	0.145*** (0.028)	0.142*** (0.028)
<i>Bad for country</i>	0.215*** (0.027)	0.111* (0.064)	0.160*** (0.051)	0.170*** (0.061)
<i>Religious</i>	-0.090*** (0.023)	-0.086*** (0.023)	-0.085*** (0.023)	-0.087*** (0.023)
<i>Right wing ideology</i>	0.350*** (0.027)	0.343*** (0.027)	0.343*** (0.028)	0.346*** (0.028)
<i>Feel unsafe</i>	0.006 (0.029)	-0.001 (0.029)	0.000 (0.029)	0.002 (0.030)
<i>Bad for country x SSGDP</i>		0.562* (0.314)		
<i>Bad for country x Crime rate</i>			1.139 (0.899)	
<i>Bad for country x GDP per capita</i>				0.001 (0.001)
Number of observations	2,068	2,066	2,068	2,068
Number of id	728	727	728	728
R-squared	0.65	0.64	0.65	0.65

**Note:** Country dummies and time dummies are included in all regressions. *SSGDP* data is not available for Portugal for the third round and this explains the lower number of observations in column 2. Figures in round brackets show standard errors. \*, \*\*, \*\*\* indicate respectively 10, 5 and 1 percent significance level.

**Table 5: Fixed Effect Estimates of Opposition towards Immigration: Same Race/Different Race**

Variable	Panel A					Panel B				
	Oppose immigration if immigrants same race					Oppose immigration if immigrants different race				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Constant	0.010 (0.010)	0.005 (0.010)	0.032*** (0.012)	0.017 (0.011)	0.030*** (0.011)	0.015* (0.009)	0.016* (0.009)	0.020* (0.011)	0.018* (0.010)	0.016 (0.010)
<b>Demographic:</b>										
<i>Male</i>	-0.023 (0.030)	-0.042 (0.030)	-0.054* (0.030)	-0.048 (0.030)	-0.045 (0.030)	0.160*** (0.027)	0.164*** (0.027)	0.162*** (0.027)	0.163*** (0.027)	0.164*** (0.027)
<i>Household size</i>	0.098*** (0.008)	0.096*** (0.008)	0.092*** (0.008)	0.094*** (0.008)	0.093*** (0.008)	0.060*** (0.008)	0.060*** (0.008)	0.060*** (0.008)	0.060*** (0.008)	0.060*** (0.008)
<i>Highest level of educational attainment:</i>										
<i>Upper secondary</i>	0.004 (0.031)	0.006 (0.030)	0.012 (0.030)	0.004 (0.030)	0.004 (0.030)	0.001 (0.027)	0.001 (0.027)	0.000 (0.027)	0.000 (0.027)	0.001 (0.027)
<i>Post-secondary education</i>	-0.009 (0.034)	-0.027 (0.034)	-0.024 (0.034)	-0.031 (0.034)	-0.030 (0.034)	-0.013 (0.031)	-0.009 (0.031)	-0.010 (0.031)	-0.010 (0.031)	-0.009 (0.031)
<i>Foreign</i>	-0.192*** (0.032)	-0.196*** (0.032)	-0.206*** (0.032)	-0.203*** (0.032)	-0.216*** (0.032)	-0.178*** (0.029)	-0.177*** (0.029)	-0.178*** (0.029)	-0.178*** (0.029)	-0.176*** (0.029)
<i>City</i>	0.146*** (0.025)	0.155*** (0.025)	0.152*** (0.025)	0.156*** (0.025)	0.156*** (0.025)	0.092*** (0.023)	0.090*** (0.023)	0.093*** (0.023)	0.090*** (0.023)	0.090*** (0.023)
<b>Economic:</b>										
<i>Proportion of non-nationals</i>	-0.170** (0.085)	-0.158* (0.084)	-0.174** (0.083)	-0.145* (0.084)	-0.190** (0.084)	0.552*** (0.076)	0.550*** (0.076)	0.544*** (0.076)	0.552*** (0.076)	0.551*** (0.076)
<i>Bad for economy</i>	0.075*** (0.028)	0.071** (0.028)	0.067** (0.028)	0.069** (0.028)	0.070** (0.028)	0.147*** (0.025)	0.148*** (0.025)	0.150*** (0.025)	0.147*** (0.025)	0.148*** (0.025)
<i>Income &gt;=€12,0000 and &lt;€36,000</i>	-0.020 (0.029)	-0.001 (0.029)	-0.032 (0.029)	-0.025 (0.030)	-0.019 (0.029)	-0.071*** (0.026)	-0.075*** (0.026)	-0.079*** (0.027)	-0.079*** (0.027)	-0.075*** (0.026)
<i>Income&gt;=€36,000</i>	-0.049 (0.043)	-0.036 (0.043)	-0.056 (0.042)	-0.045 (0.043)	-0.039 (0.042)	-0.187*** (0.038)	-0.190*** (0.039)	-0.192*** (0.039)	-0.192*** (0.039)	-0.190*** (0.039)
<i>Regional unemployment</i>		1.708*** (0.395)	1.623*** (0.392)	1.639*** (0.394)	1.794*** (0.392)		-0.352 (0.357)	-0.338 (0.357)	-0.363 (0.358)	-0.354 (0.357)
<i>Employment status dummies (base-unemployed):</i>										
<i>Work</i>	-0.083* (0.049)	-0.108** (0.049)	-0.122** (0.048)	-0.134*** (0.049)	-0.120** (0.048)	-0.022 (0.044)	-0.017 (0.044)	-0.015 (0.044)	-0.021 (0.044)	-0.016 (0.044)
<i>Education</i>	-0.352*** (0.068)	-0.388*** (0.068)	-0.396*** (0.067)	-0.393*** (0.067)	-0.384*** (0.067)	-0.326*** (0.061)	-0.319*** (0.061)	-0.316*** (0.061)	-0.320*** (0.061)	-0.319*** (0.061)
<i>Retired</i>	-0.018 (0.058)	-0.070 (0.059)	-0.112* (0.058)	-0.104* (0.059)	-0.085 (0.058)	0.044 (0.052)	0.054 (0.053)	0.056 (0.053)	0.049 (0.054)	0.055 (0.053)
<i>Other</i>	-0.028 (0.055)	-0.072 (0.056)	-0.093* (0.055)	-0.097* (0.056)	-0.076 (0.055)	0.133*** (0.049)	0.142*** (0.050)	0.142*** (0.050)	0.138*** (0.051)	0.142*** (0.050)

Non-Economic:									
<i>Bad for culture</i>	-0.032 (0.031)	-0.021 (0.031)	-0.018 (0.031)	-0.012 (0.031)	-0.017 (0.031)	0.081*** (0.028)	0.079*** (0.028)	0.081*** (0.028)	0.080*** (0.028)
<i>Bad for country</i>	0.238*** (0.030)	0.221*** (0.030)	-0.074 (0.071)	0.064 (0.057)	-0.078 (0.067)	0.261*** (0.027)	0.264*** (0.027)	0.223*** (0.065)	0.237*** (0.051)
<i>Religious</i>	-0.063** (0.025)	-0.049* (0.025)	-0.039 (0.025)	-0.035 (0.025)	-0.034 (0.025)	-0.083*** (0.022)	-0.086*** (0.023)	-0.084*** (0.023)	-0.084*** (0.023)
<i>Right wing</i>	0.179*** (0.030)	0.180*** (0.030)	0.161*** (0.030)	0.159*** (0.031)	0.153*** (0.030)	0.355*** (0.027)	0.355*** (0.027)	0.352*** (0.027)	0.352*** (0.028)
<i>Feel unsafe</i>	0.132*** (0.032)	0.122*** (0.032)	0.103*** (0.032)	0.105*** (0.033)	0.090*** (0.033)	-0.024 (0.029)	-0.022 (0.029)	-0.027 (0.030)	-0.025 (0.030)
<i>Bad for country x SSGDP</i>			1.593*** (0.345)					0.220 (0.315)	
<i>Bad for country x Crime rate</i>				3.248*** (0.994)					0.548 (0.901)
<i>Bad for country x GDP per capita</i>					0.003*** (0.001)				-0.000 (0.001)
Number of observations	2,068	2,068	2,066	2,068	2,068	2,068	2,068	2,066	2,068
Number of id	728	728	727	728	728	728	728	727	728
R-squared	0.44	0.45	0.46	0.46	0.46	0.64	0.64	0.64	0.64

**Note:** Country dummies and time dummies are included in all regressions. *SSGDP* data is not available for Portugal for the third round and this explains the lower number of observations in columns 3 and 8. Figures in round brackets show standard errors. \*, \*\*, \*\*\* indicate respectively 10, 5 and 1 percent significance level.

**Table 6: Interactions with education and gender: Pseudo-Panels**

Variable	Panel A: Gender			Panel B: Education		
	TightIm (1)	TightImSame (2)	TightImDiff (3)	TightIm (4)	TightImSame (5)	TightImDiff (6)
Constant	0.018* (0.009)	0.016 (0.010)	0.019** (0.009)	0.003 (0.010)	-0.008 (0.011)	0.000 (0.010)
<b>Demographic:</b>						
Male	0.131*** (0.033)	-0.079** (0.036)	0.163*** (0.033)	0.073** (0.029)	-0.076** (0.031)	0.089*** (0.029)
Household size	0.057*** (0.008)	0.091*** (0.008)	0.059*** (0.008)	0.053*** (0.007)	0.089*** (0.008)	0.054*** (0.007)
Highest level of educational attainment:						
Upper secondary	0.012 (0.028)	0.013 (0.030)	0.007 (0.028)	0.089*** (0.034)	0.103*** (0.038)	0.086** (0.034)
Post-secondary education	0.024 (0.032)	0.001 (0.035)	0.008 (0.033)	-0.042 (0.038)	-0.066 (0.042)	-0.075* (0.038)
Foreign	-0.180*** (0.029)	-0.187*** (0.031)	-0.177*** (0.029)	-0.131*** (0.029)	-0.170*** (0.032)	-0.122*** (0.029)
City	0.114*** (0.023)	0.192*** (0.025)	0.093*** (0.023)	0.102*** (0.023)	0.164*** (0.025)	0.099*** (0.023)
<b>Economic:</b>						
Proportion of non-nationals	0.418*** (0.096)	-0.517*** (0.103)	0.491*** (0.096)	0.347*** (0.096)	-0.512*** (0.106)	0.406*** (0.096)
Proportion of non-nationals x Male	0.145 (0.156)	0.613*** (0.168)	0.059 (0.156)			
Proportion of non-nationals x Upper secondary education					0.946*** (0.207)	0.588*** (0.227)
Proportion of non-nationals x Post-secondary education					0.401** (0.195)	1.587*** (0.207)
Bad for economy	0.177*** (0.035)	0.177*** (0.038)	0.199*** (0.036)	0.139*** (0.041)	0.108** (0.045)	0.127*** (0.040)
Bad for economy x Male	-0.094 (0.061)	-0.145** (0.066)	-0.111* (0.062)			
Bad for economy x Upper secondary					-0.046 (0.075)	0.034 (0.082)
Bad for economy x Post-secondary education					0.016 (0.081)	-0.146 (0.089)
'ncome >=€12,0000 and <€36,000	-0.066** (0.026)	-0.004 (0.028)	-0.075*** (0.026)	-0.064** (0.026)	-0.010 (0.029)	-0.086*** (0.026)
'ncome>=€36,000	-0.189*** (0.039)	-0.015 (0.042)	-0.188*** (0.039)	-0.158*** (0.038)	-0.008 (0.042)	-0.141*** (0.038)
Regional unemployment	0.189 (0.356)	1.698*** (0.385)	-0.352 (0.357)	0.278 (0.360)	1.988*** (0.395)	-0.073 (0.359)
Employment status dummies (base-unemployed):						
Work	0.001 (0.045)	-0.146*** (0.048)	-0.034 (0.045)	0.052 (0.044)	-0.053 (0.049)	0.026 (0.044)
Education	-0.331*** (0.062)	-0.420*** (0.067)	-0.331*** (0.062)	-0.213*** (0.063)	-0.305*** (0.069)	-0.231*** (0.063)
Retired	0.052 (0.053)	-0.083 (0.058)	0.046 (0.053)	0.039 (0.054)	-0.051 (0.059)	0.037 (0.054)
Other	0.151*** (0.051)	-0.062 (0.055)	0.142*** (0.051)	0.214*** (0.052)	0.055 (0.057)	0.189*** (0.052)
<b>Non-Economic:</b>						
Bad for culture	0.185*** (0.038)	0.109*** (0.041)	0.086** (0.038)	0.159*** (0.041)	0.145*** (0.045)	0.167*** (0.040)
Bad for culture x Male	-0.091	-0.291***	-0.001			

	(0.065)	(0.070)	(0.065)			
<i>Bad for culture x Upper secondary</i>				-0.063	-0.439***	-0.126
<i>Bad for culture x Post-secondary education</i>				(0.077)	(0.085)	(0.077)
<i>Bad for country</i>	0.122*** (0.039)	-0.019 (0.043)	0.208*** (0.040)	0.302*** (0.042)	0.196*** (0.046)	0.323*** (0.042)
<i>Bad for country x Male</i>	0.187*** (0.064)	0.466*** (0.069)	0.110* (0.064)			
<i>Bad for country x Upper secondary</i>				-0.470*** (0.089)	-0.144 (0.098)	-0.440*** (0.089)
<i>Bad for country x Post-secondary education</i>				-0.039 (0.075)	0.015 (0.082)	0.042 (0.075)
<i>Religious</i>	-0.092*** (0.023)	-0.053** (0.025)	-0.089*** (0.023)	-0.070*** (0.023)	-0.056** (0.025)	-0.059** (0.023)
<i>Right wing</i>	0.349*** (0.027)	0.181*** (0.029)	0.352*** (0.027)	0.349*** (0.029)	0.169*** (0.031)	0.326*** (0.029)
<i>Feel unsafe</i>	0.005 (0.029)	0.129*** (0.032)	-0.028 (0.029)	-0.025 (0.030)	0.076** (0.033)	-0.064** (0.030)
No. of Observations	2068	2068	2068	2068	2068	2068
No. of id	728	728	728	728	728	728
R-squared	0.65	0.48	0.65	0.66	0.49	0.66

**Note:** Country dummies and time dummies are included in all regressions. Figures in round brackets show standard errors. \*, \*\*, \*\*\* indicate respectively 10, 5 and 1 percent significance level.

## Appendix

**Table 1a: Pooled sample**

Country	ESS Round 1	ESS Round 2	ESS Round 3	Total
Austria	1,923	1,915	2,092	5,930
Belgium	1,477	1,494	1,541	4,512
Switzerland	1,827	1,866	1,647	5,340
Czech Republic	1,159	2,331	0	3,490
Germany	2,475	2,473	2,571	7,519
Denmark	1,410	1,349	1,361	4,120
Estonia	0	1,772	1,358	3,130
Spain	1,317	1,109	1,594	4,020
Finland	1,874	1,894	1,767	5,535
France	1,337	1,640	1,807	4,784
Great Britain	1,948	1,691	2,252	5,891
Greece	1,895	1,904	0	3,799
Ireland	1,760	1,984	1,477	5,221
Luxembourg	1,037	1,339	0	2,376
Netherlands	2,132	1,745	1,748	5,625
Norway	1,714	1,684	1,636	5,034
Poland	0	1,468	1,456	2,924
Portugal	1,258	1,575	1,833	4,666
Sweden	1,914	1,854	1,760	5,528
Slovenia	1,253	816	1,187	3,256
Slovakia	0	1,054	1,377	2,431
<b>Total</b>	<b>29,710</b>	<b>34,957</b>	<b>30,464</b>	<b>95,131</b>

**Table 2a: Pseudo-panel**

<i>Country</i>	<i>ESS Round 1</i>	<i>ESS Round 2</i>	<i>ESS Round 3</i>	<i>Total</i>
Austria	40	29	54	123
Belgium	42	28	46	116
Switzerland	55	34	39	128
Czech Republic	36	45	0	81
Germany	47	41	54	142
Denmark	37	21	32	90
Estonia	0	49	51	100
Spain	37	28	37	102
Finland	29	43	43	115
France	32	26	36	94
Great Britain	41	46	36	123
Greece	30	31	0	61
Ireland	39	39	37	115
Luxembourg	31	29	0	60
Netherlands	63	20	35	118
Norway	39	51	37	127
Poland	0	31	30	61
Portugal	36	28	44	108
Sweden	39	35	39	113
Slovenia	30	36	25	91
Slovakia	0	29	37	66
<b>Total</b>	703	719	712	2,134

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

<b>Highest level of educational attainment:</b>	All	Nationals	Born in an EU country	Born in a non-EU country
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.