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"ATTITUDES TOWARD IMMIGRATION AND THE GREAT RECESSION: EVIDENCE FROM THE EUROPEAN SOCIAL SURVEY"

RELATORE:

CH.MO PROF. Marco Bertoni

LAUREANDO/A: Francesca Puglia

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Firma dello studente

Francesca Puglia

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INTRODUCTION

Would a world with open borders and with people free to move wherever they want be a dream or a nightmare? The answer depends on whom you ask.[1] Geert Wilders, a Dutch politician with anti-immigration views, in a speech said "If you want to regain your country, if you want to make the Netherlands for the people of the Netherlands, your own home again, than you can only vote [for the Freedom party]. Please, make the Netherlands ours again.". Indeed, if elected prime minister in 2015, he vowed to end Muslim immigration, to shutter all mosques and to leave the European Union. Wilders is not the only leader in rich countries who focused his campaign on nativism. Donald Trump, whose promise was to build a wall to stop the flow of migrants from Mexico, won the US election in 2017. Furthermore, in the 2016 summer referendum the UK citizens voted to leave the European Union. Even in this case concerns about immigration played a pivotal role in the British decision. Many other European countries also experienced a rise in individuals' vote in favour of parties and leaders which support restrictive policies towards immigration.

But what are the drivers behind this change in individuals' attitudes? The economic literature has identified two main factors. The first concerns economic factors (fears about the labour market competition and welfare system provisions) and the second non-economic ones. Non-economic factors are related to fears and beliefs that immigrants may threat the national language, culture, religion and identity, or that the presence of immigrants may contribute to crime. Therefore, they are linked to ethnic prejudice or discrimination.

Economic crises – characterized by high unemployment rates and a drop in the GDP – shall play a role in exacerbating the impacts of these factors, as they often trigger the perception of scarcity in individuals. Some scholars – as Anderson et al. (2020) - have assessed that, due to a rise in the unemployment rates, low-educated natives feel more threatened by the arrival of unskilled immigrants. This likely happens because of an increase in the labour market competition.

In addition, the growing government debt in many countries amplifies concerns about the sustainability of welfare systems. Indeed, immigrants are usually the poorest and thus they benefit more of welfare provisions. Depending on the tax system of each country, the fiscal burden could lie either on richer people (they have to pay more taxes in order to guarantee the

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[1] https://www.economist.com/open-future/2018/04/16/the-case-for-immigration

same level of provisions to people in need) or on poorer people (the taxes remain unchanged but the benefits decrease).

My analysis addresses the question of whether economic downturns are a driver of natives' negative attitudes towards immigration in Europe. The economic crisis considered is the 2009 Great Recession. I chose the Great Recession because it was sudden, severe and felt throughout most European countries. Understanding whether the Great Recession has worsened the native attitudes is especially useful to evaluate its impact on the European restrictive immigration policies and on the victory of populist and far-right parties across Europe.

The empirical analysis is conducted combining individual data on attitudes towards immigration from the European Social Survey (ESS) with regional data on the unemployment rate from Eurostat. I use data at regional (NUTS2 or lower, depending on availability) level and for a long-time span, which covers a period of 18 years across the Great Recession (2002-2019).[2]

I assess the impact of the Great Recession on attitudes using a difference-in-differences design, that exploits the regional variability in the intensity of the crisis conditional on regional dummies, time dummies, and region-specific time trends. I measure the local intensity of the crisis with the region-specific change in the unemployment rate between 2007 and 2009 – induced by the onset of the Great Recession – and interact it with a dummy for the period after the onset of the Great Recession (2009 onwards).

I estimate a negligible and insignificant shift in natives' attitudes towards immigrants during the recession. The meaning of this finding is that, in Europe, the Great Recession did not worsen natives' opinion about immigration.[3] Therefore, the importance of this recession as a driver capable of shifting individuals' attitudes is very weak. This finding is confirmed by a parallel analysis, where I estimate a negligible and insignificant effect of the recession on immigrants' self-perceived discrimination.

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[2] So far, no scholar has investigated the relationship between the Great Recession and natives' attitudes towards immigrants utilizing all the nine rounds of the European Social Survey (ESS). Previous research includes Hatton (2016), who used country-level data from the ESS until 2012 and Markaki and Longhi (2013). By using regional data and a longer time-series, I can examine with greater detail the long-term effects of the recession. Indeed, the effects of the economic crisis on natives' attitudes towards immigration may have taken time to materialise.

[3] It could be that respondents underestimated their actual anti-immigration sentiment, choosing an answer more politically correct.

However, economic downturns may increase bitterness in life. Indeed, due to an increase of the unemployment rate and to a growing difficulty in finding a rewarding job position, more people became dissatisfied with life during the recession. Individuals' dissatisfaction can have stark negative consequences. For instance, in 2010 it was recorded that 336 Greek men and 41 women committed suicide[4], and Greece is one of the European countries hit harder by the recession.

I investigate this issue in my heterogeneity analysis and find that bitter people are more likely to have worries on immigration when recessions hits.

To sum up, even if natives' attitudes towards immigrants did not worsen due to the Great Recession, almost all the European countries experienced a rise in people willing to vote for far-right parties with anti-immigration points of view. The rise of parties with protectionist views has led to the implementation of immigration restrictive policies in various European states, as response to the crisis. Broadly speaking, the main goals of these policies were: to protect labour markets for native workers (i.e. Law no. 94 of July, 15, 2009 in Italy), to restrict the inflow of migrants, to encourage their repatriation (for instance, voluntary return programmes for migrants have been created in Czech Republic and Spain).[5] However, migration restriction policies often fail to effectively stop migration, indeed, they lead to an increase of illegal migration.[6] Since illegal immigrants cannot have access to the formal labour market, they will not pay contributions and taxes to the host countries, making these policies counterproductive.

The thesis is organized as follows. Chapter 1 reviews the economic literature on attitudes towards immigration. I present an overview of the theory and empirical literature about discrimination, drivers of anti-immigration sentiments and the role of economic downturns in shaping natives' attitudes towards immigrants. Chapter 2 illustrates the data utilized for the analysis and presents descriptive statistics. Chapter 3 discusses the empirical approach used and the main results. These results are followed by a conclusion which points out the main policy implication.

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[4] https://www.economist.com/erasmus/2013/10/21/a-hard-subject-for-a-sermon

[5] IOM, 2010.

[6] Eichhorst et al. (2011).

LITERATURE REVIEW

1.1 Introduction

In the recent decades, migration has become an increasingly important component of population dynamics among all developed countries. According to the estimates released by the United Nations in 2019, 3.5% of the global population lives in a country that differs from the one of birth. Moreover, native attitudes towards immigrants and immigration policies are issues at the centre of intense political debates in almost all countries, to the point that – according to Gallup polls – it is considered the second main social issue by US citizens, the first being the government. The political rise of populist parties in many countries suggests prejudice and hostility towards ethical minorities among a significant proportion of the electorate. Although immigration may bring gains to the economy of the receiving country, it is often the negative aspects −or perceived negative aspects − of immigration that attract most of the attention (Card et al., 2005). As noticed by Card et al. (2005) the term "immigrant" has different meaning across countries according to the immigration policies at work. Thus, from now on I will use the immigrants' definition given by the European Social Survey, which is "people who come to live in [the country] from abroad".

Migratory movements are mostly concentrated among adults (in working age) and their children - except for forced migrations induced by catastrophic events (such as wars or extreme natural disasters). The majority of immigrants are of working age because the main pull factors that drive their movements are the hope to have a higher standard of living, to find better job opportunities, better information and cheaper transportation in the destination country (Lowell and Findlay, 2001). Assuming that individuals are rational and want to maximize their utility, the migratory movement could be seen as a capital investment. Thus, younger individuals have a longer period over which they can collect the returns of the migration investment.

Using the UN Population Division website, the net number of migrants for less and more developed regions[7] from 1950 to 2020 are shown in Figure 1.1. More developed regions comprise Europe, Northern America, Australia/New Zealand and Japan. Less developed regions

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[7] The designation "more developed" and "less developed" regions are intended for statistical purposes and do not express a judgment about the stage reached by a particular country or area in the development process.

comprise all regions of Africa, Asia (except Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.[8]

Figure 1.1: Net number of migrants.
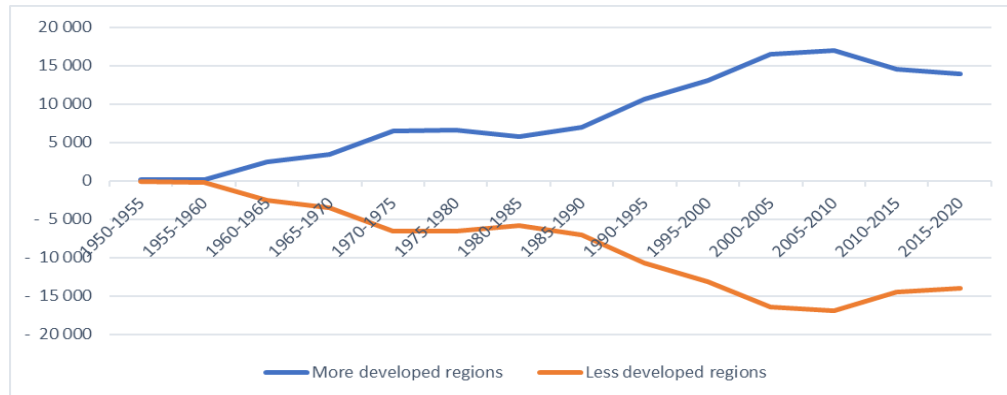
Source: personal elaboration of data from *World Population Prospects - Population Division - United Nations*.

Figure 1.1 depicts a flow of migration from less developed to more developed regions. Thus, the net number of migrants for more and less developed regions is the same, but with opposite sign. Indeed, for more developed regions it has a positive sign whereas, in less developed regions it is negative. When the number of immigrants is larger than the number of emigrants, a positive net migration occurs and it indicates that there are more people entering than leaving the region.

In the rest of this Chapter I review the relevant economic literature on attitude towards immigration and the labour market. The outline of the chapter is as follow. Section 1.2 introduces the main economic models of discrimination. Section 1.3 focuses on economics factors which could explain natives' attitudes about immigration, while Section 1.4 describes non-economic determinants of preferences. Section 1.5 investigates drivers that foster individuals' tolerance and propensity to social cohesion and acceptance of immigrants. These drivers are important because policymakers can manipulate them.

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[8] Definition of regions given by United Nation website (https://population.un.org/wpp/DefinitionOfRegions/).

1.2 Economic Theory

1.2.1 Discrimination in the labour market

Becker's book "The Economics of Discrimination" (1957), explores labour market discrimination. Discrimination refers to the treatment of people and entails treating equals unequally. Profiling on the basis of race or ethnicity is discrimination regardless of whether it is based on reason, actual experience, or prejudice (Lang and Lehmann, 2012). Becker developed the concept of taste-based discrimination, whereby natives attach disutility to the contact with immigrants. This discrimination taste can apply to three different actors in the labor market: employers, co-workers and customers.

There is employer discrimination when the employer acts as if the cost of hiring non-native workers is higher than it actually is. Becker called this racial prejudice discrimination coefficient, the greater prejudice the greater the coefficient. Since the aim of employers is profit maximization, colour-blind employers would hire the cheaper worker, irrespective of his/her nationality. However, if there is discrimination, employers will hire only natives in their firms because, due to prejudice, they perceive that the cost of hiring minorities is higher than that of hiring natives. Since equally productive workers are perfect substitutes, the firm is hiring the wrong type and the wrong number of employees. Therefore, discrimination reduces the profits of prejudiced employers. Employer discrimination does not explain segregation by occupation. Indeed, competitive markets would imply that if there were any non-discriminatory employers, they would be able to buy out all the other firms in the industry.

Employee discrimination exists when workers of the majority group dislike working with immigrants and gain disutility from being co-workers of immigrants. In order to have a mixed-race firm, employers will have to offer higher wages to prejudiced natives in order to make them indifferent to work with immigrants. Employee discrimination implies segregation, but not wage differentials. Indeed, employers will have to pay a wage differential only if there is a mixed workforce, but since employers are interested in profit maximization they will hire only workers of one type (the cheaper one). Hence, there will not be a wage gap.

If customers have a taste for discrimination, there will be a reduction in the demand for goods and services sold by minorities. Indeed, customers will perceive a higher price of the good/service because they get disutility by buying it from a salesperson who is a member of a

minority group. Customer discrimination does not imply wage differential but leads to different employment opportunity, as firms will allocate workers belonging to a minority to tasks that do not involve contact with customers.

From Becker's theory, wage differentials occur only if the fraction of prejudiced employers is large enough. In the real world a wage gap does exist. Data in Table 1.1 depict the median entry earnings of immigrant men relative to the U.S. born.

Table 1.1: Median entry earnings of immigrant men relative to the U.S. born, over time, by age and education level.

Age group and education level	Ratio of 1969 earnings of the 1965–1970 immigrant cohort to U.S. natives (measured with 1970 census data)	Ratio of 1979 earnings of the 1975–1980 immigrant cohort to U.S. natives (measured with 1980 census data)	Ratio of 1989 earnings of the 1985–1990 immigrant cohort to U.S. natives (measured with 1990 census data)
Ages 25–54			
All education levels	0.653	0.500	0.406

Source: Duleep and Dowhan (2008)

Male immigrants aged 25–54 in the 1965–1970, 1975–1980, and 1985–1990 entry cohorts earned a declining proportion of the median earnings of native men aged 25–54. In 1969, immigrant men who entered the United States in 1965–1970 earned 65 percent of native men's earnings; in 1989, male immigrants who entered the United States in 1985–1990 earned only 41 percent of their U.S. male counterparts (Duleep and Dowhan, 2008). However, there are many factors other than discrimination capable of generating a wage differential. Some of these factors may be the level of education[9], age, sex and region of residence. In order to detect this wage gap, a tool that can be used is the Oaxaca Decomposition. Indeed, with the Oaxaca Decomposition it is possible to keep these factors constant and figure out how much of this wage differential is due to discrimination and how much is instead due to differences in individual characteristics.

Although the Oaxaca Decomposition can be very useful, it has some limitations. Indeed, some characteristics like motivation and effort are difficult to measure, therefore they cannot be included in the estimation. Moreover, the gap estimation accuracy depends on the choice of

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[9] Given that earnings and the level of education are positively correlated, people with a higher level of education are more likely to be employed in a well-paid position.

controls available to measure individual attributes. However, many controls could themselves be affected by discrimination and so this can lead to an underestimation of the whole impact of discrimination on labour market outcomes for immigrants (Borjas, 2019).

1.2.2 Labour market equilibrium with immigrants and natives

The economic implications of immigration depend on the differences in endowments between natives and immigrants. Indeed, natives gain from the entry of immigrants whose skills are complementary to the one of natives whereas natives suffer if they are substitutes. However, theory has demonstrated that economic effects on natives due to immigrations are visible only in the short run and not in the long run.

Assuming that productivity can be measured in terms of skills, natives and immigrants are equally productive when they have the same skills level and thus, they are perfect substitutes. Let us consider a production function with two inputs, capital (K) and labor (L), so that output Q = f (K, L). As shown in Figure 1.2, since in the short run capital is fixed, an increase in the labour supply of immigrants leads to a reduction in wages (because the supply curve has shifted to the right) and a consequent increase in employment (from N0 to E1). Indeed, at lower wages employers are willing to hire additional workers. However, at this lower wage fewer natives are willing to work, so native employment falls (from N0 to N1).

Figure 1.2: Short run impact of immigration with perfect substitutability.
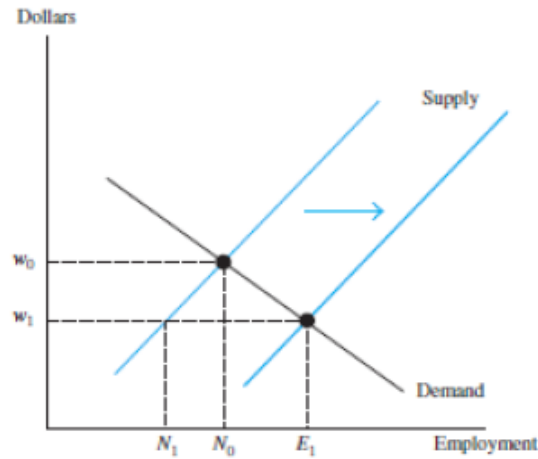
Source: Borjas (2019).

If instead natives and immigrants are complements (Figure 1.3), in the short run (with K fixed) natives see an increase in their level of employment and wages because, thanks to immigrants, they can specialize in jobs they perform better and thus their productivity increases.

Figure 1.3: Short run impact of immigration with complementarity.
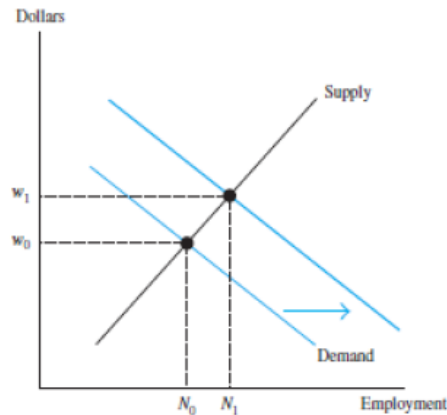
Source: Borjas (2019).

What happens in the long run is different (Figure 1.4). Indeed, in the long run K is not fixed anymore, so immigration lowers the wages initially and this leads to an increase of K (as employers take advantage of a cheaper workforce). In turn, this adjustment of K brings the

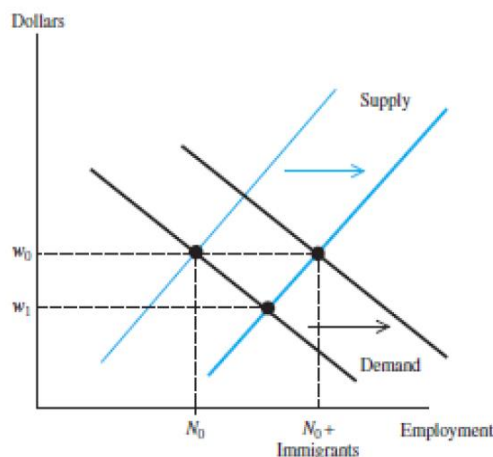economy back to the initial equilibrium, with the same wages and level of employment for natives. However, we do not know how long it takes for capital to adjust.

Figure 1.4: Long run impact of immigration with perfect substitutability.

Source: Borjas (2019).

1.3 Determinants of natives' attitudes towards immigrants: Economics factors

According to the literature there are two main economic channels that shape native attitudes toward immigrants. The former involves concerns about the labour market, the latter is about welfare provisions.

1.3.1 Link between racial prejudice and labour market competition

The anti-immigration sentiment of natives can be partially explained by competition in the labour market. Indeed, almost all developed countries experience an inflow of low educated immigrants. Therefore, natives who fear that competition with immigrants may lead to job loss are those with the same skills of immigrants, that is, uneducated and unskilled natives. Even if empirical evidence that immigration lowers wages is surprisingly difficult to find (Card et al. 2005), it seems plausible that low-educated workers could oppose immigration based on the belief that low-skilled immigrants will lower their wages, due to an increase in the supply of low-skilled labour.[10] In contrast, well-educated natives are more favourable to low-educated immigrants

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[10] Card et al. (2005).

because their skills are complements to those of low-skilled immigrants and so they do not fear labour market competition.

Scholars have shown that the theory about labour market competition just described holds when the US territory is considered. By contrast, the relationship between economic considerations and attitudes towards immigrants is much weaker in the EU. Therefore, I hereafter describe results for an empirical analysis about the US labor market and another one about the European one.

Since research has shown that racist searches on Google predict individuals' actual behaviour, authors such as Anderson et al. (2020) used the Google searches trends to estimate the effects of the Great Recession on racial animus in the US. Indeed, racist Google searches such as anti-black racial slur (colloquially, the "n-word") are less likely than survey questions to be affected by self-censoring and social desirability bias. Moreover, Anderson et al. utilized data from the FBI Uniform Crime Reports (UCR) Hate Crime Statistics to also analyse the recession's effects on hate crimes against blacks.

In the US, the states which rely more on the manufacturing and real estate sectors were those hit harder by the economic crisis. Indeed, these two economic sectors experienced the highest unemployment rates. The authors conducted an empirical analysis whose aim was to estimate a difference-in-differences regression that compares states with high and low shares of employment in manufacturing and real estate before and after the start of the Great Recession. Scholars found strong evidence that the economic crisis led to an increase in racial animus and that the increase in racist internet searches and hate crimes against blacks was higher in states more damaged by the recession.

Hatton (2016) is one of the scholars who tested the effects of economic downturns on attitudes towards immigration in the EU. To test this hypothesis, the scholar considered data from six rounds of the European Social Survey (ESS), from 2002 to 2012. The European countries studied were 20 and they are represented in Table 1.2. The table also lists the variables utilized to assess the interviewee's opinion about immigrants. The first three variables concern questions about the entry desirability of immigrants with same or different race of the majority group and of immigrants coming from poorer non-European countries. The others three are, instead, about the believed effects of immigration in the receiving country.

Table 1.2: Average opinion by country and by year.

	More/less same ethnic grp	More/less different ethnic grp	More/less from poor countries	Immigrt good for economy	Immigrt enrich culture	Immigrt better place
Country (rounds)						
Belgium (6)	5.61	5.00	5.00	4.58	5.73	4.61
Switzerland (6)	6.07	5.37	5.32	5.95	6.14	5.32
Czech Republic (5)	4.94	4.44	4.43	4.15	4.38	4.23
Germany (6)	6.03	5.29	5.18	5.15	5.98	4.97
Denmark (6)	6.10	5.20	4.93	5.12	6.04	5.74
Estonia (5)	5.61	4.58	4.02	4.56	5.15	4.32
Spain (6)	5.18	5.04	5.04	5.30	5.90	5.02
Finland (6)	5.42	4.78	4.59	5.32	7.13	5.45
France (6)	5.46	5.05	4.87	4.80	5.25	4.58
Great Britain (6)	5.26	4.86	4.70	4.53	4.95	4.56
Greece (4)	4.76	3.77	3.71	3.49	3.45	3.18
Hungary (6)	5.32	3.88	3.61	3.83	5.20	4.07
Ireland (6)	5.65	5.26	5.17	5.14	5.62	5.44
Netherlands (6)	5.40	5.17	4.98	5.04	6.08	5.03
Norway (6)	6.00	5.43	5.40	5.58	5.90	5.15
Poland (6)	5.87	5.51	5.55	5.13	6.41	5.69
Portugal (6)	4.47	4.30	4.23	4.67	5.20	4.03
Sweden (6)	6.47	6.03	6.26	5.48	7.04	6.23
Slovenia (6)	5.50	5.15	4.92	4.26	5.12	4.53
Slovakia (5)	5.49	5.01	5.01	4.22	5.07	4.45
Year (no. of countries)						
2002 (18)	5.47	4.97	4.99	4.84	5.72	4.74
2004 (20)	5.47	4.90	4.81	4.68	5.49	4.71
2006 (18)	5.58	5.00	4.91	5.04	5.75	4.93
2008 (20)	5.56	5.01	4.88	4.93	5.65	4.91
2010 (20)	5.52	4.92	4.73	4.70	5.40	4.77
2012 (19)	5.61	5.12	4.91	4.97	5.80	5.08

Source: Hatton (2016)

The scores in the table represent the average response given by individuals who took part in the survey. Higher scores are associated with more pro-immigration sentiments. However, it is possible that these scores underestimate the real respondents' adversity towards immigrants. Indeed, it could be that during the survey individuals chose a more politically correct answer. In the last rows of Table 1.2, it is visible the evolution of opinions across years. The individuals' opinion about immigration seems to have changed modestly after the economic crisis (2007-2009). However, a worsening in respondents' opinion is more visible in countries where the recession hit harder.

The scholar also carried out a regression analysis using the following model:

$$Y_{ict} = X_{ict}\,\alpha + Z_{ct}\,\beta + d_t + \mu_c + e_{ict} \qquad (1.1)$$

Y is the answer score to questions about individuals' opinion, *i* is individual, *c* is country and *t* is year. X is a vector of individual characteristics, Z contains country-level variables, d is a set of period dummies, u is a set of country fixed effects and e is an error term. Hatton observed that belonging to the labour force (employed or unemployed) played a role in the worsening of individuals' opinions. This could be because individuals in the labour force feel the job competition with immigrants.

As predictable, being a native has a large negative effect on the average scores, meaning that immigrants are more pro-immigration. The author divided the level of education in three, the education plays a positive role only if it is of high level (completed tertiary education). Indeed, more educated workers feel less the labour market competition with unskilled immigrants. Furthermore, pro-immigration opinions are negatively related to the share of immigrants in the population. Thus, a higher fraction of immigrants in the country is associated with more negative opinions about immigration.

One interesting finding is that concerns about the fiscal effects of immigration (discussed in the following Section) are more significant than concern about unemployment. Once the share of social benefits in GDP are considered the unemployment rate has very little effect. This result may reflect the importance of tax implications on welfare spending as main driver factor of changing in attitudes.

Even though results show that the rise in the anti-immigration sentiment was very modest, across Europe the support for populist parties has increased and the dominant theme among these parties is anti-immigration policies. The rise of votes for far-right-wing parties is not only due to individuals with nationalistic or xenophobic attitudes but it also depends on those with a strong distrust of political institutions, which is reflected in euro-scepticism[11]. Thus, Hatton's results suggest that, for the most part, the shift of voters to far-right-wing parties is not due to an upsurge of anti-immigration sentiment.

Other scholars have studied racial attitudes during economic downturns in order to assess the weight of labour market competition as a factor explaining natives' behaviour towards ethnic minorities. Here I reported evidence from two different contexts: the US, where the level of

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[11] The ESS measures individuals' trust through specific questions.

education of the minority group is low, and the UK, where instead ethnical minorities generally have a higher level of education than the one of white natives.

Johnson and Jayadev (2017) utilized US data from the General Social Survey and the Current Population Survey in order to analyse whites' attitudes toward blacks. As an indicator of poor macroeconomic performance they used the unemployment rate. They find that prejudice is counter cyclical and rises during periods of higher unemployment for whites, as economic insecurity may increase whites' discrimination toward blacks. Their research outlines that individual traits, such as the level of education, age and gender, play a role in the degree of racial prejudice of individuals. On average, women are slightly less prejudiced than men, although they suffer more from unemployment. In addition, whites with high school degrees or less are those with a higher level of prejudice. Knowing that, on average, in the US blacks have a low education level, low educated whites are more likely to be concerned about labour market competition with blacks. Moreover, those with a low level of education are hit harder by unemployment, so when the unemployment rate goes up low educated whites are more likely to be anti-blacks. However, the scholars did not find a proof of causality between economic downturns and racial prejudice exacerbation, they simply note a statistical association.

Johnston and Lordan (2016) carried out a similar research for the UK, using data from the British Social Attitudes Survey (1983-2010). Again, in order to assess the economic condition of the period, the indicator used is the unemployment rate[12]. In their analysis the authors used data only of native-born individuals, thus avoiding taking into consideration immigrants. The reason why they decided to exclude immigrants from the analysis is because the work force composition of immigrants is likely to change over the business cycle, but also because they usually have low levels of education and work in unskilled jobs. Furthermore, the sample is limited to full-time working males (aged 18-64) since the scholars are interested in testing the role of labour market competition in generating prejudicial attitudes. The attitudes data are consistent with the theoretical literature according to which racial discrimination is the result of labour market competition and it rises during periods of economic downturns. Indeed, data show that a 1% increase in unemployment increases self-reported racial prejudice by 4%. Figure 1.5 depicts the

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[12] Quarterly Labour Force Survey (QLFS) provides the official measure of the national unemployment rate.

strong positive relationship between racial prejudice and unemployment for employed workers, while the same relationship is weak for "all others" group.

Figure 1.5: Cross-Sectional Relationship between Regional Unemployment Rates and Self-Reported Racial Prejudice.
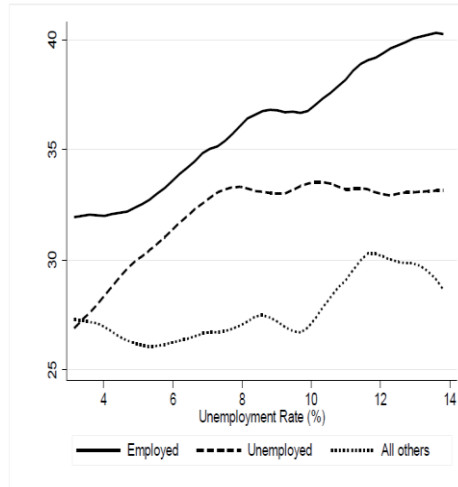
Source: Johnston and Lordan (2016)

In contrast to what we have seen for the US, in the UK racial prejudice is greater among high-skilled, middle aged White men working in the manufacturing and construction industries. This is because high skilled natives would become more prejudiced against minorities with similar traits and, in the UK, non-White natives have higher probability of attaining a high education level than White natives. Since highly educated middle-age men may be managers, employers and may have political power, if prejudice increases then their taste for discrimination will also rise and they will discriminate against people of all skill levels on whom they have hierarchical power. Moreover, the costs of discrimination for employers is lower during periods of high unemployment because affirmative action policies are usually abandoned and there is a greater pool of qualified White applicants seeking a job. Hence, a growth of prejudice worsens the labour market conditions of minorities, in terms of recession employment and wage penalties. These penalties are higher for non-White high-skilled workers.

In order to test if prejudicial attitudes increase during economic downturns, the scholars used a linear regression model with area-specific intercepts and area-specific linear time trends:

$$RP_{iat} = \delta UR_{at} + X_{iat}\,\beta' + \mu_t + \alpha_a^1 + \alpha_a^2 t + \varepsilon_{iat} \qquad (1.2)$$

Where RP_{iat} is the self-reported racial prejudice of individual i residing in area a in year t, UR_{at} is the area-year-level unemployment rate, X_{iat} is a vector of individual-level control variables (such as gender, age, marital status, level of education, employment status, etc...) , μ_t is a year fixed-effect, α_a^1 is an area-specific intercept, $\alpha_a^2 t$ is an area-specific time-trend[13], ε_{iat} is an error term. In their analysis, the authors report effects that are specific to sub-groups of the population defined by age, education and employment, as well as by their interactions.

Table 1.3 reports the estimates of the UR coefficients. Considering only the statistically significant effects and the interaction term (12), which puts together all the statically significant variables, it is possible to affirm that highly educated, full-time employed males aged 35-64 have the most pronounced counter-cyclical racial prejudice.

Table 1.3: Estimated Effects of the Unemployment Rate on Self-Reported Racial Prejudice by Subgroups

	Males		Females	
	ME	SE	ME	SE
Age				
(1) 18-34	-0.007	(0.011)	0.007	(0.008)
(2) 35-64	0.017***	(0.006)	0.003	(0.007)
Education				
(3) Low (no qualifications)	-0.004	(0.014)	-0.006	(0.009)
(4) Medium (CSE / o-levels)	0.018	(0.011)	-0.000	(0.010)
(5) High (a-levels / degree)	0.015**	(0.007)	0.015*	(0.008)
Employment				
(6) Full-time	0.018***	(0.007)	0.011	(0.008)
(7) Full-time or part-time	0.014**	(0.007)	0.010	(0.007)
(8) Not employed	0.002	(0.012)	-0.005	(0.009)
Interactions				
(9) 35-64 + high educ	0.029***	(0.010)	0.014	(0.009)
(10) 35-64 + full-time emp	0.027***	(0.007)	0.011	(0.010)
(11) high educ + full-time emp	0.020**	(0.009)	0.014	(0.011)
(12) 35-64 + high educ + full-time emp	0.039***	(0.010)	0.022*	(0.012)

Source: Johnston and Lordan (2016)

Johnston and Lordan also wanted to test whether the increased prejudice (previously described) produces effects in the labour market outcomes of non-Whites natives. To verify their assumption, they used data from the Quarterly Labour Force Survey (QLFS) for years 1993-2012 and considered wage and employment differences between native Whites and native non-Whites,

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[13] According to the authors it is plausible that there has been a trend across time towards the acceptance of other ethnicities, and that the slope of this trend differs by area.

thus excluding again immigrants from the analysis. A linear regression model (formula 3) is used to explore if an increase in the unemployment rate rises employment and wage gap between White and non-Whites natives in labour market competition.

$$Y_{iat} = \delta NW_{iat} + \gamma\,(UR_{at} \cdot NW_{iat}) + X_{iat}\beta' + \mu_{at} + \varepsilon_{iat} \qquad (1.3)$$

In the linear regression model (Equation 1.3) Y_{iat} is either log wages or employment of individual i residing in area a in quarter t, NWiat is a dummy variable indicating that individual i is non-White and μat is an area-quarter fixed-effect.

Table 1.4 shows the results of equation (1.3). In the first row of Table 1.4 there is the estimation of the wage and employment gap, non-White males are 13.5% less likely to be employed and their wages are 9.1% lower than White males. However, these gaps may not solely be caused by racial prejudice, indeed they can partially exist due to the fact that non-Whites are more interested in job amenities and so they are willing to give up pecuniary compensation in order to be less exposed to risks. Moreover, the estimated coefficient of (URat · NWiat), which is γ, is negative meaning that an increase in UR worsens the wage gap between Whites and non-Whites, implying counter-cyclical discrimination.

Table 1.4: Employment and Log Wage Regression Models using Data from Labour Force Survey.

	Males		Females	
	Employed	Log Wage	Employed	Log Wage
Non-White	-0.135***	-0.091***	-0.091***	-0.020***
	(0.002)	(0.005)	(0.003)	(0.005)
UR · Non-White	-0.006***	-0.012***	0.001	-0.011***
	(0.001)	(0.002)	(0.001)	(0.002)
Age	0.051***	0.067***	0.046***	0.041***
	(0.000)	(0.001)	(0.001)	(0.000)
Age squared	-0.001***	-0.001***	-0.001***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Education medium	0.118***	0.133***	0.151***	0.107***
	(0.001)	(0.002)	(0.002)	(0.002)
Education high	0.166***	0.328***	0.240***	0.307***
	(0.002)	(0.003)	(0.002)	(0.002)
Married	0.152***	0.110***	0.053***	0.015***
	(0.001)	(0.002)	(0.001)	(0.002)
Separated / divorced	0.010***	0.056***	0.006***	-0.001
	(0.002)	(0.003)	(0.001)	(0.002)
Number of children	-0.026***	0.012***	-0.098***	-0.024***
	(0.000)	(0.001)	(0.000)	(0.001)
Occupation controls	✗	✓	✗	✓
Work hours controls	✗	✓	✗	✓
Sample size	2234822	435777	2633749	463505

Source: Johnston and Lordan (2016)

The results in Table 1.4 confirm the hypothesis that an increase in prejudice among highly educated middle-aged White men lead to worsened labour market outcomes for non-Whites. As depict in both Tables 1.3 and 1.4 the effects are weaker for White female.

To sum up, disparities have always been present between natives and ethnic minorities, but economic crises tend to enlarge the gaps. Indeed, unfavourable economic conditions trigger in individuals the perception of scarcity and therefore the labour market competition between individuals with similar traits rises. This happens because people feel the need to identify themselves in a well-defined group in order to mitigate insecurity, which is a common state during downturns.[14] This is why during the Great Recession people perceived the need for order and structure that resulted in authoritarian religious and in many countries to the political success of extreme right-wing or populist parties. Since in almost all the developed countries whites have

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[14] According to Bianchi et al. (2018), group identification fosters prejudice about out-group members.

the control over the resources, discrimination leads to inequality in money allocation (Bianchi et al., 2018).

1.3.2 Welfare provisions concerns

There is a considerable number of scholars in the literature who believe that labour market competition alone cannot explain natives' attitudes towards immigrants. Welfare provision concerns play a pivotal role in the determination of anti-immigrant behaviours.

According to the papers previously analysed, if natives were only concerned about competition from the inflow of immigrants with the same traits, we would expect higher educated natives to be against skilled immigrants. However, what the data show[15] is that, on average, all individuals are more favourable to the inflow of high skilled immigrants. It is important to note that this statement applies only to high income countries, while for low income countries (such as Nigeria) what happens is the opposite (Mayda, 2006). Indeed, almost all developed countries have a welfare system which, through social programs, redistributes national income to people more in need. Since low skilled immigrants belong to the bottom of income distribution, they are more likely to reap the benefits of welfare provisions.

The effects on natives' attitudes toward low-skilled immigrants depend on the fiscal system in force in the country. Facchini and Mayda (2009) analyse those effects under two models: 1. the tax adjustment model and 2. the benefit adjustment model. Suppose that there is an increase (due to an inflow of low-skilled immigrants) in the number of people who need welfare provisions. Under a tax adjustment model, the value of per-capita benefits for low-income people remain unchanged and so the government must raise tax rates in order to balance the higher welfare costs. High-income individuals are those more negatively affected by the additional welfare costs, because of the increase in tax rates levied on them. Instead, with a benefit adjustment model the situation worsens for individuals at the bottom of the income distribution. Indeed, taxes are kept constant but there is a drop in the per-capita transfer made in favour of low-income individuals. Empirical results from the European Social Survey (ESS) and the International Social Survey Programme (ISSP) are consistent with the tax adjustment model. Thus, income is

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[15] Data extract from the question "how important is that immigrants have a good education?" present in the European Social Survey.

negatively correlated with a pro-immigration sentiment. However, since skills and income are positively correlated, labour market and welfare state go in opposite direction and partially offset each other.[16] Indeed, high skilled natives benefit from the complementarity effect with low-skilled immigrants, but they are hurt by the increase in taxes.

Let us take as an example the UK, which is a destination country both for intra and extra European immigrants from rich countries such as Australia and New Zealand, but also from poorer countries like Pakistan, India and Bangladesh. What Dustmann and Preston (2007) found is that highly educated natives are more against immigrants from poorer countries like Pakistan or Bangladesh than immigrants with a high level of education (even higher than the one of natives) coming from countries such as Australia. One reason which may explain this behaviour could be that welfare provisions cause more concerns than the potential competition in the labour market. Indeed, if the country's tax system is progressive, with an inflow of people in need of welfare provisions, the fiscal burden will be borne by richer households.

To sum up, since skilled immigrants bring benefits to the destination countries in terms of positive contribution to the fiscal balance and an increase in national income, on average immigrants with a high level of education are more favoured by natives.[17] However, only few countries utilized the skill level as a characteristic of immigrants selection.[18]

1.4 Determinants of natives' attitudes towards immigrants: Non-economic factors

The last channel able to shape the natives' attitudes toward immigrants is the non-economic one. Non-economic factors have socio-cultural origins and are the result of racial intolerance. Examples of these factors are the fear that immigrants may undermine the traditional language, culture, religion and the national identity, or the belief that the presence of immigrants may contribute to crime.

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[16] Facchini, G. and Mayda, A. M. (2008).

[17] In ESS 2002-3 on of the questions made is "how important is that immigrants have a good education?" the answer go from 1 to 10, where 1 means it is not important at all for the respondent, 10 if instead it is a characteristic an immigrant must have in the respondent opinion. (http://nesstar.ess.nsd.uib.no/webview/index.jsp?v=2&submode=abstract&study=http%3A%2F%2F129.177.90.83% 3A80%2Fobj%2FfStudy%2FESS1e06.6&mode=documentation&top=yes).

In an open economy trade almost offsets the impact of immigration on wages and employment of natives[19]. Moreover, even between natives and immigrants with the same skills and level of education there is not perfect substitutability. Indeed, low skilled immigrants usually have lower native language proficiency and thus they specialize in more manual-intensive jobs (Ottaviano and Peri, 2012). Instead, high-skilled immigrants are usually able to learn in a shorter time the native language and thus they easily become substitutes of natives. Hence, high-skilled immigrants should be seen as a more credible threat to natives. However, as shown in research conducted by Hainmueller et al. (2015) on a large survey of employees in 12 USA industries, there is no evidence that natives are against immigrant workers with skills similar to their own. Respondents of all types were more favourable to the inflow of high-skilled rather than low-skilled immigrants. However, as reported in the previous Section, a possible explanation of this natives' preference could be given by the benefits that skilled immigrants bring to the destination country in terms of fiscal balance and national income.

In order to test the weight of the non-economic channel, Jeannet (2018) observed if natives' opinions about immigrants change when individuals exit from the labour market (i.e. they retire).[20] Results show that even if a person does not compete anymore in the labour market because of retirement, his/her opinion about immigration seems to be unaffected. Indeed, retired respondents exposed to unskilled immigrants report an anti-immigration behaviour. A possible explanation of this behaviour may be that retired individuals feel more a patriotic sentiment, which makes them perceive the costs and the benefits of immigration at a national level rather than on their own self-interest. However, it is not possible to exclude that there could be some additional effects due to fear of pension cuts.

A possible method to measure the relevance of the socio-cultural factors in shaping native attitudes toward immigrants could be to examine the effects of a non-economic shock. The most well-known shock, which had no drastic economic consequences, is the 9/11 Twin Towers attack. After the terror attack the rise in anti-immigration sentiment was perceived not only in the USA but also in other countries. Schüller (2016) conducted her research using data from the

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[18] Facchini, G. and Mayda, A. M. (2012).

[19] Heckscher–Ohlin (HO) model.

[20] The author utilized the ESS 2014 as source of data about the opinion of individuals in and out the labour force.

German Socio-Economic Panel. What the author gathered from her analysis was that the 9/11 attack caused a negative shift in German residents' opinion about immigrants and immigration and that this change was noticed only among natives with a low level of education. Moreover, a further consequence of the attack was a drop in German residents' concerns over hostility toward foreigners.

A shift in natives' attitudes toward immigration and immigrants can be driven also by bitterness in life. Indeed, bitter natives may be concerned that immigrants could worsen their personal position, through competition in the labour market, or they may believe that, since they did not receive what they deserve from the society, the same opportunities should be denied to immigrants as well (Poutvaara and Steinhardt, 2018). This is because bitter people feel their own failure even more when others are successful in life. Bitterness increases during periods of economic crisis and, as it is linked to concerns over immigration, the impact on opinions about immigration is negative. As a result, policymakers should be careful on the policies they decide to implement during economic downturns.

1.5 Drivers of social cohesion

In this paragraph I am going to focus on those factors which influence natives' tolerance towards immigrants and their propensity for social cohesion.

1.5.1 The role of education

Education may play a role in shaping natives' attitude towards immigration (d'Hombres and Nunziata, 2016). Indeed, if natives invest in human capital, they are more likely to be employed in job positions which require workers with specific skills. Since workers with specific skills are harder to replace, they are less affected by the substitution effect with immigrants. The statement is valid only if immigrants are less educated than natives (Card et al., 2005). Indeed, when immigrants are unskilled, highly educated natives can benefit of complementarity with them and therefore be less exposed to the negative effects of migration (d'Hombres and Nunziata, 2016).

D'Hombres and Nunziata (2016) made a quasi-experimental analysis based on data from the European Social Survey and the Labour Force Survey (2002-2012). The authors' first aim was to prove causality between the length of compulsory education and natives' opinion towards immigrants. To do so they examined reforms which changed the number of years of compulsory

education. Thus, they took into consideration the first birth cohorts subject to the reforms and the last cohorts subject to the pre-reform educational system.

The study showed that a one-year increase of education reduced the probability of unemployment and of working in low-skilled occupations by 7.4%. The increase of education not only had effects on occupational choices and complementarity with unskilled immigrants, but also on cognitive skills which allowed individuals to better assess costs and benefits of immigration. Indeed, education led to a 6–11% increase in the probability that an individual reported a favourable attitude toward immigrants. Moreover, there is social distance between highly educated natives, who usually have high income, and unskilled immigrants with bottom income. Typically, they live in different areas of the city and thus they do not have direct interactions. Therefore, it could be that the more positive natives' attitude towards immigrants is also due to the fact that natives do not directly relate to the immigration phenomenon.

Card et al. (2005) grouped the European Social Survey respondents by age and level of education in order to explore the differences in behaviours across these groups. Figure 1.6 shows the results for each age group and level of education.

Figure 1.6: Attitude to immigration by age and education.

Source: European Social Survey, 2003
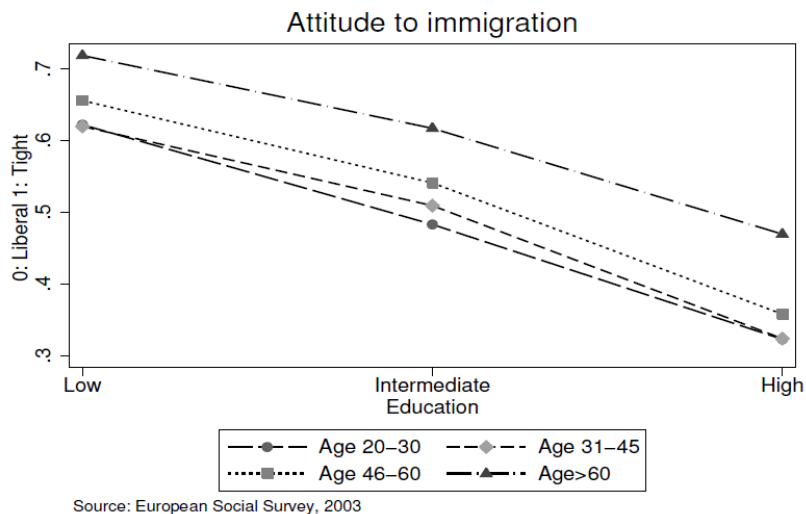
In all the four age groups depicted in Figure 1.6, individuals with a higher level of education have also more liberal attitudes toward immigration. As pointed out by D'Hombres and Nunziata (2016), the reason could be that with a higher educational level they become less concerned about

labour market competition due to the complementarity effect with unskilled immigrants. Another interesting feature of Figure 1.6 is that keeping the level of education constant, older individuals are always less liberal than younger ones. Therefore, it would be interesting to understand whether this effect is due to the age or the historical period in which individuals were born. In order to understand this pattern, it would be necessary to look at future European Social Survey waves.

Furthermore, a study conducted by Merlino et al. (2019) in US shows that racial mix at school also has an impact on racial attitude. Indeed, having more Blacks as peers leads to a higher probability of interracial marriage or cohabitation later in life. Thus, an increase of racial diversity in schools encourages social integration and reduces prejudice. The results seem to suggest that it is easier to shape adolescents' beliefs, which will make them more prone to undertake romantic relationships paying no importance to racial homogeneity than to act later.

To sum up, the literature seems to agree on education as an instrument capable of shaping natives' opinion about immigrants. Therefore, politicians should use it as a tool to achieve tolerance and cohesion in countries subject to large migratory flows. However, education is not the only tool politicians have. As some scholars have shown information campaigns are also effective.

1.5.2 The role of information

Policy makers in formulating their country migration policy consider the voters' public opinion about immigration. So if the median voter is against immigration, the destination country will have restrictive migration policies (Facchini and Mayda, 2008). However, as seen above, voters' attitudes towards immigration could depend on ignorance. Facchini et al. (2016) conducted an experiment in Japan, to prove the effectiveness of information campaigns. They performed their experiment in Japan since, among all advanced economies, it has the lowest share of immigrants and it is facing the issue of an aging population. The scholars utilized a nationally representative sample of 9,000 individuals and respondents did not know that the focus of the study was attitudes toward immigration. They divided their sample in two: the treatment and the control group. The treatment received a leaflet with information about the benefits that immigration can bring to the host country. Indeed, immigrants usually are in working age and so they could mitigate the effect of an aging population by contrasting problems such as the sustainability of

the pension system, the healthcare system, etc. Although immigrants could help to contrast these effects, in Japan there is a strong public opposition to immigration. On the other hand, the control group received a leaflet which did not contain information about immigration. After reading the leaflets, both groups were asked the same questions about their opinion on immigration. The results showed that information campaigns, explaining the benefits of immigration, were effective in decreasing public hostility. The effects were greater on females, maybe because socioeconomic factors (rather than economic factors) matter more to females than males.

A similar experiment was made by Grigorieff et al. (2018), in this case they analysed a large cross-country survey (the Transatlantic Trends Survey -2010 and 2014) conducted in 13 countries (US, Canada, Russia, and several European countries). The scholars knew that people tend to overestimate the percentage of immigrants in their countries. For instance, US citizens thought that 37% of the population were immigrants instead they were only 13% (Transatlantic Trends Survey, 2010). Therefore, their aim was to test the role of information campaigns in changing natives' belief that immigrants are too many in the country. The scholars divided the sample[21] in a treatment and a control group. The treatment group (half of the respondents) received information about the actual proportion of immigrants in their country, while the control group did not receive any information. Both groups were asked if they thought immigrants were too many in their country. Knowing the exact percentage of immigrants in the country, they were less inclined to say that immigrants were "too many", but it did not change respondent policy preference regarding illegal immigration. Moreover, people who were initially more opposed to immigration (for example Republican respondents) resonated more to the information campaign.

Since across advanced countries there is evidence that natives are poorly informed about the share and the socio-demographic characteristics of immigrants, Rosolia and Porreca (2020) tested whether Italian native population correctly assesses the effects of immigration on their own labour market opportunities. In their study the scholars utilized data from 2016 of the Bank of Italy's Survey of Households Income and Wealth. The authors found that on average natives are pessimists and significantly overestimate the impact of immigration. Indeed, the true economic effects of immigration in Italy were modest and statistically not significant.

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[21] In most countries the sample was made of adults who had access to a landline or a mobile phone.

Also, media exposure is responsible in shaping individuals' opinion on immigration. Facchini et al. (2017) tested the presence of a correlation between media exposure and public opinion about illegal immigration[22]. In order to conduct their research, they utilized the Cooperative Congressional Election Study (CCES) survey of 2006, carried out in the USA. In particular, they wanted to understand if the propensity to support the Senate plan, whose proposal would have led to a legalization for undocumented immigrants, was affected by media exposure. The results of their analysis showed that such correlation did exist. Indeed, 10 additional illegal immigration stories during the January/October 2006 period were associated with a 1% decrease in the probability of supporting the senate plan. Furthermore, people who watched Fox News and CNN news were more likely to be against illegal immigration and the senate plan. This is, in part, due to respondents' self-selection into the news channel that is mostly aligned with her/his political thought, but it cannot be entirely explained by self-selection.

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[22] Illegal immigration refers to labour movements across national borders taking place in a way that violates the immigration laws of the destination country. (Facchini et al., 2017)

2. CHAPTER TWO

DATA AND DESCRIPTIVE STATISTICS

2.1 Introduction

In my analysis I will use data from the European Social Survey (ESS). The ESS is a biennial cross-national survey that has been conducted across Europe since its establishment in 2001.[23] The ESS consists of 9 rounds, from 2001 to 2019. Since not every European country joined all the nine rounds, at each round it is possible to find different groups of countries.[24] The ESS is made of a core part, which contains questions repeated across years, and an ancillary part, subject to slight modifications over time (for instance, the addition or the removal of some questions). It collects information about attitudes, behaviours and opinions of respondents on several socio-economic issues, such as religion, immigration, health, and welfare provisions.

2.2 Dataset description

For my analysis I consider data from 2002 (ESS Round 1) to 2019 (ESS Round 9), which is a period of 18 years. The dataset contains information for 225,129 individuals, it covers 28 European countries and 194 regions. Countries such as Israel, Turkey and Russian Federation joined the ESS, but were not took into consideration since not members of the EU. The level of regional aggregation available in the data is specified by the Nomenclature of Territorial Units for Statistics (NUTS) and it varies across country. In agreement with each EU member country, Eurostat subdivided the EU economic territory into three NUTS levels. The maximum level of aggregation is NUTS 0, which is the country level, while the maximum level of disaggregation is NUTS 3. Table 2.1 lists the regional level of aggregation for each country in my dataset and outlines which rounds the countries took part in. As shown in the table below, in my dataset the minimum NUTS level is 0, while the maximum is NUTS 2.

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[23] https://www.europeansocialsurvey.org/about/

[24] https://www.europeansocialsurvey.org/data/country_index.html

Table 2.1: Nuts level and Rounds by country.

COUNTRY	NUTS LEVEL	No. of Regions	ROUND 1 [2002]	ROUND 2 [2004]	ROUND 3 [2006]	ROUND 4 [2008]	ROUND 5 [2010]	ROUND 6 [2012]	ROUND 7 [2014]	ROUND 8 [2016]	ROUND 9 [2018]
AUSTRIA	Nuts 2	9	x	x	x				x	x	x
BELGIUM	Nuts 1	3	x	x	x	x	x	x	x	x	x
BULGARIA	Nuts 2	6			x	x	x	x			x
CROATIA	Nuts 1	1				x	x				
CYPRUS	Nuts 1	1			x	x	x	x			x
CZECHIA	Nuts 2	8	x	x		x	x	x	x	x	x
DENMARK	Nuts 2	5	x	x	x	x	x	x	x		
ESTONIA	Nuts 2	1		x	x	x	x	x	x	x	x
FINLAND	Nuts 0	1	x	x	x	x	x	x	x	x	x
FRANCE	Nuts 0	1	x	x	x	x	x	x	x	x	x
GERMANY	Nuts 1	15	x	x	x	x	x	x	x	x	x
GREECE	Nuts 2	13	x	x			x				
HUNGARY	Nuts 2	7	x	x	x	x	x	x	x	x	x
ICELAND	Nuts 2	1		x				x		x	
ITALY	Nuts 2	20	x		x			x		x	
LATVIA	Nuts 1	1			x	x					
LUXEMBOURG	Nuts 1	1	x	x							
NETHERLANDS	Nuts 2	12	x	x	x	x	x	x	x	x	x
NORWAY	Nuts 2	7	x	x	x	x	x	x	x	x	x
POLAND	Nuts 2	17	x	x	x	x	x	x	x	x	x
PORTUGAL	Nuts 2	5	x	x	x	x	x	x	x	x	
ROMANIA	Nuts 2	8			x	x					
SLOVAKIA	Nuts 2	4		x	x	x	x	x			
SLOVENIA	Nuts 1	1	x	x	x	x	x	x	x	x	x
SPAIN	Nuts 2	19	x	x	x	x	x	x	x	x	
SWEDEN	Nuts 2	8			x	x	x	x	x	x	
SWITZERLAND	Nuts 2	7		x	x	x	x	x	x	x	x
UNITED KINGDOM	Nuts 1	12	x	x	x	x	x	x	x	x	x
Total		194									

Source: European Social Survey Round 1 to 9.

The bar chart in Figure 2.1 depicts how respondents are distributed across the European countries considered. The country with the lowest percentage of respondents (0.73%) is Iceland (IS), indeed only 1,637 of the individuals surveyed live in Iceland. In contrast, the country with the highest percentage of respondents (7.71%) is Germany (DE), followed by Finland (5.81%) and Czechia (5.43%). These countries have the highest percentage of respondents because they joined almost all the ESS rounds. On the other hand, the countries with a small percentage of respondents are those which took part in the survey for only few rounds.

Figure 2.1: Respondents by Country.
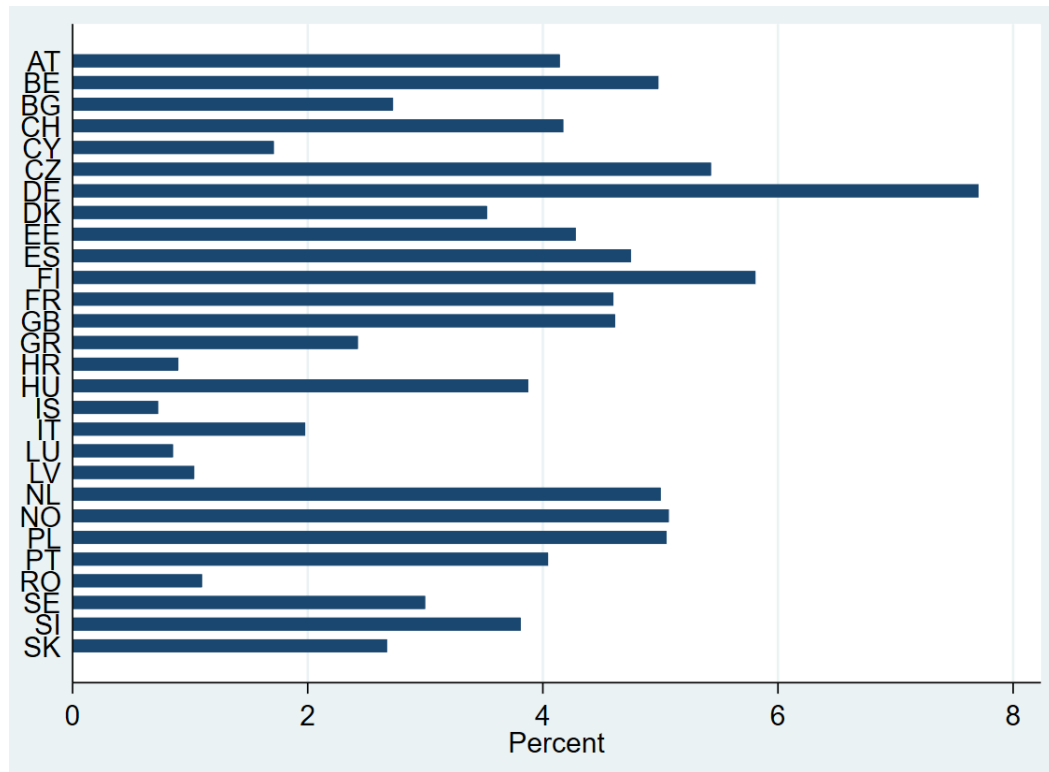
Source: European Social Survey Round 1 to 9.

Since in my analysis I am interested in assessing if individuals' attitudes toward immigration are affected by economic scarcity, I also consider data on the unemployment rate from Eurostat. Indeed, the unemployment rate is used as a measure of macroeconomic performance. If the unemployment rate is high, it means that a country (or region) is facing a period of economic downturn. The Great Recession is an example of economic downturn. Since it was global (therefore also European), quite recent (2007–2009) and it occurred during the ESS survey period, I choose it as the key economic shock to analyse in my research. However, this shock was not felt with the same intensity across Europe. In order to measure the intensity of the economic crisis for each European country, I use a variable denominated "shock". This variable compares the changes of unemployment rates between 2007 and 2009. Therefore, positive values of the variable shock will be observed if the unemployment rate in 2009 increased with respect to 2007, while negative values will be observed if the unemployment rate decreased. Figure 2.2 displays the geographic variation of the shock across European regions. To draw Figure 2.2 I utilize the

European shapefile downloaded from the Eurostat website[25] and STATA's map-drawing features (the spmap ado). In the downloaded map the NUTS classification used was at level 2 for all the European countries. However, as observed in Table 2.1, in my dataset not all countries are at a NUTS 2 level. Thus, the shock values are at the regional aggregation level available from the ESS (which are the NUTS levels showed in Table 2.1) even if in some instances the map is plotted at a lower level.

As represented in Figure 2.2, roughly all Europe experienced an increase in the unemployment rate. To appreciate the magnitude of the economic crisis it is sufficient to look at the chart colours, the regions in blue or light blue (Spain, UK, Sweden, Italy, Portugal, ...) depict the areas most affected by the recession. While the countries not hit at all by the economic downturn are those in red (Germany, Bulgaria, Poland, ...).

Figure 2.2: 2009-2007 variation in the unemployment rate - 15-65 years old population.
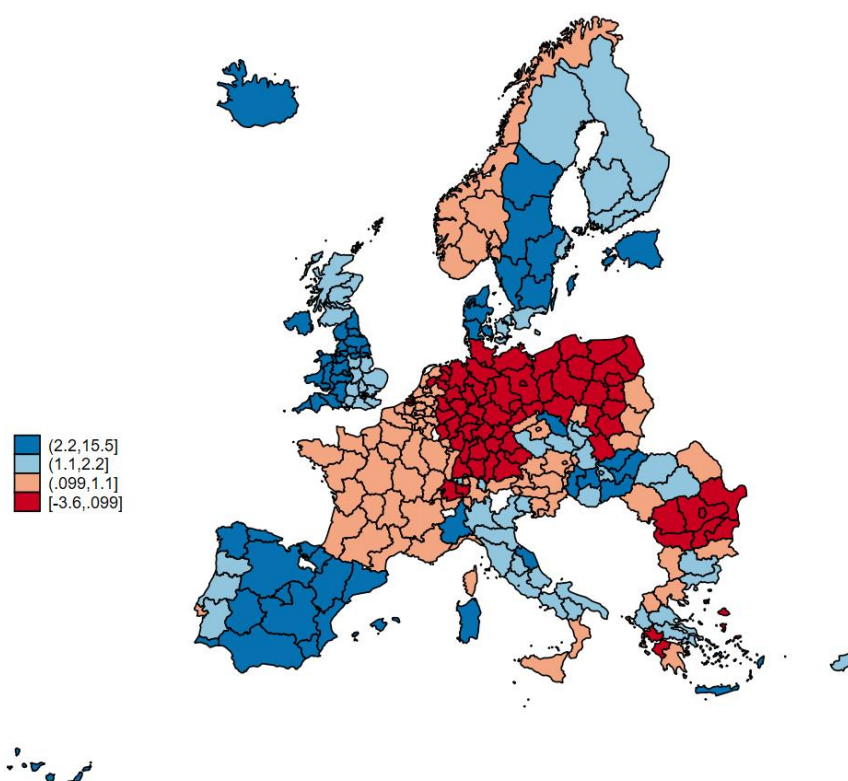
Source: Eurostat Nuts 2016

Descriptive statistics for the variables used for the analysis are presented in Table 2.2. The variables I use contain demographic information about respondents, including gender, age, area of residence, citizenship and legal status, level of education, trust, health and well-being, as well as respondents' opinions about immigrants and immigration.

As reported in Table 2.2, the mean age of respondents is 41,4 and 52% of individuals in the sample (so roughly half of the sample) are females. The sample displays only respondents in working age (between 15 and 64 years old) because I am interested in the effects of immigration on the labour market. More precisely, the aim is to detect the relationship between concerns of labour market competition with immigrants and changes in attitudes towards immigration. The majority of respondents (63.1%) are in a paid work, whereas 26.1% are unemployed or out of the labour force. Further information on individuals concern their legal status and domicile: 26.8% of the respondents are legally married or in a civil partnership and 62.7% live in urban areas (big/small city or towns). Another detail that can be gathered from the dataset is family size. Families have at least 1 member and a maximum of 13. On average, respondents' families are composed of nearly 3 people.

I use the International Standard Classification of Education (ISCED) to quantify respondents' level of education. Individuals are considered low educated if they did not achieve an upper secondary education degree (ISCED code: 0, 1 and 2), whilst highly educated respondents are those with an upper secondary education degree or more (ISCED code: 3, 4, 5 and 6). The same type of information is also available for respondents' parents. Among individuals which respond to questions related to the educational level, the vast majority had a high level of education (73.8%), but only 45.8% of respondents' mothers were highly educated. This percentage was slightly higher (54%) for respondents' fathers.

A very important variable is the one enabling the division of the sample between natives and immigrants of first and second generation. With the term first-generation immigrants, I refer to individuals born in a foreign country that came to live in the host country. Second-generation immigrants are instead the children of first-generation immigrants. In the sample analysed, almost 89% of respondents are natives (200,815 individuals) and only a small percentage are immigrants (see Table 2.2).

Additional variables considered aim at quantifying individuals' level of trust (in the EU and in people in general), satisfaction with life and general health. This information about respondents is useful in order to understand their well-being and their potential political orientation. Indeed, these variables are often used as indicators of bitterness in life and propensity to vote for a populist party. Most likely, these behavioural characteristics shape individuals' opinion.

The trust level goes from 0 (people/the EU parliament cannot be trusted) to 10 (complete trust). Likewise, the level of satisfaction with life goes from 0 (extremely dissatisfied) to 10 (extremely satisfied). Respondents' general health level goes from 0 (very bad) to 4 (very good). The trust levels take average scores (almost 5 points) both in the case of trust in people and in the EU parliament. However, the level of trust in the EU parliament is slightly lower than that in people. On the other hand, the level of satisfaction with life has an average score of about 7 points, while less than 5.2% of respondents consider their health bad or very bad. Indeed, the variable mean is approximately 3 which corresponds to a good level of general health. This might be due to the healthcare system in force in Europe which allows "any person who is without adequate resources […] to be granted adequate assistance, and, in case of sickness, the care necessitated by his condition" (Article 13 of the European Social Charter). Therefore, even the poorest individuals can afford a good health care without risking bankruptcy.

2.3 Attitudes towards immigration in the ESS

One interesting characteristic of the ESS is that it provides harmonized data on attitudes towards immigration, that can be used for a cross-country comparison.[26]

Card, Dustmann and Preston developed the immigration module of the European Social Survey in collaboration with the ESS team. They developed the module keeping in mind harmonization and the inter-country comparison issue. They knew that compromises would have been needed for the creation of a questionnaire understandable by several European countries. Indeed, the countries present in the ESS differ in language, history, immigration flows and migration

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[26] As pointed out by Davidov et al. (2018), in order to build a cross-country analysis, concepts must be comparable. Davidov et al. (2018) test measurement equivalence for attitudes towards immigration, and find that approximate scalar invariance holds in general, but results are weaker for the variables qualifying the immigrants' entry or exclusion criteria, because social and economic needs or expectations vary across countries. This is the reason why I did not consider in my dataset questions inquiring how important is for respondents the immigrants' level of education, country of birth, capability to speak the country language, white skin and Christian background.

policies. Thus, the design of the questions had to take into account these contextual differences in order to minimize inter-country variation (Card. et al., 2005). For instance, surveys usually ask respondents questions about migration policies preferences (if they would prefer more to relax or restrict policies) in order to assess respondents' attitudes towards immigration. However, this would not be an appropriate way of measurement in the ESS, given the large number of countries considered and that each country has different migration policies and immigration flows. Therefore, the scholars chose a more neutral question, asking how many immigrants should ideally be permitted to enter the country on a 4-point scale: "many", "some", "few", or "none". Similarly, it would have been incorrect to ask specific questions about the desirable birth country of immigrants, because these preferences change according to the historical context of each country such as past and present migration policy and past and present exposure to immigration. Therefore, the authors chose, again, more neutral questions. They distinguished first between people "coming to live" who were of the same or different ethnicity to that of the majority community, and second between people "coming to live" from richer and poorer countries inside and outside Europe. In this case also, respondents have 4 alternative answers: "allow many", "allow some", "allow few", or "allow none".

To estimate native respondents' opinion about immigration I consider the three variables just described. I name the first "Same" and it measures the propensity to allow immigrants with the same race/ethnicity of the majority in the country (Figure 2.3), the second "Diff" takes into consideration immigrants with race or ethnicity different from that of the majority (Figure 2.4). The last variable "Poor" measures individuals' propensity to allow immigrants from poorer non-European countries (Figure 2.5). Individuals had to grade their inclination to immigration allowance: the minimum value of their answer is "1- allow many" and the maximum is "4- allow none". Most of the respondents gave an intermediate answer (allow some/few) about the quantity of immigrants they would have allowed to entry in their country. What is interesting to note is that, when immigrants had the same race or ethnicity of the majority, the fraction of respondents who wanted to stop further immigration (allow none) was quite small (7.3%). However, this percentage reaches a peak of 15.25% if immigrants come from poor non-European countries. Furthermore, individuals' opinion about immigration from poorer countries seemed to be very similar to that of immigrants with different race/ethnicity than the receiving country. For convenience, I recode these variables using two modes: pro-immigration or against-

immigration.[27] Individuals pro-immigration are those who answer "allow many" or "allow some", while individual against-immigration are those who respond "allow few" or "allow none". As outlined in Table 2.2, for all the three variables slightly more than half of the respondents were pro-immigration. The greater fraction of natives who are pro-immigration (69%) is observed when immigrants have the same race/ethnicity of majority. Moreover, an additional aggregate variable for pro-immigration attitudes is considered, which I label "Pro" (Figure 2.6). A respondent is considered "Pro" when she/he is in favour of the entry of many/some immigrants with the same and different race and to the entry of immigrants who came from poor countries. Thus, it is an individual who resulted to be pro-immigration in all the three questions related to the allowance. According to this classification, roughly half of respondents (46%) is pro-immigration.

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[27] Card. et al. (2005) use the same classification.

Table 2.2: Descriptive Statistics.

Variable Name		No. Obsrevations	Percentage	Mean	Min	Max
Female		225.129	52,01%		0	1
Age		225.129		41,43	15	65
Family size		225.129		2,93	1	13
Domicile: Urban		225.129	62,75%		0	1
Married		225.129	26,79%		0	1
Employment status		224.279			1	4
	Paid work		63,08%			
	Education		10,77%			
	Unemployed		6,34%			
	Out of the labour force		19,81%			
Level of education: Highly educated		208.973	73,77%		0	1
Mother level of education: Highly educated		225.129	45,81%		0	1
Father level of education: highly educated		225.129	53,99%		0	1
Immigrant status		225.129				
	First generation immigrant		8,45%		0	1
	Second generation immigrant		2,35%		0	1
Trust in people		225.129		5,152	0	10
Trust in the EU Parliament		209.379		4,585	0	10
Satisfaction with life		225.129		7,065	0	10
General health		225.129		2,936	0	4
Same		225.129	69,31%		0	1
Diff		225.129	55,00%		0	1
Poor		225.129	51,26%		0	1
Pro		225.129	45,61%		0	1
Member of a group discriminated		223.086	6,97%		0	1
Discrimination of respondent's group: Nationality		225.129	1,33%		0	1

Source: European Social Survey Round 1 to 9.

I also evaluate the strength of the relationship among the four variables just described with a correlation analysis. The correlation coefficients (ρ) can take values between -1 (perfect negative relationship) and +1 (perfect positive relationship). A high correlation ($\rho > 0.7$) means that the outcome variables have a strong relationship with each other, while a weak correlation ($\rho < 0.5$) means that the variables are less related. As outlined in Table 2.3, the correlation among "same" "diff" and "poor" is moderate. Indeed, it takes values between 0.5 and 0.7. However, it is stronger between "diff" and "poor" meaning that if an individual is in favour of the entry of many/some immigrants with a different ethnicity of the majority group it is likely that he/she will also support the entry of immigrants from poorer countries. The correlation is instead strong between "pro" and "diff" and between the former and "poor". As a consequence, in the empirical analysis I will mostly focus on a single indicator of "pro-immigration" attitudes.

Table 2.3: Correlation among dependant variables.

| (Obs=220,830)				
	Same	Diff	Poor	Pro
Same	1			
Diff	0.6647	1		
Poor	0.5675	0.7364	1	
Pro	0.6102	0.8292	0.8933	1

Source: European Social Survey rounds 1-9.

To detect whether the Great Recession had played a role in shaping natives' attitudes towards immigration, I examine how natives' opinions had changed because of the economic shock. I consider the variation in the mean response given by natives residing in each region before and after the Great Recession. Figures 2.3, 2.4, 2.5 and 2.6 show, for each of the four variables, whether the shock had exacerbated or relaxed natives' opinions about immigration. This change in attitudes is understandable thanks to the sign taken by the values. Indeed, a negative value is associated with an increase in natives' anti-immigration sentiment and vice versa a positive value means that natives' opinions had relaxed. In the charts, blue (orange) areas depict regions which after the shock became more (less) favourable to the entry of immigrants.

What is interesting to note is that the correlation between the shock and natives' attitudes towards immigration allowance is not so strong. Indeed, the correlation coefficient between the shock at

the regional level reported in Figure 2.2. and the changes in the attitudes at the regional level, depicted in Figures 2.3 – 2.6, is close to zero (it ranges between -.03 and -.09). For instance, among the regions which relaxed their opinion about migration inflow there are regions hit hard by the Great Recession (i.e. Great Britain, Sweden, Iceland, Spain, etc.). In addition, natives' behaviour about immigration seems to be affected only slightly by the immigrant's race or country of origin. Indeed, the blue and the red areas remain almost of the same size across charts.

Figure 2.3: Pre and post shock variation in the natives' opinion about allowance of immigrants with same race as majority.
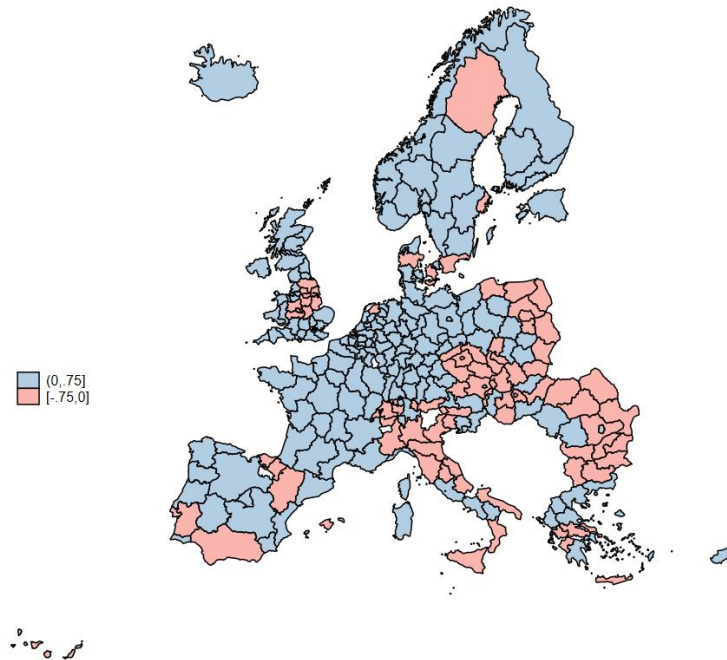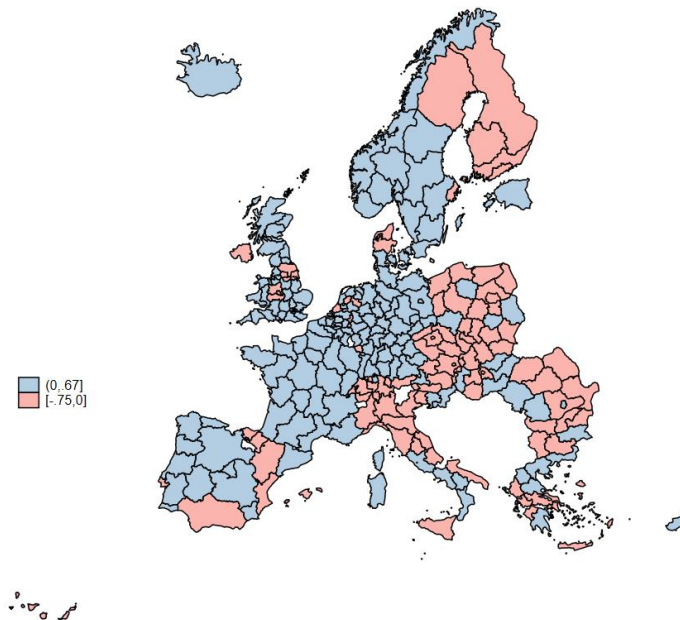

Source: European Social Survey Round 1-9, Nuts2016

Figure 2.4: Pre and post shock variation in the natives' opinion about allowance of immigrants with different race as majority.
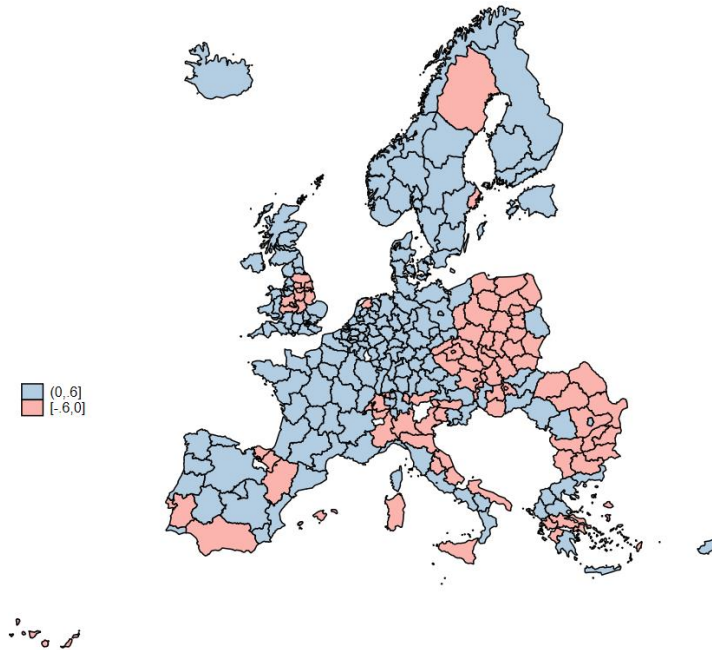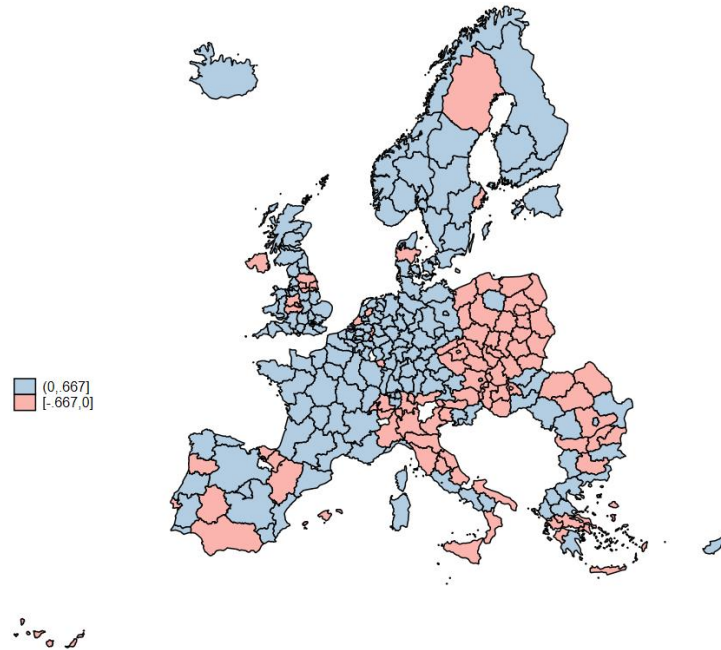

Source: European Social Survey Round 1-9, Nuts2016

Figure 2.5: Pre and post shock variation in the natives' opinion about allowance of immigrants coming from poorer countries outside Europe.

Source: European Social Survey Round 1-9, Nuts2016

Figure 2.6: Pre and post shock variation in the natives' opinion about allowance of immigrants regardless of race or country of origin.

Source: European Social Survey Round 1-9, Nuts2016.

Finally, we also have information about two more variables, "Member of a discriminated group" and "Discriminated by Nationality", that show whether respondents feel discriminated. Among respondents 7% are members of a discriminated group and amidst them only 1.3% feels discriminated by nationality.

3. CHAPTER THREE

EMPIRICAL ANALYSIS

3.1 Introduction

The aim of this thesis is to estimate whether the Great Recession had an impact on natives' attitudes towards immigrants. As shown in literature, there are scholars who believe that economic downturns worsen natives' opinion. This hypothesis will be tested using a sample of data more limited than the whole dataset previously described. Indeed, for a correct appraisal of results I choose to consider only regions which joined to at least three rounds of the ESS (two of which before the Great Recession). Hence, Luxemburg, Latvia and regions such as Melilla (Spain), Valle D'Aosta and Trento (Italy) were dropped from the original dataset because they do not fulfil this requirement. The limited sample so created contains 220,830 observations and 189 regions.

The recession worsened labour market opportunities of all the respondents. As shown in Table 3.1 (the methodology behind this set of estimates will be discussed later below), both natives and immigrants experienced a negative and statistically significant effect of the recession on their employment probabilities. However, the magnitude of the effect differs between natives and immigrants.

Table 3.1: Impact of the economic shock on natives' and immigrants' employment status.

	(1)	(1)
	employed	employed
sample	Natives	Immigrants
shock_post	-0.0089***	-0.0161***
	(0.0020)	(0.0034)
Observations	183,149	20,758
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Region-specific trend	Yes	Yes
Baseline controls	Yes	Yes
Standard errors clustered by regions		
*** p<0.01, ** p<0.05, * p<0.1		

Source: European Social Survey rounds 1-9.

Table 3.1 outlines that the shock diminished natives' employment of 0.9 percentage point in the regions hit harder by the recession, while for immigrants the effect is almost twice as large (1.6 percentage points).

Although a composition effect (the "type" of immigrants present in Europe during the economic crisis might be different from those that were present before) must be considered as a factor partially responsible for this greater effect on immigrants, this worsening in employment opportunities might be caused by an increase, due to the recession, in natives' discrimination towards immigrants. Using the dataset previously described, I am going to test if this greater effect on immigrants is at least in part due to discrimination, as measured by changes in natives' attitudes.

3.2 Methodology

To assess the effects of the Great Recession on natives' attitudes towards immigrants, I will exploit the regional panel dimension of the data and estimate the following linear regression model:

$$Y_{irt} = \beta_0 + \beta_1\, Shock\_post_{rt} + \alpha\, X_{irt} + \mu_r + \delta_r + \lambda_r t + \varepsilon_{irt} \tag{3.1}$$

Y_{irt} represents attitudes towards immigrants of native individual i residing in region r and observed at time t. The four outcome variables analysed as indicators of natives' behaviour are: "Pro", "Same", "Different" and "Poor". $Shock\_post_{rt}$ is an interaction term between the 2009-2007 change in the unemployment rate ($Shock_r$) and a dummy variable ($Post_t$) for the 2009 onwards period. X_{irt} is a vector time-varying individual controls (baseline controls) which include several categorical variables describing respondents' socio-demographic characteristics. The controls utilized contains exogenous characteristics of respondents (see Table 3.2), whereas characteristics such as the employment and marital status or level of trust and general health were not considered since they are potentially endogenous – i.e. themselves affected by the Great Recession. However, these endogenous characteristics of respondents were useful for a more detailed description of the sample (see Chapter 2). In addition, μ_r is a vector of region fixed effects, δ_t is a vector of time fixed effects and $\lambda_r t$ are region-specific linear time trends, while ε_{irt} is an error term, that we allow to be clustered by region (the number of regions is 189).

Table 3.2: Vector of controls.

BASELINE CONTROLS
Age
Gender
Level of education
Parents' level of education
Family size
Domicile

Identification of a causal effect relies on a difference in differences design, as I compare changes in respondents' attitudes towards migration before and after the onset of the Great Recession in 2009 across regions that experienced a different intensity of the Great Recession-induced labour market shock, as measured by the 2009-2007 change in the unemployment rate. My econometric model also includes region-specific linear time trends, that safeguard against the possibility that concurring underlying (linear) trends in the outcome that are heterogeneous by region in a way that correlates with the change in the unemployment rate induced by the Great Recession could confound identification of the causal effect I am after.

As explained in Chapter 2, European regions experienced the economic shock with different intensity, and some of them were hit harder than others. With the difference in differences model I am able to understand whether a change in attitudes occurred and if it is linked to the recession or to something else. Indeed, if the shock has had no effect on the evolution of natives' attitudes, then trends across regions would have been parallel irrespective of the shock level. Instead, if the shock has had a positive effect then attitudes would have improved more in countries which experienced a larger shock (higher unemployment rates). On the other hand, if the shock has had a negative effect, then attitudes would have worsened more in countries which experienced a larger shock.

3.3 Main results

Table 3.3 reports the estimated effects of the Great recession on natives' attitudes towards immigrants, obtained after estimating the model described above. For three out of four variables

the estimated coefficients are very close to zero and not statistically significant[28], meaning that natives' opinions have not been affected by the Great Recession. The only significant result is for the depend variable named "same". However, even in this case, the effect is very small. Indeed, a one-percent increase in the unemployment rate leads to an increase the probability to observe pro-immigration attitudes by around 0.009 points, which is not a sizeable impact. In addition, the effect on "Same" is not significant anymore when the problem of multiple testing is addressed using the Bonferroni correction.[29] Therefore, in order to avoid redundancy, I will show results only for "Pro", knowing that they are very small and not significant also for the other outcome variables.

Table 3.3: Natives' attitudes after the Great recession (2009), limited sample with controls.

	(1) pro	(2) same	(3) diff	(4) poor
sample	Natives			
shock_post	0.0021	0.0086**	0.0045	0.0018
	(0.0041)	(0.0040)	(0.0040)	(0.0037)
Observations	183,849	183,849	183,849	183,849
Region fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Region-specific trend	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes
Standard errors clustered by regions				
*** p<0.01, ** p<0.05, * p<0.1				

Source: European Social Survey rounds 1-9.

Table 3.4 reports results obtained from the simple linear regression, utilizing the full sample, the limited sample and the limited sample with controls. The goal is to understand whether the attitudes documented with the limited sample and controls (Table 3.3) are genuine or due to the fact that a smaller sample (due to missing values in the covariates) and people with the same

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[28] The P-value is greater than α, so the null hypothesis is accepted ($\beta_1=0$) and there is no correlation between the recession and attitudes towards immigrants.

[29] Since four hypotheses are jointly tested, in order to have a significant result at the 5 percent level the p-value should be below 0.0125, and this is not the case for any of the outcome variables I am considering.

background (because of the inclusion of controls, that limit the comparison of attitude trends to people with the same characteristics) were considered.

Table 3.4: Natives' attitudes after the Great recession (2009) by different sample.

	(1) pro		
sample	Main	Limited	Limited
shock_post	0.0009	0.0034	0.0021
	(0.0041)	(0.0041)	(0.0041)
Observations	197,648	183,849	183,849
Region fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Region-specific trend	Yes	Yes	Yes
Baseline controls	No	No	Yes
Standard errors clustered by regions			
*** p<0.01, ** p<0.05, * p<0.1			

Source: European Social Survey rounds 5-9.

What is visible from Table 3.4 is that the effects of the shock on natives' attitudes towards immigrants remain, in any case, very close to zero and not statistically significant. Thus, results are not influenced by the size of the sample or by the use of controls.

As a test for the identification assumption of parallel trends, I check if there were already some ongoing trends in attitudes that were different across areas hit more and less by the recession, before the recessions came. To this aim, I divide the pre-recession period (Table 3.5) in two parts. The first period is between 2002 and 2005, while the second period is 2006-2008. As a result, I now consider the coefficient associated with the variable $Shock\_init_{rt}$, defined as the interaction between $Shock_r$ and $Init_t$, the latter being a dummy variable equal to one for years 2002-2005 and to zero otherwise. If the coefficient related with $Shock\_init_{rt}$ is significant then there is an underlying trend in the areas hit more by the shock before the arrival of the recession. However, results from Table 3.5 suggest that there were no dormant trends before the shock, indeed β_1 is very small and not statistically significant.

Table 3.5: Natives' attitudes before the Great recession (2002-2008).

	(1)
	pro
sample	Natives
shock_init	-0.0035
	(0.0033)
Observations	85,505
Region fixed effects	Yes
Year fixed effects	Yes
Region-specific trends	Yes
Baseline controls	Yes
Standard errors clustered by regions	
*** p<0.01, ** p<0.05, * p<0.1	

Source: European Social Survey rounds 1-4.

3.4 Heterogeneity analysis

Since respondents in the sample differ in their characteristics, I conduct a heterogeneity analysis in order to examine if the shock effects are stronger among individuals with certain characteristics. The individuals' characteristics considered are gender (Table 3.6), education (Table 3.7), age (Table 3.8) and domicile (Table 3.9).

Table 3.6: Impact of the economic shock on natives' attitudes towards immigrants by gender.

	(1)	(1)
	pro	pro
sample	Male Natives	Female Natives
shock_post	0.0066	-0.0019
	(0.0052)	(0.0036)
Observations	88,741	95,108
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Region-specific trend	Yes	Yes
Baseline controls	Yes	Yes
Standard errors clustered by regions		
*** p<0.01, ** p<0.05, * p<0.1		

Source: European Social Survey rounds 5-9.

Table 3.7: Impact of the economic shock on natives' attitudes towards immigrants by education.

	(1)	(1)
	pro	pro
sample	Low-educated natives	Highly-educated natives
shock_post	0.0046	0.0009
	(0.0053)	(0.0038)
Observations	47,697	136,152
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Region-specific trend	Yes	Yes
Baseline controls	Yes	Yes
Standard errors clustered by regions		
*** p<0.01, ** p<0.05, * p<0.1		

Source: European Social Survey rounds 5-9.

Table 3.8: Impact of the economic shock on natives' attitudes towards immigrants by age.

	(1)	(1)	(1)
	pro	pro	pro
sample	Natives aged 15-25	Natives aged 25-50	Natives aged 50-65
shock_post	0.0047	0.0047	-0.0040
	(0.0038)	(0.0060)	(0.0044)
Observations	33,378	87,006	59,348
Region fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Region-specific tren	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes
Standard errors clustered by regions			
*** p<0.01, ** p<0.05, * p<0.1			

Source: European Social Survey rounds 5-9.

Table 3.9: Impact of the economic shock on natives' attitudes towards immigrants by domicile.

	(1) pro	(1) pro
sample	Natives who live in a rural area	Natives who live in a urban area
shock_post	0.0042	0.0005
	(0.0066)	(0.0034)
Observations	73,484	110,364
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Region-specific trends	Yes	Yes
Baseline controls	Yes	Yes
Standard errors clustered by regions *** p<0.01, ** p<0.05, * p<0.1		

Source: European Social Survey rounds 5-9.

Although results (in Table 3.6) show that β_1 is not statistically significant both for females and males, the effects of the recession are the opposite for males and females. Indeed, the coefficient sign is positive for male and negative for women, meaning that the recession increased the pro-immigration sentiment of males but not that of females. Since males and females have almost the same education level[30], a tentative interpretation behind this result is that the anti-immigration behaviour is led by factors different from fear of job loss due to competition with immigrants. Indeed, the fraction of women out of the labour force is higher than that of males so they should feel less the labour market competition.

In Table 3.7 I assess the effects of the Great Recession on natives' attitudes by their level of education. In contrast with some findings in the literature, the level of education does not affect in a significant way the Great Recession effect on natives' opinion about immigrants. However, it is worth remembering that the educational level is a dummy variable, thus it can only take two values (high or low level of education). Moreover, I consider as high-educated individuals with at least a compulsory educational level (upper secondary education). Since in EU the average rate of

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[30] In the dataset analysed the percentage of females highly educated is 73,2 while the percentage of males with the same level of education is 74,5.

early school leavers was equal to 10.7%[31], it could be that the effect of education is visible only at higher educational level such as the tertiary education.

To detect the impact of age in shaping individuals' anti-immigrants' attitudes after the Great Recession, the sample is divided into three groups (Table 3.8). The first is composed of young individuals aged between 15 and 25. At this age the majority of the respondents are in education. In the second group there are prime-age individuals aged 25-50 and in the last group there are senior individuals aged 50-64. Irrespective of their age, results are always small and not statistically significant. The only thing to notice is that the coefficients are positive for young and prime-age individuals, while the effect is negative for senior respondents.

Table 3.9 outlines that also the respondents' domicile is not statistically significant, meaning that attitudes towards immigrants after the recession do not depend on the area in which natives' respondents live.

The last analyses want to detect whether natives' opinion about immigrants is influenced by the level of education immigrants had, the share of immigrants in the region, the level of trust in EU and satisfaction with life.

First, I take in consideration first and second-generation immigrants and I estimate their share and prevailing level of education in the region before the recession (Table 3.10 and 3.11). I distinguish between regions with a level of these variables above and below the median. What emerges is that – in spite of the level of these variables – the anti-immigration sentiment did not worsen because of the Great Recession. Indeed, even in this case the coefficients are positive and not statistically significant.

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[31]https://ec.europa.eu/info/sites/info/files/file_import/european-semester_thematic-factsheet_early-school-leavers_it.pdf

Table 3.10: Impact of the economic shock on natives' attitudes towards immigrants by share of immigrants in the region.

	(1)	(1)
	pro	pro
sample	Natives by low share of immigrants	Natives by high share of immigrants
shock_post	0.0007	0.0050
	(0.0078)	(0.0048)
Observations	98,816	85,033
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Region-specific trends	Yes	Yes
Baseline controls	Yes	Yes
Standard errors clustered by regions		
*** p<0.01, ** p<0.05, * p<0.1		

Source: European Social Survey rounds 1-9.

Table 3.11: Impact of the economic shock on natives' attitudes towards immigrants by prevailing level of education of immigrants in the region.

	(1)	(1)
	pro	pro
sample	Natives by prevailing low-educated immigrants	Natives by prevailing highly-educated immigrants
shock_post	0.0095	-0.0049
	(0.0069)	(0.0035)
Observations	92,964	90,885
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Region-specific trend	Yes	Yes
Baseline controls	Yes	Yes
Standard errors clustered by regions		
*** p<0.01, ** p<0.05, * p<0.1		

Source: European Social Survey rounds 1-9.

Second, the level of trust in the EU parliament is commonly used as an indicator for populist orientation. A recurring theme among populist parties is restrictive immigration policies. In Table 3.12 it is visible that even a different level of trust (above-below median) has no effect in the worsening of natives' opinion about immigrants. By contrast, the level of satisfaction with life is used as a measure of bitterness in life. When natives have a low (below median) level of satisfaction (Table 3.13) β_1 is negative and statistically significant, meaning that dissatisfied natives' attitudes towards immigrants have worsen. Highly (above median) satisfied natives' opinions seem to be unaffected by the recession – the coefficient β_1 is close zero and not statistically significant.

Table 3.12: Impact of the economic shock on natives' attitudes towards immigrants by level of trust in the EU parliament.

	(1)	(1)
	pro	pro
sample	Natives with low trust	Natives with high trust
shock_post	0.0002	0.0020
	(0.0144)	(0.0045)
Observations	91,459	92,390
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Region-specific trend	Yes	Yes
Baseline controls	Yes	Yes
Standard errors clustered by regions		
*** p<0.01, ** p<0.05, * p<0.1		

Source: European Social Survey rounds 1-9.

Table 3.13: Impact of the economic shock on natives' attitudes towards immigrants by level of satisfaction with life.

	(1)	(1)
	pro	pro
sample	Natives with low satisfaction	Natives with high satisfaction
shock_post	-0.0073**	0.0112
	(0.0037)	(0.0075)
Observations	93,830	90,019
Region fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Region-specific trends	Yes	Yes
Baseline controls	Yes	Yes
Standard errors clustered by regions		
*** p<0.01, ** p<0.05, * p<0.1		

Source: European Social Survey rounds 1-9.

3.5 Conclusions

In conclusion, the results show that the effects of the Great Recession on natives' attitudes towards immigrants are zero throughout the board. Therefore, the initial results (Table 3.1) found about the worsening of immigrants' employment opportunities are not caused by discrimination, but are due to other labour market features or to selection effects.

Many scholars (see Chapter 1) had alluded to a strong connection between fear of labour market competition with unskilled immigrants and a worsening in natives' opinion about immigration during period of economic downturns. However, what emerges from this empirical analysis is that in Europe the Great Recession did not lead to a worsening in natives' attitudes. Indeed, the shock and the natives' opinion are unrelated (coefficients are always insignificant). In support of this findings Table 3.14 shows that immigrants (of first and second generation), during the recession, did not felt more discriminated because of their nationality in regions where the recession hit harder. Indeed, the coefficient in Table 3.14 is small and not statistically significant.

Table 3.14: Impact of the economic shock on immigrants' perception of discrimination by nationality.

	(1) discr_nat
sample	Immigrants
shock_post	-0.0001
	(0.0022)
Observations	20,444
Region fixed effects	Yes
Year fixed effects	Yes
Region-specific trends	Yes
Baseline controls	Yes
Standard errors clustered by regions	
*** p<0.01, ** p<0.05, * p<0.1	

Source: European Social Survey rounds 1-9.

This additional evidence supports the previous results according to which a change in natives' attitudes towards immigrants was not observed. The only small fraction of native respondents whose discrimination increased is that of those who are more "bitter" in life. Even this result illustrates that – at least as far as the European labour market is concerned – the key factor behind changes in natives' opinions on immigration after the Great Recession is not related with labour market competition.

CONCLUSIONS

Using the European Social Survey data, I have analysed the relationship between the Great Recession and natives' attitudes towards immigrants. This investigation is important because it is usually believed that, during periods of economic crises, labour market competition between low-educated natives and immigrants leads to an exacerbation of natives' opinions on the latter, and thus to higher discrimination in the labor market.

I have estimated the impact of the recession-induced changes in the unemployment rate on natives' anti-immigration sentiments. As indicator of the natives' attitudes towards immigrants I utilized the ESS immigration module, in particular I observed the answers given by natives to the questions about the desirable quantity of immigrants to allow to entry in their home country. Causal identification rests on the fact that the Great Recession was felt with a different intensity across countries members of the EU. For instance, Germany and Poland did not experience an increase in the unemployment rate between 2007-2009. By contrast, countries such as the UK, Spain, Iceland and Sweden experienced a strong grow in the unemployment rates (with a peak for some regions of +15.5%). Thanks to this characteristic of the data I utilized the difference in differences model to understand whether a change in attitudes occurred and if it could be linked to the recession.

The conclusion is that attitudes did not change due to the recession. I find that the effects of the Great Recession on natives' attitudes are zero on average and across most sub-groups of the population. I also find that immigrants themselves do not feel more discriminated after the recession, even though they are hit more strongly than natives in terms of their employment probability. My results suggest that the main driver of this negative labor market effect is unlikely to be higher discrimination against immigrants. An alternative reason why their labor market prospects worsened more than those of natives may be the fact that, unlike natives, immigrants are more likely to work in unregulated markets and thus they do not benefit of employment protection. Therefore, they have less secure contractual arrangements and they are subject to selective hiring and firing (OECD, 2009).

The only statistically significant result I find is for people "bitter" in life. The anti-immigration sentiment increases for dissatisfied individuals after the Great Recession, meaning that the worsening of attitudes towards immigrants is not an effect of the labour market competition in the

period after the Great Recession, and concerns for the welfare provisions system and non-economic factors are better drivers capable of shaping people's attitudes. To relax the anti-immigration sentiments of disaffected voters, politicians need to focus on rebuilding trust in political institutions and in the stability of the welfare system rather than targeting their attention on immigration.

In advanced countries the number of people entering the labour market is reducing, whereas the number of people retiring is rising. This happen because the baby-boomers are exiting the labour market and the young people in working age are few. These countries are facing a demographic challenge of an aging population and immigration may be a resource for countries in such situation. Indeed, most immigrants are of working age, so they can contribute to contrast the issue of a growing aging population. For instance, through tax payments they may help fund native pensions and ease a shortage of workers for unskilled jobs. Furthermore, advanced countries can benefit from the contribution of immigrants also in terms of scientific and entrepreneurial growth. Once integrated, they become an opportunity for the receiving countries to rise their GDP. The most famous example is that of Steve Jobs, the chairman of Apple, whose biological father was Muslim and originally from Syria.[32] However, this result is only possible with the integration of immigrants.

European politicians argue that their electoral promises of restrictive immigration policies are based on the willingness of voters to stop further immigration.[33] Thus, politicians, knowing the effects of immigration on the host-countries, should reinforce anti-immigration measures and integration programmes. For instance, this can be achieved by conducting information campaigns (whose effectiveness was proved – for instance - by Facchini et al 2016., on Japanese data) to educate citizens about the opportunities and the benefits that we can gather from immigration. If well-managed, labour immigrants can be propitious not only for the host countries, but also for the origin countries. Indeed, immigrant workers transfer part of their salary back to their origin countries. Thanks to these remittances the welfare of the families receiving the money can significantly improve.

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[32] https://www.economist.com/finance-and-economics/2017/03/18/the-progressive-case-for-immigration

[33] However, there is another side to consider. Indeed, as noticed by Barone et al. (2016), politicians base their campaigns on ideological issues such as immigration when political competition is low (few swing voters).

However, the economic state of Europe during and after the Great recession was a factor which negatively affected the integration of immigrants in the receiving countries. Indeed, because of the financial crisis and the Sovereign debt crisis, natives perceived the economic scarcity (also in terms of worsening in the national economy conditions) and the number of people "bitter" in life (which are also the people more against immigration) increased. Moreover, Mediterranean countries experienced a large flow of immigrants in 2015 (named European migrant crisis). Since it could be that natives see refugees and labour migrants as the same, an increase of immigrants in the countries may have led to an increase of anti-immigration sentiment, which is a consequence independently from the macro-economic performance of the regions considered.

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