

## **EXPLAINING INDIVIDUAL ATTITUDES TOWARDS IMMIGRATION IN EUROPE: A MULTILEVEL ANALYSIS BEFORE AND AFTER THE ECONOMIC CRISIS**

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**Abstract.** *This paper analyses the evolution of attitudes towards immigration over the years 2002-2014, a period characterized by the rise of the economic crisis. Using data of the first 7 rounds of the European Social Survey, we estimate a random intercept model with two levels. By considering that individuals are naturally grouped into countries, this model takes into account the hierarchical structure of the data and allows us to evaluate the net impact of both contextual and individual factors on attitudes towards migrants. Results show that in almost all countries included in the study attitudes slightly improved during these years, even if this change was not homogeneous for all social categories. On one hand, after the beginning of the economic crisis, attitudes worsened for the individuals mostly affected by the recession, such as low skilled workers, because of an increased competition in the labour market between natives and immigrants. On the other hand, attitudes generally improved for people belonging to ethnic minorities and for the social categories that do not compete on the labour market, such as retirees.*

**Keywords:** *Attitudes, Migration, Labour Market, Economic Crisis, Multilevel Regression*

### **1. INTRODUCTION**

Immigration has recently become a prominent economic and political issue in Europe. Over the last decades, we have witnessed a sharp increase in the flow of migrants entering European countries (Hooghe et al., 2008). Nowadays, the number of immigrants living in Europe covers over the 14% of its population. This strong and sudden change in the ethnic composition of the European population has generated considerable tensions between natives and newcomers, requiring the

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investigation of the determinants of attitudes towards immigration which are politically and economically relevant.

The existing literature on the theme is indeed rich. However, the vast majority of the studies, (Scheve et al., 2001; Scheepers et al., 2002; O’rourke et al., 2006; Mayda, 2006; Hainmueller et al. 2007; Facchini et al., 2009; Facchini et al., 2012; Billiet et al., 2014) follows a static perspective and hence does not focus on evaluating the temporal change of attitudes. In light of the existing results, this paper aims at studying the topic on a dynamic perspective, analysing whether the recent economic recession started in 2008 changed individual opinions concerning immigrants. Hence, this study differs from the existing literature because it investigates the evolution of the determinants of attitudes towards migration in a period in which a strong macroeconomic shock arose, exploring how the economic shock interacts with the main valuable individual predictors, such as education, employment status and income, and contextual predictors, like the GDP per capita, the percentage of foreigners and the tax revenues.

Using rounds 1 to 7 of the European Social Survey, we employ a multilevel regression model to control not only for individual characteristics, but also for the heterogeneity at country level. This technique takes into account that individuals are naturally clustered into countries. Our dataset involves 16 countries and covers the period from 2002 to 2014, thus, it includes observations before, during and after the onset of the economic crisis, allowing us to study how these macroeconomic dynamics impacted on attitudes.

Our results suggest that, contrary to what one might expect, in almost all 16 countries considered in our analysis, the vision of immigrants has generally improved after the crisis, although the improvement is slight and not generalized for all the social categories.

The remainder of this paper is structured as follows; section 2 presents a review of the literature on the determinants of attitudes towards immigration; section 3 presents the data; section 4 illustrates the estimation strategy, explaining in detail the construction of the depending variables and the estimation strategy; section 5 presents and discusses the results of the analysis. Finally, section 6 provides conclusions and suggestions for future research.

## **2. THEORETICAL BACKGROUND**

The relevance of individual attitudes and, more in general, of the subjective beliefs in addressing human actions have been deeply studied both in economic and sociological literature (Allport, 1956; Katz, 1960; Rosenberg et al., 1960). Indeed,

the first study investigating this relationship dates back to the beginning of the XX Century (Thomas et al., 1918). One of the main theoretical frameworks trying to enclose human actions is probably the Theory of Planned Behavior (TPB), developed by Ajzen (1991). According to TPB, attitudes, as direct determinants of intentions, influence by reflection also behaviours. In this framework, understanding which elements define people's attitudes can help in the identification of the determinants of human behaviour. Attitudes, as defined by Allport (1935), are in fact "a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon an individual's response to all objects and situations with which it is related", and are an instrument to understand the behaviours at both individual and group level.

Recently, literature started investigating the determinants of individual attitudes towards migration. Various theories have been developed to frame these attitudes, which were subsequently divided into two great classes by Hainmueller et al. (2014): sociological and economic.

Among the sociological theories, the most remarkable one is ethnocentrism, defined by Sumner (1906). Ethnocentric people perceive their social group, with which they share common cultural heritage, language and ancestry, as the centre of everything and judge the others on the basis of the differences with respect to their own group. This leads them inevitably to have an extremely limited and typically negative position towards others: since their own group is glorified and perceived as superior, the need to defend in-group interests emerges in the form of intolerance and conflict with outgroups.

Attitudes against immigration can therefore be classified as "ethnocentric", where ethnicity is intended on a continental or a national scale. In light of the results found in literature, social and cultural factors such as education, cultural position and compositional amenities (which is the importance of sharing religion, language, traditions and customs with neighbours and co-workers) seem to play an important role in explaining the anti-immigration attitudes (Citrin et al., 1997; Manevska et al., 2011; Card et al., 2012). However, the empirical analysis of these determinants is problematic, because the relationship between attitudes and psychological characteristics is often not unidirectional. Thus, studies that investigate the impact of this type of variables are highly likely to have serious problems of endogeneity.

The second stem of studies on attitudes towards migrants concerns the economic sphere, at both a country and an individual level. As regard the economic determinants at a group level, one of the theoretical approaches used to explain individual attitudes in this field is the group conflict theory, defined by Blalock (1967) and Olzak (1994). According to this theory, the roots of anti-immigration feelings must be found in the economic conditions of the countries.

Some studies show how anti-immigration attitudes are more prevalent in regions or nations with worse economic conditions and/or with a greater number of resident immigrants (Quillian, 1995; Scheepers et al., 2002; Schneider, 2008; Semyonov et al., 2008). Moreover, also the population size belonging to the categories which are most affected by the adverse socio-economic conditions, such as the unemployed and those with a low educational level, seems to be important (Fetzer, 2000; Kunovich, 2002; Lancee et al., 2013). These individuals, in fact, are the most similar to immigrants in terms of education, skills and bargaining power, and, thus, face greater competition in the labour market.

If we distinguish between legal and illegal immigrants, anti-immigration attitudes are even more frequent: while legal immigrants compete in the labour market prevalently with low skilled workers, illegal immigrants worsen the condition offered by employers. The absence of a valid residence permit makes them vulnerable and more inclined to accept an illegal and low-paying job, therefore making more difficult for the government to enforce labour-market regulations.

The uncertain economic conditions induce individuals belonging to different groups (in our case the natives against the immigrants) to increase the competition for items that become scarce especially in crisis times, such as a stable job position. Under conditions of competition and unequal status, the contact between these two groups, natives and immigrants, further exacerbate prejudices and, in general, negative attitudes, as predicted by the Intergroup Contact theory (Allport, 1954).

In contrast, other studies such as those carried out by Sides et al. (2007) and Strabac et al. (2008) were not able to confirm these results. Thus, the inquiry is still completely open.

Socio-economic conditions shape attitudes also at an individual level. There is considerable empirical evidence that, in countries where immigrants come prevalently from poor countries, anti-immigration attitudes are more common among people with low qualifications, low-skilled workers and among people with a lower income (Billiet, 1995; Citrin et al., 1997; Fetzer, 2000; Coenders et al., 2003). These categories tend to have characteristics that are very similar to those of immigrants and thus perceive foreigners as potential competitors in the labour market (Scheve et al., 2001; Mayda, 2006; O'rourke et al., 2006; Dancygier et al., 2014). For this reason, they are more likely to be hostile to immigration with respect to high skilled workers.

The fact that a high level of education involves less prejudices towards non-natives is a recurring result in literature. Nevertheless, Hainmueller et al. (2007, 2010) argue that the labour market competition theory is not an exhaustive

explanation for the phenomenon, because individuals with higher education are more favourable to all types of immigrants, not only to the low-skilled ones. Moreover, the results of Cattaneo et al. (2015) show that a larger number of immigrants accelerates the career of the native population, thus improving their employment conditions.

Another economic theory, used to explain anti-immigration attitudes, focuses on the perception of the cost of immigration on taxpayers. Data from the Gallup Poll (2006) shows that 66% of Americans believe that illegal immigrants “cost the taxpayers too much by using government services like public education and medical services” rather than becoming “productive citizens...[who] pay their fair share of taxes”.

This cost can be understood either as a reduction in welfare expenditure share for the neediest individuals, or as a tax increase required to cope with the increased welfare spending due to the entry of immigrants. In other words, if tax payments from immigrants are lower than their benefits from public services, immigrants’ net tax contribution is negative, and immigration generates a net fiscal transfer from native taxpayers to non-native citizens. In support of this theory, Facchini et al. (2009), Boeri (2010) and Hanson (2007) point out that the perception of immigration is negatively correlated with taxable income. This predicts an increase in outgroup attitudes for those who are wealthier and hence more subjected to higher taxes when immigration affects welfare spending. A public opinion survey (Hanson, 2005) found that college graduates are more prone to have anti-immigration attitudes where there are more low-skilled immigrants and more generous welfare policies, which, combined, produce larger tax burdens on high-income individuals.

Most of the above-mentioned studies address the attitudes from a static perspective. Indeed, the research on the temporal evolution of attitudes is very limited, especially if we only consider studies related to European countries. This is due to a lack of appropriate data to perform an analysis on. The existing longitudinal studies are few and often not comparable, since they analyse different concepts, even if related to attitudes and perceptions of immigrants. An example is given by Coenders et al. (2008) and Semyonov et al. (2006), who use slightly different definitions of attitudes and are therefore not comparable.

The only case of attitudes which were deeply investigated over time concerns those of the white majority against the black minorities in the United States. Starting from the 50’s, we have witnessed a gradual spread among the population who has the opinion that everyone has the right of an equal treatment (Quillian, 1995). This change of mind was substantially due to a cohort replacement

(Firebaugh et al., 1988; Schuman, 1997), namely the fact that individuals who hold ancient prejudices died off. However, these studies cannot be properly applied to Europe. In fact, U.S. started from a slavery situation and were able to make important progress on equality among black and white. Furthermore, apart from racial prejudices, differences with Europe occur in the size and history of migration flows: while the United States has been a destination country of immigrants since the mid-19<sup>th</sup> century, in Europe the big migration flows have been a recent phenomenon instead. One certainty emerging from the existing European studies is that, unlike the United States, European attitudes towards immigration are not homogeneous across countries, but follow different trends (Quillian, 1995; Scheepers et al., 2002; Schneider, 2008; Wright, 2011). Indeed, contextual variables may affect individual perceptions and behaviours, and thus, also their attitudes. Following Nagayoshi et al. (2015), country-level variables such as social identity, political involvement, trust in people and solidarity of individuals (which are all strongly influenced by the welfare state of the country) have an impact on attitudes towards migration.

There are many possible explanations for the changes in individual orientations towards immigration, in response to crucial historical events such as the economic recession that began in 2008.

Several studies analysed the impact of the economic crisis on the attitudes towards immigrations: Craighton et al. (2014) found that in the U.S. the economic crisis increased anti-immigration reactions, rather than favouring the expression of previous positive value orientations, particularly among less educated individuals. The widespread of unemployment and, more generally, the experience of material deprivation has had a positive impact on the perception of immigrants as an economic threat (Ramos et al., 2016).

Starting from the existing results, the purpose of the following analysis is to investigate how the recent economic crisis has influenced the different determinants of attitudes towards immigration, taking into account that socio-economic characteristics of countries and individuals can influence both people's perceptions and behaviours.

### **3. DATA AND DESCRIPTIVE STATISTICS**

The individual-level data used in this analysis come from the rounds 1 to 7 of the European Social Survey (ESS). The ESS is an academically driven cross-national survey conducted across several European countries every two years since 2002. The questionnaire is multidimensional, thus it investigates several topics, such as personal well-being, sociodemographic profiles, individual attitudes and trust in politics. In this work we used data of the cumulative dataset containing all 7 rounds of the ESS regarding the 16 countries that took part in all investigations: Belgium,

Denmark, Finland, France, Germany, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. This sample includes more than 300,000 observations of individuals aged 15 and older and equally distributed by gender.

The main aim of the ESS is to chart stability and change in social structure, conditions, values and attitudes in Europe and to interpret how European social, political and moral fabric is changing. The availability of various rounds of the ESS offers the great opportunity to analyse how attitudes and values' patterns are changing over time.

The key variables of the ESS related to attitudes towards immigration and explored in our study are the following:

- [1] To what extent do you think [country] should allow people of the same race or ethnic group as most [country]'s people to come and live here?
- [2] To what extent do you think [country] should allow people of a different race or ethnic group from most [country] people?
- [3] To what extent do you think [country] should allow people from the poorer countries outside Europe?
- [4] Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries?
- [5] Would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries?
- [6] Is [country] made a worse or a better place to live by people coming to live here from other countries?

In each case, respondents were asked to rank their responses according to a recoded scale, which goes from 1 (allow none) to 4 (allow many) for the first three items, and from 0 (bad) to 10 (good) for the others. Thus, the higher the value of the response, the more positive the sentiment towards immigrants is.

The first three variables describe the acceptance level of different types of immigrants; two of them were combined in one variable and used by Pereira et al. (2010), in order to capture respondents' *opposition to migration*.

The other three items represent the perceived consequences of immigration and were jointly used to investigate anti-immigrant attitudes by Markaki and Longhi (2013) and Billiet et al. (2014): according to the last authors those items allow for building *perceived ethnic threat*. Since all these items are crucial for our analysis, we decided to restrict the sample to the individuals that answered the six related questions, corresponding to 193,476 observations. Table 1 depicts the main descriptive statistics of the variables, while Table 2 provides the mean score value before and after the economic crisis.

**Tab. 1: Descriptive statistics immigration variables**

Items	Min	Max	Mean	St.dev.	N
To what extent do you think [country] should allow people of the same race or ethnic group as most [country]'s people to come and live here?	1	4	2.835	0.825	193476
To what extent do you think [country] should allow people of a different race or ethnic group from most [country] people?	1	4	2.599	0.855	193476
To what extent do you think [country] should allow people from the poorer countries outside Europe?	1	4	2.530	0.878	193476
Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries?	0	10	5.009	2.380	193476
Would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries?	0	10	5.722	2.477	193476
Is [country] made a worse or a better place to live by people coming to live here from other countries?	0	10	4.980	2.249	193476

**Tab. 2: Comparison of pre- and post-crisis means**

Items	Pre-crisis mean (1)	Post-crisis mean (2)	Difference of means (2) - (1)
To what extent do you think [country] should allow people of the same race or ethnic group as most [country]'s people to come and live here?	2.77 (0.82)	2.88 (0.83)	0.11***
To what extent do you think [country] should allow people of a different race or ethnic group from most [country] people?	2.53 (0.85)	2.65 (0.86)	0.12***
To what extent do you think [country] should allow people from the poorer countries outside Europe?	2.5 (0.86)	2.55 (0.89)	0.05***
Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries?	4.90 (2.36)	5.08 (2.39)	0.18***
Would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries?	5.66 (2.47)	5.76 (2.48)	0.10***
Is [country] made a worse or a better place to live by people coming to live here from other countries?	4.82 (2.22)	5.09 (2.26)	0.27***
N	81886	111590	

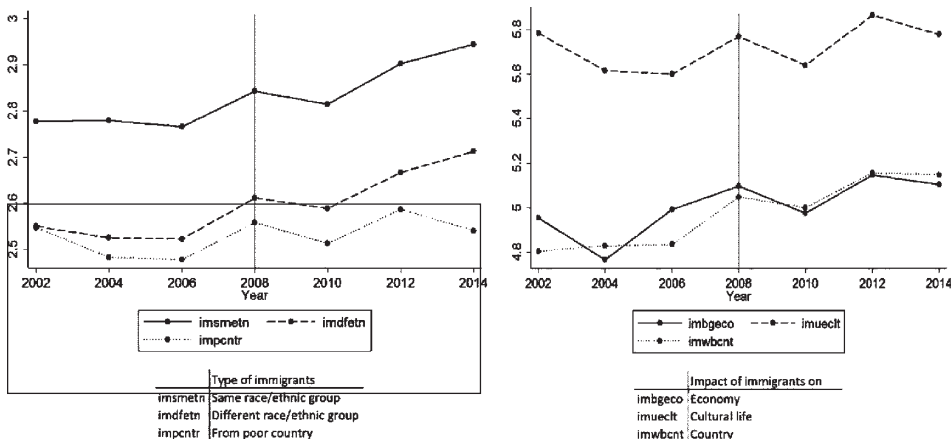
Notes: Standard deviation in brackets; \*\*\* p<0.01, \*\* p<0.05, \* p<0.10



Given the increasing level of immigration into Europe and the rising prominence of this topic in the political debate, we expected attitudes to become more negative after 2008. However, Table 2 shows that this is not the case. In fact, it emerges that the mean values of all these items increased significantly after that the economic recession started, albeit in a moderate amount.

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Figure 1 represents the trend of six immigration variables that are included in the study. Looking at Figure 1 (a), we can see how the items concerning the acceptance level follow a similar pattern for all different types of foreign individuals. During the whole period, attitudes towards immigrants of the same ethnic group or race, as the most of the respondents' country's population, are the most positive. On the other hand, while public opinion related to immigrants of different race or coming from poorer countries outside Europe were equal in 2002, starting from 2004 the latter worsened. The gap between these items grew until 2014. With respect to the perceived consequences of immigration, respondents associate the greatest benefits to the cultural life rather than to the economy or the quality of life.



(a) Acceptance of immigration

(b) Perceived consequences of immigration

**Fig. 1: Evolution of immigration items**

## 4. ESTIMATION STRATEGY

### 4.1 ATTITUDE FACTORS

In order to study the evolution of attitudes towards immigration, we decided to use a principal component factor analysis to sum up our immigration variables, following Meuleman et al. (2009) and O’rourke et al. (2006). Given the structure of the original items, which have two different scales and subjects, namely acceptance and consequences of immigration, this procedure was run separately for each set of items. The Cronbach’s  $\alpha$  reliability scale for the three acceptance variables is 0.89 and the item total correlation varies from 0.88 to 0.91. As regard the consequence-items, Cronbach’s  $\alpha$  equals 0.84 and the item total correlation is between 0.86 and 0.88. Thus, in both cases, the grouped variables show a good internal consistency.

Tables 3 and 4 provide the results of the two factor analyses that we run.

**Tab. 3: Factor analysis on immigration acceptance variables**

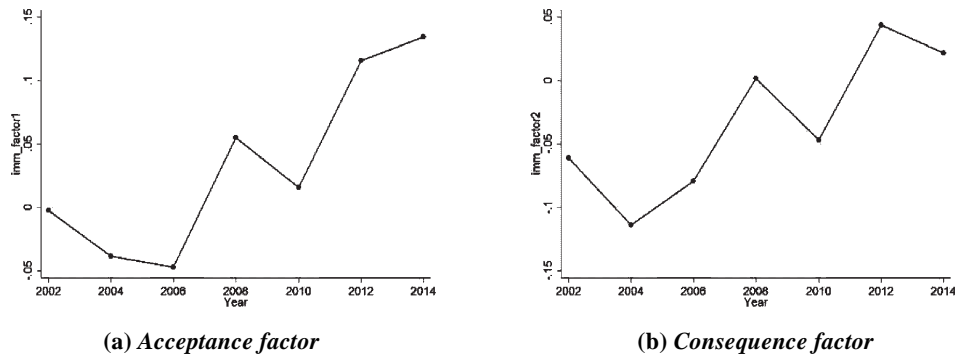
Acceptance items	Factor loadings	Communality
To what extent do you think [country] should allow people of the same race or ethnic group as most [country]’s people to come and live here?	0.915	0.836
To what extent do you think [country] should allow people of a different race or ethnic group from most [country] people?	0.961	0.923
To what extent do you think [country] should allow people from the poorer countries outside Europe?	0.931	0.866

**Table 4: Factor analysis on immigration consequences variables**

Consequence items	Factor loadings	Communality
Would you say it is generally bad or good for [country]’s economy that people come to live here from other countries?	0.854	0.729
Would you say that [country]’s cultural life is generally undermined or enriched by people coming to live here from other countries?	0.870	0.758
Is [country] made a worse or a better place to live by people coming to live here from other countries?	0.886	0.785

Following Kaiser’s criterion, we retain only those factors with an eigenvalue higher or equal to 1. This leads us to retain only one principal component for each of the two set of attitude-items, meaning that the variables used for constructing each factor are one-dimensional. The resulting factors, to which we will refer further on as *Acceptance factor* and *Consequence factor*, are proxies of the individuals’ attitudes related to immigration. Furthermore, given the high values

reached by the single factor loadings and communalities, we can conclude that both factors are reliable measurements of the desired latent concepts. Beyond reducing the number of variables used in our analysis, this procedure increases the variety of possible realizations<sup>2</sup>, allowing us to treat these items as continuous. This increases the reliability of our data, because random measurement errors in the single original items cancel each other out and this enables us to use linear regression methods rather than ordinal ones, thus increasing the interpretability of the results. Furthermore, factor analysis produces standardized factors, which are thus comparable between them.



**Fig. 2: Evolution of immigration factor**

Tables 5 and 6 report the mean value of the period before and after the economic crisis of the two factors in the single countries included in the study. As we can see in Table 5, after 2008 immigrants are significantly more welcome than before in 11 countries out of 16, while the opposite happens in Ireland, Spain, Switzerland and the United Kingdom.

<sup>2</sup> Indeed, *Acceptance factor* can assume 64 different values and *Consequence factor* more than 1200.

**Tab. 5: Comparison of pre- and post-crisis means of *Acceptance factor***

Country	Pre-crisis (1)			Post-crisis (2)			Difference of means (2)-(1)
	Mean	St.dev.	N	Mean	St.dev.	N	
Belgium	-0.04	0.95	5117	0.00	0.92	6938	0.039**
Denmark	0.06	0.83	4015	0.15	0.83	5931	0.097***
Finland	-0.20	0.83	5635	-0.14	0.84	8033	0.053***
France	-0.10	0.91	4985	-0.02	0.90	7341	0.077***
Germany	0.02	0.93	7844	0.38	0.88	11017	0.363***
Hungary	-0.62	0.89	3620	-0.60	0.90	5456	0.024
Ireland	0.24	0.90	5491	-0.06	1.02	8754	-0.292***
Netherlands	-0.11	0.89	5718	0.05	0.91	6906	0.161***
Norway	0.17	0.82	5375	0.34	0.81	5999	0.172***
Poland	0.21	0.94	4550	0.33	0.95	5682	0.119***
Portugal	-0.55	1.02	4638	-0.46	1.05	6696	0.095***
Slovenia	-0.05	0.92	3832	0.05	0.94	4561	0.102***
Spain	-0.01	1.06	4423	-0.05	1.11	7261	-0.036*
Sweden	0.65	0.83	5230	0.78	0.79	6509	0.130***
Switzerland	0.23	0.79	5477	0.19	0.79	5870	-0.036**
United Kingdom	-0.14	0.94	5936	-0.19	0.97	8636	-0.054***
Total	-0.03	0.96	81886	0.08	0.98	111590	0.111***

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.10

**Tab. 6: Comparison of pre- and post-crisis means of *Consequence factor***

Country	Pre-crisis (1)			Post-crisis (2)			Difference of means (2)-(1)
	Mean	St.dev.	N	Mean	St.dev.	N	
Belgium	-0.19	0.91	5117	-0.14	0.91	6938	0.048***
Denmark	0.11	1.00	4015	0.19	1.00	5931	0.086***
Finland	0.31	0.83	5635	0.33	0.85	8033	0.015
France	-0.22	1.09	4985	-0.20	1.05	7341	0.013
Germany	-0.07	0.98	7844	0.18	0.98	11017	0.252***
Hungary	-0.48	1.00	3620	-0.48	0.97	5456	-0.002
Ireland	0.19	1.07	5491	-0.03	1.10	8754	-0.223***
Netherlands	-0.04	0.80	5718	0.11	0.78	6906	0.154***
Norway	0.03	0.88	5375	0.20	0.89	5999	0.164***
Poland	0.16	0.92	4550	0.29	0.93	5682	0.123***
Portugal	-0.36	0.92	4638	-0.27	0.94	6696	0.084***
Slovenia	-0.32	0.94	3832	-0.30	1.02	4561	0.020
Spain	0.10	0.94	4423	0.05	1.02	7261	-0.044**
Sweden	0.42	0.94	5230	0.56	0.94	6509	0.142***
Switzerland	0.19	0.87	5477	0.28	0.85	5870	0.089***
United Kingdom	-0.30	1.06	5936	-0.27	1.12	8636	0.037**
Total	-0.09	1.00	81886	0.01	1.03	111590	0.091***

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.10

As we can see from Table 6, the perception of the consequences of foreign individuals moving into European countries changed less than the acceptance level. Indeed, no significant difference is reported in Finland, France, Hungary and Slovenia, while Ireland and Spain show an increase in the anti-immigration sentiment. However, also in this case, the overall mean value increased after the economic downturn.

#### 4.2 THE MODEL

The aim of this paper is to analyse how and why attitudes towards immigration changed between 2002 and 2014. In order to establish in a more satisfying way the determinants of attitudes, we use a two-level regression model. This allows us to take into account the hierarchical structure of the ESS data by considering not only the individual characteristics (first level variables), but also the contextual conditions, i.e. second-level variables. Given that it is highly plausible that sentiments towards immigrants are influenced by the peculiarities of the countries in which individuals live, this kind of modelling is more reliable than a simple regression. Indeed, if the hierarchical structure of the data is not taken into account, there could be relevant bias in the results. On one hand, not including contextual variables in the model may lead to an underestimation of the statistical errors and thus, threaten the validity of the adopted statistical tests. On the other hand, given that both the *Acceptance factor* and *Consequence factor* can be treated as continuous, we can adopt a linear multiple-regression model specified as follows:

$$y_{ij} = \beta_0 + \sum_{h=1}^k \beta_h x_{hij} + \xi_{ij} \tag{1}$$

where  $y_{ij}$ , the dependent variable, represents one of our two attitude factors, thus either the degree of acceptance or the perception of the consequences of immigration of individual  $i$  in country  $j$ .  $x_{hij}$  are all the included covariates, both of first and second level, and  $\xi_{ij}$  stands for the residuals. As depicted in Equation (2), the latter are defined as the sum of the first and second level residuals.

$$\xi_{ij} \equiv \zeta_j + \varepsilon_{ij} \tag{2}$$

If we substitute  $\xi_{ij}$  in the main model equation, we obtain the linear random-intercept model with covariates:

$$\begin{aligned} y_{ij} &= \beta_0 + \sum_{h=1}^k \beta_h x_{hij} + \zeta_j + \varepsilon_{ij} \\ &= (\beta_0 + \zeta_j) + \sum_{h=1}^k \beta_h x_{hij} + \varepsilon_{ij} \end{aligned} \tag{3}$$

This can be viewed as a regression model with a country-specific intercept  $\beta_0 + \zeta_j$ . The random intercept  $\zeta_j$  is a random parameter, whose value is not estimated as the one of the fixed parameters  $\beta_0$  and  $\beta_h$ . However, we can estimate its variance  $\psi$ , along with  $\theta$ , i.e. the variance of the first level residuals.

The multilevel analysis is conducted in several steps. After the estimation of the null model (M0), we include the individual level coefficients (M1) and add successively a set of contextual variables, such as GDP per capita, the percentage of foreigners living in a country and tax revenues (as a percentage of GDP) (M2). In a subsequent step, we enrich the model by introducing the dummy variable crisis (M3), which equals 1 if the observation was recorded during or after 2008 and 0 otherwise. In M4 we include also all the interactions between the crisis dummy and the variables indicating the educational level, occupational status and income of the respondents. Finally, M5 displays a final model specification where a balance between the explanation power and the parsimony of the model has been reached, basing the choice of contextual variables on the reductions in the variance components  $\psi$  and  $\theta$ , according to Raudenbush and Bryk (2002): M5 includes all the main effects and interaction terms for the first-level variables, while it includes only GDP per capita among the second-level variables.

Given the presence of some missing values in the sample, in order to avoid that our random parameters were biased by different number of observations included in the different model specifications, we run all the analyses on the observations with no missing values for any of the coefficients included in the complete model, as specified by Rabe-Hesketh and Skrondal (2008) and Ringdal (2013). Thus, we obtain a balanced dataset with  $N= 132,338$  observations.

In order to evaluate the usefulness of adopting a multilevel model rather than a simple linear regression, we take two results into account: the intraclass correlation  $\rho$  of the null model M0 and the results of the Likelihood Ratio test, where the results of the current model are compared to those of an OLS regression. Indeed, it emerges that 9.3% ( $\rho = 0.093$ ) of the fluctuations in *Acceptance factor* and 6.7% ( $\rho = 0.067$ ) of the variation of *Consequence factor* are due to differences between countries, values that are not negligible. Furthermore, in both Log Likelihood tests we get a  $p$ -value equal to zero, meaning that the between country variation is highly significant and indicates that a two-level model is necessary.

In general, adding individual-level variables produces a substantial decrease of individual and country level variances, whereas the inclusion of contextual variables, as the GDP per capita in our case, reduces mainly the second-level variance  $\psi$ . Comparing the  $R_{\psi}^2$  and the intraclass variances  $\rho$  of the models M2, M3 and M4 and M5 with M1, we can notice the best improvement that produces adding

only GDP per capita ( $R_{\psi}^2 = 0.345$  for M5 and  $\rho = 0.084$  for the *Acceptance factor* regression;  $R_{\psi}^2 = 0.167$  and  $\rho = 0.064$  for M5 with regard to the *Consequence factor* regression)<sup>3</sup>.

#### 4.2.1 FIRST-LEVEL VARIABLES

The individual variables included in our model were selected on the basis of the previous literature. Following Hainmueller and Hiscox (2007) we use age, gender and civil status as explanatory variables. The latter was coded into five classes: married, separated, divorced, widowed and never married, where the last was used as reference category.

Furthermore, in agreement with O’rourke and Sinnott (2006), we used a dummy representing the belonging of the respondents to an ethnic minority. On the same line, we added also two dummies for individuals born in the country and foreigners, meant as people with non-national citizenship.

As in Scheve and Slaughter (2001) and Dustmann et al. (2007), we insert in our model, the occupational status, which was categorized into student, unemployed, retired, other occupation<sup>4</sup> and employed, used as reference class.

Moreover, following Mayda (2006), we considered also the income<sup>5</sup> and the educational level of respondents. Given that the ESS codes education according to the international standard ISCED, we can easily construct the classes as primary, secondary and tertiary education for all the countries of our study.

In addition, we included the domicile of respondents to evaluate whether the environment in which individuals live impacts significantly on their attitudes towards immigration, and the educational attainment of their parents, given its relevance as a predictor of children’s educational and behavioural outcomes (Davis-Kean, 2005; Haveman & Wolfe, 1995). Following a dominance approach, the parental education has been taken into account considering the ISCED of the parent with the highest education.

Finally, a variable on religiosity was included to take into account the role of religion in shaping individual attitudes, especially regarding immigration policies (Knoll, 2009).

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<sup>3</sup>  $R_{\psi}^2 = (\psi_0 - \psi) / \psi_0$  and indicates the reduction of  $\psi$  with respect to the variance component in a model without covariates.

<sup>4</sup> This category includes the disabled, individuals in community or military services, looking after children, house workers and others.

<sup>5</sup> Since this variable was not coded homogeneously through all the rounds of the ESS, we could decompose it only in two sub-categories: high-income, for those individuals whose income was greater than the median and low-income for the others.

Tab. 7: Descriptive statistics of first-level variables.

	Frequencies	Percentages
<i>Age</i>		
< 20	11542	7.0%
20 - 29	26820	14.2%
30 - 39	32542	16.5%
40 - 49	34601	19.1%
50 - 59	32970	17.3%
60 - 69	28481	13.8%
≥ 70	25961	12.2%
<i>Gender</i>		
Male	93309	48.9%
Female	100047	51.1%
<i>Occupational status</i>		
Employed	98310	51.3%
Student	17225	9.5%
Unemployed	42524	21.0%
Retired	10558	5.8%
Other occupation	23833	12.5%
<i>Income</i>		
High-income	87427	53.2%
Low-income	67784	46.8%
<i>Born in country</i>		
Foreign	176834	91.2%
<i>Ethnic minority</i>		
	7921	4.1%
<i>Education level</i>		
Primary	7212	4.4%
Primary	55213	27.5%
Secondary	104698	56.5%
Tertiary	32795	16.0%
<i>Parental education</i>		
Primary	60638	32.7%
Secondary	88738	47.9%
Tertiary	35848	19.4%
<i>Civil status</i>		
Married	96413	54.6%
Separated	2368	1.0%
Divorced	15310	7.1%
Widowed	14398	6.3%
Never married	59182	31.0%

segue



*segue* **Tab. 7:**

<i>Domicile</i>		
Big city	31545	16.7%
Small city	59840	34.5%
Suburbs	27653	13.1%
Countryside	74122	35.8%
<i>Religiosity</i>		
Religious	111080	59.0%
Not religious	79560	41.0%

On the basis of the studies that investigate the impact of macroeconomic variables on attitudes, such as O’rourke and Sinnott (2006) and Hatton (2014), we tried to include a wide range of indicators<sup>6</sup> as the GDP per capita, the share of immigrant population, and the tax revenues (as percentage of the GDP). From the results of these various attempts (reported in M2, M3 and M4), it emerges that the best option is given by a model including only GDP per capita as a second-level variable (M5), because, as we can infer from the reduction of  $\psi$  compared with the single-intercept model, this specification explains the greatest share of between-country variation. Finally, we have introduced welfare state dummies as controls (dividing the European countries in Eastern, Continental, Mediterranean, Liberal and Nordic as suggested by Pder and Kerem, 2011). However, welfare state dummies were not significant (both singularly and jointly) and have been removed by the regression analyses displayed in Table 9-10:

**Tab. 8: Descriptive statistics of second-level variables**

	Mean	St. dev
GDP per capita	40684.96	18889.38
Foreigners (% of population)	20.74%	6.02%
Tax revenues (% of GDP)	6.82%	4.85%

<sup>6</sup> Since the ESS does not include country-level variables, we used data of the World Bank’s World Development Indicators (WDI).

## 5. RESULTS

### 5.1 ESTIMATES AND ROBUSTNESS CHECKS

The results of the multilevel analysis are summarized in Tables 9 and 10.

**Tab. 9: Multilevel regression for Acceptance factor**

	<i>Acceptance factor</i>					
	M0	M1	M2	M3	M4	M5
<i>Intercept</i>	0.040	0.821***	0.430***	0.512***	0.544***	0.753***
<i>Age</i>						
< 20	.	.	.	.	.	.
20 - 29		-0.006	-0.007	-0.008	-0.010	-0.008
30 - 39		0.014	0.013	0.013	0.012	0.013
40 - 49		0.017	0.016	0.015	0.015	0.015
50 - 59		-0.001	-0.001	-0.004	-0.003	-0.003
60 - 69		-0.018	-0.020	-0.024	-0.023	-0.024
≥ 70		-0.123***	-0.127***	-0.133***	-0.131***	-0.130***
<i>Gender</i>						
Male		-0.017***	-0.016***	-0.016***	-0.016***	-0.017***
Female		.	.	.	.	.
<i>Occupational status</i>						
Employed		.	.	.	.	.
Student		0.215***	0.218***	0.217***	0.206***	0.203***
Unemployed		-0.103***	-0.099***	-0.100***	-0.132***	-0.138***
Retired		-0.066***	-0.065***	-0.065***	-0.124***	-0.129***
Other occupation		-0.064***	-0.064***	-0.064***	-0.086***	-0.082***
<i>Income</i>						
High income		-0.130***	-0.119***	-0.117***	-0.100***	-0.101***
Low income		.	.	.	.	.
<i>Born in country</i>		-0.108***	-0.107***	-0.106***	-0.105***	-0.106***
<i>Foreign</i>		0.118***	0.122***	0.122***	0.123***	0.116***
<i>Ethnic minority</i>		0.082***	0.081***	0.080***	0.081***	0.081***
<i>Education level</i>						
Primary		-0.364***	-0.396***	-0.379***	-0.305***	-0.269***
Secondary		-0.334***	-0.335***	-0.334***	-0.344***	-0.350***
Tertiary		.	.	.	.	.
<i>Parental education</i>						
Primary		-0.266***	-0.257***	-0.261***	-0.264***	-0.268***
Secondary		-0.157***	-0.156***	-0.155***	-0.156***	-0.157***
Tertiary		.	.	.	.	.

*segue*

segue **Tab. 9:**

<i>Civil status</i>						
Married	-0.038***	-0.036***	-0.034***	-0.035***	-0.036***	
Separated	-0.065***	-0.066***	-0.064***	-0.064***	-0.062***	
Divorced	-0.036***	-0.037***	-0.037***	-0.038***	-0.037***	
Widowed	-0.098***	-0.096***	-0.093***	-0.090***	-0.092***	
Never married	.	.	.	.	.	
<i>Domicile</i>						
Big city	.	.	.	.	.	
Small city	-0.092***	-0.092***	-0.092***	-0.092***	-0.093***	
Suburbs	-0.054***	-0.051***	-0.051***	-0.052***	-0.054***	
Countryside	-0.139***	-0.138***	-0.139***	-0.139***	-0.140***	
<i>Religiosity</i>						
Religious	-0.034***	-0.034***	-0.033***	-0.033***	-0.033***	
Not religious	.	.	.	.	.	
<i>Crisis</i>			0.072***	0.086***	0.048***	
<i>Interactions crisis &amp; education</i>						
Crisis*Primary				-0.126***	-0.144***	
Crisis*Secondary				0.015	0.025*	
Crisis*Tertiary				.	.	
<i>Interactions crisis &amp; occupation</i>						
Crisis*Employed				.	.	
Crisis*Student				0.017	0.017	
Crisis*Unemployed				0.055**	0.058**	
Crisis*Retired				0.101***	0.107***	
Crisis*Other				0.042**	0.035**	
<i>Interactions crisis &amp; income</i>						
Crisis*high-income				-0.025***	-0.033***	
Crisis*low-income				.	.	
<i>GDP per capita</i>		0.001***	0.001***	0.001***	0.001	
<i>Foreigners (% of population)</i>		-0.032***	-0.041***	-0.382***		
<i>Tax revenues (% of GDP)</i>		0.021***	0.021***	0.019***		
<i>Random parameters</i>						
$\psi$	0.084	0.069	0.129	0.163	0.152	0.068
$\theta$	0.820	0.744	0.743	0.743	0.742	0.742

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Tab. 10: Multilevel regression for *Consequence factor*

	<i>Consequence factor</i>					
	M0	M1	M2	M3	M4	M5
<i>Intercept</i>	0.034	0.831***	0.191	0.203	0.219***	0.738***
<i>Age</i>						
< 20	.	.	.	.	.	.
20 - 29		0.087***	0.085***	0.085***	0.082***	0.084***
30 - 39		0.181***	0.180***	0.180***	0.179***	0.179***
40 - 49		0.226***	0.226***	0.226***	0.225***	0.225***
50 - 59		0.221***	0.220***	0.219***	0.219***	0.220***
60 - 69		0.213***	0.210***	0.210***	0.210***	0.211***
≥ 70		0.143***	0.141***	0.140***	0.142***	0.144***
<i>Gender</i>						
Male		0.021***	0.023***	0.023***	0.024***	0.022***
Female		.	.	.	.	.
<i>Occupational status</i>						
Employed		.	.	.	.	.
Student		0.212***	0.214***	0.214***	0.204***	0.203***
Unemployed		-0.136***	-0.130***	-0.130***	-0.133***	-0.139***
Retired		-0.083***	-0.082***	-0.082***	-0.121***	-0.127***
Other occupation		-0.103***	-0.103***	-0.103***	-0.105***	-0.102***
<i>Income</i>						
High-income		-0.157***	-0.146***	-0.146***	-0.136***	-0.138***
Low-income		.	.	.	.	.
<i>Born in country</i>		-0.237***	-0.236***	-0.236***	-0.236***	-0.236***
<i>Foreign</i>		0.213***	0.218***	0.218***	0.218***	0.213***
<i>Ethnic minority</i>		0.178***	0.176***	0.176***	0.177***	0.178***
<i>Education level</i>						
Primary		-0.432***	-0.470***	-0.468***	-0.380***	-0.344***
Secondary		-0.401***	-0.399***	-0.399***	-0.391***	-0.397***
Tertiary		.	.	.	.	.
<i>Parental education</i>						
Primary		-0.279***	-0.270***	-0.270***	-0.273***	-0.277***
Secondary		-0.177***	-0.175***	-0.175***	-0.176***	-0.178***
Tertiary		.	.	.	.	.
<i>Civil status</i>						
Married		-0.035***	-0.034***	-0.034***	-0.034***	-0.034***
Separated		-0.111***	-0.111***	-0.110***	-0.110***	-0.110***
Divorced		-0.054***	-0.056***	-0.056***	-0.057***	-0.055***
Widowed		-0.084***	-0.082***	-0.082***	-0.080***	-0.081***
Never married		.	.	.	.	.

segue

segue **Tab. 10:**

<i>Domicile</i>						
Big city	.	.	.	.	.	.
Small city	-0.121***	-0.123***	-0.123***	-0.123***	-0.122***	
Suburbs	-0.075***	-0.075***	-0.075***	-0.077***	-0.076***	
Countryside	-0.182***	-0.182***	-0.183***	-0.183***	-0.183***	
<i>Religiosity</i>						
Religious	-0.020***	-0.019***	-0.019***	-0.019***	-0.020***	
Not religious	.	.	.	.	.	
<i>Crisis</i>			0.011	0.052***	0.018***	
<i>Interactions crisis &amp; education</i>						
Crisis*Primary				-0.146***	-0.164***	
Crisis*Secondary				-0.011	-0.005	
Crisis*Tertiary				.	.	
<i>Interactions crisis &amp; occupation</i>						
Crisis*Employed				.	.	
Crisis*Student				0.017	0.017	
Crisis*Unemployed				0.008	0.011	
Crisis*Retired				0.067***	0.076***	
Crisis*Other				0.006	0.002	
<i>Interactions crisis &amp; income</i>						
Crisis*high-income				-0.013	-0.021**	
Crisis*low-income				.	.	
<i>GDP per capita</i>		0.001***	0.001***	0.001***	0.001***	
<i>Foreigners (% of population)</i>		-0.029***	-0.031***	-0.028***		
<i>Tax revenues (% of GDP)</i>		0.033***	0.033***	0.031***		
<i>Random parameters</i>						
$\psi$	0.066	0.060	0.155	0.159	0.146	0.055
$\theta$	0.907	0.809	0.806	0.806	0.805	0.808

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

The estimates of the coefficients, apart from being similar for both components of attitudes towards immigrants, tend to be in line with the expectations, even though something might surprise.

Before starting to describe the results, it is necessary to remember that the criterion variables, *Acceptance factor* and *Consequence factor*, represent the positive attitudes towards immigration, thus a higher value corresponds to more positive perceptions about the arrival of foreign individuals on the national territory.

As it is easily deducible from the previous tables, there are no great differences in the coefficients of the models, thus, we will describe only those of the model that meet the condition of optimality, i.e. M5, before mentioning the results for macroeconomic variables derived from M2-M4.

Now, we begin to describe the first level coefficients of the variables, i.e. the individual characteristics. By looking at the coefficients of the different age groups, we can see that, as regard the ideal number of immigrants to let enter the country, there are no significant differences between the various classes, except for more elderly individuals, which are more reluctant towards immigration. Generally, the over-70 represent the range of people more attached to traditions and values of their country of origin. Moreover, since immigration in Europe is a rather recent phenomenon, the more elderly individuals have lived it as a change from the status-quo. On the contrary, for the other classes of age, born and grown up in a period in which international mobility was already highly diffused, the presence of immigrants in the country appears to be normal and is therefore more accepted. This fact is in line with Hainmueller and Hiscox (2007) and O'rourke and Sinnott (2006). But if we focus on the costs and benefits of immigration, that is the *consequence factor*, a very different picture is revealed. In fact, the individuals belonging to the younger cohorts fear much more the consequences of new individuals in the country, while people aged between 40 and 69 years are less intimidated by the phenomenon. This result is most likely the consequence of the labour market conditions, which are particularly unfavourable for the former category. In fact, young people encounter many difficulties in entering the labour market, and the entry of immigrants in the country means more competition for successful job searching. So, we have already found the first confirmation of the group conflict theory defined by Blalock (1967) and Olzak (1994), according to which the groups of the population that are most affected by the adverse socio-economic conditions, in this case young people, exhibit more negative attitudes towards immigration. This theory is also confirmed by the coefficients of the variables relative to the type of employment and the education level. In fact, if we look at the attitudes towards immigration, taking into account the adjustment of the flows of people entering in the labour market or the perception of the consequences, the results show that the less educated, the so-called low-skilled workers, feed the most prejudices against immigrants. On the contrary, higher levels of education are associated with the propensity to show more favourable attitudes towards the migrants. This result is found in several studies in the literature, such as Scheve and Slaughter (2001), Mayda (2006), O'rourke and Sinnott (2006), and Hainmueller and Hiscox (2007). The most educated individuals are also those located in an

elevated segment of the labour market, where the competition with immigrants, given their skills and countries of origin (Micheli, 2011), is almost completely absent. If we consider the parental highest level of education, which is a good proxy of the social class of the family of origin, we see that this result is confirmed: those with more educated parents are more tolerant towards immigrants. A further clear confirmation of the reliability of the theory of conflict between groups is given by the coefficients related to different categories of employment status. In fact, the category to which the most negative attitudes are associated is that of the unemployed people. The latter are the most penalized by migratory inflows, because when the number of people in the country increases, the competition for them increases too, and therefore the difficulty to find a job position (Meuleman et al., 2009, Lancee and Pardos-Prado, 2013). The lowest coefficients are connected to students and employees.

Attitudes significantly depend also on the place where one lives. The citizens of big cities tend to have a more favourable view of immigrants, followed by the inhabitants of suburbs and smaller towns, while those who live in more isolated places, such as the countryside, perceive immigration in a more negative way. This fact is perfectly in line with the statement made by Wilson (1991), according to which the city life exposes people to increased heterogeneity, thereby promoting tolerance toward non-nationals.

Even the origins of individuals play a key role in the development of attitudes. Individuals born in the country are more negatively oriented towards immigration than those born elsewhere. Even citizenship, despite being a less informative characteristic with respect to the place of birth, since it can vary during the span of life, is a relevant element. Compared to residents (reference category), foreigners, meaning those who have a foreign citizenship, have a less antagonistic view of immigrants. This result is quite expected, since this category is exclusively set up by immigrants who, by nature, cannot feed large prejudices towards themselves. Moreover, in line with the results by Allport (1954), members of ethnic minorities, often subject to discrimination of various kinds, are proving to be more tolerant towards immigrants.

As for the gender, it seems that there is not a clear difference between men and women regarding the development of anti-immigration attitudes. As reported by Citrin et al. (1997), men tend to perceive greater net benefits than women. However, considering the orientation towards reception, women prove to be more willing to accept a greater flow of individuals in the country.

People who have never married generally have less prejudices against foreigners who move into the nation, while widowers and separate represent the most adverse categories to this phenomenon.

Surprisingly, religious people turn out to be significantly more anti-immigrant and frightened by the consequences connected to it. This result contrasts with the statements made by Tajfel (1982), according to which membership in religious communities as well as the participation in voluntary activities, should temper the prejudices against immigrants.

On one hand, religious people are more likely to support liberal immigration reform policies (Knoll, 2009) in the name of religious (prevalently Christian, in Europe) principles. On the other hand, religion is one of the elements that shapes and determines the belonging to an ethnic group, in accordance to the ethnocentrism theory. From this point of view, more religious people may be more inclined to perceive the incoming of people with a different religious affiliation as a threat for their cultural and social identity (McDaniel et al., 2011).

Finally, the value of the coefficient linked to people's income is decisive and not without surprises. Indeed, it appears that the wealthiest individuals are the most opposed to the entry of immigrants into the country. At first sight, this result may seem in strong contrast with the theory of competition between groups, as individuals perceiving a higher income are usually high-skilled workers, and thus less affected by labour competition with immigrants. However, the significance of the correlation has in this case a different meaning with respect to that of the competition on the labour market. This result is found in the studies by Facchini and Mayda (2009, 2012) and Boeri (2010), and, as they showed, this is due to the perception of tax consequences linked to immigration: taking into account and controlling for the educational level, along with the size and the progressivity of the welfare state, as the number of immigrants in the country increases, the tax burden of natives, especially those with a higher tax base, increases too.

The GDP per capita is the only second-level variable included in the model. From the results, we can deduce that a higher level of the ratio between the gross domestic product and the number of people is correlated with a more favourable vision of immigration, even if the magnitude of this effect is very small. On the contrary, when the GDP per capita diminishes, immigration is more perceived as a threat. This result is in line with the theory of conflict between groups: the worse the economic circumstances are, the more anti-immigration attitudes come up.

By looking at column M5 of Tables 9 and 10, we can see how the inclusion of interactions of the economic crisis with education, income and occupational status produce some changes in the coefficients of the variables used for generating these interactions, even though their signs and significance level are the same.

In general, after the recession we observe an improvement in the vision of immigrants for both the factors examined. However, from the coefficients related



to the added interactions, it emerges that the impact of this macroeconomic shock is very heterogeneous between different classes of individuals.

Indeed, if we take the education level of respondents into consideration, the results show that, excluding the impact of the economic crisis, the most adverse to the entry of immigrants are once again the less educated individuals, as reported in the previous models: the economic hardships registered in the recent years led the less educated to develop a less favourable view towards immigrants than others. By focusing on the coefficients of the various categories of employment status, it is shown that the retired perceive immigration in a very similar way to the unemployed. Nevertheless, the recession has consistently improved the attitudes of the first ones. Surprisingly, the results show that, during the last years, unemployed individuals became more sympathetic towards the flows of incoming foreign individuals, albeit this effect was very restrained. Finally, it emerges that after 2008 the wealthiest individuals have sharpened their adversity to immigration.

Some final remarks refer to the M2-M4, which address the impact of additional contextual variables: a higher percentage of foreigners in the country is related to a decline of attitudes toward migration; surprisingly, a high value of tax revenues (computed as a percentage of the GDP) is also correlated to an improvement of attitudes toward it. Probably this result is related to the awareness that legal migrants play a relevant role in the national tax contribution.

In the last part of this section we run some robustness checks. To verify that the grouping of the variables related to immigration and the standardization of their values obtained by the factor analysis did not bias their values, we decided to repeat the regressions M5 using as dependent variables the arithmetic means of the original item of the ESS.

If we compare the results of the original model with the ones of this new specification for the dependent variables, it emerges that the sign, the significance level and the order of magnitude of the coefficients are equal. We can therefore conclude that the results of our model were not distorted by the factor analysis.

Finally, in order to check if the latent concepts measured by the six original items of the ESS are constant over years and countries, we run a confirmatory factor analysis among groups as suggested by Meuleman et al. (2009). In particular, our sample is set up of 116 groups, namely 16 countries in 7 different time periods. The results of this procedure are reported in Table A1 of the Appendix.

Given the large sample size, which strongly affects the value of the  $\chi^2$  (Hooper et al., 2008; Meuleman et al., 2009) and the too low value of the Cumulative Fit Index (CFI) in the independent model (4) (Kenny, 2015; Mazzotti et al., 2016), the only measurement that we can take into account for the evaluation of the comparability of our observations is the Root Mean Square Error of Approximation

(RMSEA), defined by Steiger and Lind (1980). Given that the RMSEA assumes values well below the threshold of excellence stated by MacCallum et al. (1996) and Marsh et al. (2004) ( $RMSEA < 0.05$ ), we can conclude that we have empirical evidence in favour of the fact that our observations show a good model fit, thus, they satisfy equivalence of the measurements. In other words, our data is comparable between years and between countries.

## 6. CONCLUSIONS

The present analysis investigates the impact of the economic crisis on attitudes towards immigration. Given the increase in the flow of immigrants into European countries and the resonance that this issue has had in the political debate in recent years, we expected to register a sharp increase in negative attitudes towards immigrants. However, the analysis of the ESS data shows the opposite pattern of results: the comparison of the average attitudes before and after 2008 proves that, in almost all 16 countries involved in our analysis, the vision of immigrants has improved, although the improvement is slight and not generalized for all social categories.

To study the evolution of the perception of immigrants, we primarily included all the information from six immigration-items present in all rounds of the ESS in two summary variables: *Acceptance factor*, which is the orientation towards the acceptance of immigrants, and *Consequence factor*, expressing how the costs and benefits related to the transfer of foreign individuals into the country are perceived.

After that, in order to investigate the determinants of these two indicators, we used a linear regression model with random intercept at two levels, where individuals represent the units of the first level and countries those of the second level. This technique, taking into account that individuals are naturally aggregated in different countries of belonging and that cultural, social and economic characteristics of the latter can strongly influence both the perceptions as well as the behaviour of the subjects, allows us to evaluate the net effect exercised by the different factors.

The results show that the used regressors have very similar coefficients for both our dependent variables and provide empirical evidence of the antagonistic attitudes towards immigrants in the groups of the population which are supposed to be the most vulnerable after the beginning of the crisis. In fact, concerning the educational level, the age group and the employment status, the categories most contrary and concerned by immigration are: young people, the unemployed and the less educated. People belonging to these specific population groups, not only have

been more affected by the negative consequences linked with this recession period, but also tend to have profiles that are very similar to those of immigrants. Hence, the flow of foreign individuals into a country induces more competition for scarce goods as well as for a stable and profitable employment status. On the contrary, more educated or elder individuals develop less antagonistic attitudes towards immigrants.

Furthermore, from the analysis emerges that the contextual economic conditions seem to directly affect the perception of the phenomenon. In fact, the inclusion of the GDP per capita rate among the explanatory variables of the model reduces the level of the intraclass variance of the data. From the sign of the relative coefficient, we find that living in a country where the economy is growing, favours the development of a more positive vision of immigration, while living in a more disadvantaged economic context has the opposite effect.

While the findings described so far confirm the theory of inter-group conflict, what emerges from the dynamic analysis is not in line with these results: the overall attitudes toward non-natives have, in fact, improved during the economic crisis. A possible justification for these contradictory results is that the negative effect predicted by the theory of inter-group conflict was offset by opposite forces. In the analysis, in fact, two factors seem to have promoted the development of a more favourable view of immigrants during the recession. These are linked to the steady increase of the foreign population and discrimination present in Europe. In fact, the sign of the coefficients associated with these variables turn out that individuals with foreign citizenship and belonging to ethnic minorities are significantly more likely to accept the entry of immigrants into the country. The evidence that the proportion of the European population belonging to these categories is constantly growing will surely play a key role in shaping the attitudes towards immigration in the long run. As predicted by the Intergroup Contact theory, the presence of a larger number of immigrants in the country implies an increase in the contact between them and natives, and this fact favours the development of tolerance and positive attitudes.

As for the impact of income, it appears that wealthier individuals are more averse to immigration than the less wealthy. Part of the literature supports this result, attributing it to the perception of tax consequences caused by the phenomenon: as the number of immigrants in the country grows, the contributions that residents have to pay to the Treasury to cover the costs related to immigration would increase, and this higher burden may affect in a more consistent way those who have a higher tax base. Nevertheless, alternative literature is critical on this point, because it is also true that a high flow of regular immigrants helps increasing the tax revenues, through the payment of employment taxes. This last view seems to

be confirmed by the positive association between tax revenues (in terms of percentage of GDP) and the attitudes toward migration.

Finally, we have added the interactions among crisis, level of education, income and employment status, in order to analyse which was the impact of this macroeconomic shock on the various population groups. The coefficients of these new items show that the recession has worsened the attitudes toward immigration of less educated and wealthier individuals and has reduced the prejudices of pensioners towards foreigners.

To verify the robustness of the model, we firstly tried to specify the model by changing the aggregation method of the original items used as dependent variables. Given that the new results are practically unchanged compared to the original ones, we can conclude that these are quite robust. Finally, we performed the confirmatory factor analysis between groups, which shows that the immigration data present in the seven different rounds of the ESS satisfy measurement equivalence and are therefore comparable both between the countries and the various years.

It is necessary to underline that this study is based on the hypothesis that the coefficients of the different explanatory variables are the same for all countries included in the study. Future researches could repeat the analysis by including in addition to the intercepts also casual coefficients, so as to check that the impact of different regressors is not country-specific like the intercept. Moreover, to avoid endogeneity problems, our study does not include the effect of social and cultural determinants, which can lead individuals to develop negative attitudes towards those who are different from them (ethnocentrism). Using instrumental variables, it would be very interesting to analyse the evolution of the influence of these ideologies on attitudes towards immigrants and to see if this is varying over time. We hypothesize that, thanks to globalization and the unification process in course in Europe, the importance of these factors is gradually dropping, leaving more space to economic determinants, such as those we used. These phenomena are in fact leading to a gradual decrease of the main sources of differences among people, such as spatial and linguistic differences. A crucial contribution has been played by the advance of European integration process (see for example the Schengen Agreement and the introduction of the Euro as a common currency).

A last point for a future research agenda consists in checking out whether the terrorist attacks in the last three years in France, Belgium, Germany and the UK caused an escalation of tensions with negative consequences on attitudes towards immigration.

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## APPENDIX

**Table A1: Indexes for the evaluation of measurement equivalence**

Index	(1) Configural equivalence	(2) Metric equivalence	(3) Scalar equivalence	(4) Independent model
$\chi^2(df)$	115568.189(2891)***	115736.845(2915)***	116670.080(2951)***	682192.307(1680)***
RMSEA	0.014	0.014	0.014	0.046
CFI	0.834	0.834	0.833	0.000

Notes: (1) Unconstrained model  
 (2) Model with equal coefficients between groups  
 (3) Model with equal coefficients and intercepts between groups  
 (4) Model with equal coefficients, intercepts, covariances and residuals between groups