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Article

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The Role of Social Capital in Shaping Europeans' Immigration Sentiments

Abstract

Migration has manifested itself to historic highs, creating divisive views among politicians, policy makers, and individuals. The present paper studies the Europeans' attitudes toward immigration, focusing particularly on the role of social capital. Based on 267,282 respondents from 22 countries and over the period 2002–2014, we find that despite the eventful past years, Europeans, on average, are positive toward immigrants with the North European countries to be the least xenophobic. A salient finding of our analysis is that regardless of the impact of other contextual factors, namely, a country's macroeconomic conditions, ethnic diversity, cultural origin, and individuals' attributes, social capital associates with positive attitudes toward all immigrants, independent of their background. Furthermore, social capital moderates the negative effects of perceived threat on people's opinions about immigrants.

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1 Introduction

Migration has strongly manifested itself to historic highs.¹ Spurred by civil war, political instability, and the global financial crisis, constantly growing immigration flows to European and between European countries posed certain challenges for host countries and rose concerns about the potential costs of welcoming more immigrants on employment, welfare benefits, security, and social cohesion.

Two concurring factors have arguably contributed to bringing migration to the center of public attention. First, the aftermath of dramatic economic recession left European countries fragile, with weaker economic prospects, generalized cuts to public spending, and voters to question the legitimacy of foreign nationals' presence in their countries. Second, the Syrian exodus and the number of people who have arrived in Europe in the last few years to seek asylum having fled conflicts and oppression in Asia and Africa has reached historic highs. The absence of supranational EU-level coordinated mechanisms to respond to the emergency led many member countries to autonomous and uncoordinated responses, with national political concerns and hostile feelings to be on the rise among the general public.

Immigration has also been highly politicized. It took, for instance, center stage in the campaign that led to the vote for the "Brexit" of the UK from the European Union in June 2016. It has also been debated in many other European countries (Austria, Hungary, the Netherlands). In addition, terrorist attacks in France, Belgium, and the UK perpetuated by second-generation immigrants triggered a harsh debate that questioned the idea of integration of foreign nationals in hosting societies. Immigration, and in particular undocumented migration, has been a divisive issue in the US political debates.

Yet, while the economic recession seemed to have provided a justification for political pandering to a surge of anti-immigrant sentiment, it is far from clear how much public opinion has really shifted in this direction. This article studies what shapes Europeans' sentiments toward immigration. We carefully combine rich individual survey and aggregate data to analyze the factors and conditions that contribute to cross-country attitude variation toward immigration and explore the relevance of theories in explaining the formation of these attitudes.

Our work relates to an insightful body of research on public sentiments on immigration that has developed in recent years since the seminal cross-national work of Quillian (1995).² Subsequent research has studied the role of individuals' skills (Mayda, 2006); cultural elements; threats to national identity; racism (Schlueter and Wagner, 2008; Rustenbach, 2010; Markaki and Longhi, 2013); compositional amenities, such as characteristics of neighbors and co-workers (Card et al., 2012); religion (McDaniel et al., 2011); values and beliefs (Hainmueller and Hiscox, 2007), ethnic diversity (Brader et al., 2008); language difference (Hopkins, 2011); conservative social attitudes (Ford, 2011); security fears (Lahav and Courtemanche, 2012); crime concerns (Fitzgerald et al., 2012); state of governance, that is, direct or representative democracy (Hainmueller and Hangartner, 2015); redistributive effects of welfare state (Facchini and

¹ According to the Migration Policy Institute, the total annual asylum applications in the European Union (EU) Member States and European Free Trade Association countries from 2008 to 2015 have increased by 444% – from 256,155 to 1,393,285 applications. Only in 2015, there were 3.8 millions of new immigrants in the EU, half of them originating from non-member countries.

² The seminal work of Quillian (1995) examined the impact of macroeconomic circumstances on attitudes to immigrants in Europe and regressed a measure on prejudice against immigrants on the inverse of gross domestic product (GDP) per capita across 12 European countries.

Mayda, 2009); and personal traits and predisposition (Dinesen et al., 2016) in shaping immigration sentiments and voting preferences (Dustmann et al., 2019).³

The purpose of this paper is to study the role of trust, networks, norms, and sanctions facilitating collective action for mutual benefit – the so-called social capital – along with relevant contextual factors on immigration attitudes. Social capital is considered to be the “glue” for cooperative and equalitarian societies, which are characterized by better citizens, i.e., citizens who are more engaged in community life, trust each other and their institutions, are tolerant and respectful of others and their rights (Putnam, 2000), have better governance (Bowles and Gintis, 2002), and have higher economic growth prospects (Knack and Keefer, 1997). Therefore, in our increasingly multicultural societies if sound social capital generates more integrated societies, it should be relevant for immigration.

Although social capital is an expanding research theme in economics, there has been some suspicion across the entire theoretical spectrum, from neoclassical (Arrow, 1999; Durlauf, 1999) to Marxist (Fine, 2010).⁴ We argue that one reason of concern for social capital is the mismatch between theoretical coverage of the concept and empirical work that severely has undermined the usefulness of social capital as a tool for economic research. The reason is that social capital is a multidimensional concept (Paxton, 1999; Putnam, 2000; Sabatini, 2008, 2009), and in most empirical applications, the definition is largely data driven and is limited by the very narrow range of proxies that the chosen data set contains.⁵ Collapsing, however, social capital to narrow proxies may be inadequate and leads to erroneous conclusions.

We therefore contribute to the literature in three distinct ways. First, we demonstrate empirically the multifacet nature of social capital by including various dimensions of it to explore all potential channels it works. In this respect, our work differs from other relevant important studies on social capital and immigration that mainly explore a single dimension of social capital. For example, Herreros and Criado (2009) and Rustenbach (2010) studied one aspect of social capital, that of interpersonal trust, whereas Côté and Erickson (2009) explored the role of associations and networks on immigration.

Second, to better explore the role of social capital, we enrich the individual-level data with macro-level data. The inclusion of economic and multicultural profile of a country allows one to obtain more insights about the mechanisms at work and discuss competing theories. For example, weak macroeconomic condition (recession, financial vulnerabilities, inequality) and multicultural societies may trigger a rather dark side of social capital, the so-called “blocking capital” – the use of community cohesion to reinforce the exclusion of outsiders through the mechanisms of social capital (Portes and Landolt, 1996). For example, the presence of out-group, such as that of the immigrants, may pose a threat to the in-group (Blumer, 1958).

3 The study of Dustmann et al., 2019 uses a quasi-random allocation design and data from Danish regions to derive causal impacts of refugee allocation on voting. The authors found that refugee allocation has a considerable effect on voting outcomes and there is a clear divide in the political responses of urban and rural populations to refugee allocation.

4 Perhaps, the suspicion by some economists about the concept of social capital stems from the fact that it has emerged from sociological traditions. For example, Durlauf and Fafchamps (2004) addressed the issue of “conceptual vagueness”; Arrow (1999) had suggested that the term be abandoned, largely due to his rejection that it constitutes a form of “capital”; and Fine (2002) criticized social capital as a ahistorical and apolitical concept.

5 Alesina and La Ferrara (2000), for example, used a single dimension that of being membership in voluntary organizations from the US General Social Survey (GSS). Kan (2007) relied only on a measure of whether or not people think there is someone living nearby that would help them in an emergency from the US Panel Study of Income Dynamics, and Rocco and Fumagelli (2014) used the generalised trust.

Therefore, we aim to test whether social capital pertains its bright side and has a positive direct relation with immigration attitudes and further whether it has a positive indirect relation, that is the mitigation of typical “perceived threat” conditions (such as recession, unemployment) in a society.

Finally, it is likely to have a two-way causality between social capital and attitudes toward immigration, as well as attitudes may also have a direct influence on social capital. Further, there may be unobserved factors that influence both of these variables; social capital is usually measured at the individual level by choice variables (such as participation, affiliation, and trust) that will be influenced by unobserved preferences. In our empirical work, we focus on the association between Europeans’ sentiments on immigration and social capital, but we also explore the robustness of our results using the (two-stage residual inclusion) control function approach (Wooldridge, 2015).⁶

Our empirical analysis covers 22 European countries, uses survey data from the European Social Survey (ESS) – a large-scale biennial study of attitudes and values – for a total of 267,282 individuals over the period 2002–2014 and develops around two main questions: (i) What explains Europeans’ xenophile(/phobic) attitudes toward immigration? and (ii) do Europeans’ attitudes vary across different immigrant profiles?

Despite the economic upheavals, we find Europeans, on average, to be rather positive toward immigrants with the North European countries to exhibit the least xenophobic attitude. A finding that emerges strong in our analysis is that regardless of the impact of other contextual factors, countries with high social capital exhibit more positive attitudes toward all immigrants. We therefore find a direct, strong positive association between social capital and immigration stance. Furthermore, social capital also exhibits an indirect association with immigration attitudes, as it appears to moderate the negative effects of adverse economic situations on attitudes toward immigrants. Our findings corroborate with the important role the literature has assigned to social capital in increasing welfare and growth (Knack and Keefer, 1997). In increasingly multicultural societies, social capital has an additional contribution: it makes societies more receptive to immigration.

Such findings could be important for the increasingly multicultural societies we live in. Rather than cultivating differentiation, fragmentation, and exclusion, successful public policies should aim at investing in social capital. Policies that foster the bonding of different communities as well as bonding between communities and public agents increase country’s social cohesion and prosperity.

At the outset of this paper, we would like to stress some potential limitations. As we mentioned earlier, like the vast majority of literature in this area, endogeneity poses a challenge and one should be cautious in referring to causal relationships between social capital and immigration sentiments; the issue of endogeneity has been carefully outlined elsewhere (see, e.g., Côté and Erickson, 2009). However, in this study, we make an effort to alleviate such concerns by following appropriate econometric techniques and explore various instruments that other relevant studies do not (see, e.g., Côté and Erickson, 2009; Herreros and Criado, 2009; Rustenbach, 2010). Another constraint that potentially limits our conclusions is the nature of the ESS

⁶ Gannon and Roberts (2018) applied a two-stage residual inclusion estimation technique to study the association between social capital and health. The study of Dustmann et al., 2019 is another one, among the very few, that deals with endogeneity and uses a quasi-random allocation design (instead of IV) to derive causal impacts of refugee allocation on voting.

database, which provides cross-sectional information and does not allow one to explore more variation in the data or apply dynamic techniques. Lack of information on skill composition of immigrants relative to natives did not allow us to delve deeper into different skill profiles of the immigrants and explore how sentiments change based on skills. Last but not the least, an important limitation of our analysis is that we lack information on member diversification of networks and associations, which would be important to identify potential dark (i.e., non-community-enhancing) sides of social capital. Acknowledging that, we are careful in studying the average effect of social capital, as some of its aspects (e.g. types of associations) may contribute to less tolerance against minority groups, but we are unable to unmask it in the present study.

The remainder of the article proceeds as follows. Section 2 introduces the framework for modeling individuals' attitudes to immigration and the estimation technique. Section 3 presents the data. Section 4 discusses the results. Section 5 summarizes the findings and concludes.

2 A framework of analysis

2.1 Social capital and immigration attitudes

Social capital as a theoretical concept is present within both sociological and economic traditions.⁷ Conceptualizing social capital is a very difficult task. This is because, as Coleman (1988, 1990) – a leading sociologist in his study of social capital on the creation of human capital – pointed out, social capital exists between actors; it is not attributable to an actor like human and economic capital are. In general, sociological work has focused more on understanding social capital in a conceptual sense than on measuring it. However, there are exceptions to this and Putnam is a significant example, presenting a huge amount of empirical evidence for the US and popularizing the concept of social capital. Putnam (1993, pp. 35–36) defined social capital as “features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions”. To measure social capital, Putnam (2000) looked at associational behaviors such as voting participation, church attendance, recreational activities, and membership in civic groups, including, most famously, bowling leagues.

The ideas of shared trust, norms, and values have also a long tradition in economics. Bruni and Sugden (2000) pointed out that in his Lectures on Jurisprudence, Adam Smith presents a theory of social capital that is quite similar to that of the modern economic sociological theories of Putnam (1993, 2000).⁸ Arrow (1972) showed how social connections can compensate for expensive formal structures in facilitating financial transactions, and Kreps et al. (1982) showed how increased interaction facilitates cooperation. Most of the theoretical emphasis of the economic social capital literature has been on trust and how trust can improve the efficiency of social exchange (Bellamare and Kroger, 2004; Bowles and Gintis, 2002).

In similar vein, the scant literature on immigration sentiments and social capital focuses mainly on one aspect of the latter, that of trust. For example, the study of Herreros and Criado

7 One of the first formal uses of social capital as an academic concept was laid out by the French Marxist sociologist Bourdieu (1986), which refers to economic resources that one gains from being part of a network of social relationships, including group membership.

8 Smith argued that “... reputations for trustworthiness are transmitted through networks of trading relationships; the denser the network ... the greater is the value of reputation and so ... the greater is the degree of the trust.” (Bruni and Sugden, 2000, p. 33)

(2009) employed one dimension of social capital, that of “trust in people”, to study the role of social trust on attitudes toward immigration. The study argues that societies with high levels of social capital facilitate the integration of immigrants because those members with high levels of social trust will tend to have more positive attitudes toward immigration. This hypothesis is empirically tested in a sample of 16 European countries, drawing on the 2002–2003 wave of the ESS. Results show that, regardless of the impact of other factors such as levels of unemployment and percentage of foreign population, citizens with high social capital do exhibit more positive attitudes toward immigration than the rest of the population.

The role of social integration and its effects on anti-immigrant attitudes were also studied by Rustenbach (2010) among other explanations, namely, cultural marginality theory, human capital theory, political affiliation, neighborhood safety, contact theory, foreign investment, and economic competition. Results reveal that among all tested explanations, interpersonal trust was the strongest predictor of anti-immigrant attitudes. Individuals with high levels of interpersonal trust are more likely to overcome the uncertainty associated with the unknown. In addition, findings show that living in regions where interpersonal trust is high may create a positive context of perception toward immigrants and influence an individual toward a more positive view.

A prominent aspect of the social capital theory is the aggregate value of citizen participation in associations and organizations, social ties and networks, civic engagement, trust, and norms of reciprocity. After all, the whole point of social capital is to facilitate collective action. It is usually bandied as a cure for commons-type problems, such as littered parks and crime-infested streets, but there is no reason to assume that a part of society will deploy its social capital only for wise and benevolent ends. A neighborhood, for instance, that is adept at organizing litter patrols and crime watches will also likely be adept at organizing opposition to real estate developments that threaten to add economic or racial diversity. In this respect, the forces that bind communities together may also have a dark side, the so-called “blocking capital” (Portes and Landolt, 1996), i.e., the use of community cohesion to reinforce the exclusion of outsiders. In other words, social capital can act as a double-edged sword; social capital within a group is often built by excluding those outside that group.

The study of Côté and Erickson (2009) explored this aspect of social capital in studying the relationship between social networks, associations, and tolerance. By constructing an index of network and association diversity, the authors aim to unmask the potential negative aspects of social capital. Findings from the analysis of the 2000 Canadian federal election show that different forms of network diversity and voluntary associations have very different relationships with tolerance. Diversity of ties to middle-class people is found to be related to greater tolerance and is consistent with the higher education levels of middle-class people and their lower degree of economic competition with minorities, both of which contribute to higher tolerance. Diversity of ties to working-class people is associated with lower tolerance and is consistent with their lower education levels and greater economic competition with minorities. Voluntary associations exhibit more complex picture. Associations with well-educated members or a relatively high proportion of minority members positively relate to tolerance because they include kinds of people disposed to tolerance in contrast to associations with poorly educated memberships. However, often the associations as such have no effect at all.

Our study adds to the literature by considering more dimensions of social capital than the aforementioned studies. Along with other contextual factors, our paper explores the role of social capital in shaping immigration sentiments, bringing evidence for more than a decade and for a large panel of countries.

More particularly, we consider three wide dimensions of social capital, as proposed by Coleman (1988): (i) trust in people and institutions; (ii) interpersonal networks of informal type, such as meeting with friends, relatives, and colleagues; participating in associations, including churches; and voluntary work (so-called Putnam-type social activities) or formal type, such as work for political parties or professional organizations among others (so-called Olson-type social activities); and (iii) norms and effective sanctions. We include 13 aspects across the three dimensions of social capital to capture the multifacet nature of social capital. These aspects are trust in people, trust in institutions (trust legal system, state of health services, state of education system), networks (social interaction, church attendance, worked in political/action group, contacted politician/government, worn campaign badge/sticker, taken part in demonstrations, and member of trade union), and norms and effective sanctions (feel safe and victim of burglary/assault).

The ESS, a large-scale biennial survey of attitudes and values consisting of seven rounds/waves that date back to 2002, provided information for all 13 aspects of social capital we investigated. The ESS data were gathered in face-to-face interviews conducted in the native language of the interviewees. The interviewees were asked questions about various dimensions of social capital aspects and had to provide answers that ranged on a scale from 0 to 10, depending on the specific question. Information on social capital is available at <http://www.europeansocial-survey.org> and described in detail in the Appendix.

2.2 Testable hypotheses

In this section, we argue that social capital, in terms of social and institutional trust, networks, and norms and effective sanctions, has on average a positive dual role on immigration sentiments – a direct one, as expressed by H_1 hypothesis and an indirect one, as expressed by H_2 hypothesis, both presented in the following.

A crucial dimension of social capital is trust. Social trust is defined as trust in strangers, trust in people with whom we are not previously acquainted. Institutional trust is placing confidence in the working and mechanisms of society's institutions. Trust creates bonds between people, influences individual outcomes as well as social group interactions, facilitates cooperation and efficiency, and enhances the quality of the political, legal, and institutional environment (North, 1990), increasing thus society's overall effectiveness (Paxton, 1999; Paldam, 2001). Nevertheless, a more pessimistic possibility is that social trust could be confined just to strangers close to the truster's cultural background (Hero, 2003). We will empirically test this idea in our article, but we argue here, following theoretical justifications, that people can develop expectations of trust about other people from different cultural and ethnic backgrounds. Rather than behaving from an imperative moral rule that people are trustworthy, the social truster is willing to offer cooperation to a stranger and then evaluates his or her behavior depending on the result. This makes the social truster to be more exposed to risk than the distruster, but the truster can also achieve higher pay-offs if his or her cooperative

moves are reciprocated by the stranger. As a result, trusters can obtain “social intelligence” as a consequence of their cooperative moves and learn to discern better which people are trustworthy. Consequently, they tend to avoid the use of cues and heuristics based on racist or cultural stereotypes, because his or her “social intelligence” teaches him or her that these cues and heuristics are systematically biased (Yamagishi, 2001).

Networks is another important aspect of social capital. Interpersonal social networks such as meeting colleagues, friends, or family lead to a greater social embeddedness of the individual and to a strong feeling of belonging in the society and thus enhance trust and cooperation. Arguably, societies with citizens who are more engaged in the community life are tolerant and respectful of others and their rights and show altruistic preferences and positive attitudes on behalf of others and of the wider community (Mansbridge, 1999).⁹ Voluntary associations act as sources of tolerant social views. People who differ in many ways (concerning their cultural, educational and income background), except for the special interest that their association serves, meet as equals on a voluntary basis and interact in pursuit of common concerns. Widely diversified networks, especially diversified weaker ties, increase contact with many different people and backgrounds and enhance tolerance (Putnam, 2000).

The negative flip side of the contact argument is the competition argument. Whereas cooperative contact fosters tolerance, competition and lack of personal contact foster intolerance, and this can trigger a darker side of social capital. When ethnic groups compete in certain settings, they perceive each other as threats.¹⁰ Where market competition with minority groups is high, such associations can increase awareness of competition pressure, heighten the perception of group threat, and lead to relatively low levels of tolerance (Côté and Erickson, 2009). We will empirically test this idea in our article, but we argue here that voluntary associations are vehicles of democratic and learning processes (Perrin, 2005), where people trust each other, learn a range of civic skills and virtues, and develop “social intelligence” through cooperation. Through contact and diverse linkages, members of associations develop experience, skills, and mechanisms to become less affected from racist and cultural stereotypes.

Finally, another aspect of social capital is that of solid norms and transparent and effective sanctions, which reduce the incentives for criminal action; individuals who do not feel afraid but feel safe in the surroundings they live in develop stronger ties within their community, feel less threat, and are likely to overcome the uncertainty associated with the unknown.

Overall, rich social capital portrays societies that are more equalitarian, cooperative, and integrated (Putnam, 2000) with better governance (Bowles and Gintis, 2002) and higher economic prospects (Knack and Keefer, 1997). Consequently, immigration and ethnic diversity would be less of a challenge to community cohesion in societies where social capital is present. Therefore, the first hypothesis we aim to test is the following:

H₁: Social capital tends to relate to more positive sentiments toward immigration.

The literature on public opinion on immigration has analyzed various versions of two main hypotheses: the “perceived threat” hypothesis, which argues that racial prejudice toward immigrants is a response to a perceived threat to the economic and political privileges of the

⁹ A more pessimistic possibility, however, is that social trust is confined just to strangers close to the truster’s cultural background.

¹⁰ For example, occupational groups, including labor unions and business and professional associations, bring together people experiencing similar job pressures and tensions.

dominant ethnic group in a society (Blumer, 1958), and the “contact” hypothesis, which, in contrast, considers that the presence of large populations of out-groups provides members of the dominant group with first-hand experience of different people, which, under certain conditions, can diminish racial prejudices (Oliver and Wong, 2003).

Social capital may have an additional, indirect role on shaping immigration attitudes in a society; it can mitigate typical “perceived threat” conditions in a society such as country’s economic conditions (Oliver and Mendelberg, 2000) or personal economic circumstances (Olzak, 1992), and relative size of the subordinate groups (Blalock, 1967). Even in situations in which cultural or racial prejudices would be more salient, people would feel threat due to their own conditions, or in times of economic upheavals when usually people feel threat of losing privileges or being heavily taxed, societies with high levels of trust in people and institutions, effective social networks, and solid norms and transparent sanctions will be more immune to the saliency of such prejudices. Based on this claim, we can test the second hypothesis:

H₂: Social capital tends to mitigate the negative effects of “perceived threat” on attitudes toward immigrants.

The task of the following sections is to develop the model and econometric techniques to test for these two hypotheses.

2.3 Modeling individual’s attitudes toward immigration

Suppose that stated immigration concerns depend on latent continuous concerns about immigration. If y^* denotes latent concerns and y the stated concerns, then the following holds:

$$y_{it}^* = x^T \beta + e_{it} \quad (1)$$

where i and t denote country and time, x is a vector of covariates, and β is the vector of regression coefficients to be estimated.

Furthermore, suppose that while we cannot observe y^* , we can instead observe the categories of response:

$$y = \begin{cases} 0, & \text{if } y^* \leq c_1, \\ 1, & \text{if } c_1 < y^* \leq c_2, \\ 2, & \text{if } c_2 < y^* \leq c_3, \\ \vdots & \\ N, & \text{if } c_N < y^* \end{cases} \quad (2)$$

To capture the complex and multifaceted nature of sentiments toward immigration, we consider the dependent variable (y^*) to be a vector of interviewees’ responses in six different statements: three about the effects of immigration on economic, cultural, and welfare prospects of the host country and three about the ethnic/race background of the immigrant.

The vector x is a set of covariates that includes *sociodemographic*, *social capital*, *macroeconomic* and *foreign participation* variables. More analytically, the set *sociodemographic* contains characteristics of the individual, namely, gender, age, education, marital status, health status, net income, domicile, employment status, religiousness, political orientation, and the origin (family roots) of the interviewee. The literature in sociology has identified some of these characteristics as important ones in shaping attitudes (Semyonov et al., 2006; Hainmueller

and Hiscox, 2007). Arguably, one would expect that older, low-income, low-educated, unemployed, and extreme right in political orientation individuals, for example, would express more xenophobic opinions about immigration. This set of variables has been commonly used in all micro-level analyses with evidence, on their statistical importance, to vary across studies.

The next set of variables is what the literature calls social capital and here we include three important dimensions: (i) trust in people and institutions, (ii) interpersonal networks, and (iii) norms and effective sanctions. As it has been argued in previous sections, one expects a positive association of all three dimensions of social capital and attitudes toward immigration. Empirical evidence corroborates to the important role of trust in shaping positive attitudes toward immigration (Herreros and Criado, 2009; Rustenbach, 2010).

The set *macroeconomic* includes variables that characterize the economic environment of a country that could also shape public assessments. Arguably, public attitudes toward immigrants become more positive in good economic times and more negative in economic downturns.¹¹ We consider a number of variables, namely, the GDP per capita, unemployment, central government debt, social benefits, the Gini coefficient to proxy economic welfare, fiscal burden, and (in)equality conditions of the host country. Empirical evidence of the macroeconomic conditions, however, is weak and sometimes with perverse results (Schneider, 2008; Rustenbach, 2010). We further consider the share of elderly people in a country to proxy country's demographics. As rising old-age dependency ratios pose a challenge to the viability of public pension and health systems, the loosening of immigration policies is often seen as one policy option to counter this challenge. The share of elderly people in a country tests whether sentiments toward immigration differ across countries with different age distributions. Empirical evidence (Calahorrano, 2013) supports that over the life cycle, the stated immigration concerns are predicted to increase well into retirement and decrease afterward.

The set *foreign participation* contains a number of variables relevant to the multicultural and ethnic diversity of the host country. The presence of foreign stock in a country and country's colonial tradition may influence immigration attitudes as well. According to a simplified version of contact theory, increased contact with immigrants should undermine xenophobic sentiment; people who live next to well-integrated neighbors tend to have positive immigration sentiments (Ha, 2010). In contrast, threat theory argues that intergroup contact intensifies conflict due to competition over scarce resources; from this perspective, in countries with larger immigrant populations, there is more of a perceived group threat, leading to more antipathy toward the out-group (Hjerm, 2009). Empirical evidence, however, is mixed as to the relationship between the presence of foreigners and individuals' perceptions toward immigration.¹² Colonial tradition influences migration patterns between former imperial powers and their colonies of the past.¹³ It intends to capture whether sentiments to immigration differ

¹¹ At economic downturns, the fiscal cost of immigration becomes more an issue of concern and raises worries among individuals, who are either at the bottom of the income distribution and thus are threatened of immigrant competition in the labour market and welfare cuts or further up of the income distribution and therefore worry about the potential tax implications of immigration-induced expansion of the welfare budget.

¹² For example, Schlueter and Wagner (2008) found that between regions, a larger size of the immigrant population increases negative reactions, but within regions, more immigrants increase intergroup contact and reduce immigrant derogation. In a similar vein, Markaki and Longhi (2013) found that regions with a higher percentage of immigrants born outside the EU and a higher unemployment rate among the immigrant population show higher probability for negative attitudes to immigration. In contrast, Rustenbach (2010) found no evidence.

¹³ Clear examples are the cases of old colonial countries such as the UK and France and immigrant nations like the US where many earlier immigrants have now become citizens or are second- or third-generation "immigrants".

between countries with colonial history (and potentially richer and more accustomed to ethnic diversities) and countries with no such history at all (Gallaher et al., 2009).

2.4 Estimation strategy

Our dependent variable, attitude of the individuals toward immigration, is ordinal; that is, we can rank the values, but the real distance between categories is unknown. Respondents state that immigration is “bad for a country’s economy” if their latent concern exceeds a higher threshold c_1 , “good for a country’s economy” if their latent concern exceeds a much higher threshold c_2 , and “very good for a country’s economy” if their latent concern exceeds an even higher threshold c_3 .¹⁴ The vector parameter β and $c=(c_1, c_2, c_3)'$ can then be chosen such as to maximize the likelihood of observing the sample on hand. This requires an assumption on the distribution of e . Testing the distribution of the error term, we employ ordered logistic regression model, as described in the section earlier, in which the estimated set of regression coefficients (β) predicts the probability of the outcome of interest. We estimate our ordered logit using maximum likelihood estimation (MLE) techniques.

A critical concern in any empirical analysis is endogeneity, which produces biased and inconsistent estimates. Omitted factors such as trade collaborations, networks (Eichengreen and Irwin, 1998), and historic linkages (Anjonami and Hariri, 1992) between countries of origin and destination not captured in our estimations may induce endogeneity issues. To alleviate such concerns, we use country and year fixed effects. Furthermore, aspects of social capital, especially trust in people can be endogenous and bias our estimates. To account for endogeneity issues, we apply a control function approach (Wooldridge, 2015) that has the advantage of primarily dealing with nonlinear models as it is our case. In doing so, we regress the instruments on our endogenous variable in the first stage, conditional upon the other exogenous variables of the original model, and recover the predicted residuals of this estimation to plug them, at the second stage, into our original model (without excluding our endogenous variables from the model). Our inference is based on bootstrapping over all two-step procedure and for 1,000 iterations. Statistically insignificant predicted residuals would be an indication that there is no statistically significant bias at the coefficients of social capital due to endogeneity.

We use the variable “feel fair treated” as an instrument for our endogenous variable “Trust People”, which is an important dimension of social capital. The choice of “feel fair treated” is justified based on theory and statistics. On the theory front, both fairness and trust are crucial to our willingness to cooperate with others. Smith and Lindsay (2014) argued that leaders aiming to build trust in relationships need to pay attention to the issue of fairness. The direct interplay between the two was studied by Müller et al. (2008) who explored the causal link between procedural fairness and trust. Their results demonstrated that changes in perceived fairness of a procedure lead to changes in the willingness to entrust. This finding illustrates that trust judgments and trustful behavior can be influenced by procedural fairness judgments. On statistical front, a good instrument needs to be strongly correlated with the endogenous variable under instrumentation (i.e., “Trust People” in our case) and little or no related at all

¹⁴ Immigration is considered “very bad for a country’s economy” if individuals’ latent concern is below threshold c_1 .

with the error term and the depended variable (i.e., immigration attitude or immigration policy). In other words, “feel fair treated” is a reasonable choice for an instrument if it can only be correlated with the dependent variable, immigration attitudes, through its effect on the endogenous variable “Trust People”. Indeed, the correlation between the instrument (“feel fair treated”) and the endogenous variable “Trust People” is 0.57 and is statistically significant at 5%, while the correlation between the instrument and the estimated error is 0.03 and is statistically significant at 5%.

3 Data description and analysis

Our empirical analysis covers 22 countries for the period 2002 to 2014 and a total of 267,282 individuals. Table A1, in the Appendix, presents the participating countries and the number of observations per country in each wave of survey. Analytical descriptions of all variables and data sources are presented in the Section “Data” of the Appendix.

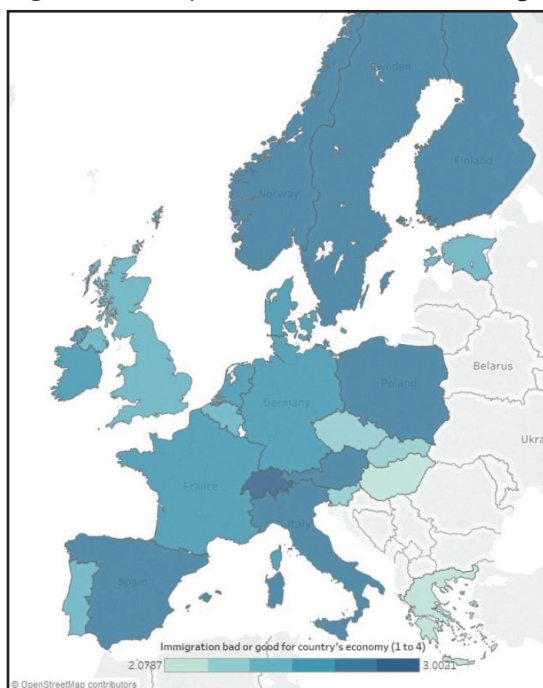
As summary statistics reveal in Table A2 in the Appendix, Europeans have, on average, a rather positive stance on immigration and different immigrant profiles, as the scores of the six dependent aspects of the dependent variable indicate. In some respect, this contrasts with the mixed attitudes, dualities in thinking, and splits on immigration issues expressed, for instance, in studies for the US (Suro, 2009). Europeans tend to welcome more immigrants of the same/race and less from poorer non-European countries. Cultural cohesion seems to be more of a concern than economic or life quality impacts of immigration. On average, Europeans are more social trusters than distrusters in others and their institutions, socialize often, are not much of church-goers, and the majority have not worked in political or action groups, contacted politicians and government officers, displayed campaign budge, participated in public demonstrations, or have been member of trade unions; they feel rather safe and have not often fallen victims of burglary/assault over the last 5 years. Finally, on average, 0.1% of the population of a European country applied for asylum, 0.19% have acquired the nationality of the country, about 6.6% are foreigners (foreign born, immigrants of first and second generation), and almost half of the countries have been colonizers some period in their history with at least one colony.

To obtain more insights, Figure 1 maps Europe over our sample period according to the responses of the Europeans on the statement “immigration is bad or good for country’s economy” (*Economy*). Dark blue indicates more xenophile sentiments and very light blue less.

As one can see, Switzerland, Sweden, and Norway show the most xenophile attitude toward immigration, while Greece, Hungary, and Czech Republic the least. This finding is consistent for all different immigration statements. The composition of individuals’ sentiments per country and over sample period is portrayed in Figure A1 of the Appendix.

Next, we explore the trend of Europeans’ attitudes over time. Table 1 shows the evolution of the attitudes toward “immigration is bad or good for country’s economy” across countries and time: wave 2002–2004 (beginning of the survey), wave 2006–2008 (beginning of financial crisis), and wave 2012–2014 (Syrian exodus).

Despite the challenges Europe has been through, Europeans have a positive stance toward immigration with about half of the countries to rank above sample mean. Furthermore, immigration attitudes of large countries, such as Germany, the UK, and France, that

Figure 1 European attitudes toward immigration is bad or good for country's economy.**Table 1** Country trends toward immigration (“immigration is bad/good for a country's economy”)

| Country | Wave 2002–2004 | Wave 2006–2008 | Wave 2012–2014 |
|-----------------|----------------|----------------|----------------|
| Austria | 2.89 | – | 2.61 |
| Belgium | 2.47 | 2.55 | 2.42 |
| Czech Republic | 2.44 | 2.31 | 2.13 |
| Denmark | 2.54 | 2.72 | 2.56 |
| Estonia | – | 2.47 | 2.64 |
| Finland | 2.73 | 2.80 | 2.71 |
| France | 2.72 | 2.57 | 2.45 |
| Germany | 2.70 | 2.70 | 2.89 |
| Greece | 2.14 | 2.04 | – |
| Hungary | 2.33 | 2.08 | 2.12 |
| Ireland | 2.63 | 2.60 | 2.64 |
| Italy | 2.79 | – | – |
| Netherlands | 2.61 | 2.76 | 2.56 |
| Norway | 2.79 | 2.84 | 2.84 |
| Poland | 2.49 | 2.83 | 2.61 |
| Portugal | 2.55 | 2.66 | 2.67 |
| Slovak Republic | – | 2.41 | – |
| Slovenia | 2.41 | 2.39 | 2.31 |
| Spain | 2.79 | 2.73 | 2.65 |
| Sweden | 2.84 | 2.84 | 2.89 |
| Switzerland | 2.97 | 3.06 | 3.05 |
| United Kingdom | 2.44 | 2.53 | 2.59 |
| Sample mean | 2.61 | 2.59 | 2.60 |

Note: Respondents choose among points: 1=very bad, 2=bad, 3=good, and 4=very good.

have been traditionally immigrant-receiving nations and suffered from terrorist attacks show diverging stances: UK and France score below sample mean, with France becoming more xenophobic, while Germany has remained xenophile with an even increasing trend. With respect to the Southern countries that were hit the hardest by the financial crisis, the attitudes also differ significantly: Spain shows a rather positive but declining stance over immigration, Portugal appears to be more welcoming over time, and there is a strong declining tendency for Greece. For the latter, there is a sharp pick around the year 2004 – as Greece hosted the Olympic Games that year – and a sharp decline thereafter, as the economic conditions deteriorated (“Greek crisis”). Unfortunately, Greece lacks data for the 2012–2014 wave and Italy for the 2006–2008 and 2012–2014 waves. Figure A2, in the Appendix, visualizes some of these findings.

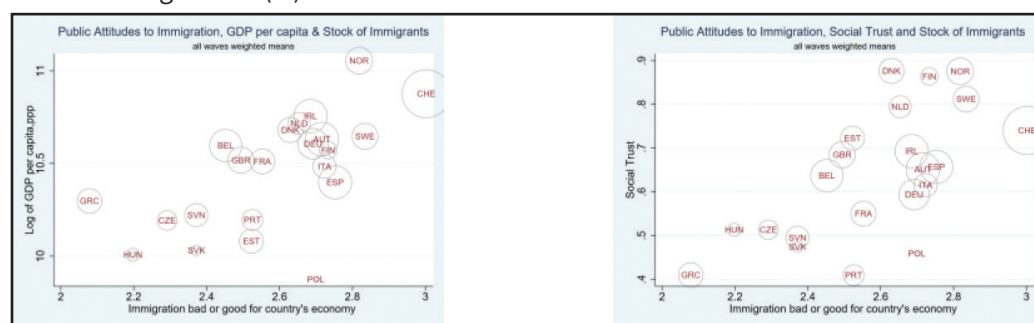
Finally, we explore how immigration sentiments alter in response to economic conditions, presence of foreigners in a country, and level of social capital. The left graph of Figure 2 associates standards of living – proxied by GDP per capita (*y*-axis) and immigration attitudes (*x*-axis), while the right graph associates social capital – proxied by trust in people (*y*-axis) and immigration sentiments. Bubbles’ size in both graphs equals to the size of foreigners to population in the host country.

A number of interesting patterns emerge: First, the higher the standards of living, the less xenophobic a country is. Switzerland has the largest GDP per capita and the largest share of foreigners (size of the bubble) and shows the least opposition to immigration, while Greece, Hungary, Slovenia, and Czech Republic have the lowest GDP per capita and the highest anti-immigration sentiments, with Greece (and Switzerland) being more multicultural (about 6% of their population are foreigners, period average) compared to the aforementioned countries. Second, high social truster societies are more xenophile. For example, Swedish show about two times more trustworthiness to each other and to their institutions than the Greeks, who, together with the Hungarians, Slovenians, and Czech Republic people, show the lowest score in trust.

4 Empirical results

This section presents our results. First, we examine what factors shape Europeans’ sentiments toward immigrants, and second, whether these sentiments vary across different immigrant profiles.

Figure 2 Sentiments toward immigration, standards of living, social trust, and size of foreign stock (%).



2a: Sentiments towards Immigration, Standards of Living and Size of Foreign-stock (%)”
 2b: Sentiments towards Immigration, Social Trust and Size of Foreign-stock (%)”

4.1 What explains Europeans' xenophile(/phobic) attitudes toward immigrants?

Table 2 shows the results. Columns (i) to (iii) report odd estimates of equation (1) on the interviewees' attitudes toward "immigration is bad or good for country's economy" (*economy*), "country's cultural life undermined or enriched by immigrants" (*culture*), and "immigrants make country worse or better place to live" (*place to live*), respectively. Heteroscedasticity-adjusted standard errors are reported in parentheses.

The estimates above are odd ratios. One can read the odd ratios as follows: if the odd ratio, a , is bigger than one ($a > 1$), then the probability of an individual to express very positive sentiments toward immigration ($y_{it} = 4$, i.e., maximum level) increases by $(a - 1) \times 100\%$, whereas the probability decreases by $(1 - a) \times 100\%$, if the odd ratio is smaller than one ($a < 1$). The coefficient of the control term included tells us furthermore that the latent factor captured by the instruments is correlated with our dependent variable(s). Note, however, that the bias is small and the control term is not statistically significant, so endogeneity does not impose a serious concern.

In terms of individual characteristics, the educational level of the individual matters the most. Higher levels of formal education tend to be associated with positive attitude toward immigration's effects on economy (70.3%), culture (73.5%), and making a country a better place to live (65.3%).¹⁵ The origin of the respondent's parents could make the individual more tolerant to cultural differences and immigration (Goldstein and Peters, 2014). Furthermore, living in a city/town, high income level, good health status, and religiousness of the individual are also positively associated with a friendlier stance toward immigration.¹⁶ In contrast, unemployed people and blue collar workers may feel a general threat from new comers, due to their situation, which is at "risk", and are more likely to express anti-immigration sentiments (Herrerros and Criado, 2009; Markaki and Longhi, 2013). Compared to people in paid jobs, jobless individuals are about 17% more probable to have a negative stance on immigration as they feel threat from increased job competition (Mayda, 2006; Gorodzeisky, 2011). This finding is consistent with rational competition theories; employment status has always been a crucial predictor of attitudes to minorities. Political ideology, as expected, also associates with stances toward immigration. In addition, gender (being a woman) also appears to be associated with anti-immigration attitudes. Marital status (being married versus all other alternatives) and age play little role in shaping attitude as the coefficients are statistically insignificant in almost all specifications. However, the older the individuals get, the more xenophobic they become as the relevant estimates of age in columns (ii) and (iii) indicate.

The next set of estimates analyze the role of social capital. Among its three dimensions, it is the trust in people and institutions (legal, health, and education) that has the largest weight in shaping positive sentiments toward immigrants. It has been argued that social trusters have altruistic preferences (Mansbridge, 1999). Social trust implies an expectation that strangers

15 Higher educated individuals are less likely to express prejudice, negative stereotypes, and racism toward minorities (Herrerros and Criado, 2009) for at least two reasons. First, according to the labour market competition theory, as immigrants mostly work in low-skilled manual jobs, they are more likely to be complement rather than substitute to highly educated natives (Bogard and Sherrod, 2008). Second, the link between education and attitudes is deeply rooted in the fact that educational systems tend to promote acceptance of different cultural values and beliefs (Hainmueller and Hiscox, 2007).

16 High levels of income provide financial security, good health status makes one feel psychologically better and not being in competition for social security benefits, and religiousness cultivates positive feelings towards the mankind and promotes treating people equally.

Table 2 Estimates of Europeans' attitude toward immigrants (odd ratios)

| Variable | Economy | Culture | Place to live |
|--------------------------------------|------------------|------------------|------------------|
| Gender | 0.832*** (0.022) | 1.066 (0.045) | 1.028 (0.038) |
| Age | 1.004 (0.018) | 0.934*** (0.012) | 0.925*** (0.014) |
| Education level | 1.703*** (0.069) | 1.735*** (0.071) | 1.653*** (0.062) |
| Marital status | 0.987 (0.077) | 0.969 (0.028) | 0.933* (0.037) |
| Health status | 1.083*** (0.025) | 1.088*** (0.022) | 1.107*** (0.016) |
| Income level | 1.158*** (0.040) | 1.075*** (0.029) | 1.070*** (0.023) |
| Domicile | 1.187*** (0.041) | 1.202*** (0.063) | 1.204*** (0.043) |
| Employment status | 0.833** (0.071) | 0.921* (0.044) | 0.802*** (0.058) |
| Religiousness | 1.052*** (0.017) | 1.077*** (0.029) | 1.076*** (0.024) |
| Political orientation | 0.761*** (0.035) | 0.676*** (0.039) | 0.697*** (0.037) |
| Immigrant parents | 1.649*** (0.139) | 1.560*** (0.076) | 1.742*** (0.121) |
| Trust people | 2.792*** (0.127) | 3.302*** (0.329) | 3.157*** (0.334) |
| Trust legal system | 1.159*** (0.059) | 1.140 (0.117) | 1.066 (0.117) |
| State of health services | 1.314*** (0.054) | 1.065 (0.067) | 1.219*** (0.059) |
| State of education system | 1.044 (0.030) | 1.044 (0.039) | 1.090*** (0.030) |
| Social interaction | 1.010 (0.017) | 1.054*** (0.019) | 1.001 (0.016) |
| Church attendance | 1.176*** (0.055) | 1.099 (0.077) | 1.264*** (0.085) |
| Worked in political/ action group | 1.419*** (0.091) | 1.279** (0.127) | 1.326*** (0.088) |
| Contacted politician/ government | 1.096** (0.044) | 1.082** (0.034) | 1.075* (0.046) |
| Worn campaign badge/sticker | 1.138*** (0.024) | 1.254*** (0.039) | 1.199*** (0.041) |
| Taken part in demonstrations | 1.524*** (0.068) | 1.619*** (0.068) | 1.480*** (0.056) |
| Member of trade union | 0.931 (0.050) | 1.024 (0.039) | 0.971 (0.035) |
| Feel safe | 1.409*** (0.058) | 1.398*** (0.072) | 1.529*** (0.064) |
| Victim of burglary/assault | 1.025 (0.019) | 1.082** (0.040) | 1.034 (0.030) |
| $D_{HighGDPcap}$ | 1.350*** (0.264) | 1.427 (0.409) | 1.303 (0.374) |
| $D_{HighDebt}$ | 0.553* (0.171) | 0.753 (0.192) | 0.639 (0.208) |
| $D_{HighElderlyPop}$ | 0.790 (0.132) | 1.121 (0.390) | 1.100 (0.381) |
| $D_{HighAsylumSeekers}$ | 0.425*** (0.094) | 0.598 (0.239) | 0.508* (0.193) |
| $D_{HighForeignStock}$ | 0.491*** (0.088) | 0.899 (0.322) | 0.777 (0.260) |
| $D_{HighNationalityAcq}$ | 0.779 (0.184) | 0.832 (0.278) | 1.055 (0.310) |
| $D_{ColonialTradition}$ | 1.220 (0.260) | 0.844 (0.208) | 0.671 (0.227) |
| $D_{HighGDPcap\&HighForeignStock}$ | 2.975*** (0.729) | 0.820 (0.325) | 0.942 (0.367) |
| $D_{HighTrust\&HighAsylumSeekers}$ | 1.159* (0.101) | 1.057 (0.166) | 1.223 (0.177) |
| $D_{HighTrust\&HighForeignStock}$ | 1.206*** (0.069) | 1.084 (0.132) | 1.327*** (0.146) |
| $D_{HighTrust\&HighNationalityAcq}$ | 1.055 (0.104) | 1.234 (0.206) | 1.098 (0.148) |
| $D_{HighTrust\&Unemployment}$ | 1.029 (0.057) | 1.132** (0.058) | 1.175** (0.086) |
| $D_{HighTrust\&LowIncome}$ | 1.103** (0.053) | 0.998 (0.042) | 1.062** (0.029) |
| Control term | 0.753 (0.278) | 0.745 (0.238) | 0.932 (0.356) |
| Observations | 165,173 | 165,772 | 165,331 |

Notes: Estimates are odd ratios. Control function approach is used to correct for endogeneity in "Trust People" (see the Estimation Section). Control term is the predicted residual of the control function estimation. Country and year fixed effects are used. Heteroscedasticity-adjusted standard errors are given in parentheses. *, **, and *** are significance levels at 10%, 5%, and 1%, respectively.

are trustworthy, and this expectation is extended to all people, including immigrants from different cultural backgrounds. The “mechanism” that links social trust and positive attitudes toward immigrants is that trusters exclude heuristics and cues based on racial or cultural stereotypes when forming their beliefs about other people’s trustworthiness. As our results show, the coefficient related to trust in people is significant and in the expected direction. Social trust is associated with more positive attitude toward immigrants and their impact on economy (179.2%), culture (230.2%), and quality of living (215.7%) than social distrust. This result is also confirmed by the study of Herreros and Criado (2009). Likewise, institutional trust, especially trust in the legal system, shapes positive attitudes to immigration. Trust in the legal system associates with 15.9% higher probability of positive attitude to immigrants’ effect on economy (14% and 6.6%, respectively, on culture and quality of living). Satisfaction from the health and education systems also associates with 31.4% and 4.4%, respectively, more positive sentiments to immigrants’ effect on economy. Institutional trust increases society’s overall effectiveness (Paxton, 1999; Paldam, 2001), makes people more confident for the society they live in and the way the society copes with stressful situations. If immigration is such, then trusters in country’s institutions, all other variables considered, tend to express more welcoming attitude toward immigrants compared to institutional distrusters.

Social networks of informal type (meeting with friends, relatives, and colleagues; participating in associations including churches; and voluntary work) or formal type (work for political parties or professional organizations among others) are also found to positively associate with immigration attitude index. Individuals who are socially and, especially, politically active tend to express more positive immigration sentiments compared to individuals who are not. Among these activities, being member or working for political parties/action groups, participating in campaigns and lawful public demonstrations, significantly increases the probability of having a more positive attitude toward immigrants. The only exception is the association with trade union. In times of widespread unemployment, competition between indigenous and immigrant workers might increase, making inclusive union policies difficult to maintain (Penninx and Roosblad, 2000). However, trade union estimates are statistically insignificant. Solid norms and transparent and effective sanctions reduce the incentives for criminal action; individuals who feel safe and not being victimized develop stronger ties within their community and feel less threat. Consequently, absence of criminality is highly associated with positive stance toward immigrants. This conjecture is confirmed by our estimates of feeling safe that carry the expected sign and are statistically significant.

Overall, we find a strong, positive direct association of almost all aspects of social capital on immigration sentiments of the European citizens. This finding validates our first hypothesis (*H1*) that social capital associates with positive attitudes toward immigration across European countries.

We continue with macroeconomic conditions. We find that countries with higher GDP per capita ($D_{HighGDPcap}$) are 35% more probable to associate with positive attitude toward immigrants’ effect on economy than countries with lower GDP per capita. The fiscal cost of immigration also appears to be an important aspect of attitude. Countries with high debt ($D_{HighDebt}$) are about 45% more prone to associate with anti-immigration sentiments compared to countries with low debt. For example, immigrants who do not find employment are a fiscal burden on the welfare state and thus for natives of all ages. In contrast to the literature that provides

weak or even mixed evidence on the link of macroenvironment on public sentiments, we find strong and clear results.¹⁷ Furthermore, we find that countries with a high share of elderly population tend to exhibit negative sentiments over immigrants' economic impact, but they keep a positive stance on immigrants' influence on local culture and quality of living.

The stock of foreigners contributes to the multicultural profile of a country. The latter may stir up both positive and negative reactions: it can encourage the decrease of prejudice or can increase the perception of threat to national identity. Our results show that citizens in countries with many foreigners ($D_{HighForeignStock}$) and refugees/asylum seekers ($D_{HighAsylumSeekers}$) are about 50.9% and 57.5%, respectively, more prone to show anti-immigrant feelings compared to citizens who live in countries with more ethnically homogenous population and less refugees (Markus, 2014). For some people, perhaps, there can be a threshold beyond which they do not think favorably toward new immigrants. This negative association between the size of immigrant (foreign) population and immigration feelings is also documented in the literature (Oliver and Mendelberg, 2000). The number of nationality acquisitions ($D_{HighNationalityAcq}$) and the colonial tradition ($D_{ColonialTradition}$) of the country are not statistically significant.

Nevertheless, the negative association between multiculturalism and immigration attitude may alter once we control for the level of economic development of the country. The coefficient of the dummy $D_{HighGDPcap\&HighForeignStock}$ captures exactly this. What we observe is that countries with a high percentage of foreign population and high GDP per capita sentiments toward immigrants are more positive, especially when it comes to the economic impact, than countries with a high percentage of foreign population and low GDP per capita; a finding consistent with Figure 2. Wealthier countries have better economic and institutional mechanisms to provide for and integrate different ethnicities/races. Independent of economic conditions, however, individuals' prejudice may remain against foreigners, and this is indeed the case as the coefficient of $D_{HighGDPcap\&HighForeignStock}$ turns negative in the other two specifications, losing, however, its statistical significance.

Having analyzed all factors (and their interactions) that could possibly shape immigration sentiments, we can now embark on testing our second hypothesis ($H2$) that social capital smoothes out the negative effects of adverse social conditions on attitudes toward immigration. That is, irrespective of a country's social conditions, when we consider a country's social capital (here, level of social trust), the picture that emerges may contradict with the xenophobic stance documented above.

According to our findings, in countries that host big numbers of foreigners or asylum seekers and are rich in social trust, the sentiments toward immigrants tend to be more xenophile than in countries with low social trust. The coefficient of $D_{HighTrust\&HighForeignStock}$ captures this positive association – larger than 1 in all specifications and statistically significant in the last one. This is because countries rich in social capital are more cooperative and egalitarian (Putnam, 2000; Bowles and Gintis, 2002) and, therefore, able to cope effectively with accommodating new comers. Social trusters are also 15.9% ($D_{HighTrust\&HighAsylumSeekers}$) more prone to have a positive stance on the impact of asylum seekers on the quality of living. Similar evidence emerges when we revisit the individual characteristics and particularly the ones that relate to

¹⁷ Empirical evidence on the macroeconomic conditions, however, is mixed, mainly weak and sometimes with perverse results. For instance, Semyonov et al. (2006) found that higher GDP per capita implies significantly more negative attitudes, while Schneider (2008) and Hatton (2016) supported the opposite relation. Other studies (Rustenbach, 2010) found no impact at all.

the “threat effect”. This time, however, we consider how different is a social truster individual who is unemployed ($D_{HighTrust\&Unemployment}$) or a social truster individual who has a very low income level ($D_{HighTrust\&LowIncome}$) from equal peers who are social distrusters. The results alter dramatically. Unemployed trusters are not negative at all to immigrants compared to unemployed distrusters. In fact, they are 13.2% and 17.5% more probable to have positive attitude on the immigrants’ impact on culture and quality of living, respectively. Likewise, low-income social trusters are about 10.3% more positive to immigrants than low-income distrusters. Such findings corroborate with the claim of our second hypothesis on the positive indirect association between social capital and individuals’ attitudes toward immigration.

Overall, our empirical analysis documents the important role of almost all aspects of social capital on public sentiments about immigration; the evidence on social trust corroborates findings of related studies of the past (Herrerros and Criado, 2009; Rustenbach, 2010). The two testable hypotheses find strong support. Social capital has a positive association with immigration attitudes via two ways, a direct way, social capital associates with positive attitude toward immigration, and an indirect way, social capital moderates the negative effects of “perceived threat” on people’s opinions about immigrants. Individuals with low income, unemployed people, or citizens in multicultural and ethnically diverse environments, where the risk of intergroup conflicts is high, will nonetheless exhibit generally positive attitudes toward immigration if they are social trusters.

A potential issue in our analysis is that the average positive correlation between associations and immigration sentiments could mask important variation across different types of associations. Erickson (2004) and Côté and Erickson (2009) argued that associations that are heterogeneous tend to relate to more social tolerance than homogenous ones. They proposed and constructed a measure of network and association diversity based on income class, occupation, and gender of their members. As we do not have information on the composition of associations and on particular types of associations (e.g., ethnic associations for minority ethnic groups) for the European citizens, we can only derive nuanced conclusions.¹⁸

4.2 Do Europeans’ sentiments vary across different immigrant profiles?

In this section, we turn our attention into examining whether sentiments toward immigrants differ depending on immigrant’s profile, that is, race/ethnicity and country of origin. Different attitude toward different types of immigrants reveals the concerns of the Europeans toward certain cultures, and it is an indication of individuals’ perception toward the immigration policy (stricter or looser toward certain immigrant profiles) their country should apply.

Table 3 shows the results. Columns (i) to (iii) report the odd ratios of equation (1) on the respondent’s attitudes toward “allow many/few immigrants of same race/ethnic group as majority” (*same race*), “allow many/few immigrants of different race/ethnic group from majority” (*different race*), and “allow many/few immigrants from poorer non-European countries” (*poorer/non-EU*), respectively. Heteroscedasticity-adjusted standard errors are reported in parentheses.

All sociodemographic variables that were important in the previous analysis pertain their statistical significance carrying the expected sign; however, in some cases, their coefficients

¹⁸ The literature argues that the specific consequences of social capital largely depend on political and social conditions, the existence of inequality and poverty, and liberal democracies, to name a few (Gargiulo and Benassi, 1999; van Deth and Zmerli, 2010; Villalonga-Olives and Kawachi, 2017). In our analysis, we included most of these factors to control the effect of social capital on immigration attitudes.

Table 3 Estimates of Europeans' attitude toward different immigrant types (odd ratios)

| Variable | Same race | Different race | Poorer/non-EU |
|-------------------------------------|------------------|------------------|------------------|
| Gender | 0.974 (0.016) | 1.004 (0.028) | 1.051** (0.025) |
| Age | 0.946** (0.026) | 0.895*** (0.021) | 0.876*** (0.016) |
| Education level | 1.641*** (0.061) | 1.728*** (0.061) | 1.562*** (0.043) |
| Marital status | 0.836*** (0.058) | 0.854** (0.055) | 0.939 (0.064) |
| Health status | 1.116*** (0.019) | 1.110*** (0.016) | 1.075*** (0.018) |
| Income level | 1.156*** (0.020) | 1.115*** (0.022) | 1.096*** (0.027) |
| Domicile | 1.145*** (0.042) | 1.176*** (0.038) | 1.107*** (0.036) |
| Employment status | 0.843** (0.067) | 0.802* (0.092) | 0.930 (0.126) |
| Religiousness | 1.046 (0.036) | 1.021 (0.034) | 1.066* (0.037) |
| Political orientation | 0.752*** (0.027) | 0.669*** (0.032) | 0.666*** (0.031) |
| Immigrant parents | 1.352*** (0.060) | 1.335*** (0.075) | 1.292*** (0.065) |
| Trust people | 2.445*** (0.244) | 2.295*** (0.197) | 2.052*** (0.146) |
| Trust legal system | 0.905 (0.101) | 0.937 (0.118) | 0.908 (0.106) |
| State of health services | 1.080 (0.061) | 1.072 (0.058) | 1.061 (0.045) |
| State of education system | 0.964 (0.035) | 0.959 (0.033) | 0.942 (0.036) |
| Social interaction | 1.009 (0.023) | 0.995 (0.029) | 1.025 (0.032) |
| Church attendance | 1.187*** (0.067) | 1.269*** (0.087) | 1.343*** (0.095) |
| Worked in political/action group | 1.232*** (0.053) | 1.272*** (0.096) | 1.289*** (0.077) |
| Contacted politician/government | 1.139*** (0.042) | 1.127*** (0.052) | 1.074* (0.040) |
| Worn campaign badge/sticker | 1.223*** (0.024) | 1.266*** (0.048) | 1.247*** (0.037) |
| Taken part in demonstrations | 1.361*** (0.045) | 1.509*** (0.082) | 1.508*** (0.079) |
| Member of trade union | 0.966 (0.035) | 0.981 (0.037) | 0.982 (0.040) |
| Feel safe | 1.244*** (0.050) | 1.344*** (0.042) | 1.297*** (0.029) |
| Victim of burglary/assault | 1.054 (0.036) | 1.049 (0.038) | 1.072** (0.032) |
| $D_{HighGDPcap}$ | 1.359 (0.444) | 1.255 (0.455) | 1.292 (0.511) |
| $D_{HighDebt}$ | 0.788 (0.222) | 0.580 (0.240) | 0.631 (0.293) |
| $D_{HighElderlyPop}$ | 1.170 (0.340) | 1.173 (0.504) | 1.056 (0.501) |
| $D_{HighAsylumSeekers}$ | 0.771 (0.316) | 0.471* (0.208) | 0.450 (0.221) |
| $D_{HighForeignStock}$ | 1.026 (0.295) | 0.671 (0.241) | 0.673 (0.270) |
| $D_{HighNationalityAcq}$ | 0.598 (0.195) | 0.977 (0.368) | 0.908 (0.384) |
| $D_{ColonialTradition}$ | 1.015 (0.468) | 1.560 (0.760) | 1.493 (0.788) |
| $D_{HighGDPcap\&HighForeignStock}$ | 1.174 (0.518) | 2.073 (1.024) | 2.323 (1.297) |
| $D_{HighTrust\&HighAsylumSeekers}$ | 1.221 (0.149) | 1.205 (0.160) | 1.192 (0.162) |
| $D_{HighTrust\&HighForeignStock}$ | 1.324** (0.172) | 1.285* (0.172) | 1.228 (0.169) |
| $D_{HighTrust\&HighNationalityAcq}$ | 1.017 (0.134) | 1.100 (0.151) | 1.172 (0.173) |
| $D_{HighTrust\&Unemployment}$ | 1.081 (0.057) | 1.167 (0.110) | 0.991 (0.066) |
| $D_{HighTrust\&LowIncome}$ | 1.075* (0.040) | 1.059** (0.029) | 1.063** (0.030) |
| Control term | 0.676 (0.231) | 0.912 (0.382) | 0.965 (0.465) |
| Observations | 165,779 | 165,772 | 165,573 |

Notes: Estimates are odd ratios. Control function approach is used to correct for endogeneity in "Trust People" (see the Estimation Section). Control term is the predicted residual of the control function estimation. Country and year fixed effects are used. Heteroscedasticity-adjusted standard errors are given in parentheses. *, **, and *** are significance levels at 10%, 5%, and 1%, respectively.

change across different immigrant profiles as they become more negative to immigrants from different race/ethnicity and especially to those from poorer non-European countries; noteworthy exception is the highly educated and religious individuals who actually become more receptive to very different racial/ethnic background.

Furthermore, all three dimensions of social capital continue to greatly contribute to the xenophile attitude of the individuals, a finding that supports our first hypothesis. Our results show that when social capital is present, there is no differentiation at all across different origins of immigrants.

Macroeconomic conditions do not seem to shape Europeans' sentiments favorably toward any group of immigrants, in particular as estimates tend to be statistically insignificant. Perhaps, macroeconomic conditions do not directly relate to feelings about the ethnic background of the immigrants but rather to their skills. Unfortunately, we have no information about the skills of the immigrants relative to those of natives. This information could shed some light as documented in the study of Mayda (2006). When it comes to the statistical significance of the interaction terms of social capital with the macroeconomic variables, the same picture emerges. Perhaps, this is because we have no deeper information about the social capital that would allow us to unfold different reactions based on the ethnic background of the immigrants. For instance, information on associations of ethnic minorities, their contact with the natives, and their embeddedness into the society would shed more light why native citizens are more (or less) friendly to different immigrant backgrounds. This requires detailed information that is not available at the moment. Future research could focus further on these issues, disentangling potential diversity in the effects of social capital.

When it comes to multiculturalism, it seems that it does not pose any threat when social trust is present as the coefficient of $D_{HighTrust\&HighForeignPop}$ indicates. In such societies, immigrants of all types are welcome. Furthermore, unemployed trusters do not actually differentiate among immigrants. Same holds for low-income social trusters. Both findings are in line with the claim of our second hypothesis and therefore validate it.

Finally, endogeneity is not a serious concern here as the control term is statistically insignificant.

In sum, a consistent finding that emerges is that public attitude toward immigrants appears to vary across different immigrant profiles. Europeans, on average, are slightly more xenophile compared to immigrants of the same race/ethnicity. Social capital tends to associate with pro-immigration attitudes and diminishes any differentiation across immigrant profiles.

4.3 Robustness

For robustness purposes, we make an effort to instrument for the social capital as a whole and not just for the societal trust. In doing so, we construct, using factor analysis, an index of social capital based on all of its individual components. Then, we instrument for it. This is not an easy task, though. To find appropriate and exogenous instruments, we resort to the economic growth literature. Potential candidates would be historic data (the past affects the present, but not the other way around) about a country's literacy rates and dominant religion in the ninetieth century (i.e., as early as we have data from the establishment of the modern nations). Historic educational endowments represent a good predictor of current institutional differences across countries of

Europe. As Glaeser et al. (2004) had shown, historic levels of schooling are robustly correlated with changes in political institutions and economic development. Furthermore, Tabellini (2010) had demonstrated that literacy in 1880 represents an important source of variation for the cultural traits and level of social capital of European countries. Religion has also been a proxy for culture and widely used in the finance and economics literature (La Porta et al., 1999) as it is a key component of a system of beliefs. For instance, the literature argues that the way a religion is organized, i.e., hierarchical vs. equalitarian structures, reflects on how the society and government are structured (centralization vs. individualism; Stulz and Williamson, 2003).

We therefore adopt the same instrumental variables, i.e., countries' literacy rates (percentage of population) and dominant religion (e.g., Catholic, Protestants, Greek Orthodox, Muslim) in the 1900s as an exogenous determinant of current social capital quality. Data are retrieved from the following sources: religion is obtained from the World Factbook (2019) and literacy rates from Roser and Ortiz-Ospina (2020). In addition, we also include, along with these two instruments, the "feel fair treated" variable to allow for individual (and not only country) variation in our instruments. We then apply the control function approach (Wooldridge, 2015). That is to say, we regress the instruments on our dependent variable in the first stage, conditional upon our instruments, and recover the predicted residuals of this estimation to plug them into our original model (without excluding the constructed index of social capital); inference is based on bootstrapping over all two-step procedure, 1,000 iterations. The results of this process are shown in Table A3 of the Appendix.

The coefficient of the control term tells us furthermore that the latent factor captured by the instruments is correlated with our dependent variable(s). Hence, endogeneity seems to cause a small bias in the social capital coefficients in our previous estimates. Note, however, that the bias is small and the control term is not significant, so the main conclusions of the analysis undertaken, so far, hold; that is, social capital positively relates to immigration sentiments and further mitigates the negative effects of perceived threat on people's opinions about immigrants.

We also performed a battery of sensitivity analysis to sharpen the robustness of our results. We split our sample in two sub-periods, 2002–2008 and 2010–2014, to test whether financial crisis had an impact on public sentiments about immigration. The results did not alter significantly.

We also included various control variables, namely, the Gini coefficient for inequality and welfare benefits (% of GDP). The estimates are statistically insignificant, and the rest of the results are barely modified.

Overall, the results do not change in any significant way across different specifications, subsamples, and alternative definitions.

5 Conclusion

Large international migration flows over the past decades have fundamentally changed the landscape of the European countries' populations and brought immigration to the front of the research and policy agenda. The question of how public opinion toward immigration is formed has become as relevant as ever with implications for both present and potential immigrants as well as for policymakers to meet the challenges associated with increased immigration.

This article has studied the European attitudes toward immigration and the contextual factors that shape these attitudes. Based on recent and detailed data on 267,282 respondents over

the period 2002–2014, we find that despite the eventful past years, Europeans, on average, are still positive toward immigrants with the North European countries being the least xenophobic. A salient finding of our analysis, however, is regardless of the impact of other contextual factors, individuals with a high social capital do exhibit more positive attitudes toward all immigrants, independently of their background, than the rest of the population. Furthermore, social capital moderates the negative effects of “perceived threat” on people’s opinions about immigration.

The implication of our results is straightforward. A successful public policy should aim to increase social cohesion and invest in trust across groups and institutions.

Declarations

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

None

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Author contributions

Claire Economidou composed the manuscript, Dimitrios Karamanis analyzed and interpreted the data, Alexandra Kehrinoti collected the data, Sofia Xesfingi reviewed the relevant literature. The Authors declare that they have read and approved the final manuscript.

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Appendix

A.1 Data

The main source of our data is the European Social Survey (ESS), a large-scale biennial study of attitudes and values, consisting of seven rounds/waves that date back to 2002. The ESS data were gathered in face-to-face interviews conducted in the native language of the interviewees. All rounds together contained micro data for almost 336,964 individuals; 267,282 individuals were employed in our analysis. Data are available at <http://www.europeansocialsurvey.org>. Regarding data availability, as Table A1 shows, some countries in the data set are represented with observations from all ESS waves, while others only from some waves. Raw data were adjusted using poststratification and population size weights, provided by the ESS to control for qualitative characteristics of the interviewees in each wave within a country and for different country sizes. A detailed discussion on weights is available at https://www.europeansocialsurvey.org/docs/methodology/ESS_weighting_data_1.pdf.

Table A1 Number of obs by country and wave

| Country | ESS waves | | | | | | | |
|----------------|--------------|------------|------------|------------|------------|------------|------------|------------|
| | Country code | 2002 (obs) | 2004 (obs) | 2006 (obs) | 2008 (obs) | 2010 (obs) | 2012 (obs) | 2014 (obs) |
| Austria | AUT | 2,257 | 2,256 | 2,405 | – | – | – | 1,795 |
| Belgium | BEL | 1,899 | 1,778 | 1,798 | 1,760 | 1,704 | 1,869 | 1,769 |
| Switzerland | CHE | 2,040 | 2,141 | 1,804 | 1,819 | 1,506 | 1,493 | 1,532 |
| Czech Republic | CZE | 1,360 | 3,026 | – | 2,018 | 2,386 | 2,009 | 2,148 |
| Germany | DEU | 2,919 | 2,870 | 2,916 | 2,751 | 3,031 | 2,958 | 3,045 |
| Denmark | DNK | 1,506 | 1,487 | 1,505 | 1,610 | 1,576 | 1,650 | 1,502 |
| Estonia | EST | – | 1,989 | 1,517 | 1,661 | 1,793 | 2,380 | 2,051 |
| Spain | ESP | 1,729 | 1,663 | 1,876 | 2,576 | 1,885 | 1,889 | 1,925 |
| Finland | FIN | 2,000 | 2,022 | 1,896 | 2,195 | 1,878 | 2,197 | 2,087 |
| France | FRA | 1,503 | 1,806 | 1,986 | 2,073 | 1,728 | 1,968 | 1,917 |
| United Kingdom | GBR | 2,052 | 1,897 | 2,394 | 2,352 | 2,422 | 2,286 | 2,264 |
| Greece | GRC | 2,566 | 2,406 | – | 2,072 | 2,715 | – | – |
| Hungary | HUN | 1,685 | 1,498 | 1,518 | 1,544 | 1,561 | 2,014 | 1,698 |
| Ireland | IRL | 2,046 | 2,286 | 1,800 | 1,764 | 2,576 | 2,628 | 2,390 |
| Italy | ITA | 1,207 | – | – | – | – | 960 | – |
| Netherlands | NLD | 2,364 | 1,881 | 1,889 | 1,778 | 1,829 | 1,845 | 1,919 |
| Norway | NOR | 2,036 | 1,760 | 1,750 | 1,549 | 1,548 | 1,624 | 1,436 |
| Poland | POL | 2,110 | 1,716 | 1,721 | 1,619 | 1,751 | 1,898 | 1,615 |
| Portugal | PRT | 1,511 | 2,052 | 2,222 | 2,367 | 2,150 | 2,151 | 1,265 |
| Sweden | SWE | 1,999 | 1,948 | 1,927 | 1,830 | 1,497 | 1,847 | 1,791 |
| Slovenia | SVN | 1,519 | 1,442 | 1,476 | 1,286 | 1,403 | 1,257 | 1,224 |
| Slovakia | SVK | – | 1,512 | 1,766 | 1,810 | 1,856 | 1,847 | – |
| Total | | 38,308 | 41,436 | 36,166 | 38,434 | 38,795 | 38,770 | 35,373 |

Note: Obs: observations; Min: minimum; Max: maximum; ESS: European Social Survey; EU: European Union; GDP: gross domestic product; PPP: purchasing power parity; WDI: World Development Indicators; CIA: Central Intelligence Agency; OECD: Organisation for Economic Cooperation and Development.

The dependent variable (y) is a vector and contains individuals' responses on six statements about immigration: (i) "immigration is bad or good for country's economy" (*economy*), (ii) "country's cultural life undermined or enriched by immigrants" (*culture*), (iii) "immigrants make country worse or better place to live" (*place to live*), (iv) "allow many/few immigrants of same race/ethnic group as majority" (*same race*), (v) "allow many/few immigrants of different race/ethnic group from majority" (*different race*), and (vi) "allow many/few immigrants from poorer countries outside Europe" (*poorer/non-EU*). The data source for the individuals' responses is the ESS. The answers are ordinal and limited. For the first three statements, the respondents were shown a card with a 10-point scale, where only the two most distant points were articulated (i.e., 0 – bad for the economy and 10 – good for the economy, 0 – cultural life undermined and 10 – cultural life enriched, and 0 – worse place to live and 10 – better place to live, respectively), while for the last three statements, the interviewees had to choose among four points (1 – allow many, 2 – allow some, 3 – allow a few, and 4 – allow none). We reduced the 10-point scale of the first three variables (*economy*, *culture*, and *place to live*) to a 4-point scale based on the quantile distribution of the answers provided. In this way, we have less classes and all six dependent variables are expressed to a 4-point scale.

A number of regressors are included in the vector set x . Information on the sociodemographic variables (*sociodemographic*) – gender (*gender*), age (*age*), education level (*education level*), marital status (*marital status*), health status (*health status*), net income level (*income level*), domicile (*domicile*), employment status (*employment status*), religiousness (*religiousness*), political orientation (*political orientation*), and whether one of the parents was immigrant (*immigrant parents*) – is also derived from the ESS database. In almost all aforementioned variables, we "merged" the range of a respondent's categories just to reduce the number of classes.

Data on different dimensions of social capital (*social capital*) – trust in people (*trust people*) and in institutions (*trust legal system, state of health services, state of education system*), networks (*social interaction, church attendance, worked in political/action group, contacted politician/government, worn campaign badge/sticker, taken part in demonstrations, and member of trade union*), and norms and effective sanctions (*feel safe and victim of burglary/assault*) – are retrieved from the ESS as well. In a similar vein, as with the sociodemographic variables, we modified the ESS range of interviewees' responses.

Data on macroeconomic variables (*macroeconomic*), GDP per capita (constant 2011 thousand dollars, purchasing power parity) (*GDPcap*), and central government debt ratio to GDP (*debt/GDP*) come from the World Bank, *World Development Indicators* database. Elderly people share to country's population comes from the Central Intelligence Agency (World Factbook, 2019) database and is a dummy that takes the value of 1 if a country's elderly population share is above sample's median, and 0 otherwise.

The set of foreign participation (*foreign participation*) includes variables relevant to the multicultural profile of a country, namely, percentage of foreigners (foreign born, first and second generation) to country's population, percentage of asylum seekers to country's population, and percentage of nationality acquisitions to country's population – all derived from the Organisation for Economic Cooperation and Development. Information on the colonial tradition of a country is extracted from Gallaher et al. (2009).

In order to cut the data in various ways, all macroeconomic and foreign participation variables enter in our model as dummies. For example, $D_{HighGDPcap}$ takes the value of 1 if a country's GDP per capita is above sample's median, and 0 otherwise, and $D_{HighDebt}$ and $D_{HighElderlyPop}$ get the

value of 1 if a country's debt ratio and elderly's population ratio, respectively, are above sample's median, and 0 otherwise. Similarly, the variables in the foreign participation set become also dummies, $D_{HighForeignStock}$, $D_{HighAsylumSeekers}$, and $D_{HighNationalityAcq}$ and take the value of 1 if the percentage of foreigners to country's population, percentage of asylum seekers to country's population, percentage of nationality acquisitions to country's population, respectively, is above sample's median, and 0 otherwise. The dummy $D_{ColonialTradition}$ takes the value of 1 if a country has been a colonizer, even once in its history, and 0 otherwise.

Table A2 Summary statistics

| Variable | Source | Obs | Mean | Standard deviation | Min | Max |
|-----------------------------------|--------|---------|-------|--------------------|-----|-----|
| y variables | | | | | | |
| Economy | ESS | 256,331 | 2.591 | 0.935 | 1 | 4 |
| Culture | ESS | 256,850 | 2.561 | 1.071 | 1 | 4 |
| Place to live | ESS | 256,441 | 2.614 | 0.892 | 1 | 4 |
| Same race | ESS | 259,601 | 2.778 | 0.849 | 1 | 4 |
| Different race | ESS | 259,392 | 2.507 | 0.872 | 1 | 4 |
| Poorer/non-EU | | 258,859 | 2.437 | 0.890 | 1 | 4 |
| x variables | | | | | | |
| Sociodemographic | | | | | | |
| Gender | ESS | 267,005 | 0.532 | 0.499 | 0 | 1 |
| Age | ESS | 267,282 | 3.754 | 1.694 | 1 | 6 |
| Education level | ESS | 265,758 | 2.279 | 0.466 | 1 | 3 |
| Marital status | ESS | 267,282 | 0.298 | 0.457 | 0 | 1 |
| Health status | ESS | 266,995 | 2.584 | 0.635 | 1 | 3 |
| Income level | ESS | 199,430 | 1.845 | 0.736 | 1 | 3 |
| Domicile | ESS | 266,503 | 1.625 | 0.484 | 1 | 2 |
| Employment Status | ESS | 267,282 | 0.055 | 0.227 | 0 | 1 |
| Religiousness | ESS | 265,197 | 1.945 | 0.819 | 1 | 3 |
| Political orientation | ESS | 235,269 | 1.924 | 0.750 | 1 | 3 |
| Immigrant parents | ESS | 266,854 | 0.144 | 0.352 | 0 | 1 |
| Social capital | | | | | | |
| Trust people | ESS | 266,438 | 0.644 | 0.479 | 0 | 1 |
| Trust legal system | ESS | 260,985 | 0.640 | 0.480 | 0 | 1 |
| State of health services | ESS | 263,854 | 0.649 | 0.477 | 0 | 1 |
| State of education system | ESS | 254,428 | 0.552 | 0.497 | 0 | 1 |
| Social interaction | ESS | 266,668 | 0.623 | 0.485 | 0 | 1 |
| Church attendance | ESS | 266,088 | 0.256 | 0.436 | 0 | 1 |
| Worked in political/ action group | ESS | 266,492 | 0.040 | 0.196 | 0 | 1 |
| Contacted politician/ government | ESS | 266,424 | 0.147 | 0.354 | 0 | 1 |

(Continued)

Table A2 (Continued).

| Variable | Source | Obs | Mean | Standard deviation | Min | Max |
|---|-------------------------------|---------|--------|--------------------|--------|--------|
| Worn campaign badge/ sticker | ESS | 266,294 | 0.077 | 0.267 | 0 | 1 |
| Taken part in demonstrations | ESS | 266,388 | 0.066 | 0.248 | 0 | 1 |
| Member of trade union | ESS | 263,952 | 0.424 | 0.494 | 0 | 1 |
| Feel safe | ESS | 264,863 | 0.776 | 0.417 | 0 | 1 |
| Victim of burglary/ assault | ESS | 266,551 | 0.188 | 0.390 | 0 | 1 |
| Feel fair treated as instrument | ESS | 265,389 | 0.537 | 0.499 | 0 | 1 |
| Macroeconomic | | | | | | |
| GDP per capita (constant 2011, PPP) | WDI | 267,282 | 38,801 | 18,877 | 8,815 | 90,807 |
| Debt (% GDP) | WDI | 267,282 | 57.67 | 28.51 | 4.400 | 146.2 |
| Elderly population (% population) | CIA | 267,282 | 18.47 | 2.071 | 12.84 | 21.76 |
| Foreign participation | | | | | | |
| Asylum seekers (% population) | OECD | 267,282 | 0.101 | 0.120 | 0.0005 | 0.774 |
| Stock of foreigners (% population) | OECD | 267,282 | 6.623 | 4.784 | 0.0164 | 23.78 |
| Nationality acquisition (% population) | OECD | 267,282 | 0.189 | 0.148 | 0.0026 | 0.624 |
| Colonial tradition | Gallagher et al. (2009) | 267,282 | 0.39 | 0.488 | 0 | 1 |

Note: Obs: observations; Min: minimum; Max: maximum; ESS: European Social Survey; EU: European Union; GDP: gross domestic product; WDI: World Development Indicators; OECD: Organisation for Economic Cooperation and Development.

Figure A1 Country attitudes toward immigration is bad or good for country’s economy.

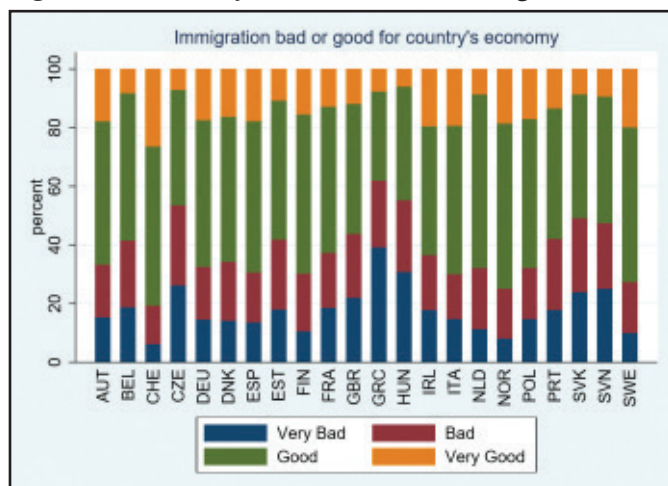
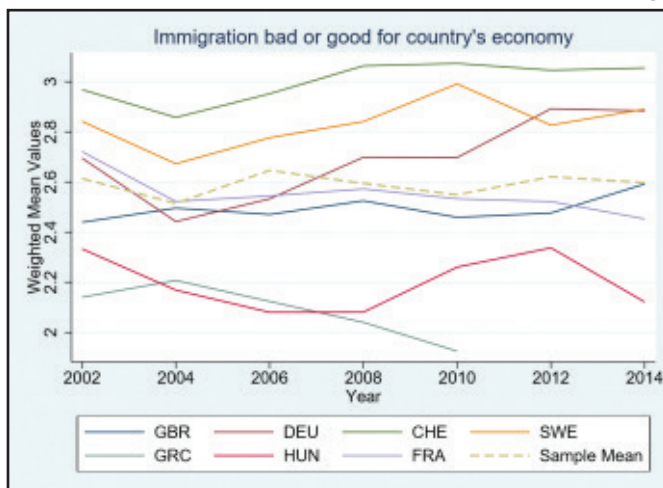


Figure A2 Trends of European attitudes toward immigration.



Robustness**Table A3** Social capital (as a factor of 13 variables), control function estimates

| | Economy | Culture | Place to live | Same race | Different race | Poorer/non-EU |
|---|-------------------|-------------------|----------------------|-------------------|-----------------------|----------------------|
| Gender | 0.827*** (0.0288) | 1.091 (0.0612) | 1.020 (0.0507) | 0.962 (0.0382) | 0.975 (0.0418) | 1.014 (0.0461) |
| Age | 1.006 (0.0208) | 0.939*** (0.0118) | 0.932*** (0.0141) | 0.950* (0.0266) | 0.900*** (0.0208) | 0.879*** (0.0166) |
| Education Level | 1.771*** (0.0752) | 1.774*** (0.0707) | 1.712*** (0.0718) | 1.770*** (0.0962) | 1.876*** (0.0962) | 1.713*** (0.0826) |
| Marital status | 0.987 (0.0712) | 0.986 (0.0267) | 0.942 (0.0355) | 0.834*** (0.0549) | 0.854** (0.0534) | 0.932 (0.0613) |
| Health status | 1.112*** (0.0262) | 1.081*** (0.0227) | 1.131*** (0.0352) | 1.152*** (0.0436) | 1.149*** (0.0437) | 1.123*** (0.0406) |
| Income level | 1.168*** (0.0354) | 1.081*** (0.0238) | 1.070*** (0.0164) | 1.163*** (0.0214) | 1.121*** (0.0236) | 1.102*** (0.0298) |
| Domicile | 1.163*** (0.0453) | 1.203*** (0.0736) | 1.172*** (0.0463) | 1.129*** (0.0379) | 1.148*** (0.0377) | 1.083** (0.0364) |
| Employment status | 0.845** (0.063) | 0.821** (0.062) | 0.888 (0.0859) | 0.838** (0.0680) | 0.800** (0.0893) | 0.920 (0.124) |
| Religiousness | 1.107*** (0.0270) | 1.104** (0.0434) | 1.148*** (0.0338) | 1.478 (0.492) | 1.478 (0.495) | 1.267 (0.416) |
| Political orientation | 0.757*** (0.0367) | 0.664*** (0.0398) | 0.693*** (0.0384) | 0.742*** (0.0281) | 0.658*** (0.0331) | 0.655*** (0.0327) |
| Immigrant parents | 1.611*** (0.149) | 1.492*** (0.0840) | 1.695*** (0.130) | 1.314*** (0.0577) | 1.304*** (0.0814) | 1.264*** (0.0749) |
| Social capital | 2.101*** (0.398) | 2.611*** (0.547) | 2.352*** (0.666) | 1.101*** (0.0406) | 1.090** (0.0383) | 1.154*** (0.0373) |
| <i>D^{HighGDPcap}</i> | 1.142*** (0.0321) | 1.319 (0.424) | 1.246 (0.395) | 1.354 (0.462) | 1.254 (0.478) | 1.307 (0.536) |
| <i>D^{HighDebt}</i> | 1.125*** (0.0407) | 0.654 (0.225) | 0.731 (0.266) | 0.784 (0.249) | 0.586 (0.263) | 0.619 (0.309) |
| <i>D^{HighElderlyPop}</i> | 0.759 (0.139) | 1.060 (0.387) | 1.021 (0.375) | 1.144 (0.347) | 1.138 (0.510) | 1.032 (0.509) |
| <i>D^{HighAsylumSeekers}</i> | 0.407*** (0.109) | 0.561 (0.233) | 0.492* (0.208) | 0.768 (0.344) | 0.466 (0.225) | 0.447 (0.233) |
| <i>D^{HighForeignStock}</i> | 0.451*** (0.0936) | 0.773 (0.277) | 0.705 (0.242) | 1.056 (0.329) | 0.682 (0.263) | 0.703 (0.300) |
| <i>D^{HighNationalityAcq}</i> | 0.741 (0.214) | 0.738 (0.280) | 0.956 (0.325) | 0.611 (0.196) | 0.982 (0.371) | 0.944 (0.398) |
| <i>D^{ColonialTradition}</i> | 1.273 (0.338) | 0.894 (0.249) | 0.697 (0.285) | 1.037 (0.514) | 1.574 (0.830) | 1.497 (0.829) |
| <i>D^{HighGDPcap&HighForeignStock}</i> | 3.312*** (0.907) | 1.004 (0.406) | 1.118 (0.480) | 1.324 (0.576) | 2.362* (1.137) | 2.616* (1.402) |
| <i>D^{HighSocialCapital&HighAsylumSeekers}</i> | 1.085** (0.0354) | 1.067 (0.180) | 1.175 (0.175) | 1.121 (0.112) | 1.104 (0.126) | 1.082 (0.127) |
| <i>D^{HighSocialCapital&HighForeignStock}</i> | 1.199*** (0.0664) | 1.073 (0.115) | 1.254*** (0.0877) | 1.166* (0.0955) | 1.134 (0.0934) | 1.070 (0.0961) |
| <i>D^{HighSocialCapital&HighNationalityAcq}</i> | 1.031 (0.113) | 1.201 (0.209) | 1.064 (0.143) | 0.957 (0.121) | 1.037 (0.138) | 1.101 (0.154) |
| <i>D^{HighSocialCapital&Unemployment}</i> | 1.142*** (0.0426) | 1.139*** (0.0427) | 1.133*** (0.0416) | 1.043 (0.0590) | 1.120 (0.105) | 0.950 (0.0588) |
| <i>D^{HighSocialCapital&LowIncome}</i> | 1.099** (0.0433) | 0.997 (0.0451) | 1.092*** (0.0278) | 1.111*** (0.0272) | 1.102** (0.0432) | 1.137*** (0.0328) |
| Control term | 0.826 (0.139) | 0.619** (0.124) | 0.738 (0.182) | 0.965 (0.284) | 0.998 (0.291) | 1.114 (0.321) |
| Observations | 165,173 | 165,772 | 165,331 | 165,779 | 165,772 | 165,573 |

Notes: Estimates are odd ratios. Control function approach is used to correct for endogeneity in *social capital* constructed index. Control term is the predicted residuals of the control function estimation. Instruments of *social capital* constructed index: “literacy in 1900s”, “dominant religion”, and “feel fair treated”. Country and year fixed effects are used. Heteroscedasticity-adjusted standard errors are given in parentheses. *, **, and *** are significance levels at 10%, 5%, and 1%, respectively.