

## ESTUDIOS

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### Attitudes towards immigration at the regional level in Europe in times of crisis

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**Abstract:** At the aftermath of the 2008 financial and socio-economic crisis, there had been a boom of nationalist parties in Europe that included anti-immigration measures in their programs. In this study, we analyse the relationship between socioeconomic status and anti-immigrant sentiment at the regional level by using geographically weighted regression. In doing so we use data from the first years of the financial crisis, when most of European countries were beginning to experience its consequences at an economic, social and political level. Our findings confirm the suitability of spatial analysis to explain regional differences in attitudes towards immigration. Although inter-country or macro-regional comparisons might be useful to explain anti-immigrant sentiments, the general validity of these large-scale geographic areas could be questioned when descending to a regional level. The information provided at the regional level might be useful to identify regions where policy makers should aim integration policies to reduce citizens' negative attitudes towards immigrants.

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### **Une attitude à l'égard de l'immigration au niveau régional en Europe en temps de crise**

**Résumé:** Au lendemain de la crise financière et socio-économique de 2008 il y a eu un boom des partis nationalistes en Europe qui ont inclus des mesures anti-immigration dans leurs programmes. Dans cette étude nous analysons la relation entre le statut socio-économique et le sentiment anti-immigrant au niveau régional en utilisant une régression pondérée géographiquement. Pour ce faire, nous utilisons les données des premières années de la crise financière, lorsque la plupart des pays Européens commençaient à en ressentir les conséquences au niveau économique, social et politique. Nos conclusions confirment la pertinence de l'analyse spatiale pour expliquer les différences régionales dans les attitudes à l'égard de l'immigration. Bien que les comparaisons entre pays ou macro-régionales puissent être utiles pour expliquer les sentiments anti-immigrants, la validité générale de ces zones géographiques à grande échelle pourrait être remise en question lorsqu'on descend au niveau régional. Les informations obtenues au niveau régional pourraient être utiles pour identifier les régions où les décideurs politiques devraient orienter les politiques d'intégration afin de réduire les attitudes négatives des citoyens envers les immigrants.

**Mots clé:** Statut socio-économique, sentiment anti-immigrant, xénophobie, analyse spatiale.

### **Actitudes hacia la inmigración a nivel regional en Europa en tiempos de crisis**

**Resumen:** A partir de la crisis financiera de 2008, ha habido un auge de partidos nacionalistas en Europa que incluyen medidas antinmigración en sus programas. En este estudio se analiza la relación entre el estatus socioeconómico y el sentimiento antiinmigrante a nivel regional, mediante análisis de regresión geográfica. Para ello usamos datos de los primeros años de la crisis financiera, cuando la mayoría de los países de Europa estaban comenzando a experimentar sus consecuencias a nivel económico, social y político. Este trabajo confirma empíricamente la idoneidad del análisis espacial para mostrar la existencia de diferencias regionales en el sentimiento anti-inmigrante. A partir de ahí cabría cuestionar la validez general de las comparaciones realizadas hasta el momento entre países o entre macro-regiones para explicar tales actitudes. La información aportada en el nivel regional puede ser útil para identificar regiones prioritarias donde implementar políticas de integración para reducir las actitudes negativas hacia los inmigrantes.

**Palabras clave:** Nivel socioeconómico, sentimiento antiinmigrante, xenofobia, análisis espacial.

## I. Introduction

Since its origins, the economic prosperity and political stability of the European Union has produced a pull effect upon potential migrants. According to the European Commission record, a total of 4.4 million people immigrated to one of the EU-28 Member States during 2017 (Eurostat, 2017). Among them, there were an estimated 2.0 million citizens of non-EU countries, 1.3 million people with citizenship of a different EU Member State from the one to which they immigrated, around 1.0 million people who migrated to an EU Member State of which they had the citizenship (for example, returning nationals or nationals born abroad), and some 11 thousand stateless people (Eurostat, 2017).

These data raise questions about the effect of immigration on national citizens' attitudes, an area that has received a lot of attention during the last decade. In fact, literature on attitudes towards immigration has produced a large theoretical corpus and empirical data, which has served to explain the determinants of anti-immigration attitudes. Specifically, research on this area has developed from two theoretical foundations according to the emphasis they place in specific explanatory factors (Jaime-Castillo et al., 2016).

The first theoretical approach highlights the importance of socio-economic factors in shaping attitudes towards immigration, and specifically, in the formation of anti-immigrant sentiment. Referred to as the 'political economy tradition', this approach explains attitudes towards immigration as the result of self-interested national citizens' calculations attributing scarce resources to be at odds with immigrants (Hainmueller and Hopkins, 2014, p. 226). Competition between national citizens and immigrants may occur whether in the labour market –the *labour market competition model*– (Berger and Gabriel, 1991; Brettell and Hollifield, 2008; Chiswick and Miller, 2008; Cobb-Clark and Hildebrand, 2006; Givens, 2007; Mosisa, 2002; Orrenius and Zavodny, 2009; Schlueter et al., 2013) or with regards to the required fiscal burden to provide welfare services and benefits for the entire population –the *fiscal burden model*– (Borjas, 1999; Facchini and Mayda, 2009; Hainmueller and Hiscox, 2010; Schlueter et al., 2013).

According to the *labour market competition model*, low-skilled native workers are more prone to oppose immigration than the rest, since they assume that migrants could compete with them in the labour-market for the same low-skilled jobs (Berger and Gabriel, 1991; Mayda, 2006; Orrenius and Zavodny, 2009). This is because low-skilled natives would fear the fall of wages or even the loss of their jobs as a consequence of the arrival of immigrant workers with similar skill levels, enhancing

anti-immigrant sentiment among the former group (Helbling and Kriesi, 2014). However, some studies have cast doubt on the effect of wages and skill levels on natives' attitudes towards immigration, or at least have pointed to that effect to be slight or almost non-existent. For example, Hainmueller and Hiscox (2007; 2010) have concluded that no matter what the respondents' skill levels are, high-skilled immigrants are always preferred.

According to the *fiscal burden model*, natives are more prone to oppose low-skilled immigration in those countries characterized by a broad welfare state since they assume that migrants would make use of social benefits to a greater extent than the average population (Escandel and Cebanou, 2003)<sup>6</sup>. According to Hainmueller and Hiscox (2007), negative attitudes towards immigration seem to be higher among working class natives since they compete with immigrants for social benefits. However, although tested in a cross-national context (see for example, Facchini and Mayda, 2009), research conducted through both experiments and surveys has concluded that both high-income and low-income national citizens are equally opposed to low-skilled immigration. Thus, these results seem to be incompatible with the claim that 'self-interested fears about immigration-induced tax hikes generate anti-immigrant sentiments' (Hainmueller and Hopkin, 2014, p. 230).

The rationale behind these two models included in the 'political economy tradition' is that natives shape their attitudes towards immigration according to the effects that migration is expected to produce on their personal economic situation (Hainmueller and Hopkins, 2014). This implies to assume that individuals make a cost-benefit calculation on how immigration affects them personally before expressing their opinion about it.

But despite the unquestioned theoretical consistency of this tradition, its empirical results have sometimes lack of empirical robustness (Hainmueller and Hiscox, 2010). For that reason, some authors argue that attitudes towards immigration are not driven by self-interested concerns (see for example, Dancygier and Donnelly, 2013) but instead by workers' worries about the impact of immigration on the whole nation. In other words, natives care more about social utility than their personal utility when expressing their attitude towards immigration.

Thus, contrary to the aforementioned political economy tradition, some scholars have concluded that while personal economic circumstances do not prove influential

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<sup>6</sup>Empirical research, however, revealed that the immigrants (particularly illegal), contribute less to health care costs in relation to their population share (GOLDMAN ET AL., 2006; GEORGE ET AL., 2011).

on attitudes towards immigration, assessments regarding national economic performance do (Kinder and Kiewiet, 1981). Therefore, general pessimism about the national economy may predict anti-immigrant attitudes (Citrin et al., 1997). Similar results were highlighted by Lapinski et al. (1997), Tichenor (2002) and Wilkes et al. (2008), who concludes that weaker national economic conditions correlate with an increased level of anti-immigration attitudes. By using the European Social Survey data, more recent research concludes that individual attitudes toward immigrants' impact on economy depend on economic cycles and on proportion of foreign-born people in the country (Finseraas et al., 2016).

The second theoretical approach emphasizes the role of group-related attitudes, culture and symbols in shaping attitudes towards immigration (Hainmueller and Hopkins, 2014, p. 226). This has resulted in a very fruitful area of research, in which various sets of issues have been analysed mainly through survey-based studies (Bail, 2008; Bauer et al., 2000; Citrin et al., 1997; Fetzer, 2000; Saxton and Benson, 2003; Schlueter et al., 2013). That is the case of natives' perceived differences related to religion, race, ideology and factors such as stereotypes or perceived cultural threats to national identity as having a significant impact on attitudes towards immigration. As well, a set of studies analyse different attitudes towards immigration by depending on the perceived voluntary or involuntary nature of migration (Verkuyten et al., 2018; Bansak et al., 2016). Consistent with these results, some studies conclude that concerns about the impact of immigration on the country's cultural composition and social life have a stronger effect on citizens' attitudes than economic concerns (see Card et al., 2011).

Notwithstanding the aforementioned results derived from both approaches, the empirical analysis of attitudes towards immigration lacks an in-depth examination of the context where both socio-economic and cultural factors are supposed to have an impact. So far, research has been mainly conducted at both national and cross-national levels, omitting place-based units other than the nation as a whole (Hainmueller and Hopkins 2014, p. 13). Moreover, whenever the supranational level has been considered, it has usually been introduced through some pre-established categorization of countries, the *welfare state models* being one of the most frequently used typologies by social scientists<sup>7</sup>.

Specifically, various welfare state models have been identified in Europe, several authors having developed their own typologies. That of Esping-Andersen (1990),

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<sup>7</sup> As example of categorization of countries within the EU different to that related to the welfare state model, see BUTKUS ET AL. (2018).

nevertheless, remains as the central and classical typology, according to which the author identified three welfare state regimes: Liberal, Conservative/Corporate and Social–Democratic. According to Esping–Andersen, there have been further typologies which have added new models of welfare state to previously existing and acknowledged ones. Specifically, Leibfried's (1992) typology has been of special interest in as much as it includes the *Latin Rim* model as a distinctive welfare state regime characterized by a weak provision of welfare and social services together with strong *familism* among its population. Additionally, the post–Communist family of nations (Castles and Obinger, 2008) has been regarded by some authors as forming a new type of welfare state regime (Ebbinghaus, 2012).

As expected, the different degrees of depth at which welfare policies (education, health, social protection) are implemented in the countries belonging to each welfare state model produce specific socioeconomic conditions in their inhabitants, and thus different attitudes towards immigration. Despite the existence of an extensive bibliography analysing attitudes towards immigration by applying various typologies of welfare state models, inter–country differences have been reported to prevail upon either economic or cultural factors (Boeri, 2010; Dustmann and Preston, 2007; Fetzter, 2000; Hainmueller and Hiscox, 2007; Haubert and Fussell, 2006; Mayda, 2006; Fachini and Mayda, 2009; Saxton and Benson, 2003; Van der Brug and Fennema, 2007). These results make it necessary to analyse in detail attitudes towards immigration at a lower level than that of the nation, that is, regional level.

Although regions have hardly been analysed so far, this level is gaining relevance considering the existing on–going debate on the effect of spatial proximity on attitudes towards immigration, with some studies concluding that residential proximity provides the opportunity to interact with immigrant populations, which in turn implies a more positive attitude towards immigration (Fetzter, 2000; Schlueter & Wagner, 2008), while other studies find that proximity might increase anti–immigration feelings (Wright and Citrin, 2011). Therefore, as other studies have pointed out (Rustenbach, 2010), the importance of geography in shaping attitudes towards immigration seems to be undoubtable. However, more empirical support is needed to shed light on this issue, since until now immigration studies have obviated the impact of territory on native citizens' perceptions. This being so, can the rejection of immigrants by native citizens be uniformly explained within country or welfare state models? Is there a spatial effect of regions within Europe on the relationship between native citizens' socioeconomic conditions and their anti–immigrant sentiment? In other words, is the relationship between socioeconomic status and anti–immigrant sentiment geographically consistent among European regions, whether based on cultural or economic arguments?

This work aims to fill in this gap in the literature. Our objective is to describe the spatial effect of regions on anti-immigrant sentiment according to both cultural and economic reasons, at a time (recent years after 2008) of special economic difficulty and reinforcement of anti-immigrant measures by nationalist political parties. Specifically, taking into account that individual socioeconomic conditions have been found to be related to native attitudes towards immigration (Kunovich, 2004), we use *geographically weighted regression* to contextualize the relationship between socioeconomic status (SES) and anti-immigrant sentiment with regard to both cultural (i.e. symbolic) and economic reasons at regional level. That is, we describe the association between SES and anti-immigrant sentiment (related to cultural and economic reasons) but controlling this relationship for the spatial effect of different European regions.

Our starting hypotheses are the following:

- H1. A spatial effect in the relationship between native citizens' SES and anti-immigrant sentiment does exist at regional European level.
- H2. The relationship between national citizens' SES and anti-immigrant sentiment does not perform in the same way throughout European regions.
- H3. In this relationship, differences arise when the rejection of immigrants by national citizens is measured either in terms of the immigrants' ethnicity or in terms of immigrants' income.

## 2. Methods

### 2.1. Data

We use the fifth wave of the European Social Survey (2010) to describe the association between SES and national citizens' anti-immigrant sentiment at regional level during the first years of the financial crisis, when most of the European countries were beginning to experience its consequences at an economic, social and political level. In a moment of boom of the nationalist parties in Europe, which include in their electoral programs measures against immigration, it is worthwhile to delve into what the panorama was like during the crisis to provide information that would allow for later comparisons.



In addition, data from ESS 2008 was collected in order to complete missing countries in SES 2010 (Austria, Lithuania and Turkey). This dataset has a sample size of 52,437 units at individual level. Taking into account that from the current literature it is not clear which factors (i.e. cultural–symbolic or economic ones) produce stronger effects on attitudes (Card et al., 2011), differences between anti–immigrant sentiments either due to cultural or economic reasons will be compared through regression analysis by using two dependent variables which contemplate both theoretical explanations: (1) European attitudes Against the Entrance of Immigrants with Different Ethnicity (AEIDE); and (2) European attitudes Against the Entrance of Immigrants from Poor Countries (AEIPC).

In the ESS 2010 questionnaire the related questions are the following: IMDFETN (Allow many/few immigrants of a different race/ethnic group with respect to the majority group in the region) and IMPCNTR (Allow many/few immigrants from poorer countries outside Europe). The values and response categories in these variables were: 1. ‘Allow many to come and live here’, 2. ‘Allow some’, 3. ‘Allow few’, and 4. ‘Allow none’. However, these variables were recoded to 0 ‘Allow’ (1, 2, 3) and 1 ‘Not Allow’ (4) in order to focus the analysis on national citizens’ attitudes opposing the entrance of immigrants into their countries.

**TABLE I. Descriptive statistics for the variables included in the model**

Variable	Obs.	Mean	Std. Dev.	Min	Max
AEIDE (Allow diff. ethn.)	50349	0.170	0.376	0	1
AEIPC (Allow poor countries)	50102	0.212	0.408	0	1
ISEI	45968	41.900	16.812	16	90
Gender	52437	1.546	0.498	1	2
Age	52305	48.505	18.789	14	102

Socioeconomic status (SES) is measured by using the International Socio–Economic Index of Occupational Status (ISEI) (Ganzeboom and Treiman, 1996). The ISEI is computed by using a causal model that takes into account three basic indicators (occupational status, education and income). This procedure obtains scores for each occupation by the optimal scaling of the occupational unit group in the ISCO88 classification. We use the ISEI index since the resulting measure has proven to be a more exhaustive and comprehensive indicator of individual socioeconomic position and especially because, compared to categorical measures of social class, this



indicator can be used in regression analysis as a continuous variable (Ganzeboom and Treiman, 1996). In addition to the ISEI, other explanatory variables were included as controls: age and gender (where 0 = 'Male' and 1 = 'Female'). Table I shows the descriptive statistics for the variables included in the model.

## 2.2. *Spatial analysis units*

The ESS 2010 collected data on 29 European countries and registered information at regional level; data about another 3 countries were also collected from ESS 2008. In doing so, the ESS used the so-called NUTS (Nomenclature of Territorial Units for Statistics) for the following countries and regions: EU members or candidate countries, members of the European Free Trade Association (EFTA), and regions in other countries including Israel, Russia and Ukraine. NUTS are statistical units not always based on the level of regional administration, so the ESS did not use the same NUTS level for all the countries included in the study. ESS used NUTS1 for Cyprus, Germany, Turkey and United Kingdom; NUTS2 for Austria, Belgium, France, Croatia, Denmark, Greece, Norway, Poland, Portugal, Spain, Switzerland and Netherlands; NUTS3 for Czech Republic, Finland, Hungary, Ireland, Lithuania, Sweden, Bulgaria, Estonia, Slovakia, and Slovenia; and finally, regional level for Israel, Russia and Ukraine. Russia's Asian regions beyond the Ural Mountains were not included in order to avoid both an oversized study area, which would have introduced bias in the spatial analysis, also focusing the study on Europe and its surrounding territories. These spatial units are the smallest geographical areas for which the ESS collects significant regional data. Besides, these study areas are comparable because all of them correspond to administrative regions with homogeneous cultural and historical characteristics. Thus, this research has used 368 ESS' regional units in order to analyse intra-country differences regarding national citizens' attitudes opposing the entrance of immigrants (AEIDE-AEIPC).

## 2.3. *Statistical analysis*

### 2.3.1. Logistic regression

Before spatial analysis, a logistic regression model was carried out to test and compare the effect of SES on anti-immigrant sentiment in five typologies of European welfare states (i.e. macro regions), regimes that are generally identified in literature on political economy: Liberal (United Kingdom, Ireland), Social-Democratic (Denmark, Finland, Norway, Sweden), Conservative (Germany, France, Austria, Belgium, Luxemburg,

Netherlands, Switzerland), Mediterranean (Cyprus, Greece, Italy, Portugal, Spain, Turkey), and Post-Communist (Czech Republic, Estonia, Hungary, Poland, Romania, Russian Federation, Slovak Republic Slovenia, Ukraine). Additionally, the predicted probabilities have been graphically described for a better understanding of the results. Age and gender were introduced as control variables.

### 2.3.2. Geographically Weighted Regression

The spatial analysis was carried out on aggregated ESS data in NUTS. Use of spatial regressions is justified because standard linear regressions, such as Ordinary Least Squares (OLS), assumes that the error terms are uncorrelated throughout all observations. This assumption is not always accurate when working with spatial data, since their values may be influenced by two spatial effects: their geographical location (spatial dependence) on the one hand, and the non-stationary characteristics of their territory (spatial heteroscedasticity) on the other. The underlining principle in both spatial effects is that all observations are mutually related. However, the nearer the observations are in geographical space, the stronger the relationship between them (Tobler's First Law of Geography) (Tobler, 1970). One way of overcoming spatial effects is by using specific methodological approaches that consider geographical space within the regression models.

Spatial effects can be highlighted through both global and local spatial autocorrelation indexes (Wang, 2006) "page": "167-188", "source": "Google Books", "event-place": "Boca Raton (USA. Moran's  $I$  is a classic index which introduces a spatial weights matrix in order to establish the relationships between pairs of observations according to either proximity or distance (Moran, 1948; Anselin, 1995). In multivariable regression models, the spatial effects are identified when the residuals show spatial autocorrelation, that is, when they are not randomly spread in the territory so that the independence assumption of the explanatory variables is not met.

Geographically Weighted Regression (GWR) was developed with the aim of avoiding spatial influences (spatial dependence and spatial non-stationarity) in the regression models by including territory as a new component (Brunsdon et al., 1996). There are other multivariable spatial regressions such as spatial error or spatial lags models (Auchincloss et al., 2012) and numerous tools are being employed for analysis of spatial health-related data. This review documents the huge growth in spatial epidemiology, summarizes the tools that have been employed, and provides in-depth discussion of several methods. Relevant research articles for 2000-2010 from seven epidemiology journals were included if the study

utilized a spatial analysis method in primary analysis ( $n = 207$ , but, in line with our purposes, GWR provides a local model of the dependent variable by fitting a regression equation for every feature in the dataset. Regression coefficients vary according to the location of variables considering their geographical coordinates. For each local regression, the closest values have a higher weight than the furthest. This distance decay is simulated through a Kernel function.

Specifically, our model analysed the relationship between (a) the national citizens' attitudes opposing the entrance of immigrants (AEIDE–AEIPC) and (b) the SES (measure with the ISEI index) through GWR. A similar analysis had been previously carried out by using classic OLS to justify the use of GWR afterwards. Moran's  $I$  was conducted to assess the spatial autocorrelation of residuals in both kinds of regressions. In the Moran's  $I$  analysis, the spatial relationships were measured by inverse Euclidean distances with a threshold that ensures every spatial unit is related to another at least.

In the GWR, a fixed Kernel function based on the distance between spatial units was used. This aimed to deal both with irregular geographical distribution and avoiding analysis between very distant units. The bandwidth used for each local observation was defined by the corrected Akaike Information Criterion (AIC) as the bandwidth parameter for each local model. This parameter identifies the optimal fixed distance based on the geographical distribution of the data. The spatial relationships have been considered through the distances, instead the neighbourhood, in order to prevent the effect of selecting regions without neighbours such as islands or those surrounded by geographical areas that have not been considered in the study.

### 3. Results

Table II shows a negative association between the SES and European attitudes opposing the entrance of immigrants into their country (either from a different ethnical origin –AEIDE–, or from poorer countries –AEIPC). In other words, increasing SES reduces anti-immigrant sentiment.

**TABLE II. Logistic regression model describing the association between SES and European national citizens' attitude against the entrance of immigrants in their own countries (AEIDE/AEIPC)**

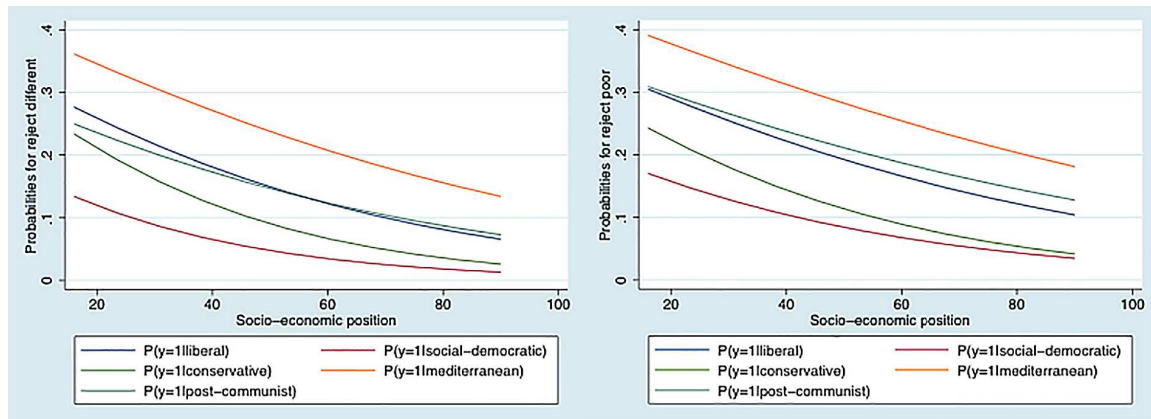
	AEIDE			AEIPC		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>ISEI</b>	-0.024*** (0.001)	-0.024*** (0.001)	-0.024*** (0.001)	-0.020*** (0.001)	-0.020*** (0.001)	-0.020*** (0.001)
<b>Gender</b>		-0.006 (0.026)	-0.008 (0.026)		-0.017 (0.023)	-0.019 (0.023)
<b>Age</b>			0.001*** (<0.001)			0.001*** (<0.001)
<b>Cons.</b>	-0.649*** (0.018)	-0.646*** (0.019)	-0.734*** (0.019)	-0.540*** (0.018)	-0.530*** (0.020)	-0.618*** (0.019)
<b>N</b>	44214	44202	44202	43997	43985	43985
<b>Chi2</b>	903.969***	903.811***	951.516***	728.393***	728.953***	781.647***
<b>R2</b>	0.023	0.023	0.024	0.016	0.016	0.017

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Model 1 describes the isolated relationship between national citizens' attitude opposed to the entrance of immigrants into their countries (either for economic or cultural reasons) and their individual SES. Model 2 is adjusted by gender, but this variable is not statistically significant. Finally, Model 3 introduces the controlling effect of individuals' ages. In this case the effect is statistically significant, although it does not produce variations in the relationship between the ISEI and national citizens' attitudes opposing the entrance of immigrants into their own countries.

When contextualizing the relationship between the SES and attitudes towards the entrance of immigrants for both cultural (AEIDE) and economic reasons (AEIPC), different results are obtained. Figure 1 shows that the negative correlation between these variables is clearly affected by contextual circumstances. In this same figure it can be noted how the probability of national citizens' rejection toward admitting immigrants progressively decreases as their SES increases.

**FIGURE I. Probability for being against the entry of immigrants coming from different ethnical origin and from poorer countries. Differences by welfare state regimes\***



\* Welfare states regimes and countries associated: Liberal (United Kingdom, Ireland), Social-Democratic (Denmark, Finland, Norway, Sweden), Conservative (Germany, France, Austria, Belgium, Luxemburg, Netherlands, Switzerland), Mediterranean (Cyprus, Greece, Italy, Portugal, Spain, Turkey), and Post-Communist (Czech Republic, Estonia, Hungary, Poland, Romania, Russian Federation, Slovak Republic Slovenia, Ukraine).

Following the five-group classification of welfare state regimes (Liberal, Social-Democratic, Conservative, Mediterranean and Post-Communist), it can be stated that those European regions with the strongest welfare state regimes, mainly Scandinavian countries, are the ones in which citizens present the lowest probability of reporting rejection to immigrants (with values below 15% among the less skilled people in the lowest socioeconomic positions). On the other hand, national citizens in Mediterranean countries show the highest probability for rejecting the entrance of immigration into their territories (at values over 30%). In Scandinavian countries, characterized for their comprehensive system of social protection (i.e. Social-Democratic welfare state regime), the probability of national citizens' rejection of immigration for economic and cultural reasons are comparatively lower than the probabilities observed in the other welfare state regimes in Europe. This is especially notable when comparing Scandinavian countries with Southern European ones.

In addition, it is worth noting that the probability of national citizens' rejection of immigration for economic reasons (AEIPE) is slightly higher than the probability of doing so for cultural reasons (AEIDE). In other words, it could be argued that ethnic diversity seems to be more acceptable than poverty when it comes to national citizens' attitudes towards admitting immigrants.

Now the question is the following: can this relationship vary at countries' regional levels? As summarized in Table III, when regional units (NUTS) were analysed through spatial data analysis, Moran's *I* showed that there was spatial dependency in the geographical distribution of the dependent variables in this study, that is: (1) to be Against the Entrance of Immigrants with Different Ethnicity (AEIDE); and (2) to be Against the Entrance of Immigrants from Poor Countries (AEIPC). The SES (measured by the ISEI index), as the explanatory variable, also showed spatial dependency. In this case, both global and local spatial autocorrelation indices were statistically significant although we only report the former in order not to duplicate results.

**TABLE III. Spatial autocorrelation analysis for the variables in the model**

	Moran's Index	Expect. Index	Variance	Z Score	p-value
<b>AEIDE</b>	0.119	-0.003	<0.001	18.973	0.000
<b>AEIPC</b>	0.116	-0.003	<0.001	18.476	0.000
<b>ISEI</b>	0.134	-0.003	<0.001	21.356	0.000

As a next step, the Ordinary Least Squares (OLS) technique was used to test the relationship between the ISEI and the dependent variables AEIDE and AEIPC. As can be observed in Table IV, at regional level national citizens' SES correlates negatively with rejecting the entrance of immigrants from both a different ethnic background (-0.034) and from poorer countries (-0.034). According to the findings of the logistic regression analysis, the results of the OLS technique are statistically significant. The models show that an increase in national citizens' SES reduces the probability of rejecting immigrants either for cultural or economic reasons. That is, the variables AEIDE and AEIPC progressively decrease as the ISEI grows. The impact of the ISEI is rather similar in models 1 and 2.

**TABLE IV. Analysis based on the Ordinary Less Squares (OLS) and spatial auto-correlation analysis of the residuals**

	Model 1: AEIDE			Model 2: AEIPC		
	Coeff.	Std. error	p-value	Coeff.	Std. error	p-value
Cons.	3.844	0.187	0.000	3.965	0.193	0.000
ISEI	-0.034	0.005	0.000	-0.034	0.005	0.000
N	368			368		
AICc	283.159			307.149		
R2	0.134			0.125		
Residual Sum Of Squares	46.007			49.106		
Spatial auto-correlation of the residuals	Moran's I	Z Score	p-value	Moran's I	Z Score	p-value
	0.133	14.446	0.000	0.134	14.487	0.000

Moreover, it can be observed that global adjustment is relatively similar in both Model 1 ( $R^2 = 0.134$ ) and Model 2 ( $R^2 = 0.125$ ). As a result, it can be argued that regardless the relationship existing between dependent variables and the national citizens' socioeconomic positions in different European regions, this association is relatively weak. In this case, it must be taken into account that this analysis does not consider the existence of spatial effects. That is, the OLS analysis assumes that each region has a specific score for every variable in the model and that there is no contextual interdependence between regions. However, according to Moran's *I*, there is spatial auto-correlation in regression residuals, meaning that spatial effects should be considered in the models by using a geographical approach.

Geographical Weighted Regression (GWR) allows getting a fitted regression model for each spatial unit (i.e. European regions at local level). Table V summarizes the intervals for coefficients and standard errors. In contrast to OLS results, the global R-squared in the GWR increases to over 19% and the AIC and the Residual Sum Of Squares (RSS) drop in both models, which means an improvement in their global adjustment. Furthermore, the GWR residuals continue to be spatially auto-correlated, although with lower Moran's *I* scores. In other words, these results point out that the relationship between the ISEI and the rejection to immigrant entry either for ethnical or economic reasons depends on the regional context.

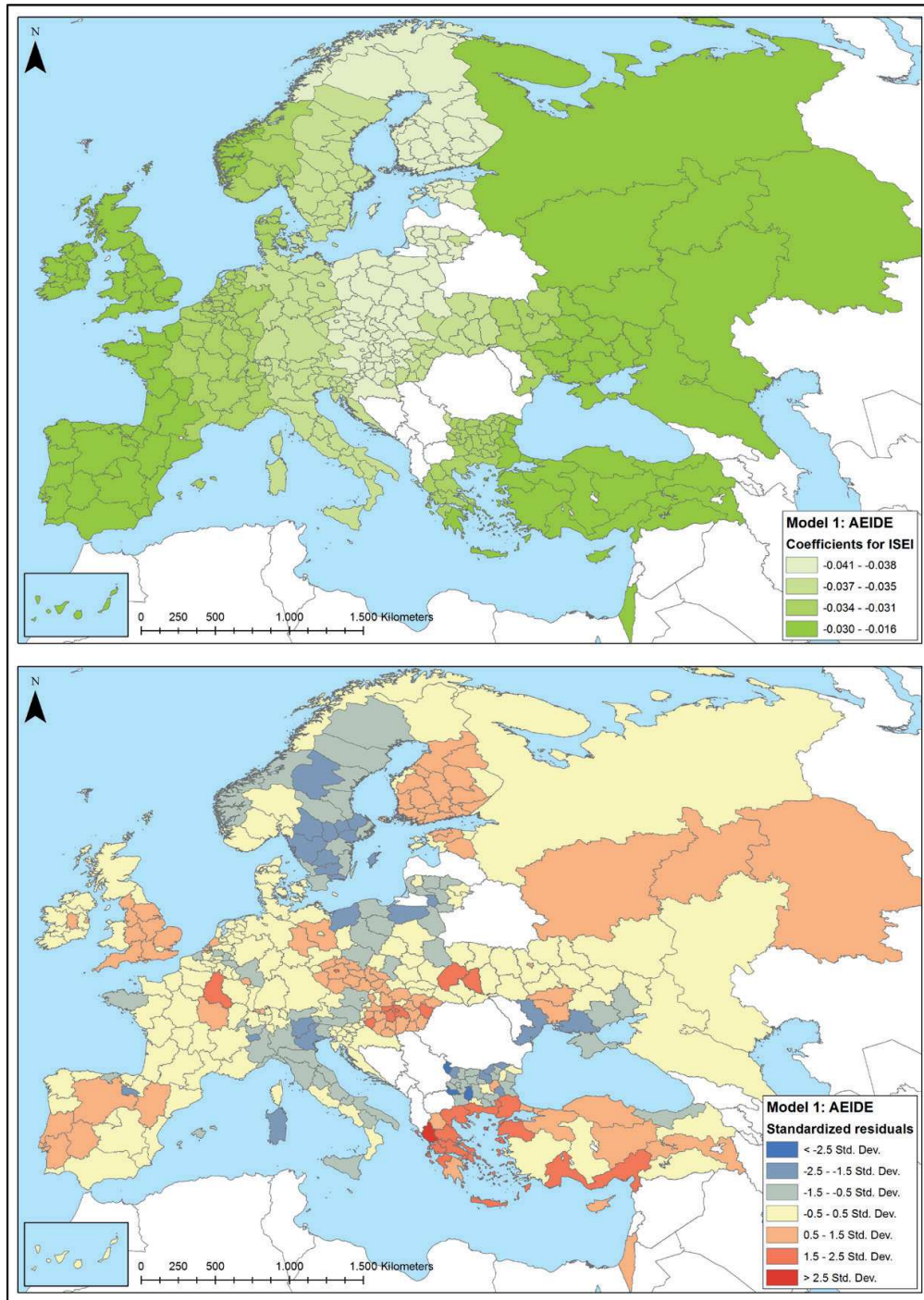


TABLE V. Spatial analysis using the Geographical Weighted Regression (GWR)

		Model 1: AEIDE			Model 2: AEIPC		
		Min	Max	Mean	Min	Max	Mean
Coefficients	Cons.	3.224	4.062	3.836	3.325	4.248	3.972
	ISEI	-0.041	-0.016	-0.034	-0.042	-0.015	-0.034
Standard Error	Intercept	0.210	0.566	0.246	0.214	0.578	0.252
	ISEI	0.005	0.014	0.006	0.005	0.014	0.006
Local R2		0.020	0.315	0.136	0.029	0.178	0.128
N		368			368		
Bandwidth		1,304,447 m			1,304,447 m		
AICc		272.932			288.343		
Global R2		0.182			0.193		
Residual Sum Of Squares		43.431			45.288		
Spatial auto-correlation of the residuals		Moran's I	Z Score	p-value	Moran's I	Z Score	p-value
		0.129	13.971	0.000	0.126	13.669	0.000

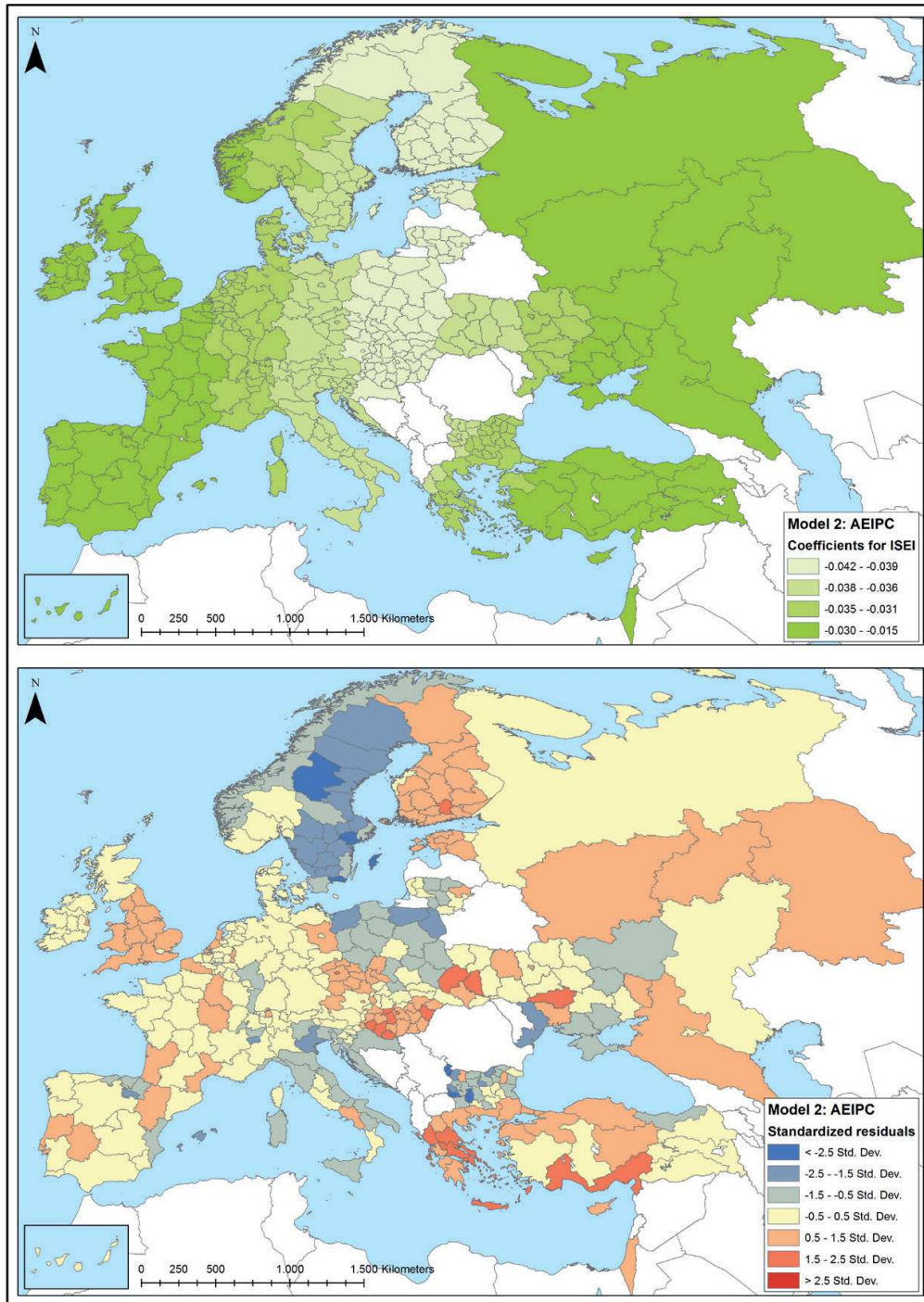
The GWR coefficients for ISEI and standardized residuals are mapped in Figure 2 where it is possible to observe the European regions with a better fit regarding the relationship between the ISEI and the rejection of immigrants from a different ethnical origin (AEIDE). The relationship between the ISEI and the AEIDE is better explained in regions located in the interval with soft (red/blue) colours (standard deviation between  $-1.5$  and  $+1.5$ ), while intense colours indicate the regions with the lowest degree of adjustment in the GWR. As can be observed in this map, national citizens' SES in Europe is positively related to their permissiveness towards the entrance of immigration for ethnical reasons. That is, highly educated, technically highly skilled people and high-income individuals with a high SES in the labour market are more prone to allow the entrance of ethnically different immigrants. Nevertheless, this relationship is not well accepted in many European regions, such as neighbouring areas of Greece, Bulgaria and Turkey, as well as the Southern and Western Ukrainian regions. Likewise, it is also possible to locate several non-fitted areas in Sweden and Hungary; and isolated areas in Czech Republic, France, Italy, Lithuania, Poland and Spain.

**FIGURE 2. Maps of the GWR coefficients and standardized residuals on the national citizens' rejection to the entrance of immigrants from different ethnic origin**



\*Intervals correspond to the mean of the residuals plus/minus the standard deviation (Std. Dev.).

**FIGURE 3. Maps of the GWR coefficients and standardized residuals on the national citizens' rejection to immigrants from poorer countries outside Europe**



\*Intervals correspond to the mean of the residuals plus/minus the standard deviation (Std. Dev.).

Figure 3 describes the GWR coefficients for ISEI and standardized residuals for the relationship between the SES and rejecting the admittance of immigrants from poorer countries. In general, this map shows a similar result to the previous one. Thus, it could be stated that national citizens' attitudes towards the entrance of immigrants either for ethnical or economic reasons are clearly related. In this case, new non-fitted regions can be located in Bulgaria, the Czech Republic, Finland, Greece, Hungary, Sweden and Ukraine as well as isolated areas in Italy, Poland, Spain and Turkey.

#### 4. Discussion

Logistic regression models have revealed that, in line with previous related studies (Kunovich, 2004), the more national citizens' SES increases, the lower their probability of rejecting immigrants' admittance for either economic or cultural reasons.

Although this relationship can be observed throughout Europe, differences arise when considering various welfare state regimes. Specifically, it is interesting to highlight these differences in order to understand to what extent the socioeconomic context after the financial crisis might be associated with the level of European citizens' opposition to the entrance of immigrants. In fact, our initial results indicate that given the case for national citizens from Mediterranean countries –that is, those most affected by both the global financial crisis within the European context as well as the entrance of undocumented/unauthorized immigrants– these are the ones who show the highest probability for rejecting the entrance of immigrants in their own countries due to both cultural and economic reasons.

National citizens from Mediterranean countries such as Portugal, Spain, Italy or Greece are more prone to oppose the entrance of poorer and ethnically different immigrants in their territories than nationals from other types of welfare state regimes, especially those from Scandinavian countries. Presumably, this rejection could be related to the economic problems experienced by these countries, especially considering the impact the financial crisis has had on them (Lapinski et al., 1997; Wilkes et al., 2008). Obviously, this assumption goes beyond the scope of this paper and implies a future extension of the present study. However, what is within its scope is to figure out to what extent intra-country differences can be found. That is, do differences regarding national citizens' rejection to immigrants exist at a regional level in Europe? Furthermore, is there any spatial dependency on the geographical distribution of attitudes opposing immigrants for ethnical or economics reasons?



Spatial analysis has highlighted the existence of different citizen attitudes towards immigration at the regional level. This being so, regional analysis has allowed us to find differences within countries by focusing on data at the meso-level, which are closer to individual level and thus provide us with more accurate information about the contextualized relationship between SES and anti-immigrant sentiment. Moreover, the information provided at this level may be useful to identify specific hot or cold regions, characterized by different socioeconomic levels, where policy makers should aim future integration policies to reduce citizens' negative attitudes towards immigrants.

The geographical approach has allowed us to interrelate citizens' attitudes in each region with those of neighbouring ones, since the attitudinal values considered showed a high geographic auto-correlation, according to Moran's *I*. The GWR model has proven to be more robust than the OLS model due to the improvement experienced by the R-Squared, the AIC and RSS values. It has also been possible to obtain regression models by spatial unit instead of an only model for the whole study area. Despite this improvement, the GWR models have continued showing certain level of spatial autocorrelation in their residuals, although lower than in the OLS models. Even so, the geographical approach has allowed us to explain the relationship between the SES and national citizens' attitudes opposing immigration better than non-spatial approaches do. This means that, as hypothesized in the beginning, spatial effects in the relationship between national citizens' SES and anti-immigrant sentiment do exist at a regional level in Europe (H1).

Contrary to previous research on this topic, which has been mainly conducted on a national and cross-national level (Hainmueller and Hopkins 2014), this work points to a new direction emerging beyond a pre-established categorization of countries, like welfare state models. In fact, through analysis of the data presented, heterogeneity in citizens' attitudes towards immigration has been observed, not only at the level of welfare state regimes, but also, and more remarkably, at regional level. This makes sense since immigration is not homogeneously distributed within countries. Therefore, although the SES is a well-known determinant of anti-immigrant sentiment, mainly on the dates analysed in this study, it does not have homogeneous explanatory power throughout the territory analysed.

In fact, there are regions in Greece, Spain, Turkey, Ukraine, Bulgaria, France, Poland or Sweden, among others (all of them being peripheral areas located at EU borders) whose model does not fit as well as in the rest of the regions. That means, except in the case of Sweden, and compared to the rest, SES is observed to have a different impact on the attitudes towards immigration in those border regions

that represent the main gateways of migratory flows to the European Union. The worse fit of the models in these regions is probably due to the effect of contextual factors on the perception of migratory flows, such as the increasing of extremist political discourses and media coverage focused on immigration as a security threat (Consterdine, 2018). This perception of threat is even higher in border regions than in inner regions. The case of Sweden is different given its northern location. A recent research highlighted that the negative attitudes towards immigration have been increasing in the last few years in Sweden due to the socioeconomic factors and, again, to other individual and contextual factors, such as negative perception of the effects of immigration on welfare systems, public insecurity or local culture (Ahmadi et al., 2020). Thus, as we hypothesized in the beginning, the relationship between national citizens' SES and attitudes towards immigration does not occur in the same way in all European regions (H2).

This result is consistent with previous literature pointing to immigration inflows as a factor that can be significant when talking about natives' perceptions regarding immigration (Sides and Citrin 2007; Blinder 2015). In fact, according to Blinder (2015), natives' misperceptions about the number of immigrants coming to their respective countries fuel negative attitudes towards immigration. This argument may also be behind the different impact that immigration has on natives' perception depending on their regions' proximity to large immigration inflows, as our results have evidenced. But not only do European citizens show different attitudes towards immigration depending on whether they live in border regions or not – they also do so depending on how attitudes towards immigration are measured. Specifically, they depend on whether the relationship between SES and attitudes towards immigration are measured in terms of immigrants' ethnicity or of their income (H3).

Data presented in this paper point to both immigration-related variables (ethnicity and income) as being intimately related to one another. So, as the nationals' SES increases, negative attitudes towards ethnically different immigration as well as poor immigration decrease, the reason for this relationship being to show a similar fit in the maps. This result is in line with Hainmueller's and Hiscox's (2007) conclusion claiming that natives with higher skills are actually more supportive of all types of immigration independently of their skill level, educational attainment, income, or socio-cultural background.

Despite this general trend, data show that attitudes towards immigration depend on the specific question being asked, as Segovia and Defever (2010) have pointed out. In fact, according to the data presented, the probability for European citizens to oppose immigration for economic reasons is slightly higher than the probability

of doing so for cultural reasons. Consequently, European citizens seem to be more accepting of ethnical diversity than of poverty with respect to admitting immigrants into their countries, especially in the border regions in South–East Europe, where ethnic frontiers and economically deprived areas are found (e.g. Greece–Turkey). Generally, in these red–coloured regions rejection seems to be higher than in most countries, while in blue–coloured regions (Northern countries) it seems to be lower than the mean.

According to these results, we could conclude that in low–income countries natives would anticipate that poor immigrants could compete with them in the labour market affecting their own individual economy. This is maximized when we also add a situation of economic recession such as that experienced in the years after 2008<sup>8</sup>. Thus, as the SES decreases, this competition is perceived to be higher by nationals, as is their opposition to immigration. This interpretation from the political economy approach is consistent with Mayda (2006), who analyses perceptions towards low–skilled immigration instead of towards poor immigration as we do.

Another interpretation suggested in political economy literature is the one based on the fiscal impact of immigration on natives' economy. Previously results in the literature concluded that those natives with higher SES would oppose poor immigration to a greater extent than the rest (Hanson et al., 2007). This argument might well contribute to explaining not the general trend observed in Europe, but the relationship between the SES and the attitudes towards immigration in Southern and Eastern countries characterized by a fragmented system of welfare provision and low social expenditure. Likewise, it may well also help explain why our model does not fit well in the Scandinavian countries, characterized by a strong welfare state system which theoretically should reduce the impact of socioeconomic determinants of anti–immigrant sentiment.

However, and although both the arguments provided might well partially explain our results from a political economy approach, they implicitly entail assuming that natives analyse how immigration affects their own individual economy in a negative sense. However, this is difficult to demonstrate given the variables used in the analysis. For that reason, in explaining why certain European regions do not fit well in our model, we could also argue that pessimism about national economy predicts natives' attitudes of rejection towards immigrants, as Citrin et al. (1997)

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<sup>8</sup> This is consistent with recent research by the Observatory of Public Attitudes to Migration (OPAM) on the Euro–Mediterranean region, which concludes that national economic downturns in developed countries leads to more negative attitudes towards immigration (DENNISON and DRAZANOVA, 2018).



previously concluded from a socio–psychological approach. Likewise, according to Kehrberg (2007), weaker economic conditions correlate with increased restrictionism. This argument may well explain the increased level of rejection to poor immigrants in comparison to ethnically different ones reported in Southern Europe, where the world economic crisis starting in 2008 has had a greater impact compared to the rest. However, these arguments require a more comprehensive study to consider data from before and after 2008 in the analysis.

## 5. Limitations and future orientation

All in all, despite the difficulty in drawing a definite conclusion about why certain areas of the map do not coincide in the negative relationship observed in Europe between the SES and anti–immigrant sentiment, our study shows that future research in this field should go beyond country typologies and take into account the regional level, since, as observed, geography modulates the effect of socioeconomic determinants on attitudes towards immigration (Rustenbach, 2010).

Clearly, some limitations should be mentioned. First, taking into account the absence of research using this analytical approach, this study used a cross–sectional sample with a wide variety of European countries. However, for the sake of comparing our results through time, future studies could also analyse data from other ESS rounds in order to see if the present findings hold throughout. Especially, after the financial crisis, in order to test the robustness of the analyses in different economic, social and political contexts.

Second, although this work used the ISEI as a comprehensive measure of SES, future studies could compare the effect of simple measures, such as income or education, in order to know how they are affecting attitudes towards immigration separately. Finally, although greater differences between anti–immigrant sentiment based on cultural and economic reasons could be initially expected, the present findings cannot provide a clear explanation for the factors that might identify the internal (cultural or economic) determinants that affect the relationship between SES and anti–immigrant sentiment. Therefore, future research will require the implementation of more complex and comprehensive models that, including a higher variety of predictors, might give answer to local research questions. For example, the current boom of nationalist parties with political discourses against immigration and refugees (Consterdine, 2018) might justify the inclusion of contextual variables within the models, such as the share of these parties in regional parliaments.

## 6. Conclusions

This study has provided evidence about the suitability of spatial analysis to study national citizens' perceptions about admitting immigration. This has been done taking into account a moment of resurgence of anti-immigrant speeches after the 2008 crisis and regarding two different variables: European attitudes opposed to the entrance of ethnically different immigration and poor immigration. Firstly, our study highlights that not all European countries' behaviour is similar in this respect as has been pointed out in previous research, but above all –and the most interesting aspect of this study– we found that regions within nation states do not behave in a homogeneous manner. Secondly, this fact leads us to suggest that although inter-country or macro-regional comparisons might be useful to explain anti-immigration sentiments, the general validity of these large-scale geographic areas may be questioned when the analysis descends to regional level.

As previously discussed, differences have been detected in the behaviour of different regions within the European nation-states regarding the relationship between the SES and anti-immigration sentiment. This opens up an interesting line for future research that suggests the need to focus our attention on two points: (1) addressing specific regions to compare the differences detected therein in the contextual data in order to find causal or explanatory factors; (2) including in the analysis this comparative look at macro-categories based on the behaviour of states on the one hand, and the inner differences provided by regions, on the other.

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