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## “Does Regional Growth Affect Public Attitudes Towards the European Union?”

Enrique López-Bazo

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## *Abstract*

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This study analyses the impact of growth (in absolute and relative terms) of the European regions on the attitudes towards the European Union (EU) of their citizens. It does so in a period of socio-economic turbulence caused by the financial and sovereign debt crises, the accession to the Union of countries of Central and Eastern Europe, and the spread of anti-European rhetoric. In a first stage, regional indicators of support for and trust in the EU are calculated from the microdata of several Eurobarometer surveys. They confirm interesting changes in the regional distribution of citizens' attitudes during the period analysed, which vary between the two indicators. In a second stage, these indicators are merged with data on regional growth to assess the impact of the latter on citizens' perception of the EU. The results suggest that support for and trust in the EU are more widespread in regions with a dynamic economy. This positive impact of growth remains significant and sizeable after controlling for several economic characteristics of the region. However, the impact of regional growth on attitudes towards the EU is not the same in all regions. The effect of support and trust is more intense in regions with per capita income above the EU average.

*JEL Classification:* 018, R11, R58.

*Keywords:* Perception of the EU, Regional growth, Economic convergence, EU regions.

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## 1. INTRODUCTION

The extent to which citizens of the member states of the European Union (EU) identify with the European integration process and whether they support the EU and its institutions have been the object of social interest and academic study since the creation of the European Economic Community by the Treaty of Rome in 1957. However, it is also true that interest in the attitudes of European citizens towards the EU has been renewed as a result of recent threats to the European integration process, namely the spread of Euroscepticism and the rise of populism and neo-nationalism in several member states. To a large degree, anti-European rhetoric draws on messages that emphasise the pernicious effect of European institutions and regulations on the performance of national and regional economies. If this were the case, we should observe a significant influence of the economic context on citizens' attitudes towards the EU. Specifically, people living in areas with a dynamic economy would be less affected by messages that blame the EU for poor economic prospects. Conversely, the discontent of people in declining places, hit with greater intensity by the Great Recession and with little resilience, could lead them to be less favourable to the process of European integration.

Against this background, this study analyses the effect of growth (in absolute and relative terms) of European regions on the attitudes of their citizens towards the EU. It does so in an interesting period, 2007-2016, characterised by the socio-economic turbulences caused by the financial and sovereign debt crises, the accession to the Union of Central and Eastern European countries, with levels of income per capita well below the EU average, and the above-mentioned rise of anti-European rhetoric. In contrast with most previous contributions that have analysed the mechanisms and determinants of perceptions of the EU using data at the individual level (e.g. Hooghe and Marks 2004), this study exploits variability in regional aggregate indicators of support for the European project and regional economic growth. In that regard, it is worth noting that only a few recent studies have considered the influence of objective economic conditions on public attitudes towards the EU.<sup>1</sup> Moreover, some of these studies include aggregate economic variables just as controls of the socio-economic context, which means that they are not the main objects of interest in the studies. On the other hand, it has been more frequent to include controls of the economic situation in the country than considering the influence of the

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<sup>1</sup> More attention has received the impact of the subjective perception of the economic situation of individuals (e.g. Hooghe and Marks 2004; Garry and Tilley 2009).

economic performance of regions, even though regional economic disparities within EU countries are far from negligible. Finally, it is important to emphasise that so far there is no evidence about the effect on the perception of the EU of the fact that the region in which people live converges or not to the average levels of per capita income in Europe. The few studies that have analysed geographical differences in citizens' perceptions of the EU have considered indicators at the country level.<sup>2</sup> However, these studies would have neglected important information if attitudes towards the EU and the pace of economic growth vary not only between but also within countries. This is supported by contributions to the emerging literature on the "Geography of Discontent", whose main argument is that the poor economic prospects of specific territories in different countries would be guiding the preference of people in these areas for populist messages (e.g. Dijkstra et al. 2019). In the particular case of the EU, it can be argued that positive attitudes towards the Union would be more widespread in dynamic places that benefit most from the process of European integration. In contrast, as losers of this process, people in peripheral less developed regions, and even in those caught in the middle-income trap (Iammarino et al. 2019), would be less prone to support the EU. Hence, the main hypothesis of the study is the existence of a positive effect of growth in the region on the view that its citizens have of the EU. The analysis at the country level would not allow capturing regional differences in both the pace of economic growth and citizens' attitudes that are crucial to identify this effect.

The first challenge faced by the study is the calculation of aggregate indicators of public attitudes towards the EU for a set of regions in the 28 EU member states. The Eurobarometer survey has been used as the main source of data for studies in the field, both in the analyses of individual responses (Hooghe and Marks 2004; Brinegar and Jolly 2005) and when describing country trends (Scheuer and Schmitt 2009; Braun and Tausendpfund 2014). In the latter case, due to the representativeness of the samples, the indicators for a year are computed by aggregation of individual responses in each country. Unfortunately, the low number of individuals interviewed in a large number of regions prevents computing regional indicators in the same way. As an alternative, under the sensible assumption that perceptions evolve smoothly over time, I pool the Eurobarometer surveys of consecutive years to increase the sample size from which

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<sup>2</sup> To the author's knowledge, the only exception is Duch and Taylor (1997), that used aggregated data on EU support for a limited number of regions (30 to 46) during the 1980s.

regional indicators are computed.<sup>3</sup> To be clear, two traditional indicators are calculated to proxy for public attitudes towards the EU in the European regions: one based on support for the process of integration and another on trust in the EU. In a second stage, regional data on these indicators is merged with that of regional growth and economic convergence to test the hypothesis of the study. Variables that control for the socio-economic context of regions are also included in the empirical model since their omission could lead to confound the estimation of the effect of the economic growth of the region on the perception that its citizens have of the EU.

The results of the study suggest that growth in the region stimulates support for and trust in the EU. Such positive impact of growth remains significant and sizeable after controlling for several economic characteristics of the region, including the amount of EU funds spent in the region. However, the impact of growth on attitudes towards the EU is not the same in all regions. The effect on support and trust is more intense in regions with levels of income per capita above the EU average. In fact, there does not seem to be a significant growth effect on trust in the EU for regions below the EU average income. The evidence also points to noteworthy differences in the impact of economic convergence on the two indicators. Whereas converging / diverging to the EU economic standards exerts a significant effect on support, the estimates reject any significant effect in the case of trust in the EU. These results thus confirm the importance of considering different dimensions of public attitudes towards the EU.

The rest of the paper is organized as follows. The dataset and variables used in the analysis are introduced in the second section. It provides details about the questions in the Eurobarometer survey used to compute the aggregate regional indicators, and how they are merged with the variables of regional growth and convergence. In turn, section 3 describes regional disparities in support for and trust in the EU. The assessment of the major hypothesis in the study is carried out in section 4. First, this section presents the empirical model that links the regional indicators of attitudes towards the EU with the variables capturing the pace of regional growth and convergence, net of the effect of other regional factors. Then, it presents and discusses the estimation of the effect of interest. Finally, section 5 concludes.

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<sup>3</sup> A similar strategy has been used to calculate regional indicators of perception of EU Cohesion Policy in Capello and Perucca (2018) and the vision that people have of the EU in Smętkowski and Dąbrowski (2019).

## 2. SOURCE OF DATA AND INDICATORS

The most popular data source for measuring public attitudes towards the EU in the literature is the Eurobarometer survey. The Eurobarometer is conducted since the mid 70's on behalf of the European Commission to monitor the public opinion in the EU and its member states, in particular with respect to the perception that citizens have about the EU integration process, its institutions and policies. The Standard Eurobarometer<sup>4</sup> includes a series of 'stable' or 'topical' questions that allow tracking the evolution of public opinion on specific issues. In particular, a group of questions refers to attitudes towards European integration and perception of EU institutions.

Data from the Standard Eurobarometer survey is collected twice a year, in spring and autumn, by means of face-to-face interviews to approximately 1,000 individuals, aged 15 years and over, in each country.<sup>5</sup> The samples for the Standard Eurobarometer surveys are new and independently drawn (repeated cross-sections). The statistical margins due to the sampling process are shown to be within acceptable limits for the size of the country samples, i.e. for about 1,000 responses in large countries. Therefore, conclusions derived from responses in the Standard Eurobarometer surveys for the EU as a whole and for every member state are expected to be reliable. However, deviations from real figures in the population increase as the number of observations shrinks. This is important for this study, as it intends to compute indicators of support and trust for the EU regions, while the number of sample observations for each region is rather limited. As in Capello and Perucca (2018) and Smętkowski and Dąbrowski (2019), I tried to overcome this drawback by combining samples of the Eurobarometer surveys of three consecutive years. In this way, the number of responses by region is expected to be large enough to keep the statistical margins within reasonable limits.<sup>6</sup>

The period analysed in this study extends from 2007 to 2016. Although it is possible to calculate indicators of support and trust from the Eurobarometer surveys prior to 2007, I

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<sup>4</sup> In addition to the Standard Eurobarometer, special topics are explored in the Flash Eurobarometer surveys. More details can be accessed at <http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/General/index> and <https://www.gesis.org/eurobarometer-data-service/home/>

<sup>5</sup> About 500 interviews in small countries.

<sup>6</sup> The average number of observations used to compute the indicators in the set of regions used for the analysis is 442.7, whereas in the median region there are 297 observations. In less than 10% of the regions, the number of responses is lower than 100, whereas in the top 25% there are more than 500 responses. In any case, it should be mentioned that some robustness checks were performed to assess the influence of the inclusion of regions with fewer responses. In general, the main conclusions derived from the results remained unaltered when these regions were excluded from the analysis.

did not make use of this earlier information for two reasons. First, because the questions of interest are available only for the EU member states in the year in which the survey was carried out. To be clear, information for the EU13 countries (those who joined the EU in the last enlargements) was only included starting from the year in which they joined the EU. Second, because changes over time in the definition of the territorial breakdown (NUTS system) makes the comparison of regional aggregate figures from the Eurobarometer survey over longer periods of time rather difficult. On the other hand, the most recent Eurobarometer surveys (from 2017 onwards) were not used in this study because they were not available when the above-mentioned databases were prepared. Considering these circumstances, I defined two subperiods, which include three years each: 2007–2009 and 2014–2016. The first is the period just before the sovereign debt crisis hit a number of European countries and, therefore, before bailout programmes and severe austerity measures were put in place. The second corresponds to the initial phase of recovery, characterized by moderate growth.

It should be noted that for calculating the regional indicators of support and trust I assumed that the degree of support for and trust in the EU in a region does not change dramatically from one year to the next. On the one hand, this allowed me to combine the responses in the surveys of three consecutive years. On the other hand, it led me to consider a window of five years between subperiods in order to maximize differences over time in citizens' perceptions.

The micro-data files of Standard Eurobarometers include the codes of the regions where respondents live. This allowed to calculate the indicators of support and trust for a set of EU regions for the two periods mentioned above. However, changes in the definition of the NUTS system introduced over the analysed period resulted in a decrease in the territorial detail used for some countries (e.g. some regions had to be grouped). In addition, I had to gather responses in regions with a low number of individuals in the sample after adding the responses in the Eurobarometer surveys of three consecutive years. The criteria for grouping regions in this case was geographical proximity. As a result, the final set of territorial units is composed by 180 regions, 124 from the EU15 and 56 from the EU13 (see Table A.1 of the Online Appendix).<sup>7</sup>

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<sup>7</sup> The number of regions by country is as follows: AT (9), BE (11), BG (6), CY (1), CZ (8), DE (16), DK (4), EE (1), ES (15), FI (4), FR (17), GB (12), GR (3), HR (2), HU (7), IE (2), IT (12), LT (1), LU (1), LV (1), MT (1), NL (10), PL (14), PT (5), RO (8), SE (3), SI (2), SK (4).



The Eurobarometer surveys used to compute the indicators of interest for the set of EU regions in the two periods were selected based on the inclusion of the questions proxying for support and trust (since not all questions are included in both the spring and autumn editions). They are the following ones:

- Period 2007–2009: ZA4530–Eurobarometer 67.2 (spring 2007), ZA4819–Eurobarometer 70.1 (autumn 2008), ZA4994–Eurobarometer 72.4 (autumn 2009)
- Period 2014–2016: ZA5932–Eurobarometer 82.3 (autumn 2014), ZA5998–Eurobarometer 83.3 (spring 2015), ZA6788–Eurobarometer 86.2 (autumn 2016)

From each of these Eurobarometer surveys, individual responses to two specific questions were used to compute aggregate indicators for the regions of the EU. The degree of support for the EU was computed as the share of people in the region that responded: ‘*A good thing*’ to the following question:

*“Generally speaking, do you think that (OUR COUNTRY’S) membership of the European Union is ...? A good thing / A bad thing / Neither a good thing nor a bad thing / DK”*

This indicator of support for the EU is the one most frequently used in the extant literature (e.g. Duch and Taylor 1997; Serricchio et al. 2013; Verhaegen et al. 2014).

The other indicator aims to proxy citizens’ trust in the EU. In this case, the proportion of the population of the region that tends to trust in the EU was computed using the response ‘*Tend to trust*’ to the following question: *“I would like to ask you a question about how much trust in certain institutions. For each of the following institutions, please tell me if you tend to trust it or tend not to trust it? – The European Union”*

A similar indicator of trust in the EU has been used in, for example, the studies of Harterveld et al. (2013) and Hobolt and de Vries (2016).

It should be noted that, in both cases, the corresponding weights available in the micro-data files of the Eurobarometer surveys were used to estimate the proportions of the corresponding populations.

As for the region’s economic growth and convergence, the study considers the following variables:

- Growth of per capita GDP in the previous five years. This is an indicator of absolute growth that aims to capture the direct effect of a positive economic evolution in the region on the perception of the EU of its population.

- Growth in the region relative to the one experienced by the EU as a whole. It is measured as the change over a period of five-year in the deviation between GDP per capita in the region and the EU average. This is an indicator of relative regional growth.
- A set of dummy variables defined based on growth in the region over the five-year period relative to growth in the entire EU, and its initial gap in GDP per capita relative to the EU average. Four categories are defined: i) Convergence from above, when growth in the region was lower than in the EU as a whole and its GDP per capita was above the EU average; ii) Convergence from below, when the region grew faster than the EU and its GDP per capita was below the average; iii) Divergence from below, that is the case of regions that grew less and had lower initial GDP per capita than the EU; and iv) Divergence from above, which is the category of the most developed regions that grew faster than the average.

Additionally, a set of regional variables are considered in the analysis with the aim of controlling for differences across regions and over time in socio-economic characteristics that can affect attitudes towards the EU in one way or another and, simultaneously influence the pace of regional growth and convergence. They are the level of per capita GDP, the percentage of population with tertiary education, the employment rate, and the population density. I also included the total Structural Fund payments per capita in the region to account for the effect of the intensity of the EU Cohesion Policy in the region (Verhaegen et al. 2014; López-Bazo and Royuela 2019).

The data source for both regional growth indicators and control variables is the PERCEIVE regional database (Charron 2017). The codes of the regions included in this database were used to merge this data with the regional indicators of support for and trust in the EU.

### **3. REGIONAL DISPARITIES IN PUBLIC ATTITUDES TOWARDS THE EU**

This section describes regional disparities in the indicators of support and trust, and how they evolved between the two subperiods considered in the study. It is well known that there are sizeable and persistent disparities in several socio-economic dimensions among the regions of the EU (Fratesi and Perucca 2018; Iammarino et al. 2019). According to the economic utilitarian argument (Gabel 1998; Garry and Tilley 2009), such disparities

in the socio-economic context are expected to lead to differences between regions in the way in which their populations perceive the EU. Moreover, regional asymmetries in the incidence of the crisis, and in responses to the measures promoted by European institutions, could have caused sudden and sizeable changes in the perceptions of citizens in different regions.

Due to the large number of regions, the descriptive analysis is based on the estimation of the shape of the distribution of the regional indicators of support and trust. To be clear, the density function of each indicator is estimated non-parametrically using the kernel method and the corresponding values for the set of regions. This is done separately for each of the two subperiods considered in the analysis. The comparison of the estimated densities for each subperiod allows to conclude on the evolution of regional disparities in the analysed period.

The densities depicted in Figure 1 confirm the existence of large regional disparities in the proportion of the region's population that supports the EU. There is a large mass of probability in the 2007–2009 subperiod for low values of the indicator (below 40%) as well as for relatively large values (between 60% and 80%). In other words, the regional distribution of this indicator was rather dispersed at the end of the past decade. The shape of the distribution changed somewhat in the 2014–2016 subperiod. A sort of polarization is observed, due to the concentration of the probability at the left of the distribution in values slightly below the 50% and at the right part at values close to 70%.<sup>8</sup>

The same analysis for the trust indicator reveals some important differences. In this case, the estimated densities are shown in Figure 2. It is clearly observed that changes in the degree of trust over the analysed period are more striking than those observed in the case of support for the EU. To be clear, there is a dramatic shift of the distribution to the left, meaning that there was a generalised substantial decrease in trust in the EU, probably fuelled by the impact of the crisis. In any case, it is crystal-clear that disparities across regions in trust in the EU were quite large, especially at the end of the analysed period.

Overall, the descriptive evidence suggests that the degree of regional disparities varied between the two regional indicators and that regional trust in the EU could have been much more affected by the economic turbulences in the analysed period than support for

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<sup>8</sup> A more detailed inspection of the data reveals that polarisation was mostly explained by a decrease in support for the EU in a good number of regions of the newest member states. These additional results are available upon request.

the European project. Therefore, it seems sensible to assess the impact of regional growth on public attitudes towards the EU using both indicators.

#### **4. ESTIMATING THE EFFECT OF REGIONAL GROWTH ON PUBLIC ATTITUDES TOWARDS THE EU**

This section discusses the results of the estimation of the effect of regional economic growth on people's attitudes towards the EU in the European regions. The empirical strategy used to estimate the effects of interest is presented in the first subsection. Then, the results are discussed in the second one.

##### **4.1. Empirical model**

In a first stage, the following baseline empirical specification is used to assess the influence of regional growth and convergence on support for and trust in the EU:

$$Attitudes\_EU_{it} = \alpha + \delta_t + \beta \cdot growth_{it-1} + \varepsilon_{it} \quad (1)$$

where *Attitudes\_EU* is any of the two regional indicators used in the study, i.e. support for the EU and trust in the EU, and *growth* denotes an indicator of economic growth experienced by the region in a period immediately before the measurement of public attitudes. The proxies for regional growth used in the analysis are those introduced in section 2. As previously discussed, they are defined to capture different dimension of the pace of growth and economic convergence to the EU standards. The subscripts *i* and *t* denote regions and periods, respectively. The baseline specification also includes year fixed effects ( $\delta_t$ ) to account for shocks that are common to all regions, and a well-behaved error term,  $\varepsilon$ , that absorbs unexpected shocks for regions and periods.

The coefficient of interest in (1) is  $\beta$ , which captures the change in the percentage of the region's population that support the EU, or trust in the EU, induced by a unitary change in the indicator of growth. This effect could be estimated consistently by least squares (LS) if attitudes and growth were not affected by other economic factors in the region. Otherwise, the estimation of the effect of interest from the baseline specification in (1) would be polluted by the influence of these confounding factors. Additionally, the baseline specification in (1) considers a homogeneous effect of growth on public attitudes, despite the study is concerned about differences in the effect depending on the degree of development of the regions.

To account for regional differences in socio-economic characteristics and separate effects between most and less developed regions, the empirical model is expanded as follows:

$$Attitudes\_EU_{it} = \alpha_i + \delta_t + \beta \cdot growth_{it-1} + \gamma \cdot belowEU_{it-1} \cdot growth_{it-1} + \tau \cdot belowEU_{it-1} + Z_{it-1} \cdot \rho + \varepsilon_{it} \quad (2)$$

where  $Z$  includes the set of controls of the economic situation in the region listed in section 2, while region fixed effects ( $\alpha_i$ ) account for unobservable time-invariant regional factors that can affect in a way or another attitudes towards the EU of the region's population. The interaction term involves *belowEU*, which is a dummy variable that equals one when per capita GDP in the region is below the average level in the EU and zero otherwise.<sup>9</sup> Therefore, in the expanded specification,  $\beta$  captures the growth-induced change in the indicator of attitudes for the most developed EU regions, while the effect for the less developed is given by  $\beta + \gamma$ .

Finally, it should be noted that the growth indicator and control variables are measured in the year just before the beginning of the periods used to calculate the regional indicators of support and trust. In this way, the risk of reverse causality of the regressors in the empirical model are minimised.

## 4.2. Results

The results of the LS estimation of the specifications for the regional indicator of support for the EU are summarised in Table 1. Column (i) reports the estimation of the baseline specification in equation (1) when using the five-year growth of per capita GDP as a variable proxying for regional growth in absolute terms. It is observed that there is a significant positive correlation between the recent growth in the region and the extent of regional support for the EU. The positive effect of growth is confirmed by the results of the estimation of the extended specification, reported in column (ii). They also point to a higher effect in regions whose income per capita is above the EU average. To be precise, an increase of one percentage point in the average annual growth rate over a period of five years raises support for the EU by 2.34 percentage points in the more developed EU regions, but only by 1.06 in the least developed.

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<sup>9</sup> The threshold is specific to each of the subperiods under analysis.

By and large, the evidence when using the second indicator of growth is similar to that reported above. In this case, I consider relative (with respect to the EU overall growth) instead of absolute regional growth. Column (iii) of Table 1 indicates a positive overall association between growth in the region relative to that in the EU and the extent of regional support for the Union. This positive association remains significant for the more developed regions after including the regional controls (column iv). In this group of regions, an extra percentage point of growth with respect to that in the EU increases support by 0.57 percentage points. However, it is observed that the coefficient of the interaction term is negative and statistically significant, meaning that the effect of relative growth on support in the less developed regions is much lower than that in the most developed. To be clear, an extra point of growth raises support in the former group only by 0.15 percentage points.

Overall, results based on both indicators of regional growth suggest that the pace of growth affects positively the extent of regional support for the EU. They also point to an important difference in the effect between European regions above and below the average income per capita. In fact, the influence of regional growth on EU support seems to be much more intense in the more developed European regions than in the least developed ones. Interestingly, as derived from the estimation of the coefficient associated to *belowEU*, support for the EU is more frequent in regions with per capita GDP below the EU average (12.7 and 8.7 percentage points higher on average, respectively in the specifications of columns ii and iv) even after controlling for differences in growth and regional characteristics. However, the sizeable and statistically significant difference in the effect of growth on regional support for the EU between the less and most developed regions would be contributing to closing the gap in the extent of support for the EU between the two groups of regions. This would be the case in the likely case that the more developed regions grow at least at a pace similar to that of the less developed.

Although being informative about the effect of absolute and relative regional growth in the least and most developed regions, the previous results do not distinguish between the effect of growth that leads to converge or diverge from the average EU income. To shed some light in this respect, columns (v) and (vi) report the estimation of the baseline and extended specifications when using the set of dummy variables, defined in section 2, to identify regions that converge or diverged from the EU average, both from above and below the average. In both cases, the excluded category is “Divergence from above”, that

is to say, regions whose per capita GDP is above the EU average and grow faster than the EU as a whole. The estimates in column (v) suggest that, compared to that group, regional support for the EU is less frequent in regions that converge, both from below and above the average. As predicted by the utilitarian arguments, support is even lower in the less developed regions with little growth. This is consistent with the discontent of people caused by the decrease in the relative income levels in these regions, particularly with respect to regions with similar levels of income that grew faster (converged to the EU average). This evidence also agrees with the argument that support for the EU is broader in regions that benefit most from European integration.

In any case, the comparison of these estimated effects with those reported in column (vi) reveals that the omission of the regional controls in the baseline specification could lead to misleading conclusions. Once their effects are taken into account, support for the EU is only lower in regions whose income per capita is above the average but grow less than the EU as a whole. In other words, in comparison to the group of most developed and dynamic regions, support is less extended in stagnant or declining regions that still have economic standards above the European average. Conversely, support is more frequent in regions with levels of per capita GDP below the average, regardless of whether they converge or not to the EU average (i.e. grow faster or slower than the EU as a whole).<sup>10</sup> Interestingly, this is so even after controlling for the level of per capita GDP and the amount of structural funds in the region, which are allocated based on relative regional income. Altogether, this evidence confirms that people in regions with income levels below the European average tend to support the EU more than those who live in richer regions. On the other hand, while there are no significant differences between poor regions that converge and diverge to the EU average, this is not the case of rich regions. For this group, the evidence indicates that support is less abundant in regions with low growth, compared to those that move even further away from the EU average income.

With respect to the estimation of the effect of regional controls, regardless of the indicator of growth used, results suggest that support increases with the amount of structural funds spent in the region. This is consistent with a situation in which citizens perceive the benefits of EU Cohesion Policy in the region and, as a result, they appreciate the role of

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<sup>10</sup> Note that these results can, symmetrically, be interpreted in terms of decrease in support. In that case, the positive coefficient for the groups with below-average income is interpreted as a lower decrease in support among the regions in these groups compared to the ones that diverged from above the average.

European institutions in promoting growth and solidarity between people and territories (López-Bazo and Royuela 2019). The evidence also points to more support for the EU in regions with higher employment opportunities, as proxied by the employment rate. However, there seems to be a negative link between support and the degree of development of the region, measured by its per capita GDP. In other words, other things equal, people in worse-off regions tend to support the EU more than citizens in well-off ones. This is consistent with the more positive vision of the EU in the member states of central and eastern Europe, whose income is much lower than in the core European countries (Garry and Tilley 2009). It also agrees with the results in Dijkstra et al. (2019) that concluded that, when long-term economic and industrial decline, low levels of education, and lack of local employment opportunities are taken into consideration, well-off places are more likely to vote for anti-EU parties than places that are worse-off. On the contrary, regional support for the EU does not vary significantly either with the percentage of the region's population with tertiary education or with population density.

Regarding the indicator of trust in the EU, the results of the estimation of the coefficients of the different specifications are reported in Table 2. It is observed that the raw associations between absolute (column i) and relative (column iii) regional growth and trust are somewhat stronger than in the case of support. However, the inclusion of regional controls decreases the estimated effect of interest. The results in column (ii) suggest that an additional percentage point of regional growth increases trust in the EU by 1.5 percentage points in regions with per capita GDP above the EU average. Meanwhile, the effect is only 0.3 percentage points in the group of regions below the average.<sup>11</sup> As for relative growth, a positive effect of growth on trust is only observed in the group of regions above the average. To be clear, the value of the coefficient of the interaction term in column (iv), which captures the differential effect in less developed regions, is similar to that associated with growth in more developed regions but of opposite sign. As a result, it can be said that the evidence points to a negligible effect of relative regional growth on trust in the EU in regions below the average EU income.

As in the case of support, columns (v) and (vi) of Table 2 summarise the results of the effect of the region's convergence/divergence to the average EU per capita GDP. It can be observed that there are some significant raw differences in the degree of trust between regions that diverge from above the EU average (the reference category) and those that

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<sup>11</sup> Anyhow, it should be noticed that the coefficient of the interaction term is just significant at the 0.1 level.



grow less than the EU as a whole (either being above or below the average). However, after the inclusion of regional controls (column vi of Table 2), there are no significant differences in trust in the EU between the groups of regions defined in terms of their pace of growth and position in the distribution of GDP per capita.

Overall, the estimates in Table 2 suggest that regional growth only has a minor impact on trust in the EU, particularly in regions whose level of income is below the EU average. They also indicate that the degree of trust in the region is not affected by the convergence or divergence of the regional economy towards the European average. This is in sharp contrast with the evidence found for the effect of regional growth and convergence in the degree of support for the EU.

## **5. CONCLUSIONS**

This study has provided novel evidence on regional disparities in public attitudes towards the EU and how they have evolved in the period that followed the sovereign debt crisis in Europe. On the one hand, it has proved that regional variability in the indicators of support for and trust in the EU increased in the aftermath of the Great Recession. On the other hand, it has shown that turbulences caused by the crisis have had a stronger effect on the regional distribution of trust in the EU than on that of support for the Union.

The construction of indicators that proxy the amount of regional support for and trust in the EU has allowed me to test whether economic growth in each region affects the way in which its population perceives the European project. The evidence in the study would confirm the validity of the economic utilitarian argument, in the sense that the regional economic context, particularly the pace of region's growth, would be shaping the way in which the inhabitants in the region form their vision of Europe and its institutions. However, the results indicate that this mechanism associated to the economic evolution of the region mostly works for regions above a certain level of economic development. To be precise, the impact of growth (absolute and relative) on the extent of regional support for the EU is stronger in regions with per capita GDP above the EU average. The difference between regions above and below the average is even clearer in the case of trust in the EU. In this case, in contrast to what is observed for the more developed regions, growth has a negligible effect in regions whose per capita GDP is below the EU average.

This evidence is consistent with a situation in which people in regions with poor economic performance feel that they are 'left-behind' and, as a result, are more receptive to anti-system messages. In the case of Europe, such people's discontent would result in less support for the EU and fewer trust in its institutions, since they are perceived as key elements of the establishment. All in all, the results of this study line up with recent arguments of the 'geography of discontent' literature that connect the economic stagnation and social decline of lagging places with anti-system political options (Algan et al. 2017; Rodríguez-Pose 2018; Dijkstra et al. 2019).

## REFERENCES

- Algan Y, Guriev S, Papaioannou E, Passari E (2017) The European trust crisis and the rise of populism. *Brookings Papers on Economic Activity* 2017(2): 309-400.
- Braun D, Tausendpfund M (2014) The impact of the Euro crisis on citizens' support for the European Union. *Journal of European Integration* 36(3): 231–245.
- Brinegar AP, Jolly SK (2005) Location, location, location: National contextual factors and public support for European integration. *European Union Politics* 6(2): 155–180.
- Capello R, Perucca G (2018) Understanding citizen perception of European Union Cohesion Policy: the role of the local context. *Regional Studies* 52(11): 1451–1463.
- Charron N (2017) PERCEIVE: WP2: Evaluation of EU citizens' perception of the EU project: Task2.1: Data relative to regional performance of the Cohesion Policy and institutional quality [Data set]. Zenodo. <http://doi.org/10.5281/zenodo.845349>
- Dijkstra L, Poelman H, Rodríguez-Pose A (2019) The geography of EU discontent. *Regional Studies*. DOI: 10.1080/00343404.2019.1654603
- Duch R, Taylor M (1997) Economics and the vulnerability of the Pan-European institutions. *Political Behavior* 19(1): 65–80.
- Fratesi U, Perucca G (2018) Territorial capital and the resilience of European regions. *Annals of Regional Science* 60(2): 241–264.
- Gabel M (1998) Public support for European integration: An empirical test of five theories. *The Journal of Politics* 60(2): 333–354.
- Garry J, Tilley J (2009) Attitudes to European integration: Investigating East–West heterogeneity. *Journal of European Integration* 31(5): 537–549.
- Harteveld E, van der Meer T, de Vries CE (2013) In Europe we trust? Exploring three logics of trust in the European Union. *European Union Politics* 14(4): 542–565.
- Hobolt SB, de Vries CE (2016) Public support for European integration. *Annual Review of Political Science* 19(1): 413–432.
- Hooghe L, Marks G (2004) Does identity or economic rationality drive public opinion on European integration? *Political Science and Politics* 37(3): 415–420.
- Iammarino S, Rodriguez-Pose A, Storper M (2019) Regional inequality in Europe: evidence, theory and policy implications. *Journal of Economic Geography* 19(2): 273–298.
- López-Bazo E, Royuela V (2019) Citizens' perception of the Cohesion Policy and support for the European Union. *Regional Science Policy and Practice* 11(4): 733–749.

- Rodríguez-Pose A (2018) The revenge of the places that don't matter (and what to do about it). *Cambridge Journal of Regions, Economy and Society* 11(1): 189–209.
- Scheuer A, Schmitt H (2009) Dynamics in European political identity. *Journal of European Integration* 31(5): 551–568.
- Serricchio F, Tsakatika M, Quaglia L (2013) Euroscepticism and the global financial crisis. *Journal of Common Market Studies* 51(1): 51–64.
- Smętkowski M, Dąbrowski M (2019) Economic crisis, Cohesion Policy and the eroding image of the European Union at the regional level. *Regional Science Policy and Practice* 11(4): 713–732.
- Verhaegen S, Hooghe M, Quintelier E (2014) European identity and support for European integration: a matter of perceived economic benefits? *Kyklos* 67(2): 295–314.

Figure 1. Distribution of regional support for the EU.

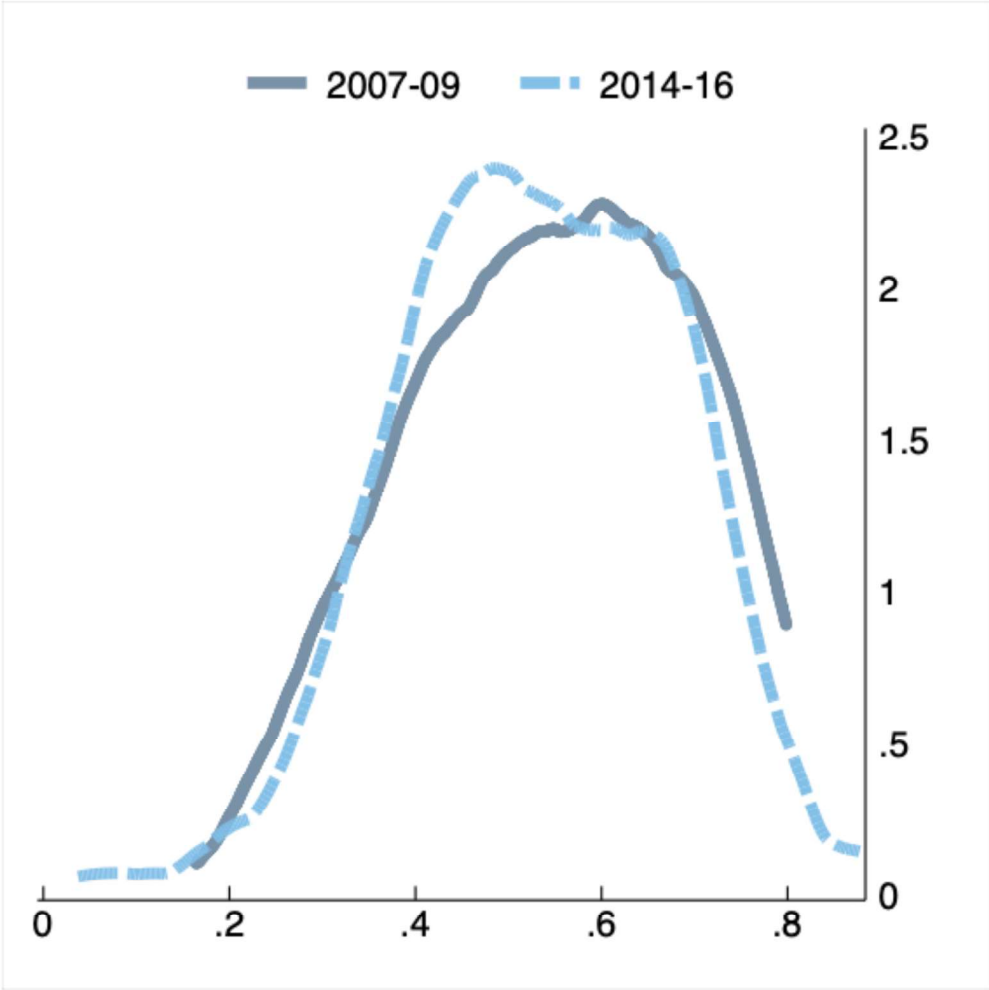
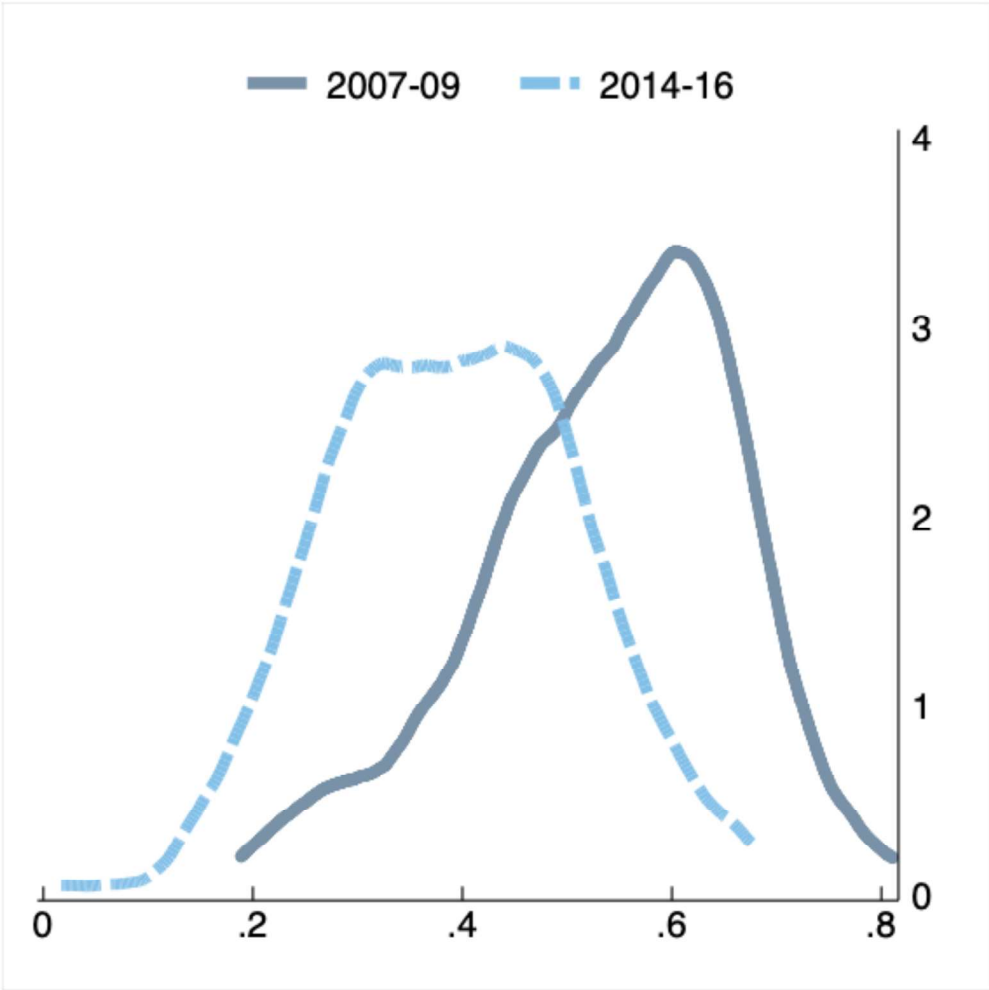


Figure 2. Distribution of regional trust in the EU.



**Table 1. Effect of regional growth on support for the EU.**

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
<b>Growth GDPpc</b>	1.8991*** (0.3682)	2.3411*** (0.7038)				
<b>below EU average GDPpc * Growth GDPpc</b>		-1.2824** (0.6238)				
<b>Change in deviation GDPpc EU</b>			0.3220*** (0.0679)	0.5669*** (0.1398)		
<b>below EU average GDPpc * Change deviation GDPpc EU</b>				-0.4167*** (0.1475)		
<b>Convergence from above</b>					-0.0842*** (0.0278)	-0.0638*** (0.0187)
<b>Convergence from below</b>					-0.0828*** (0.0259)	0.0652** (0.0312)
<b>Divergence from below</b>					-0.1634*** (0.0267)	0.0679** (0.0272)
<b>SF pc (log)</b>		0.0608*** (0.0204)		0.0617*** (0.0200)		0.0464** (0.0206)
<b>GDP pc (log)</b>		-0.2803** (0.1100)		-0.2658** (0.1100)		-0.2900*** (0.1048)
<b>Tertiary educ</b>		0.0016 (0.0037)		0.0012 (0.0037)		0.0005 (0.0038)
<b>Employment rate</b>		0.0090*** (0.0027)		0.0089*** (0.0026)		0.0119*** (0.0027)
<b>Pop. density (log)</b>		-0.0175 (0.2856)		-0.0577 (0.2825)		-0.0308 (0.2929)
<b>below EU average GDPpc</b>		0.1266*** (0.0338)		0.0869*** (0.0248)		
<b>Region FE</b>	NO	YES	NO	YES	NO	YES
<b>Period FE</b>	YES	YES	YES	YES	YES	YES
<b>Observations</b>	339	334	339	334	335	330
<b>R-squared</b>	0.0714	0.2467	0.0635	0.2559	0.1336	0.2574

**Notes:** Clustered (by region) standard errors in parenthesis. Omitted category in columns (v) and (vi) is 'Divergence from above'.  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 2. Effect of regional growth on trust in the EU.**

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
<b>Growth GDPpc</b>	2.3890*** (0.2754)	1.5459** (0.6284)				
<b>below EU average GDPpc * Growth GDPpc</b>		-1.2183* (0.6404)				
<b>Change in deviation GDPpc EU</b>			0.4194*** (0.0526)	0.3925*** (0.1132)		
<b>below EU average GDPpc * Change deviation GDPpc EU</b>				-0.3929*** (0.1294)		
<b>Convergence from above</b>					-0.0528*** (0.0190)	-0.0171 (0.0188)
<b>Convergence from below</b>					0.0142 (0.0180)	0.0457 (0.0405)
<b>Divergence from below</b>					-0.0999*** (0.0201)	0.0592 (0.0403)
<b>SF pc (log)</b>		0.0815*** (0.0220)		0.0805*** (0.0218)		0.0791*** (0.0206)
<b>GDP pc (log)</b>		-0.0195 (0.1223)		-0.0122 (0.1214)		-0.0163 (0.1187)
<b>Tertiary educ</b>		0.0041 (0.0033)		0.0037 (0.0033)		0.0031 (0.0034)
<b>Employment rate</b>		0.0045 (0.0029)		0.0046 (0.0028)		0.0054* (0.0029)
<b>Pop. density (log)</b>		0.2234 (0.2770)		0.1980 (0.2734)		0.2086 (0.2785)
<b>below EU average GDPpc</b>		0.1105*** (0.0412)		0.0741** (0.0345)		
<b>Region FE</b>	NO	YES	NO	YES	NO	YES
<b>Period FE</b>	YES	YES	YES	YES	YES	YES
<b>Observations</b>	339	334	339	334	335	330
<b>R-squared</b>	0.3709	0.6855	0.3650	0.6886	0.3558	0.6723

**Notes:** Clustered (by region) standard errors in parenthesis. Omitted category in columns (vii) and (viii) is 'Divergence from above'.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1.



## ONLINE APPENDIX

**Table A.1. List of regions used in the analysis.**

Country	Regions
AT	Burgenland, Niederösterreich, Wien, Kärnten, Steiermark, Oberösterreich, Salzburg, Tirol, Vorarlberg
BE	Bruxelles-Capitale / Brussels, Hoofdstedelijk Gewest, Prov. Antwerpen, Prov. Limburg (BE), Prov. Oost-Vlaanderen, Prov. Vlaams-Brabant, Prov. West-Vlaanderen, Prov. Brabant Wallon, Prov. Hainaut, Prov. Liège, Prov. Luxembourg (BE), Prov. Namur
BG	Северозападен (Severozapaden), Северен централен (Severen tsentralen), Североизточен (Severoiztochen), Югоизточен (Yugoiztochen), Югозападен (Yugozapaden), Южен централен (Yuzhen tsentralen)
CY	Κύπρος (Kypros)
CZ	Praha, Střední Čechy, Jihozápad, Severozápad, Severovýchod, Jihovýchod, Střední Morava, Moravskoslezsko
DE	Baden-Württemberg, Bayern, Berlin, Brandenburg, Bremen, Hamburg, Hessen, Mecklenburg-Vorpommern, Niedersachsen, Nordrhein-Westfalen, Rheinland-Pfalz, Saarland, Sachsen, Sachsen-Anhalt, Schleswig-Holstein, Thüringen
DK	Hovedstaden, Sjælland, Syddanmark, Midtjylland & Nordjylland
EE	Eesti
ES	Galicia, Principado de Asturias & Cantabria, País Vasco, Comunidad Foral de Navarra & La Rioja, Aragón, Comunidad de Madrid, Castilla y León, Castilla-La Mancha, Extremadura, Catalunya, Comunidad Valenciana, Illes Balears, Andalucía, Región de Murcia, Canarias
FI	Etelä-Suomi, Länsi-Suomi, Helsinki-Uusimaa, Pohjois- ja Itä-Suomi
FR	Île de France, Champagne-Ardenne & Alsace, Picardie, Haute-Normandie, Centre, Basse-Normandie, Nord - Pas-de-Calais, Lorraine, Franche-Comté & Bourgogne, Pays de la Loire, Bretagne, Poitou-Charentes & Limousin, Aquitaine, Midi-Pyrénées, Rhône-Alpes & Auvergne, Languedoc-Roussillon, Provence-Alpes-Côte d'Azur
GB	North East (England), North West (England), Yorkshire and the Humber, East Midlands (England), West Midlands (England), East of England, London, South East (England), South West (England), Wales, Scotland, Northern Ireland
GR	Βορεια Ελλάδα (Voreia Ellada), Κεντρικη Ελλάδα (Kentriki Ellada) & Attiki (Attiki), Νησια Αιγαίου, Κρητη (Nisia Aigaiou, Kriti)
HR	Jadranska Hrvatska, Kontinentalna Hrvatska
HU	Közép-Magyarország, Közép-Dunántúl, Nyugat-Dunántúl, Dél-Dunántúl, Észak-Magyarország, Észak-Alföld, Dél-Alföld
IE	Border and Midland and Western, Southern and Eastern
IT	Piemonte & Liguria, Lombardia, Abruzzo, Campania, Puglia & Basilicata, Sicilia & Calabria, Sardegna, Veneto & Provincia Autonoma di Bolzano/Bozen, Emilia-Romagna, Toscana, Marche & Umbria, Lazio
LT	Lietuva
LU	Luxembourg
LV	Latvija
MT	Malta
NL	Groningen, Friesland (NL), Drenthe, Overijssel & Flevoland, Gelderland, Utrecht, Noord-Holland, Zuid-Holland, Noord-Brabant & Zeeland, Limburg (NL)
PL	Łódzkie, Mazowieckie, Małopolskie, Śląskie, Lubelskie, Podkarpackie, Świętokrzyskie & Opolskie, Podlaskie, Wielkopolskie, Zachodniopomorskie Dolnośląskie & Lubuskie, Kujawsko-pomorskie, Warmińsko-mazurskie, Pomorskie
PT	Norte, Algarve, Centro (PT), Área Metropolitana de Lisboa, Alentejo
RO	Nord-Vest, Centru, Nord-Est, Sud-Est, Sud – Muntenia, București – Ilfov, Sud-Vest Oltenia, Vest
SE	Östra Sverige, Södra Sverige, Norra Sverige
SI	Vzhodna Slovenija, Zahodna Slovenija
SK	Bratislavský kraj, Západné Slovensko, Stredné Slovensko, Východné, Slovensko

The logo for UBIREA, featuring the text 'UBIREA' in a bold, sans-serif font. The 'U' and 'B' are in a light blue color, while 'I', 'R', 'E', 'A' are in white. The text is set against a dark blue rounded rectangular background.

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