



**REGIONAL INEQUALITIES, POLITICAL
DISCONTENT AND THE
ANATOMY OF INTEGRATION AND DISINTEGRATION
IN EUROPE**

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Detecting the sources and drivers of political discontent



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Executive Summary

Introduction

In the last decade, the political landscape in the EU is characterized by increasing anti-EU sentiments and discontent that may threaten the European project. The architecture and functioning of the common market and currency, the uneven growth returns of deeper integration and the divergence in economic growth across nations, regions and cohorts of the population indicates that fundamental imbalances are at stake.

Although a strand of the literature implicitly touches upon the various dimensions of the association between inequalities and discontent, there is still scant evidence on the causal relationship between the two in a spacio-structural and spacio-temporal context. Moreover, what is entirely overlooked in the existing evidence are the very sources of inequalities and how they constitute the main drivers of the observed discontent through the processes of deepening and widening of EU integration.

This study explores the forms of expression, the intensity and geography of political discontent at the regional level and detects the sources of Euroscepticism as expressed by the low trust in the EU and examines its relation to the, often adverse, regional economic conditions, the persisting distance of weaker regions from the welfare levels of their advanced counterparts, despite deeper EU trade integration and the major transformations taking place in the economic and social landscapes. A key element of our analysis which contributes with a novelty to the existing empirical literature on inequalities and discontent is the indirect effect of the unbalanced diffusion of the EU trade integration benefits. To the extent that the benefits of integration concentrate in specific core metropolitan regions and in certain dynamic industries (leaving behind peripheral regions and declining industries) then the process of integration – by increasing regional income gaps - will negatively affect citizens' perceptions of the EU leading to the observed rising rates of discontent across the EU.

Major research findings

The analysis of the national and regional Eurobarometer data over the period 2010-2018 reveals the following critical associations:

- The *EU no trust* percentages prevail in the EU since 2010, reaching their peak within our study period of analysis.
- The overall picture of relatively mild discontent at the national level masks high regional disparities in the public's opinion about the EU.
- Regional inequalities remain high and persist. Although average regional development gap follows a downward trend, the overall sample mean indicates very high levels of regional intra-EU disparity. Also, the average growth gap between the EU regions has increased by 1.47% in the period tested.
- In an EU wide context, the level of integration with core EU countries represents almost the ¾ of total EU trade. This may suggest that the process of integration has a strong regional growth footprint – higher growth for core regions and lower for peripheral which fuels regional disparities within countries and across the EU.
- Migration is negatively associated with discontent, contrary to popular beliefs that link migration with higher levels of discontent. Moreover, there is a negative relationship between net migration and regional inequalities expressed as development gaps as well as a clear negative association between foreigners born inside the EU and discontent, implying that cultural interaction increases tolerance, thus helping in reducing polarized and anti-EU sentiments.

Econometric analysis

The empirical analysis is based on panel econometric models with region fixed effects at the EU-27 NUTS II level from 2010 to 2018, extended with the addition of a set of region-specific structural, economic, demographic, cultural, geographical and policy variables that are expected to have a significant impact on discontent. The analysis provides evidence that:

- Regional inequalities and economic insecurity and stagnation increase anti-EU sentiments and spur discontent.
- Deeper trade integration with the more advanced core EU countries reinforces discontent with a persistent high and statistically significant parameter.
- Public sector employment has a negative impact on discontent, however up to a certain level, which indicates that very high levels may be “crowding out” productive private investment.
- Social policies and a stronger welfare state increase citizens' trust in the EU.

- Structural Funds appear to have a positive and significant impact on discontent. However, when the quadratic term is used, the impact becomes negative, indicating that Structural Funds interventions matter only after a critical “scale” threshold. Moreover, Structural Funds reduce discontent when targeting the weaker Less Developed Regions but fail to do so when targeting Core or Eurozone regions.
- The impact of migration on discontent appears with a negative sign, implying that the footprint of immigrants on the economy is positive and spreads to all social groups. However, this effect diminishes as the GDP per capita gap increases. After some point, in regions with GDP per capita lower than roughly the one sixth of the leader, migration is associated in a positive way to discontent.
- The impact of being part of the Eurozone or Core regions on discontent is positive, possibly because the unfulfilled expectations of the vulnerable social groups in more developed regions are higher when they realize that there is not much room for them in the new and rapidly changing economies.
- The rest of the variables tested are in line with findings of similar studies. Education has a negative impact on discontent, and so does the percentage of foreigners born inside the EU as it probably reflects brain gain trends of high skilled population. A stronger tradable sector tends to have ceteris paribus lower levels of discontent, as it provides more employment opportunities for the labor force. Population density is also negatively associated with discontent, indicating that anti-EU sentiments find less fertile grounds in metropolitan areas. Lastly, long-term unemployment positively affects discontent as insecurity and lack of opportunity increase the levels of distrust.

Conclusions

The spatially uneven distribution of the benefits of the EU integration process and the high asymmetries and gaps in development levels have made regions less immune to a thriving anti-EU rhetoric which threatens the stability of the Union.

The structural characteristics of the regions have an important role in determining the level of discontent.

Migration does not trigger discontent, as immigrants typically expand both local demand and local supply and do not compete with native workers in the labor market, apart from the very poor regions, where multiple pressures are in motion and the labor markets are tight.

The public sector needs to be large enough to confront multiple challenges, but not too large.

Policies must be more targeted to the needs of the weaker social groups and regions but also have at the same time a critical scale in their interventions.

Policy also has to invent new ways to deal with the unfulfilled expectations of vulnerable social groups, especially those in the advanced core regions of the Eurozone.

Keywords: discontent, regional inequality, EU integration, economic growth

JEL: D31, D72, F15, R11

1. Introduction

The notion of discontent is not a new one. Historically the rise of populism and the expression of dissatisfaction in the ballot box has given rise to social polarization and the empowerment of anti-establishment political ideologies. These trends found fertile ground during deep economic recessions, unemployment, extreme poverty, weak social capital and the absence of a welfare state. There is a paradox that the rise of discontent is growing immensely in an EU characterized by economic welfare, prosperity, high levels of human capital, high standards of living and quality of life, which has prioritized massive investments in regional development policies with a strong emphasis on economic and social cohesion.

The political landscape in the European Union (EU) although varies from country to country has experienced a surge of far-right political parties. In Germany the AfD had a significant presence in German politics, they entered the Bundestag in 2017, making them the largest opposition party capitalizing on issues such as immigration and Euroscepticism. In France Marine Le Pen's National Rally remained a prominent far-right force in French politics. In Italy - Brothers of Italy (Fdi) and League, were influential in Italian politics and part of the ruling coalition. In Austria the Freedom Party (FPÖ) was in a coalition government with the Austrian People's Party (ÖVP). In Hungary Fidesz, led by Prime Minister Viktor Orbán, is considered a right-wing party with nationalist and Eurosceptic tendencies. It faced criticism for its stance on democratic principles and the rule of law. In Poland the Law and Justice, a right-wing and nationalist party, was in power. While not classified as far-right, it adopted policies that were considered Eurosceptic and conservative. In Sweden, the Sweden Democrats, had gained support in recent elections, becoming one of the largest parties in the Riksdag. In Greece, Golden Dawn, a far-right and neo-Nazi party, experienced electoral success in the past, winning seats in the Greek parliament, it faced legal action and arrests of its leadership due to criminal activity, including involvement in violent incidents. Contestation in the form of the Yellow Vests' movement, the outcome of referenda and the recent mass strikes in France, Greece and the UK reveal a galloping dissatisfaction that leads to a threat to social cohesion political stability and Euroscepticism. In a nutshell, the combined vote share of "hard" and "soft" Eurosceptic parties has almost quadrupled from around 7% to 27% in 2022 ([Rodríguez-Pose, Dijkstra, et al., 2023](#)).

One of the most prosperous continents with a long history of democratic institutions should have prevented the large waves of populism and discontent that appeared in the form of electoral outcomes, referenda (Brexit, Grexit), the electoral victories of far-right political

parties, demonstrations, strikes and social unrest. The EU is founded on the premises of solidarity, economic growth, prosperity and convergence. What has gone wrong?

The architecture and functioning of the common market and currency, the uneven growth returns of deeper integration and the divergence in economic growth across nations, regions and cohorts of the population indicates that fundamental imbalances are at stake. Simultaneously, the digitalization of the economic system and emergence of the “new tech” economy, the surge of offshoring and outsourcing combined with deeper and wider economic integration and globalization have brought about a global shift of the productive system in the western economies with a strong spatial footprint in regional labor markets.

One of the key features of the EU integration process is the enormous opportunity presented for deeper trade integration across member states. “The aforementioned is expected to unravel a multitude of benefits in terms of growth-inducing factors including larger market access, improved variety of intermediate and final goods, productivity and knowledge transfer gains” (Petra^{kos} & Sotiriou, 2021, p.21). Nevertheless, it also poses a series of threats to regions that are not prepared to meet higher levels of competition (Autor et al., 2013; Petra^{kos} et al., 2012). Economic integration is found responsible for the loss of middle-skill employment (Frey & Stutzer, 2002) also in the case of the US facing Chinese import competition (Autor et al. 2013; Jensen et al., 2017). The negative effects of the deepening and widening of the integration process and subsequent unbalanced growth trajectories have, at times, hit certain areas and cohorts of the population very severely, which has gradually led to an unprecedented change in the voting behavior in favor of anti-EU political parties. To this end, there is explicit empirical evidence demonstrating that the rise of anti-EU integration political parties is much higher in areas which suffered significant industrial employment losses (Dijkstra et al., 2020). The evidence is on a par with similar observations arguing that ‘the anti-system vote is the response to long-term economic and industrial declines’ (Rodríguez-Pose, 2018). In Greece, the surge of trade with the EU led to deindustrialization and unsustainable high trade deficits, due to the inability of the economy to compete with the more advanced scale- and technology- intensive European counterparts (Petra^{kos} et al., 2012). There is a nexus of industrial decline and anti-integration standing, which is not unique to the Greek case, spreading from the former industrial districts in Northern England, that reported the highest Brexit vote shares, all the way to the declining industrial regions in Northern Italy. The industrial decline and the rising inequalities which resulted from an unbalanced integration and trade system gave rise to an anti-EU rhetoric with a clear spatial footprint (Hendrickson et al., 2018). To the extent that the benefits of integration concentrate in specific core

metropolitan regions and in certain dynamic industries (leaving behind peripheral regions and declining industries) then the process of integration - by increasing regional income gaps - will negatively affect citizens' perceptions of the EU leading to the observed rising rates of discontent across the EU. Votes for parties (strongly) opposed to European integration are associated with the levels of education, existing levels of employment, regional wealth and distance to the capital, while ageing and net migration are not as important as economic decline, density, education and wealth (Dijkstra, et al., 2020).

Economic (trade) integration of peripheral with core EU countries, i.e., more advanced member countries, renders the benefits for less advanced regions questionable due to lower competitiveness, import penetration, and substitution effects (Rodríguez Pose & Sotiriou, 2021). Consequently, integration dynamics - via the channel of impact on inequalities - drive the growth of discontent. There is clearly, a visible cost of the (do less or do nothing) neo-liberal policies focused on austerity, which advocate a smaller state, less spending, less taxes, deregulation, and exhibit a low interest for social / cohesion policies. This cost appears in the form of disappointment, discontent, or disorder that affects policy options, the economic climate or critical aspects of institutional arrangements and cannot be ignored because they directly affect the real economy.

In parallel, the major transformations in the global production system act also in favor of discontent. "Production in developed economies has shifted from an 'old' industrial system with geographically dispersed activities to a 'new' tech economy, increasingly concentrated in big urban agglomerations" (Rodríguez-Pose, Terrero-Dávila, et al., 2023, p.954). The emergence of "superstar cities" that are essentially "built" on giant tech firms with no supply chains (Teece & Linden, 2017) have left out large fractions of the workforce. These massive visible interpersonal inequalities have fueled discontent at both tails of the political spectrum. In addition, "the financial elites, international bureaucrats, and big businesses have been portrayed by populist leaders, right and left, as the promoters of an unfair economic system" (Rodríguez-Pose, Terrero-Dávila, et al., 2023, p.954).

A bird's eye view of the literature reveals that most studies focus on the drivers of discontent at a country level and not on a European-wide subnational context. This study employs Eurobarometer data related to citizens' declining trust in the EU to investigate the drivers and factors conditioning discontent and its varying expressions in highly heterogeneous social, historical, geographical institutional and cultural settings. The use of the Eurobarometer data in a panel setting at the regional level is, thus far, either sparse or non-existent and will shed new light in the related literature. Our analysis focuses on identifying the drivers of discontent

at the EU regional level. More specifically, we aim to unveil the association of regional inequalities and the unbalanced growth returns of EU integration with the rise of discontent as expressed in the regional Eurobarometer data. To this end, we employ panel econometric models at the EU-27 NUTS II level for the period 2010-2018 to assess the critical role of regional inequality, the geography of trade integration, economic stagnation and decline, immigration as well as a rich set of regional demographic and structural characteristics, public policies and the structural funds. The hypothesis that is tested is that high regional inequality, low growth, and the unbalanced distribution of integration benefits across regions has been strongly felt by the EU citizens and has affected their perceptions and trust in the EU leading to rising trends in discontent.

The report is organized as follows: In Section 2 we highlight the review of the literature on the geography of discontent. Data are presented in Section 3, followed by their descriptive analysis in Section 4. The model is introduced in Section 5 and the results of the empirical analysis are presented and discussed in Section 6, while in Section 7 we conclude and discuss some policy implications.

2. Literature review

The growing development gap between the lagging behind and the advanced areas and the increasing social inequalities are the fertile ground that allowed dissatisfaction with policy choices and institutions, while discontent has been transformed steadily to populism, nationalism, extremism, and anti-EU rhetoric that threatens to destabilize the European project (Hendrickson et al., 2018). To this end, political scientists have argued that political discontent and its consequences – protest, instability, and violence - depend not only on the absolute level of economic wealth, but also on its' distribution, that is inequality between the rich and poor (Østby, 2013). Theoretical and empirical literature has postulated that there is an inherent link between inequalities and discontent expressed either in national elections (Nel-lo & Gomà, 2018; Tubadji & Nijkamp, 2019) or in national referenda such as the Brexit vote (Los et al., 2017; McCann, 2020) and that Euroscepticism is a form of dissatisfaction with the political and economic system, while grievances can be linked to specific territorial characteristics (Capello & Perucca, 2018). The scant evidence focusing on discontent was triggered in large part by the renewed impetus of “far-right parties in much of Europe with countries like Hungary, the Czech Republic, Austria, Italy and Greece even bringing these parties into government” (Nel-lo & Gomà, 2018, p.1) at a time when independence

movements started gaining more power in Scotland (2014) and Catalonia (2017). These separative trends and growing division among and within countries are not only triggered by the economic crisis but are deeply rooted in a long-standing process of unbalanced growth returns from the deepening and widening of the EU integration process. Along the same line of reasoning, [Dijkstra et al. \(2020\)](#) analyze the determinants of votes against European integration across all EU members and find that long-term economic and industrial decline (territorial inequalities) are found to be important drivers of the anti-EU vote. Similar arguments in the literature highlight that places facing higher import competition from foreign markets are more likely to vote against incumbent governments ([Jensen et al., 2017](#)) and for populist parties ([Colantone & Stanig, 2018, 2019](#)). Consequently, by and large, national extremism, political instability and social tension can be interpreted as a result of widely felt grievances among the relatively disadvantaged in society, a notion recently emphasized in the context of the interplay between anti-globalization sentiments and economic decline in EU regions ([Rodríguez-Pose, 2018](#); [Rodríguez-Pose, Terrero-Dávila, et al. 2023](#)). In line with these findings, the Brexit referendum outcome is insightful. The regions and localities that were perceived to have benefited most from globalization, immigration and trade tended to vote “remain”, while those that were perceived to feel most threatened by these phenomena voted “leave” ([Dijkstra et al., 2020](#)). To this end, [MacLeod and Jones \(2018\)](#) argue that the electoral geography of the Brexit vote is indicative of the asymmetric benefits of the globalization process across income cohorts, with the working- and middle-class tipping the balance and, most importantly, giving rise to a more pronounced intra-local along with the inter-regional voting pattern across the UK. “Inequalities linked to deindustrialization, austerity, rigid post-crisis recovery programs and spatially uneven growth from integration, created a vicious cycle of destabilization” ([Petrakos & Sotiriou, 2021, p. 22](#)).

Apart from trade competition, local labor markets and low-skilled jobs have suffered due to offshoring to lower labor cost economies ([Gagliardi et al., 2021](#)). In line with these findings, the propensity to support right-wing populist parties is greater in those EU countries where, the rate of youth (temporary) employment is higher. In a relevant study, [Zagórski et al. \(2019\)](#) explain that it is not youth unemployment per se but the temporary, precarious, low-quality insecure jobs of the youth that push them towards populist voting.

The literature focusing on referenda as another form of expresses discontent confirms previous findings. To this end, [Los et al. \(2017\)](#) analyze the economic geography of the Brexit vote and find that regions that are more economically interdependent with EU markets display a higher proportion of leave votes. In contrast, the regions that are the least connected to EU

markets are those, which displayed the strongest pro-remain votes, namely London and parts of Scotland. The authors explain this trend on the basis of regions' specialization. London's specialization tends to be in services, and especially in international financial services, whereas regions outside of London specialize in manufacturing, agriculture and extraction industries, all of which are more dependent on EU markets. The salient role played by spatial characteristics is revealed by the fact that regions with larger shares of lower-skilled or manual employment, a greater historical role in manufacturing, and higher levels of unemployment were all more likely to vote leave (Becker et al., 2017). As such, the regions and localities that were perceived to have most benefited from globalization, immigration and trade tended to vote remain, while those that were perceived to feel most threatened by these phenomena voted leave. Similarly, McCann, (2020), concludes after comparing 28 indicators of inequality, across 30 OECD countries, that the UK is one of the most regionally unequal countries in the industrialized world, which is potentially linked to the geography of discontent witnessed in the country. Similarly, the interplay between the EU dynamics and the geography of discontent is much less explored in the empirical literature despite the fact that rising "inequalities are becoming too politically dangerous to ignore" (Economist, 2016). In conclusion, the lack of a balanced economic integration experience, may lead to political dis-integration which constitutes the core conceptual and methodological novelty and the research foundation of this study.

Overall, the related literature has employed two approaches in accessing discontent: national electoral outcomes and national referenda. However, much less is spelled out regarding citizens' perceptions using Eurobarometer data which the proposed study will explore in depth. Concerning national electoral outcomes, Nel-lo and Gomà (2018), explore the relationship between the changes in political attitudes and urban segregation in Spain and find that in the lower and richest income neighborhoods, the right-wing parties received the best results unlike in the middle-income neighborhoods. The authors detect a paradox whereby low-income neighborhoods vote for right-wing parties with neoliberal policies that use national sentiments of the population to attract votes. Tubadji and Nijkamp (2019) detected a similar finding in Greece, by exploring the political-economic radicalization as manifested by the rise of the ultra-right-wing party (Chrysi Avgi/Golden Dawn). They examine the spatial effects of economic shocks and cultural attitudes to detect the drivers of radicalization (measured by the percentage of the ultra-right-wing party) at the NUTS III level. With the use of the national elections and European parliament election results (in a pooled cross section

analysis) they conclude that the magnitude of the economic shock and cultural attitudes explain the levels of radicalization in Greece.

Stagnation and persistent decline are found to explain Eurosceptic voting in those EU regions that “fell” into a development trap (Diemer et al., 2022; Iammarino et al., 2020; Rodríguez-Pose, Dijkstra, et al., 2023). A development trapped region is one “where economic growth is lower than that a) of the EU, b) of the country the region is located in, and/or c) of the region itself in a previous period, being a development trapped region increases hard and soft Eurosceptic voting (Rodríguez-Pose, Dijkstra, et al. 2023, p.5). People in “trapped regions” perceive their current situation in terms of employment prospects, public services / facilities and opportunities as worse than in the past and worse than in core metropolitan cities of their country, the study finds that Eurosceptic voting decreases with better employment prospects, higher human capital, improved quality of government, larger fractions of population born in another EU Member State and with population density, but increases with high GDP, an aging population and more foreign born outside the EU (Rodríguez-Pose, Dijkstra, et al. 2023). Along the same research lines, poor and rich European regions tend to trust the EU more, compared to middle-income regions while temporal growth is associated with higher levels of EU trust. “Euroscepticism is not a poor region phenomenon, rather it is primarily found in the regions that are stuck in the middle, i.e., in a development trap” (Vasilopoulou & Talving, 2023 p.16).

Although a strand of the literature implicitly touches upon the various dimensions of the association between inequalities and discontent, there is still scant evidence on the causal relationship between the two in a spacio-structural and spacio-temporal context. Moreover, what is entirely overlooked in the existing evidence are the very sources of inequalities and how they constitute the main drivers of the observed discontent through the processes of deepening and widening of EU integration. The core building block of our hypothesis is that a long-lasting unequal and spatially uneven distribution of income across countries and EU regions is reflecting an even more divergent evolution of individual incomes and prosperity which drives the negative citizens’ perceptions regarding the EU and the effectiveness of national government policies and of the EU regional policies. This leads to radical voting behavior in some cases involving anti-democratic parties.

The causal association between interpersonal inequality and discontent is not unique for the EU case. The relationship is tested in a comparative study between the USA and EU. Rodríguez-Pose, Terrero-Dávila, et al. (2023) analyze the drivers behind the surge of populism (far-right parties) in EU (NUTS III) and USA counties and point out a critical element when putting discontent under the microscope; that is the interdependence between immigration and

economic inequalities in predicting extreme voting at low spatial scales; in the US economic decline increases populist voting only in white-majority areas, while in the EU economic decline and growing inequalities are the key drivers. Our analysis aims to go a step further and seeks to evaluate the causes of anti-EU sentiments and Euroscepticism, in a wider and more integrated EU with regional inequality challenges. These trends are often analyzed with respect to a wide range of potential drivers among which trade - although the most important element of integration - has attracted the lowest attention particularly at the sub-national level, partly due to the lack of available data. This study will provide new empirical evidence on these effects.

The research questions are thus related to the long-lasting unequal and spatially uneven distribution of income across EU regions reflecting an even more divergent evolution of individual incomes and prosperity which drives the negative citizen's perceptions regarding the EU. Along these lines:

- How does the deepening and widening of the EU integration process affect public opinion on EU?
- Does deeper trade integration increase resentment towards the EU?
- Is the lack of a balanced economic integration experience a driver of EU discontent?
- Do cultural and economic factors reinforce each other's impact on discontent?
- How do economic factors mediate anti-immigration sentiment?
- Does the impact of factors identified as key drivers behind the surge of populism remain unchanged once discontent is proxied by citizens' perceptions?

3. Data and variable measurement

We examine the EU27 regions. The unit of analysis is the EU region at the Nomenclature of Statistical Regions Data at level 2, also known as NUTS II regions. The maximum total number of regions covered by the data is 240. The period of analysis is 2010-2018.

The dependent variable of discontent (*DISC*) is proxied by the level of distrust (percentage of people tend not to trust the EU). The data employed for the analysis is sourced by the Flash Eurobarometer surveys on public opinion in the EU regions, carried out for the years 2012, 2015 and 2018 (EC, 2012, 2015, 2018a). The data is provided for a very detailed view of the European public opinion at regional level (levels "NUTS I" or "NUTS II"). We use interpolation and extrapolation techniques to estimate the data for the rest of the period tested. For regions

with NUTS I level of analysis throughout the period, we assume that the difference between NUTS I and NUTS II remains constant. In cases data is offered in NUTS I for the year 2012 and in NUTS II afterwards, we estimate NUTS II for 2012 using weights based on the latter years.

The key variable of interest is economic inequalities, proxied by gaps on development and growth rates.

The development gap ($YgapEU$) represents the percentage distance of each region from the leading region and is estimated according to the following formula:

$$YgapEU_{it} = (Y_{max,t} - Y_{it}) / Y_{it} \quad (1)$$

where:

$Y_{max,t}$ is the development level of the leading region in year t

Y_{it} is the development level of region i in year t.

The growth gap ($GgapEU$) represents the GDP per capita growth distance of each region from the fastest growing region, according to the following formula:

$$GgapEU_{it} = G_{max,t} - G_{it} \quad (2)$$

where:

$G_{max,t}$ is the growth rate (%) of the fastest growing region in year t

G_{it} is the growth rate (%) of region i in year t.

We also test the impact of regional growth trajectories on discontent, using the annual percentage growth of GDP per capita (g). Data on regional per capita GDP in constant 2015 prices is obtained from the Annual Regional Database of the European Commission's Directorate General for Regional and Urban Policy (ARDECO).

We also include the regional trade integration index with core countries ($INTcore$) which represents the share of trade with the core EU countries over total EU trade, using a unique dataset on trade at the regional NUTS II level with data availability up to 2018 (ESPON, 2018). Following Petrakos and Phycharis (2016) and Petrakos et al. (2016), the level of integration is proxied by the share of trade (exports and imports) with the EU over total trade, provided by the following formula:

$$TRADE INT_{r,t} = (imports_{r,t}^j + exports_{r,t}^j) / (imports_{r,t}^{EU} + exports_{r,t}^{EU}) \quad (3)$$

where:

- the nominator represents the trade between the NUTS II region r and the group of core trade partners j in year t ,
- the denominator represents the trade between the NUTS II region r and the EU in year t .

We also include several control variables which represent structural, economic, demographic, cultural, geographical and policy factors that, according to the extant literature, potentially cause discontent. The control variables are:

- a. the size of the public sector, proxied by the share of employment in the public sector over total employment,
- b. the intensity of social policy per capita,
- c. the Structural Funds as a GDP share,
- d. long-term unemployment using the share of persons being unemployed over 12 months over the number of persons in the labor force,
- e. the size of the tradable sector proxied by the share of employment in the tradable sectors of each economy over total employment,
- f. the population density of each region,
- g. the level of education of working-age population
- h. net migration using the crude rate of net migration plus adjustment, which is defined by EUROSTAT as the ratio of net migration (the difference between the total change and the natural change of the population) during the year to the average population in that year,
- i. foreigners born in another EU country as a share of the labor force.

A detailed description of the variables and their sources is provided in Table A1 in the Appendix. Table A2 presents the summary statistics and Table A3 the pairwise correlations for all the variables.

4. Descriptive analysis

Before turning to the multivariate analysis, we begin with a descriptive view of the variables used. The temporal evolution of the anti-EU sentiment within our study period reveals some important trends that inform our key research lines and is depicted in the following graphs. The EU no trust percentages reach their peak within our study period of analysis as shown in Figure 1, which provides a temporal trend of the percentages of *no trust in the EU*. Specifically, in 2010 the distrust ratio prevails in the EU for the first time, mirroring the severe impact of

the deep economic crisis in the area. In the following years it records a sharp increase, reaching its highest levels in the years 2012 and 2013, followed by a 50 – 60% fluctuation until 2017. Since then, the distrust ratio has stabilized approximately in its 2010 level. In 2018, “a majority of respondents distrust the EU in a total of ten Member States” (EC, 2018b, p.98). Although the number of countries is almost the same as in 2010 (respondents in ten Member States plus UK distrust the EU), the share of distrust in 14 countries presents an upward trend.

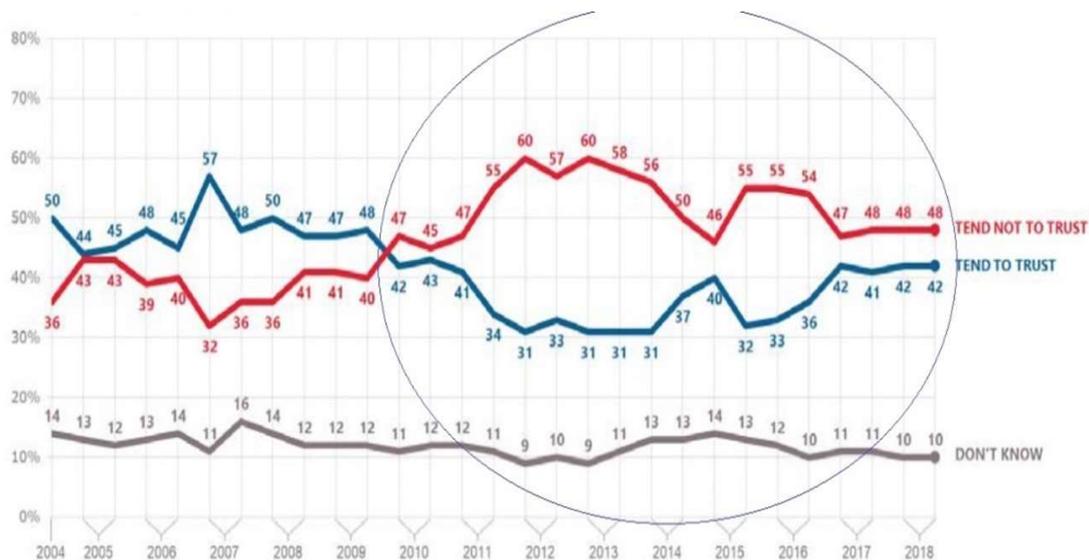


Figure 1. Evolution of the trust - distrust Ratio for the European Union

Source: EC (2018b)

Within regions the share of citizens that tend not to trust the EU is spatially differentiated. In 2012, the first year with available data at the regional NUTS I and NUTS II level, distrust in the EU varies from a low 27% in the Province of Trento (ITH2) in Italy to a high 71% in Northwest (CZ04) and Northeast (CZ05) Czechia. Equivalent data for 2018 demonstrate a low share of distrust (14%) in Eastern and Midland (IE06) Ireland and in Lisbon Metropolitan Area (PT17) in Portugal and a high share of 53% in Northwest (CZ04) Czechia.

The overall picture of relatively mild discontent at the national level masks high regional disparities in public’s opinion about the EU. Only 45 out of 240 regions reported a (moderate or high) increase on the level of trust in the EU in 2021. We expect the anti-EU sentiment to be higher in economically stagnated regions and where economic inequalities are high and persist.

The spatial pattern of discontent in the EU is depicted in Figure 2, which presents a map with the spatial distribution of EU distrust at the NUTS II level. Our baseline hypothesis is that

people's dissatisfaction with their relative position over time tends to affect the level of trust for the EU, indicating that tripartite channels related to unbalanced EU integration benefits - inequality - discontent are at play.

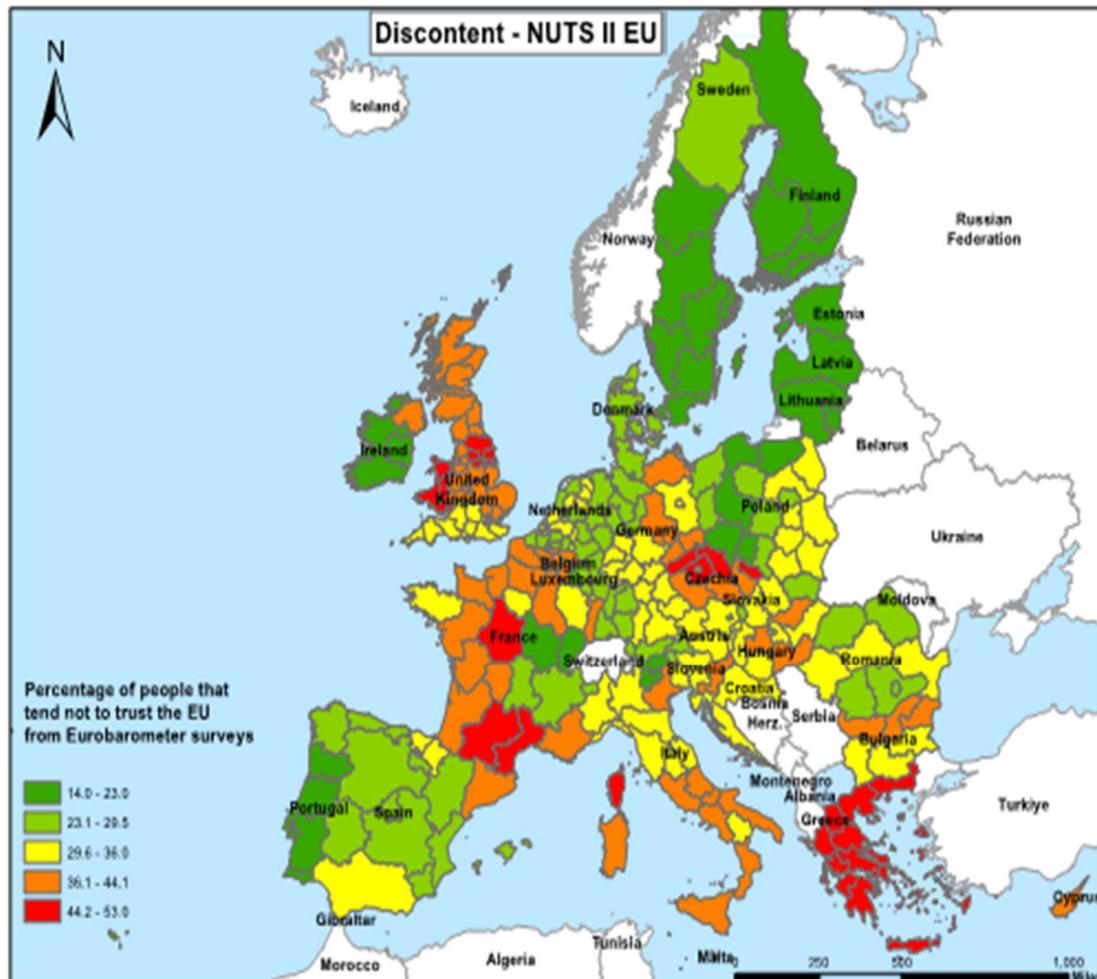


Figure 2. Map of discontent at the NUTSII EU level – 2018

Source: own elaboration using data from Flash Eurobarometer survey 472 (EC, 2018a)

In terms of the regional patterns of inequality, it is important to point out that, regarding the development level, the leading region during the period under examination is Luxembourg with a GDP per capita that ranged from 95.261€ in 2010 to 95.957€ in 2018. Although the average regional development gap (GDP per capita percentage distance) has decreased from 454% in 2010 to 385% in 2018, the overall sample mean is estimated at 422%, which indicates very high levels of regional intra-EU disparity. Moreover, the average growth gap (the growth distance from the fastest growing region¹) between the EU regions has increased from 9.23%

¹ Table A4 in Appendix presents a detailed view of the leading and fastest growing regions per year.

in 2010 to 10.70% in 2018, recording its highest value of 62,36% in 2015 (due to the immense growth rate of Southern Ireland that reached 64,33%). Figure 3 depicts the evolution of regional patterns of inequality for the period under examination.

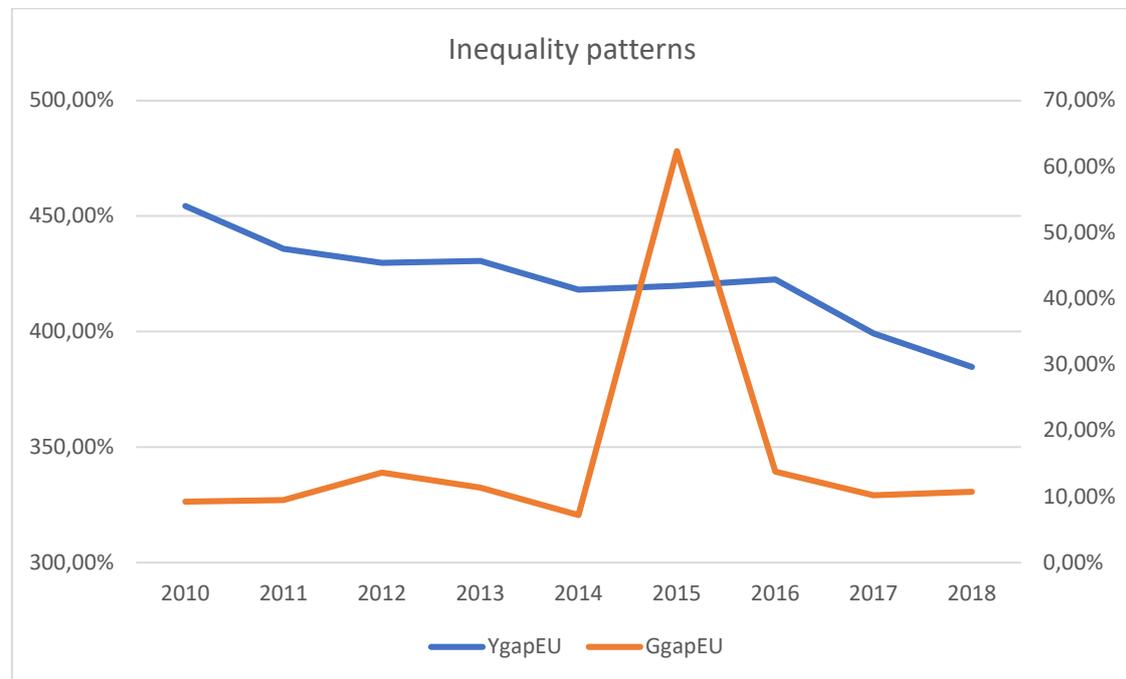


Figure 3. Evolution of regional inequality patterns, 2010-2018

Source: own elaboration using data from ARDECO

The relationship between discontent and growth is expected to be negative. To this end, we plot the anti-EU sentiment / discontent against growth and find a strong negative association (Figure 4) confirming our key hypothesis. Further, for the analysis of spatial inequalities, we use the growth gap (*GgapEU*). The relationship between regional disparities and discontent is presented in the fitted line of the scatterplot in Figure 5. The relationship is positive and significant, higher inequality is associated with higher levels of discontent in both versions of the key variable. However, the picture changes when considering regional disparities expressed as the development gap. Figure 6 presents the relationship between discontent and the development gap from the leading region (*YgapEU*). We observe that there is no clear pattern in the relation of regional inequalities and discontent.

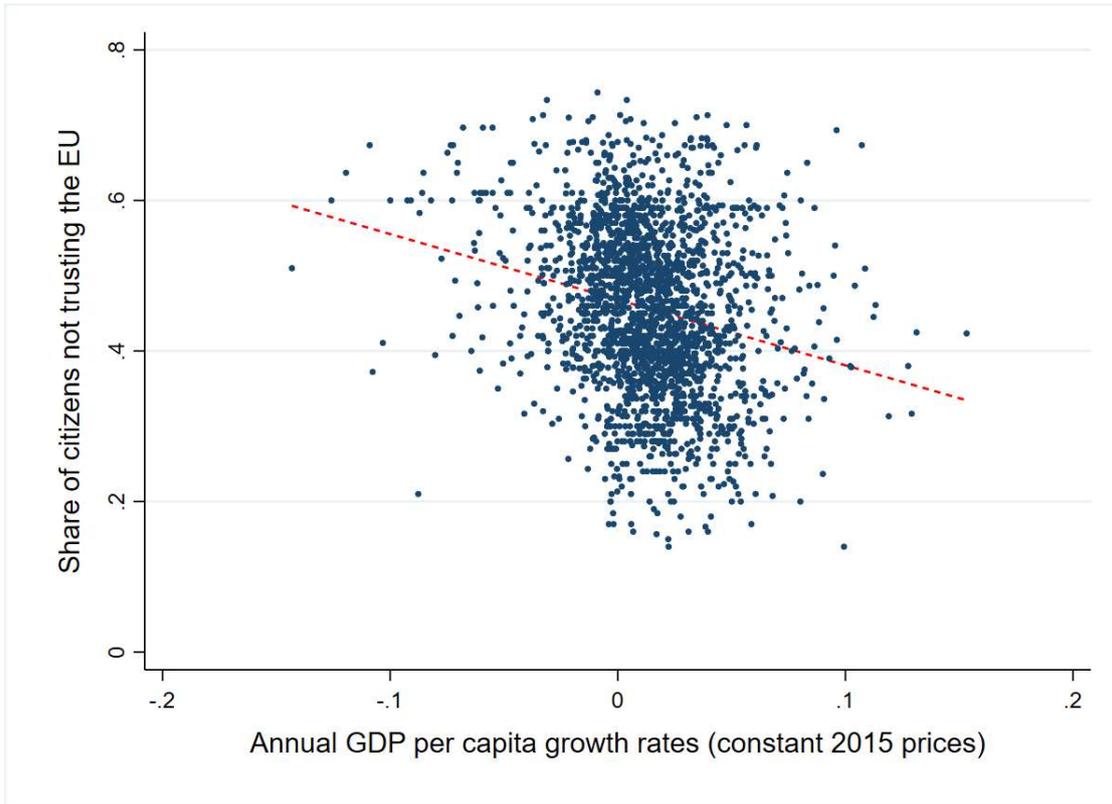


Figure 4. Relationship between regional growth and discontent, 2010-2018

Source: Own elaborations, ARDECO and EC

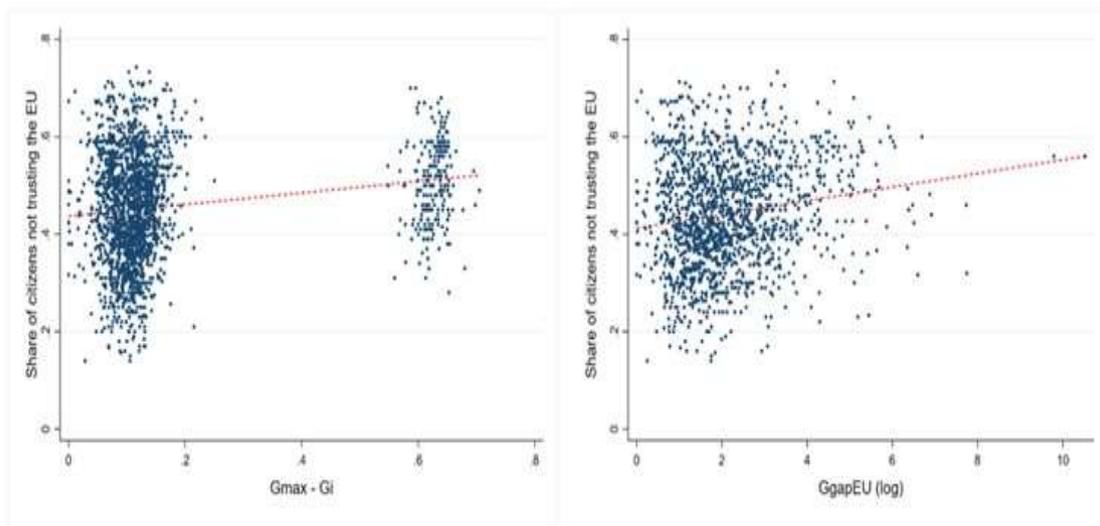


Figure 5. Relationship between regional inequalities (GgapEU) and discontent, 2010-2018

Source: Own elaborations, ARDECO and EC

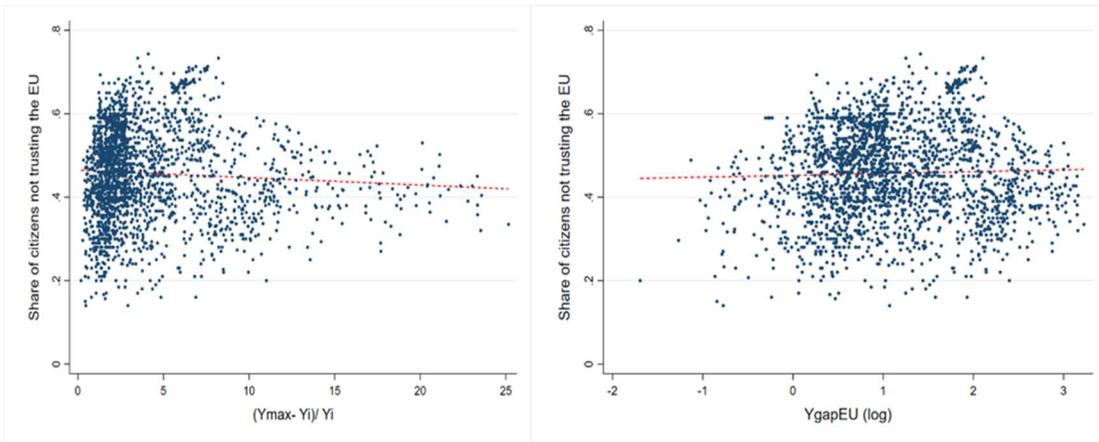


Figure 6. Relationship between regional inequalities (YgapEU) and discontent, 2010-2018

Source: Own elaborations, ARDECO and EC

A key element of our analysis which contributes with a novelty to the existing empirical literature on inequalities and discontent is the indirect effect of the unbalanced diffusion of the EU trade integration benefits, which we explore using a unique dataset on trade (imports and exports) at the regional NUTS II level with data availability up to 2018 (ESPON, 2018). The rationale of our hypothesis is that the process of integration does not always allocate costs and benefits evenly among advanced and less advanced regions. More competitive or advanced regions will benefit more from higher levels of integration. Weaker regions with structural deficiencies in their productive base typically engage in unbalanced trade relations. Figure 7 presents the evolution of trade integration in EU with the advanced (core) and less advanced (peripheral) EU trade partners.

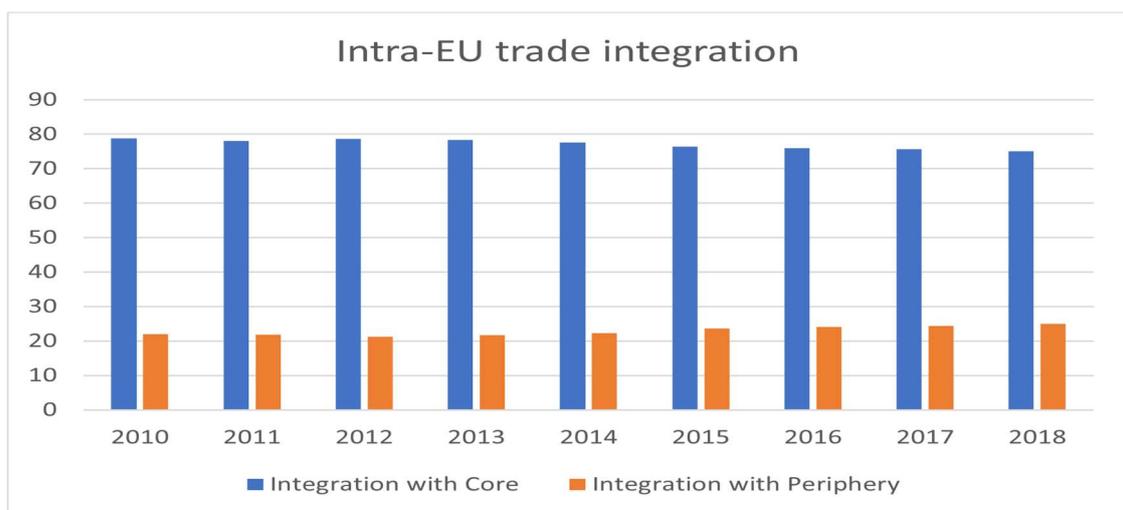


Figure 7. EU trade integration index of all EU regions with core/peripheral regions, 2010-2018

Source: own elaborations, ESPON

The deeper integration of core regions in the EU market and their superior export dynamism is translated into higher growth benefits from the process of integration while peripheral “importer” regions suffer from competition pressures. This process has a strong regional growth footprint – higher growth for core regions and lower for peripheral which fuels regional disparities within countries and across the EU (Petraikos et al., 2005; Rogriguez-Pose 2012). As a result, the process of EU integration seems to have an unequal spatial and social footprint that has been embedded in the perceptions of people as a key contributor to the development gap between the lagging behind and the advanced areas and has been one of the drivers of dissatisfaction with policy choices and EU institutions.

Figure 8 depicts the relationship between trade integration with core EU countries and discontent. We observe that no clear pattern emerges in this relation that needs further investigation.

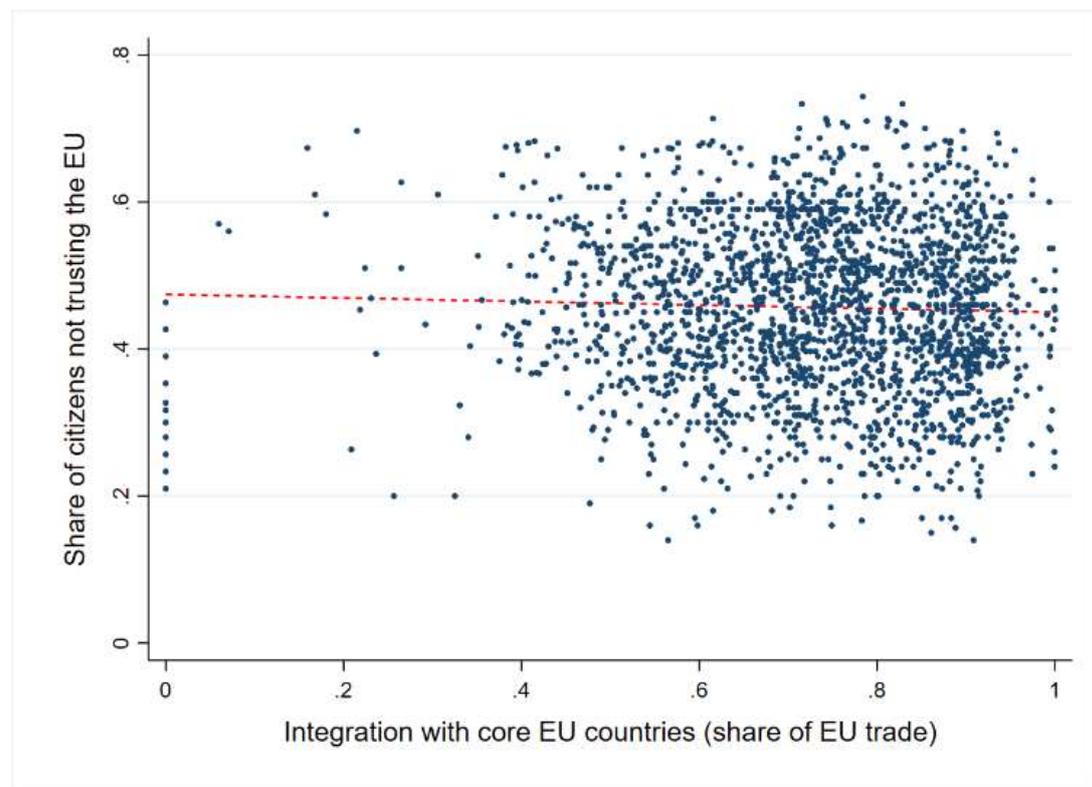


Figure 8. Relationship between trade integration with core EU and discontent, 2010-2018

Source: Own elaborations, ESPON and EC

The following scatterplots depict the relation between variables related to available policy tools and discontent. We observe that there is no clear pattern in the relationship between the size of the public sector and discontent (Figure 9). The same holds for the relationship between redistributive social policies and discontent (Figure 10). In Figure 11 we observe that

Structural Funds are positively associated with discontent but not with a significant and pronounced slope.

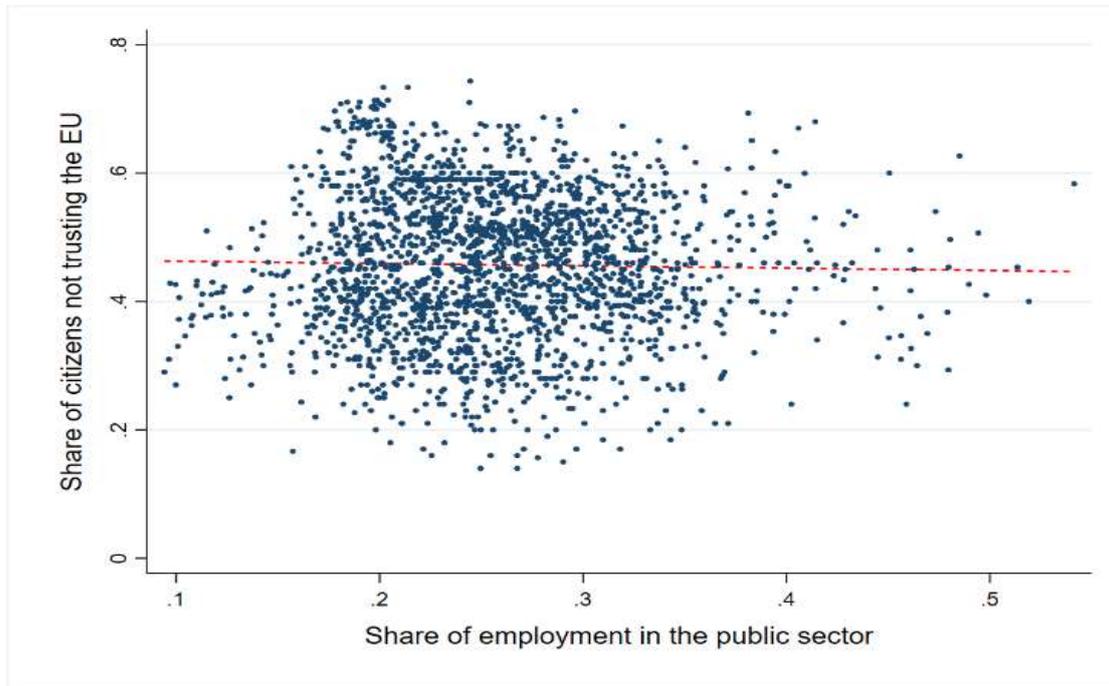


Figure 9. Relationship between public sector and discontent, 2010-2018

Source: Own elaborations, EUROSTAT and EC

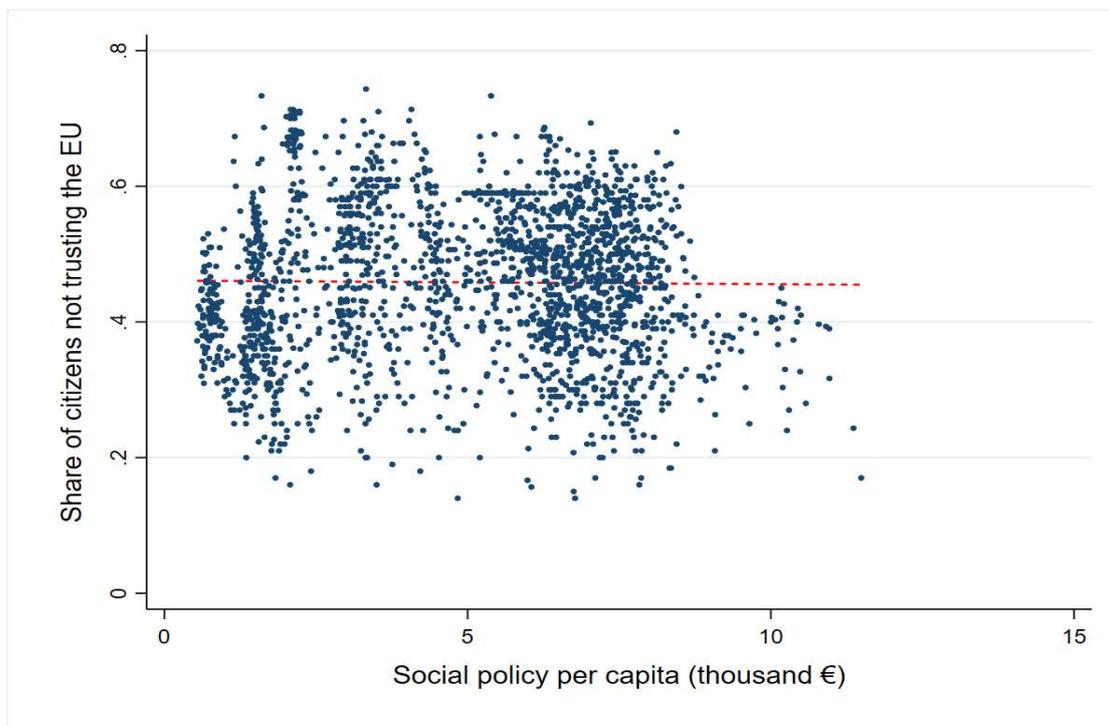


Figure 10. Relationship between social policies and discontent, 2010-2018

Source: Own elaborations, EUROSTAT and EC

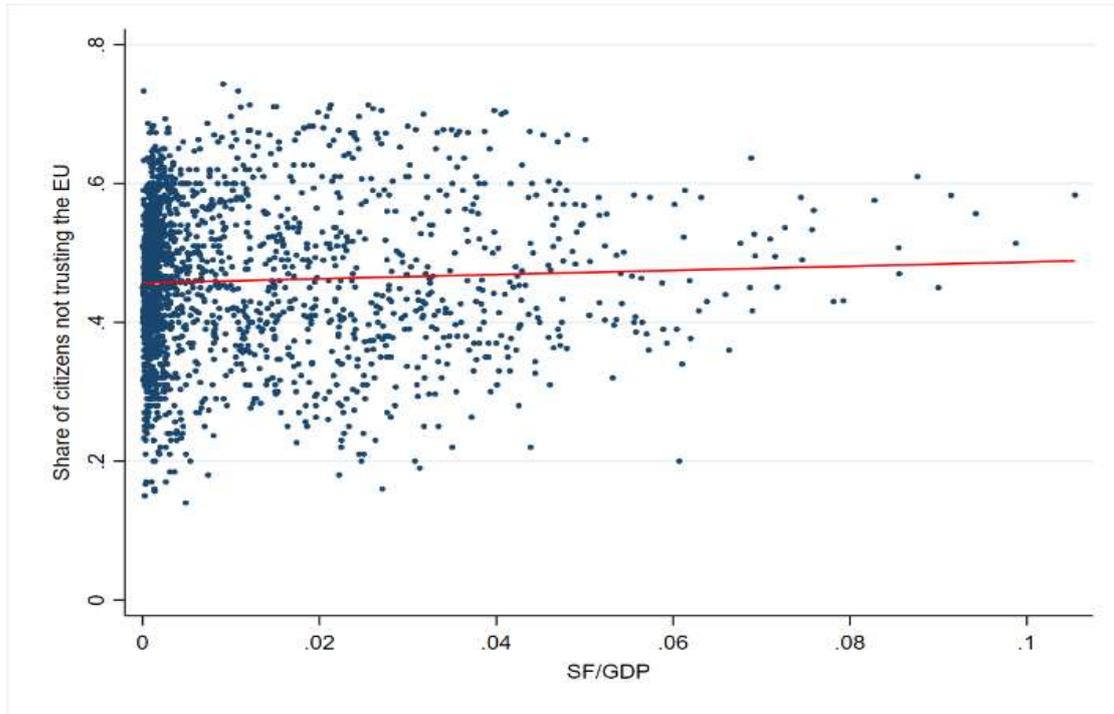


Figure 11. Relationship between structural funds and discontent, 2010-2018

Source: Own elaborations, DG Regional Policy, EUROSTAT and EC

We also plot the share of no trust in the EU against a set of structural, demographic, cultural and geographic variables that are expected to be potential drivers of the anti-EU sentiment. In Figure 12 we observe that migration is not positively associated with discontent, contrary to popular beliefs that link migration with higher levels of discontent. Moreover, Figure 13 indicates a negative relationship between net migration and regional inequalities expressed as development gaps. Figure 14 also suggests a clear negative association between foreigners born inside the EU and discontent, implying that cultural interaction increases tolerance, thus helping in reducing polarized and anti-EU sentiments.

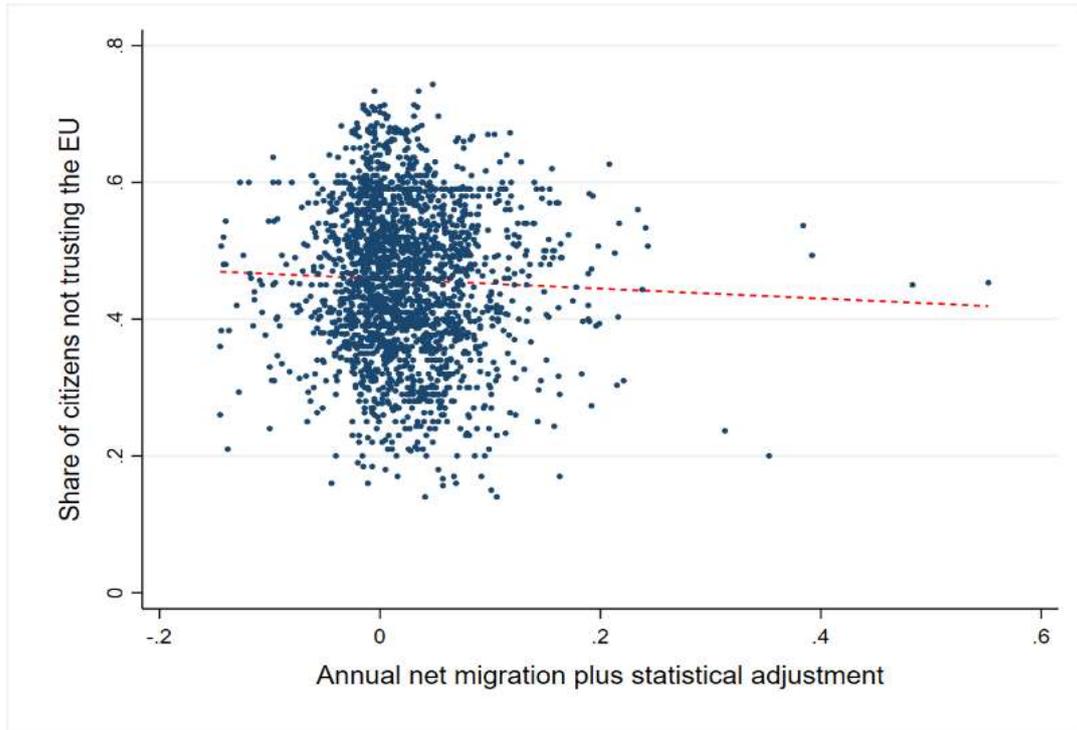


Figure 12. Relationship between net migration and discontent, 2010-2018

Source: Own elaborations, EUROSTAT and EC

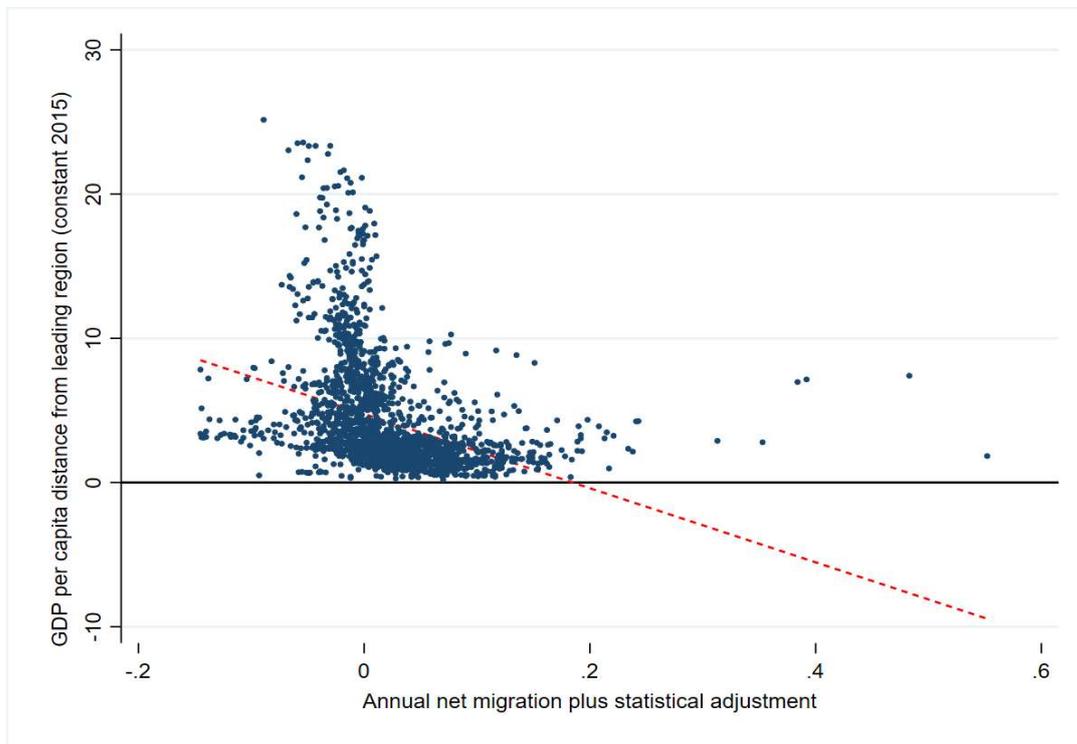


Figure 13. Relationship between net migration and regional inequalities (YgapEU), 2010-2018

Source: Own elaborations, EUROSTAT and ARDECO

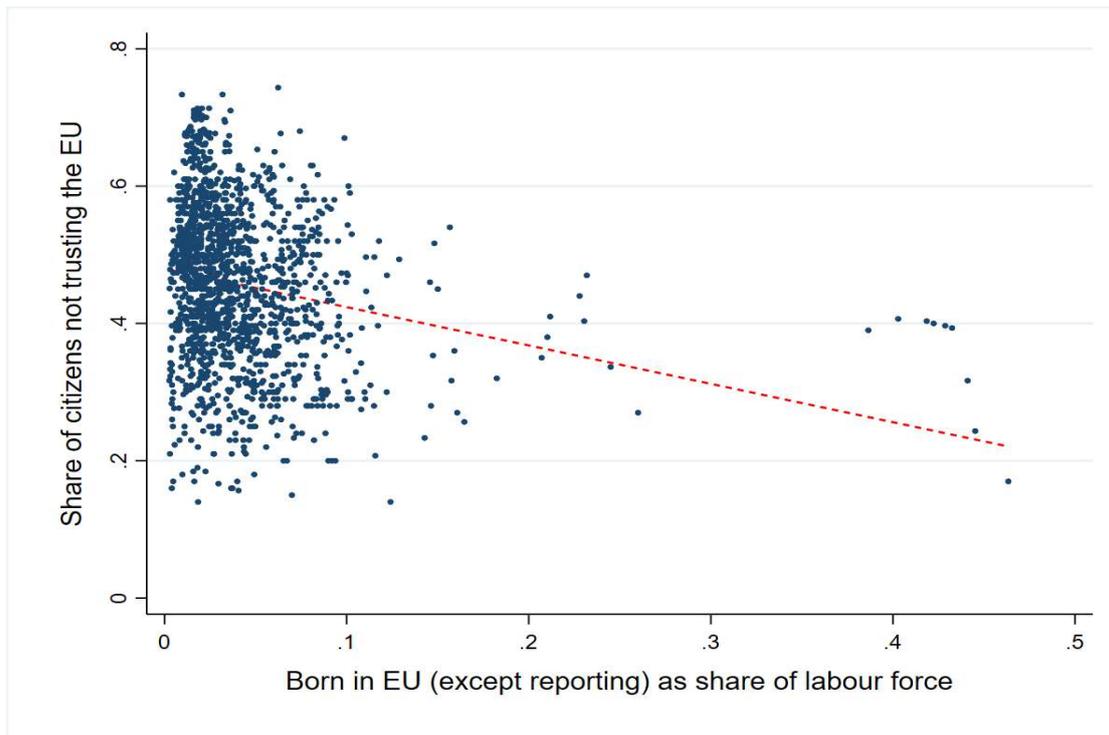


Figure 14. Relationship between foreigners born in EU and discontent, 2010-2018

Source: Own elaborations, EUROSTAT and EC

The relationship between long-term unemployment and discontent is positive and significant, as expected (Figure 15). A higher share of persons being unemployed over 12 months is associated with higher levels of discontent. The share of employment in tradable sectors appears to have a weakly positive association with discontent (Figure 16).

Figure 17 presents the association between discontent and the level of education of working-age population, the negative slope of the fitted line indicates that high proportions of educated population are associated with lower anti-EU sentiments and this may simply mirror that anti-systemic rhetoric is not very popular among educated people. Lastly, Figure 18 shows a negative association between population density and discontent, implying that the phenomenon finds less fertile grounds in more densed (urban) areas.

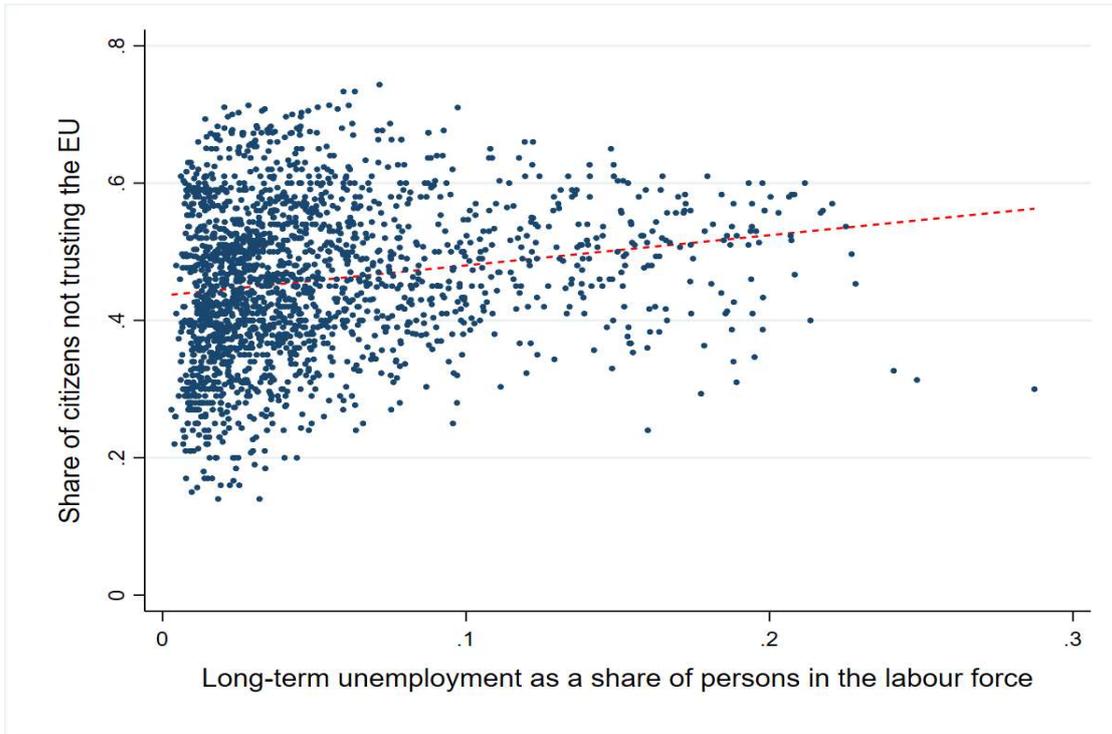


Figure 15. Relationship between long-term unemployment and discontent, 2010-2018

Source: Own elaborations, EUROSTAT, and EC

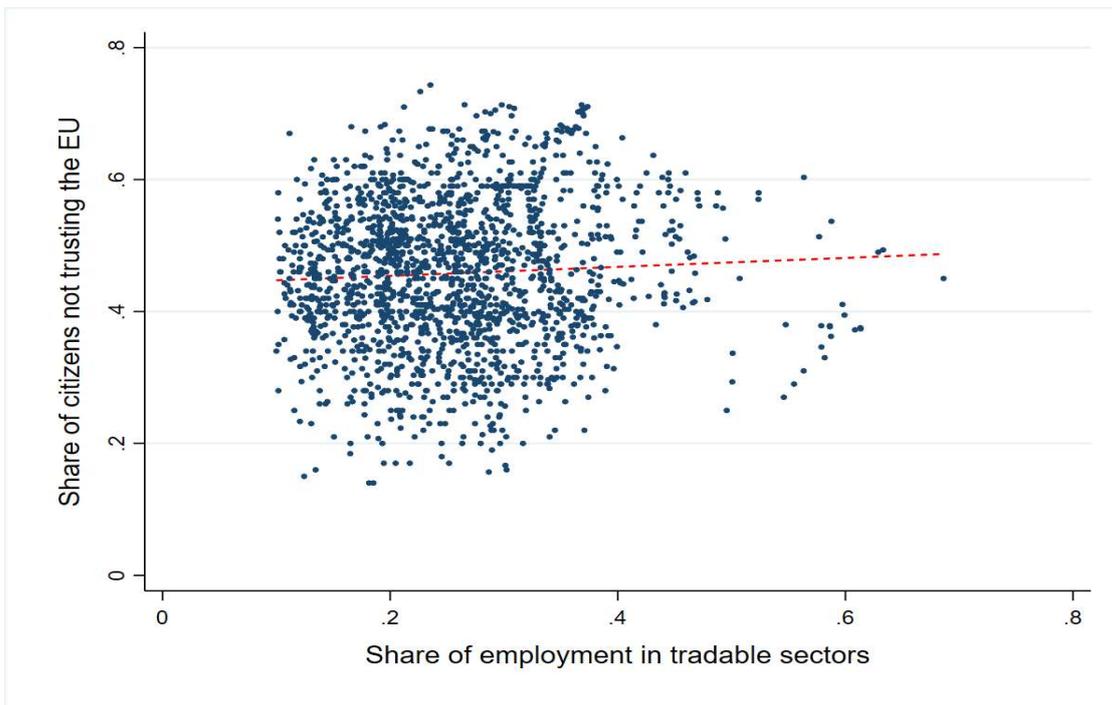


Figure 16. Relationship between tradable sector and discontent, 2010-2018

Source: Own elaborations, EUROSTAT, and EC

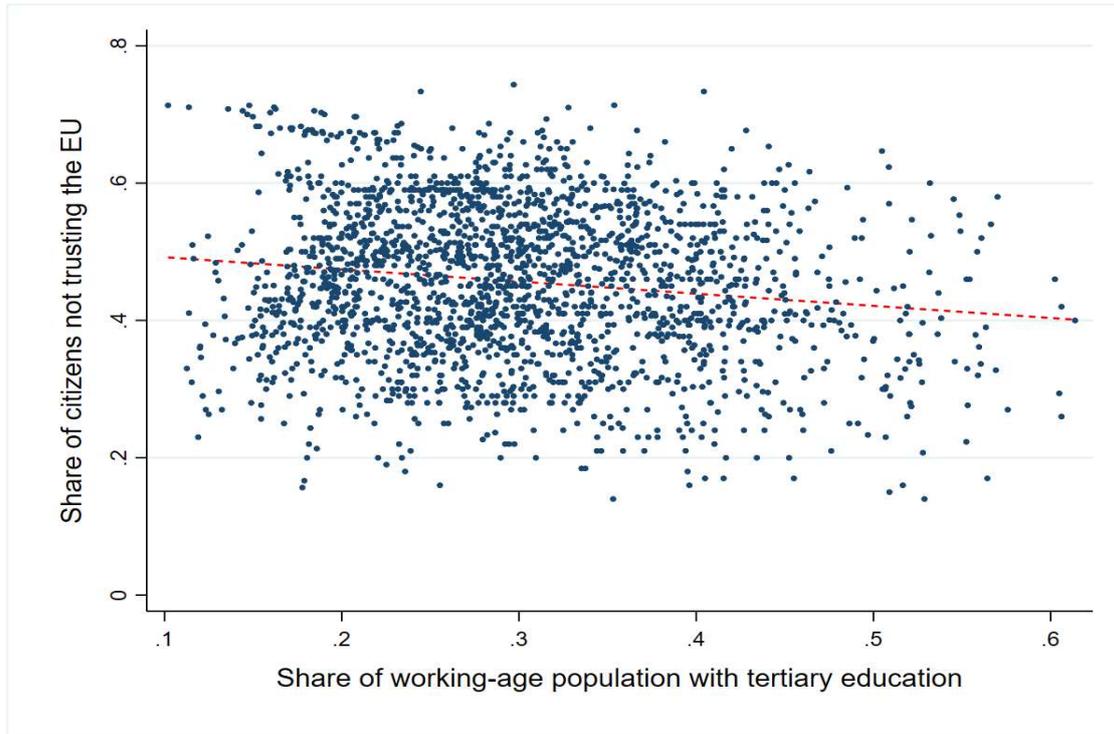


Figure 17. Relationship between education level and discontent, 2010-2018

Source: Own elaborations, EUROSTAT, and EC

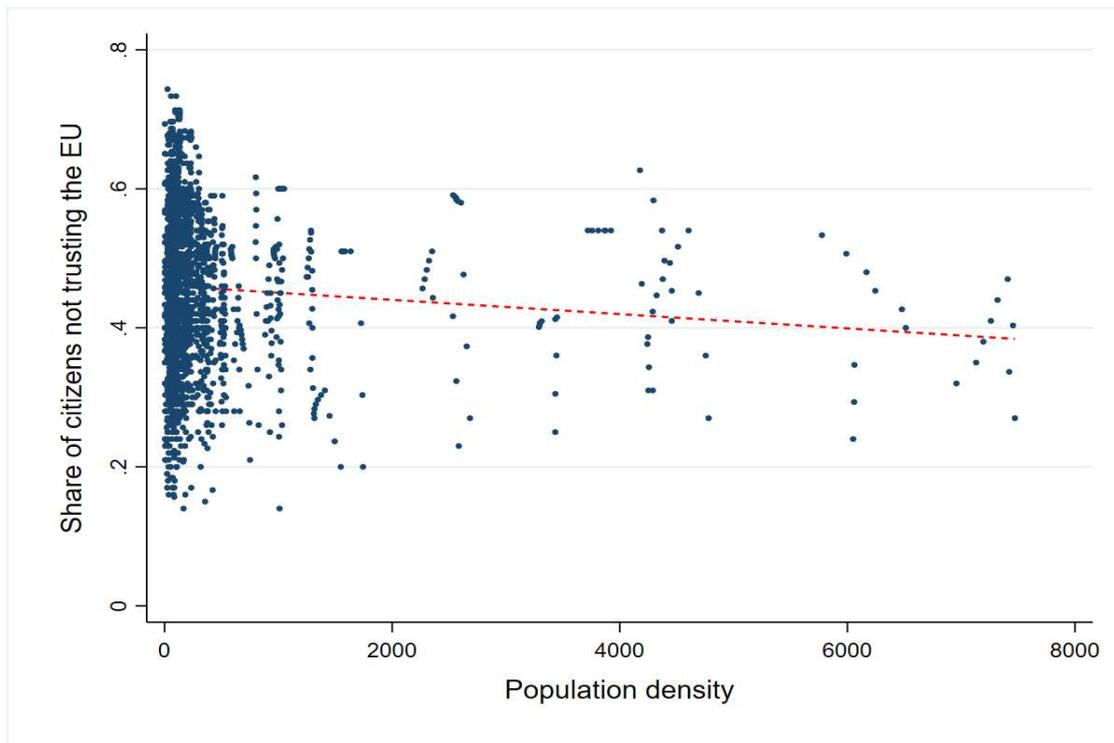


Figure 18. Relationship between population density and discontent, 2010-2018

Source: Own elaborations, EUROSTAT, and EC

5. The model

For the estimation of the key drivers that affect discontent we evaluate the following equation by means of panel fixed effects models with region fixed effects at the EU-27 NUTS II level from 2010 to 2018. The estimation equation takes the following form:

$$Discontent_{i,t} = \alpha + \beta Inequalities_{it} + \gamma Integration_{it} + \sum_{j=1}^n \gamma_j X_{jit} + \varepsilon_{it} \quad (4)$$

The dependent variable for discontent (*DISC*) is proxied by the percentage of citizens not trusting the EU, provided by the Eurobarometer surveys,

i stands for the regional unit of analysis $i = 1, \dots, 240$ NUTS II regions,

$j = 1, \dots, N$ represents the control variables and estimators

$t = 1, \dots, 9$ are the time periods.

The key variables of interest are the EU regional inequalities measured by the regional development gap (*YgapEU*) and growth gap (*GgapEU*) measured by the GDP per capita distance of region *i* from the EU leading region, and the GDP p.c. growth (%) distance from the fastest growing EU region respectively. We also test the effect of the growth trajectory (*g*) of the regions as regional economic growth positively correlates with EU trust ([Vasilopoulou and Talving, 2023](#)).

Regional disparities have been driving both Euroscepticism and extreme voting behavior both in the EU and the USA ([Dijkstra et al., 2020](#); [Los et al., 2017](#); [Rodríguez-Pose, 2018](#); [Rodríguez-Pose, Terrero-Dávila, et al., 2023](#)). The regional trade integration index with core countries (INT_{core}), proxied by the ratio of trade with the core EU over total EU trade, is estimated to evaluate the extent to which deeper integration with the advanced regions may pose threats and substitution effects for the domestic industries and the regions which are more exposed to the trade integration dynamics producing a strong regional footprint ([Autor et al., 2013](#); [Petraikos et al., 2012](#)). The distribution of benefits from increased trade integration has been widely uneven questioning the extent to which regions that may experience net losses from integration are expressing lower trust in the EU ([Badinger & Tondl, 2004](#); [Petraikos et al., 2005](#); [Rodríguez-Pose, 2012](#)). Accordingly, core, prosperous and rich regions as well as the winners of globalisation and Europeanisation, are more likely to express trust in the EU ([Vasilopoulou and Talving, 2023](#)).

The model is extended with the addition of a set of control variables (*X*), where *X* is a vector of *j* region-specific structural, economic, demographic, cultural, geographical and policy variables that are expected to have a significant impact on discontent. Firstly, the net migration

(*MIGR*) in a region as it is found to drive Eurosceptic voting and perceptions (Di Matteo & Mariotti, 2021; Rodríguez-Pose, Dijkstra, et al., 2023). Second, long-term unemployment (*LONG-UNEMP*) as it triggers revenge populist voting (Zagórski et al., 2019) and acts as a direct channel of deindustrialization and unbalanced growth that increases dissatisfaction and a sense of insecurity. Third, the level of education (*EDU*) that is associated with a more resilient labor force and less fertile grounds for anti-systemic rhetoric (Ford & Jennings, 2020; Rodríguez-Pose, Dijkstra, et al., 2023; Rodríguez-Pose, Terrero-Dávila, et al., 2023). Fourth, the share of foreigners born in another EU country (*FOREIGNinEU*) that increase diversity, understanding and tolerance (Rodríguez-Pose, Dijkstra, et al., 2023). Fifth, the share of the public sector employment (*PUB*) as we expect higher shares of public sector to reduce discontent and the intensity of social policy (*SOCIAL*) as we expect redistributive social policies to mediate and restrain the negative effects of recession on discontent. As part of the available policy tools, we also test for the impact of the Structural Funds at the regional level as a percentage of GDP (*SF/GDP*), as they are expected, despite reservations (Heidenreich & Wunder, 2008), to improve growth performance in the weaker regions (EC, 2022), reduce economic disparities (Chalmers & Dellmuth, 2015) and also reduce the share of voters for Eurosceptic parties (Rodríguez-Pose & Dijkstra, 2021). Sixth, we also employ the size of the tradable sector (*TRAD*) as a measure of robustness and dynamism of the regional production base and its integration into the world economy and the population density (*DEN*) in a region which reflects agglomeration economies and a more efficient ecosystem (Rodden, 2019; Rodríguez-Pose, Dijkstra, et al., 2023). We also add dummies for Eurozone member regions (*EUROZONE*), core EU regions (*CORE*) and less developed regions (*LDR*), that is regions with a GDP per head (PPS) below 75% of the EU-27 average, to account for the effect of the common currency and lagging behind status respectively. We also interact these dummies with the SF variable to examine whether Structural Funds are effective in reducing distrust in these specific EU region groups.

6. Empirical results

Panel estimates of equation (4) are presented in Table 1. High or rising EU-level regional inequalities (*YgapEU*), limited catching up (*GgapEU*) and poor growth performance (*g*) appear to be critical drivers of discontent across all models and remain robust in all specifications. Regional inequalities (the persisting or increasing distance from the leading and/or the fastest growing region) and economic insecurity and stagnation generates increases anti-EU

sentiments and spur discontent (de Lange et al., 2023; Rhodes-Purdy et al., 2021; Vasilopoulou & Talving, 2023).

An interesting finding is that deeper trade integration with the more advanced core EU countries (INT_{core}) reinforces discontent (models 3-9) with a persistent high and statistically significant parameter, as it is associated in the perceptions formed in the weaker and more exposed to import competition pressures and suffering employment destruction.

Public sector employment (PUB) measured as a share of total employment has a negative and significant impact on discontent, however up to a certain level defined by the quadratic version (models 3 and 5), which indicates that very high levels may be “crowding out” productive private investment. It is estimated that the impact of public employment on discontent is negative for shares of public employment lower than about 30% of total employment and positive thereafter. Besides, crowding out of private investment, a high share of public sector may increase discontent if it is associated with sectors unrelated to the most vulnerable social groups (like defense or security) or with favoritism to economic and political elites. As expected, social policies and the presence of a welfare state reduces discontent. Higher social benefits per head mitigate negative perceptions for the EU.

The findings of the model about the impact of Structural Funds (measured as share of expenditure to GDP) is at first sight counter-intuitive, as they appear to have a positive and significant impact on discontent (models 2, 7, 8 and 9). However, when a quadratic specification is used, the impact becomes negative. Of course, there are several discussions in the literature about the effectiveness, absorptiveness, the delays and the bureaucratic burden of Structural Funds that may disappoint people, however, this does not fully explain a positive impact. It is more likely that this impact depicts the fact that the weaker social groups do not see any benefits for themselves in a policy that targets innovation, a knowledge based smart growth and green or digital transitions. Given that the impact of the social component of the Structural Funds has already been captured by the $SOCIAL$ variable, the remaining policy tools seem to be largely irrelevant. However, the results of the quadratic models show that when the policy receives a certain strength level, Structural Funds have the capacity to reduce discontent because there is more room for policies addressing the low end of the social scale (for example, health and education) and, perhaps more importantly, because of the concentration of resources. This important finding confirms that Structural Funds interventions matter only after a critical “scale” threshold, a high concentration of resources (Becker et al., 2017; Di Cataldo & Monastiriotis, 2018; Sotiriou & Tsiapa, 2015). A further important finding is that Structural Funds reduce discontent when targeting the weaker Less

Developed Regions but fail to do so when targeting Core or Eurozone regions. This is evident by the sign of the interactive effect of the SF variable with a dummy variable for Less Developed Regions, as well as Core and Eurozone regions.

The rest of the findings are in line with the expectations. High levels of long-term unemployment increase discontent as insecurity and lack of opportunity and anxiety increase the levels of distrust and disappointment (Zagorski et al., 2019). The results also show that regions with a stronger tradable sector provide more employment opportunities for the labor force and tend to have ceteris paribus lower levels of discontent. They also show that population density, measuring positive externalities from agglomeration economies, is negatively associated with discontent (Rodríguez-Pose, Dijkstra, et al., 2023), indicating that the phenomenon finds less fertile grounds in metropolitan areas. The role of education is also the expected one, as high proportions of educated population tend to be associated with lower anti-EU sentiments and so does the percentage of foreigners born inside the EU as it probably reflects brain gain trends of high skilled population in line with findings of similar studies (Rodríguez-Pose, Dijkstra, et al., 2023).

The impact of migration on discontent is also negative, significant and robust. This comes contrary to popular beliefs (but also the opinion of politicians in several countries) that have targeted immigrants as responsible for increasing low skilled labor unemployment and discontent. A possible argument or channel of impact that can support our findings is that migration increases the diversity of the labor force (part of it may be brain gain) and expands demand and production, while typically the low skill immigrants work in jobs where there are chronic shortages (for example agriculture, housekeeping, tourism). This line of argument implies that the footprint of immigrants on the economy is positive and spreads to all social groups. However, this effect diminishes as the GDP per capita gap increases (model 3) and vanishes in regions with a huge gap from the development leader. After some point, in regions with GDP per capita lower than roughly the one sixth of the leader, immigration is associated in a positive way to discontent. This, however, is clearly the outcome of regional inequality, the huge development gaps, or traps (Rodríguez-Pose, Dijkstra, et al., 2023) existing in the EU and the multiple pressures felt in poor regions, rather than the effect of immigration per se. Our evidence suggests that poor places offer the fertile ground for anti-immigration sentiments to expand, and that the real problem arises from the unequal distribution of wealth and benefits of integration and economic transformation in the EU.

Finally, Eurozone and Core regions seem to have higher levels of discontent, possibly because the expectations of the vulnerable social groups in more developed regions are higher and

their disappointment also higher when they realize that there is not much room for them in the new and rapidly changing high-tech, smart, or digital economy.

Table 1. Discontent and regional inequalities

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DISC									
GgapEU	0.128*** (0.006)		0.131*** (0.007)	0.132*** (0.009)			0.114*** (0.007)	0.114*** (0.007)	0.112*** (0.007)
YgapEU		0.023** (0.010)	0.009* (0.005)	0.027*** (0.009)	0.003 (0.006)	0.015* (0.009)			
g					-0.350** (0.163)	-0.478*** (0.122)			
INTcore			0.117** (0.046)	0.172*** (0.062)	0.107** (0.043)	0.139** (0.059)	0.127*** (0.031)	0.141*** (0.033)	0.133*** (0.034)
PUB	-0.114 (0.300)		-3.623*** (0.934)		-3.739*** (0.944)				
PUB ²			6.182*** (1.576)		6.515*** (1.629)				
SOCIAL	-0.061*** (0.013)		-0.059*** (0.013)		-0.060*** (0.013)				
SF/GDP		1.127*** (0.320)		2.592*** (0.904)		2.508** (0.994)	4.345*** (1.080)	1.062*** (0.226)	1.203*** (0.188)
(SF/GDP) ²				-17.105* (8.830)		-18.129* (10.091)			
LONG-UNEMP	1.076*** (0.208)	1.296*** (0.254)	1.144*** (0.213)	1.072*** (0.234)	1.381*** (0.215)	1.400*** (0.234)	0.639*** (0.136)	0.561*** (0.143)	0.708*** (0.141)
TRAD	-0.617*** (0.142)	-0.902*** (0.278)	-0.740*** (0.148)	-0.665*** (0.229)	-0.730*** (0.158)	-0.720*** (0.264)	-0.024 (0.068)	-0.025 (0.062)	-0.004 (0.076)
DEN	-0.001*** (0.0003)	-0.0002 (0.0004)	-0.001*** (0.0003)	-0.0003 (0.0004)	-0.001*** (0.0003)	-0.0003 (0.0004)	-0.00002 (0.00001)	-0.00002 (0.00001)	-0.00001 (0.00001)
EDU	-0.867*** (0.155)	-1.276*** (0.161)	-0.790*** (0.156)	-1.291*** (0.154)	-0.653*** (0.163)	-1.118*** (0.162)			
MIGR	-0.199*** (0.060)		-0.444*** (0.119)		-0.132** (0.059)		-0.246*** (0.071)	-0.235*** (0.068)	-0.234*** (0.069)
FOREIGNinEU		-1.638*** (0.584)		-1.605*** (0.538)		-1.609*** (0.540)			
MIGR*YgapEU			0.078** (0.033)						
LDR							-0.051*** (0.016)		
LDR*(SF/GDP)							-3.132*** (1.077)		
EUROZONE								0.049*** (0.014)	
EUROZONE*(SF/GDP)								0.513 (0.390)	
CORE									0.034** (0.015)
CORE* (SF/GDP)									1.867 (1.662)
Constant	1.368*** (0.123)	1.015*** (0.117)	1.726*** (0.171)	0.840*** (0.124)	1.723*** (0.174)	0.865*** (0.127)	0.331*** (0.033)	0.277*** (0.035)	0.286*** (0.043)
Observations	1,734	1,209	1,734	1,209	1,734	1,209	1,695	1,695	1,695
R-squared	0.328	0.296	0.357	0.374	0.296	0.321	0.099	0.086	0.060
FE	YES	YES	YES	YES	YES	YES	NO	NO	NO
F	117.3	25.12	86.20	84.23	26.62	24.75	.	.	.
Thresholds									
PUB >			0.293		0.287				
YgapEU >			5.692						
MIGR >			-0.115						
SF/GDP <				0.076		0.069			

Robust standard errors clustered at region level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The significance and relative importance of key estimators is further tested also for robustness in alternative measurements and specifications with the use of logarithmic transformations to eliminate the effect of extreme outliers (Table 2) and with the use of standardized coefficients (Table 3). The empirical results in Tables 2 and 3 confirm our key hypothesis and the signs and significance of the key regressors remain stable. In Table 2 (models 1-9) we replace the long-term unemployment variable with an employment variable as according to the literature higher employment is associated with lower hard Eurosceptic voting (Rodríguez-Pose, Dijkstra, et al., 2023). We find that higher employment rates reduce anti EU sentiments and as such should be in the heart of the political agenda.

Table 3 provides the results of the estimates of equation (4) with the difference that all variables are in a standardized form, in order to determine their relative importance. We conclude that the intensity of regional inequality (the development gap), the implementation of social policies, a more educated population, the operation of agglomeration economies and the level of public sector are among the most important explanatory variables that reduce Euroscepticism. These findings are in line with previous research; however, we also find that the social policies and a stronger welfare state increases citizens' trust in the EU. The standardized coefficient of Y_{gapEU} is 0.823 (model 2). This means that the estimated effect of increasing inequalities (Y_{gapEU}) by one standard deviation (which is 3.931, see TableA2. Summary statistics in the Appendix) is to increase expected discontent by 0.823 standard deviation units (each of which is about 0.111 points), controlling for all other variables.

Table 2. Discontent and regional inequalities (logs)

Dependent variable: logDISC	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
log GgapEU	0.070*** (0.004)		0.069*** (0.004)	0.074*** (0.006)			0.055*** (0.005)	0.053*** (0.005)	0.056*** (0.005)
log YgapEU		0.432* (0.249)	0.255*** (0.072)	0.374 (0.243)	0.575*** (0.156)	1.130*** (0.291)			
log Growth Ratio					-0.536 (0.346)	-0.701** (0.319)			
log INTcore			0.139** (0.055)	0.246*** (0.081)	0.091** (0.042)	0.163** (0.070)	0.138*** (0.045)	0.150*** (0.047)	0.140*** (0.047)
log PUB	-0.360** (0.174)		-0.364** (0.170)		-0.087 (0.157)				
log SOCIAL	-0.748*** (0.127)		-0.644*** (0.131)		-0.756*** (0.128)				
log SF/GDP		-0.011 (0.013)		-0.006 (0.013)		-0.023** (0.012)	0.019* (0.010)	0.005 (0.009)	0.023** (0.010)
log EMPLOYED	-2.343*** (0.316)	-2.850*** (0.427)	-2.103*** (0.319)	-2.744*** (0.420)	-2.585*** (0.310)	-3.092*** (0.366)	-1.643*** (0.196)	-1.584*** (0.207)	-1.833*** (0.208)
log TRAD	-0.493*** (0.118)	-0.413*** (0.125)	-0.469*** (0.118)	-0.252** (0.125)	-0.379*** (0.102)	-0.210** (0.105)	0.081** (0.041)	0.059 (0.041)	0.125*** (0.047)
log DEN	-1.960*** (0.485)	-1.084 (0.885)	-1.820*** (0.482)	-1.367 (0.869)	-2.710*** (0.489)	-1.961** (0.826)	0.013 (0.013)	0.009 (0.014)	0.021 (0.014)
log EDU	-0.238*** (0.084)	-0.456*** (0.088)	-0.224*** (0.085)	-0.493*** (0.084)	-0.195** (0.083)	-0.475*** (0.089)			
log MIGR	-0.280** (0.142)		-0.301** (0.143)		-0.167 (0.144)		-0.410** (0.171)	-0.331** (0.166)	-0.340** (0.161)
log FOREIGNinEU		-0.035 (0.051)		-0.037 (0.049)		-0.075* (0.043)			
LDR							-0.155*** (0.039)		
EUROZONE								0.076** (0.034)	
CORE									0.189*** (0.043)
Constant	8.161*** (2.378)	-2.161 (4.405)	7.156*** (2.363)	4.054 (4.343)	11.435*** (2.299)	5.547 (4.089)	-0.596*** (0.090)	-0.787*** (0.079)	-0.730*** (0.081)
Observations	1,766	1,241	1,757	1,240	1,585	1,106	1,728	1,728	1,728
R-squared	0.340	0.274	0.351	0.329	0.431	0.425	0.088	0.077	0.073
FE	YES	YES	YES	YES	YES	YES	NO	NO	NO
F	83.90	28.05	69.35	61.42	40.00	40.56	.	.	.

Robust standard errors clustered at region level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3. Discontent and regional inequalities (Standardized coefficients)

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
z1 DISC									
z1 GgapEU	0.192*** (0.010)		0.197*** (0.010)	0.197*** (0.014)			0.170*** (0.011)	0.170*** (0.011)	0.167*** (0.011)
z1 YgapEU		0.823** (0.344)	0.378** (0.182)	0.942*** (0.316)	0.089 (0.216)	0.533* (0.313)			
z1 g					-0.098** (0.046)	-0.134*** (0.034)			
z1 INTcore			0.164** (0.065)	0.241*** (0.088)	0.150** (0.061)	0.195** (0.083)	0.179*** (0.043)	0.199*** (0.046)	0.186*** (0.047)
z1 PUB	-0.065 (0.170)		-2.053*** (0.529)		-2.119*** (0.535)				
z1 PUB ²			1.968*** (0.502)		2.074*** (0.519)				
z1 SOCIAL	-1.364*** (0.287)		-1.310*** (0.284)		-1.335*** (0.290)				
z1 SF/GDP		0.160*** (0.045)		0.368*** (0.128)		0.356** (0.141)	0.617*** (0.153)	0.151*** (0.032)	0.171*** (0.027)
z1 (SF/GDP) ²				-0.145* (0.075)		-0.153* (0.085)			
z1 LONG-UNEMP	0.429*** (0.083)	0.516*** (0.101)	0.456*** (0.085)	0.427*** (0.093)	0.550*** (0.086)	0.558*** (0.093)	0.254*** (0.054)	0.224*** (0.057)	0.282*** (0.056)
z1 TRAD	-0.488*** (0.113)	-0.714*** (0.220)	-0.586*** (0.117)	-0.526*** (0.181)	-0.578*** (0.125)	-0.570*** (0.209)	-0.019 (0.053)	-0.020 (0.049)	-0.003 (0.060)
z1 DEN	-8.087*** (2.562)	-1.261 (3.162)	-8.598*** (2.465)	-2.508 (2.833)	-8.024*** (2.554)	-2.199 (3.025)	-0.164 (0.121)	-0.118 (0.120)	-0.092 (0.108)
z1 EDU	-0.714*** (0.128)	-1.051*** (0.133)	-0.651*** (0.128)	-1.064*** (0.127)	-0.538*** (0.134)	-0.921*** (0.133)			
z1 MIGR	-0.101*** (0.031)		-0.058 (0.042)		-0.067** (0.030)		-0.125*** (0.036)	-0.120*** (0.035)	-0.119*** (0.035)
z1FOREIGNinEU		-0.630*** (0.225)		-0.617*** (0.207)		-0.619*** (0.208)			
z1 MIGR * z1 YgapEU			0.156** (0.065)						
LDR							-0.771*** (0.145)		
LDR*z1(SF/GDP)							-0.445*** (0.153)		
EUROZONE								0.493*** (0.130)	
EUROZONE*z1(SF/GDP)								0.073 (0.055)	
CORE									0.491** (0.198)
CORE*z1(SF/GDP)									0.265 (0.236)
Constant	-1.274*** (0.394)	-0.053 (0.459)	-1.287*** (0.378)	-0.176 (0.412)	-1.238*** (0.392)	-0.260 (0.440)	0.415*** (0.094)	-0.319*** (0.114)	-0.161* (0.096)
Observations	1,734	1,209	1,734	1,209	1,734	1,209	1,695	1,695	1,695
R-squared	0.328	0.296	0.357	0.374	0.296	0.321	0.099	0.086	0.060
FE	YES	YES	YES	YES	YES	YES	NO	NO	NO
F	117.3	25.12	86.20	84.23	26.62	24.75	.	.	.

Robust standard errors clustered at region level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Overall, the full set of estimations including the alternative specifications confirm the hypothesis that low trust in the EU is driven in large part by economic stagnation, rising inequalities and the unbalanced distribution of EU trade integration benefits, which are the grounds for the anti-immigration rhetoric. On the contrary, public policies and Structural Funds targeting Less Developed Regions, as well as social policies tend to improve trust in the EU with a stable statistically significant and relatively high coefficient indicating the importance of relative re-distributive policies.

7. Conclusions

In this study we provide empirical evidence revealing a strong association between low regional growth, persisting regional inequalities and widespread discontent in the EU. Our findings show that the spatially uneven distribution of the benefits of the EU integration process, the high asymmetries and gaps in development levels and unemployment, as well as structural deficiencies, human capital conditions and demographic processes have made regions less immune to a thriving anti-EU rhetoric which threatens the stability of the Union. One of the novelties of our study is that it identifies an independent effect of the EU integration process that influences perceptions and disappointment with the EU structures, as the economic realities of significant number of regions and social groups are far apart from the expected “promised land” of the single market.

Our findings verify that the structural characteristics of the regions have an important role in determining the level of discontent. A weak tradable sector, high levels of unemployment, limited benefits of scale and agglomeration, low levels of education and relatively limited cultural interaction are factors generating social discontent. Despite the widespread perception that immigration contributes to discontent, our results suggest the opposite, as immigrants typically expand both local demand and local supply and do not compete with native workers in the labor market. The only case where immigration triggers discontent is in the very poor regions, where multiple pressures are in motion and the labor markets are tight.

Our study has also a message for policy, which needs to balance between a public sector that is large enough to confront multiple challenges, but not too large, and implements policies that are more targeted to the needs of the weaker social groups and regions but also have at the same time a critical scale in their interventions. Policy also has to invent new ways to deal with the hard reality of unfulfilled expectations of vulnerable social groups, especially those in

the advanced core regions of the Eurozone but realize that there is not much of a future for them in their rapidly changing economies.

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APPENDIX

Table A1. List of variables and data sources

Variables	Source		
Dependent variable			
Discontent	Percentage of citizens not trusting the EU	DISC	Eurobarometer
Key regressors			
Development gap	GDP per capita distance from leading region (constant 2015)	YgapEU	ARDECO – EC
Growth gap	GDP p.c. growth distance from leading region (constant 2015)	GgapEU	ARDECO – EC
Growth	GDP p.c. annual (%) change (constant 2015)	g	ARDECO – EC
Control variables			
Trade integration with core EU countries	Ratio of trade with the EU core over total EU trade	INTcore	ESPON Program “Interregional Relations in Europe”
Public sector	Share of employment in the public sector	PUB	EUROSTAT
Social policy per capita	Social benefits per capita received by households (thousand euro)	SOCIAL	EUROSTAT
Structural Funds to GDP	Structural Funds as a share of GDP	SF/GDP	DG Regional Policy /EUROSTAT
Long-term unemployment	Long-term unemployment (>12 months) as a share of persons in the labour force	LONG-UNEMP	EUROSTAT
Tradable sector	Share of employment in manufacturing, agriculture, mining and accommodation	TRAD	EUROSTAT
Population density	Ratio of regional population to the land area	DEN	EUROSTAT
Level of education	Share of working-age population with tertiary education	EDU	EUROSTAT
Net migration	Ratio of net migration to the average population	MIGR	EUROSTAT
Foreign born in the EU	Foreigners (+15) born in another EU country as a share of the labour force	FOREIGNinEU	EUROSTAT
Less Developed Regions	LDR=1, non-LDR=0	LDR	
Eurozone members	EURO=1, non-EURO = 0	EUROZONE	
Core EU countries	CORE=1, non-CORE = 0	CORE	

Table A2. Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
DISC	2,160	0.456	0.111	0.14	0.743
YgapEU	2,160	4.217	3.931	0	25.151
GgapEU	2,160	0.164	0.166	0	0.705
g	2,160	0.014	0.031	-0.143	0.653
INTcore	2,153	0.730	0.156	0	1
PUB	2,130	0.257	0.063	0.094	0.541
SOCIAL	2,108	5.023	2.483	0.512	11.490
SF/GDP	2,070	0.011	0.016	0.0000105	0.105
LONG-UNEMPL	2,052	0.049	0.044	0.003	0.287
TRAD	1,800	0.257	0.088	0.100	0.686
DEN	2,124	343.394	838.119	2.8	7471.5
EDU	2,142	0.299	0.092	0.102	0.614
MIGR	2,144	0.023	0.057	-0.261	0.552
FOREIGN in EU	1,478	0.041	0.043	0.003	0.463

Table A3. Pairwise correlations

Variables	(DISC)	(YgapEU)	(GgapEU)	(g)	(INTcore)	(PUB)	(SOCIAL)	(SF/GDP)	(LONG-UNEMPL)	(TRAD)	(DEN)	(MIGR)	(FOREIGN inEU)	(EDU)
DISC	1.000													
YgapEU	-0.064***	1.000												
GgapEU	0.178***	-0.026	1.000											
g	-0.196***	0.122***	-0.118***	1.000										
INTcore	-0.034	-0.293***	-0.012	-0.017	1.000									
PUB	-0.020	-0.434***	0.034	-0.095***	0.203***	1.000								
SOCIAL	-0.007	-0.779***	0.037*	-0.162***	0.282***	0.542***	1.000							
SF/GDP	0.043**	0.710***	-0.027	0.070***	-0.279***	-0.266***	-0.695***	1.000						
LONG-UNEMPL	0.176***	0.198***	0.070***	-0.190***	-0.187***	0.098***	-0.324***	0.292***	1.000					
TRAD	0.054**	0.530***	-0.002	0.020	-0.255***	-0.703***	-0.547***	0.470***	0.091***	1.000				
DEN	-0.078***	-0.160***	0.008	-0.040*	0.062***	0.205***	0.029	-0.081***	0.128***	-0.320***	1.000			
MIGR	-0.040*	-0.367***	0.082***	-0.084***	0.086***	0.080***	0.367***	-0.329***	-0.339***	-0.163***	0.121***	1.000		
FOREIGNinEU	-0.208***	-0.380***	0.003	-0.028	0.118***	0.011	0.316***	-0.264***	-0.081***	-0.073***	0.331***	0.367***	1.000	
EDU	-0.146***	-0.345***	0.036*	0.062***	0.222***	0.316***	0.253***	-0.334***	-0.032	-0.497***	0.277***	0.126***	0.238***	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A4. Leading and fastest growing regions, 2010-2018

<i>Year</i>	Leading region			Fastest growing region		
	NUTS II	Region name	GDP pc	NUTS II	Region name	Growth rate
2010	LU00	Luxembourg	95.261,60 €	DE91	Braunschweig	10,72%
2011	LU00	Luxembourg	93.393,72 €	RO32	Bucuresti - Ilfov	10,86%
2012	LU00	Luxembourg	92.495,22 €	RO42	Vest	13,12%
2013	LU00	Luxembourg	93.028,70 €	RO22	Sud-Est	11,32%
2014	LU00	Luxembourg	92.705,10 €	HU22	Nyugat-Dunántúl	8,78%
2015	LU00	Luxembourg	95.086,58 €	IE05	Southern	64,34%
2016	LU00	Luxembourg	97.415,92 €	DE91	Braunschweig	15,32%
2017	LU00	Luxembourg	96.135,28 €	RO11	Nord-Vest	12,91%
2018	LU00	Luxembourg	95.956,93 €	BG31	Severozapaden	12,76%