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Evgenia Passari

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Abstract

We study the implications of the Great Recession for voting for anti-establishment parties, as well as for general trust and political attitudes, using regional data across Europe. We find a strong relationship between increases in unemployment and voting for non-mainstream, especially populist parties. Moreover, increases in unemployment go in tandem with a decline in trust in national and European political institutions, while we find much attenuated effects of unemployment on interpersonal trust. The correlation between unemployment and attitudes towards immigrants is muted, especially for their cultural impact. To advance on causality, we extract the component of increases in unemployment explained by the pre-crisis structure of the economy, in particular the share of construction in regional value added, which is strongly related both to build-up and the burst of the crisis. Our results imply that crisis-driven economic insecurity is a substantial driver of populism and political distrust.

JEL Classification: A13, E02, F02, F22, F33, F68, J15, O43

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The European Trust Crisis and the Rise of Populism¹

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Abstract

We study the implications of the Great Recession for voting for anti-establishment parties, as well as for general trust and political attitudes, using regional data across Europe. We find a strong relationship between increases in unemployment and voting for non-mainstream, especially populist parties. Moreover, increases in unemployment go in tandem with a decline in trust in national and European political institutions, while we find much attenuated effects of unemployment on interpersonal trust. The correlation between unemployment and attitudes towards immigrants is muted, especially for their cultural impact. To advance on causality, we extract the component of increases in unemployment explained by the pre-crisis structure of the economy, in particular the share of construction in regional value added, which is strongly related both to build-up and the burst of the crisis. Our results imply that crisis-driven economic insecurity is a substantial driver of populism and political distrust.

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A spectre is haunting Europe and the West –the spectre of populism. United Kingdom’s (UK) vote to exit the European Union (EU), the election of Donald Trump as the US President – as well as a strong showing of Marine Le Pen in the French Presidential elections and the Alternative for Germany (AfD) party in the German elections of 2017. In continental Europe, the first significant successes of populist politicians took place even before – with the parties like Freedom Party in Austria, AfD in Germany, Golden Dawn in Greece, Jobbik in Hungary, Five Star movement in Italy, Law and Justice in Poland, Swedish Democrats in Sweden, UKIP in the UK gaining substantial ground since 2012. In France, Marine Le Pen’s National Front came first in the 2014 European elections and in the first round of 2015 regional elections.

The rise of populism in the European Union (EU) is important for many reasons. The EU is a historically unprecedented supranational unification project (Spolaore (2013)). It has been successful in preserving peace and integrating into the European democratic model the “periphery” countries of Southern and Eastern Europe (Gill and Raiser (2012)). However, the economic crisis has uncovered shortcomings in the design of European economic and political institutions. As we demonstrate below, Europeans appear dissatisfied with local and EU politicians and institutions. And this distrust fuels—and in turn is reinforced by—the rise of political extremism.

There are two potential explanations of the decline of trust in the EU, the rise of Eurosceptic populists, and the electoral successes of radical-left and far-right parties. The first one is a cultural backlash against progressive values, such as cosmopolitanism and multiculturalism, and a shift towards national identity. The second explanation emphasizes economic insecurity, stemming from either globalization and technological progress (outsourcing, increased competition from low-wage countries, automation) or the sharp increase in unemployment in Europe in the aftermath of the recent crisis. While these two explanations are not mutually exclusive and certainly interact, much of the public debate has been about the cultural backlash. This paper explores the economic roots of populism, focusing on the impact of the Great Recession.

The recent crisis has had a major impact on the European economy. EU-wide unemployment rate increased from 7% in 2007 to 11% in 2013. Unemployment dynamics have been uneven. After a short-lived spike in 2008-2009, unemployment in Germany fell to pre-crisis levels; in Greece and Spain, it climbed above 20 percent. There has been substantial heterogeneity in unemployment dynamics *within* the periphery and the core (often associated with Germany and neighbouring economies) and even within countries. For example, in 2016 the national unemployment rate in the UK was at 5% – lower than in 2007. However, in a *median* NUTS2 region unemployment rate was two percentage points higher than before the crisis. In Northern Greece, unemployment in 2012-2014 hovered around 30%, while in the Aegean and Ionian Sea

islands it fluctuated between 15% and 21%, as tourism mitigated the shock of the crisis. Likewise, unemployment in Italy in 2012-2015 ranged from 6%-7% in the North (Trento, Veneto, Friuli-Venezia) to above 20% in the South (Campania, Calabria, and Puglia).

We show that the differential impact of the crisis explains the rise of anti-establishment, often populist parties, and the respective drop of trust towards political parties and the European Union. Globalization in general and the EU have been successful in promoting growth but have not done as well in terms of sharing the gains. Large parts of the society have felt left behind and have risen against the establishment, national and European institutions. The recent vintage of populism unites extreme-right and far-left politicians in their criticism of the elites and the cross-border integration that these elites represent. In some cases, the rise in unemployment fuels support for far-left parties (such as Podemos in Spain) and in other cases, for far-right nationalistic and xenophobic parties (as in Hungary and the Netherlands). Sometimes, rising unemployment fuels support for both radical left and ultra-right nationalistic parties that increasingly coordinate (as for example the coalition between Syriza and Independent Greeks).

We first conduct a descriptive analysis of the evolution of unemployment, voting and trust-beliefs across Europe before and after the crisis, showing that the economic crisis has moved in tandem with a political trust crisis and the rise of populist, anti-establishment vote.

Second, we study the relationship between unemployment and voting for anti-establishment (radical-left, far-right, populist and Eurosceptic) parties at the subnational level. We compare the regions that greatly suffered from the crisis with those that weathered the crisis relatively well – controlling for pan-European or country-group-specific time trends. We document that rising voting shares for anti-establishment, especially populist parties, follow increases in unemployment. It is the change in unemployment—rather than its level—that correlates with voting for non-mainstream parties; this (to the best of our knowledge) novel result echoes the findings of the literature on the role of economic losses on self-reported well-being and happiness (Layard (2006)).

Our methodology accounts for time-invariant regional factors and unobserved country-group dynamics; however, the estimates may pick up some unobserved or hard-to-account-for regional time-varying variables. We thus develop a two-stage-least-squares (2SLS) approach that extracts the component of unemployment explained by the pre-crisis specialization of the regional economy, and in particular the share of construction. Since construction and real estate played a major role both during the build-up and the burst of the crisis around the world, we use the pre-crisis share of construction (real estate and housing) as an “instrument” for regional unemployment. The 2SLS estimates show the considerable causal effects of the rise of unemployment (explained by

the pre-crisis structure of the regional economy) on voting for non-mainstream parties: a one-percentage point increase in unemployment rate is associated with a 2-3 percentage point increase in voting for the anti-establishment parties. While pre-crisis specialization is not fully exogenous, we show that the construction-unemployment-voting nexus does not seem to reflect other time-varying regional features, such as immigration or education.

We then use the vote of the citizens of the United Kingdom in the June 2016 referendum to stay or leave the European Union as an “out-of-sample” test of the Europe-wide results. The analysis shows that *increases* in unemployment during the crisis period 2007-2015 (rather than the level of unemployment in 2015) are strong predictors of Brexit vote. We find similar results in 2SLS specifications that use the pre-crisis share of construction across UK’s 379 electoral districts to instrument for the subsequent spike in regional unemployment.

Third, we examine the impact of the recession on political and general trust and beliefs on the role of immigrants using individual-level data from the European Social Surveys (ESS). There is a statistically and economically significant relationship between regional unemployment and a decline in trust towards the European and national parliament. The relationship between regional unemployment and interpersonal trust is weaker and not always significant. Increases in unemployment correlate significantly with distrust towards courts, but not with trust towards police. 2SLS estimates are similar; the component of unemployment rise due to the pre-crisis share of construction is a significant correlate of distrust in European and national institutions.

Fourth, we exploit the individual-level nature of the data to understand the underlying forces of votes for anti-establishment parties. The results hold for both men and women, for younger and older cohorts. The estimates are somewhat stronger (and more precise) for older cohorts, in line with anecdotal evidence on their anti-establishment voting. The relationship between unemployment and distrust in political institutions is stronger for non-college graduates, a result in line with the findings of Autor *et al.* (2016a, 2017), Che *et al.* (2016) and Colantone and Stanig (2016), who relate populist voting and political polarization to depressed wages among unskilled workers fuelled by rising competition from low/middle income countries.

I. Related Literature

Our paper is related to several strands of the literature, first and foremost, to the research on the political economy of populism that studies the origins and implications of populist parties and policies (see Gidron and Bonikowski (2013) and Mudde and Katwesser (2017) for reviews and Taggart (2000) for a general introduction). Dornbusch and Edwards (1991) discuss macroeconomic populism in Latin America, while Rodrik (2017) provides a generic discussion of the recent rise of

populist parties and interprets it in the light of economic theory. Recent theoretical works on the political economy of populism include Acemoglu *et al.* (2013), Mukand and Rodrik (2017), Guiso, Herrera, and Morelli (2017), Di Tella and Rotemberg (2016). A number of recent empirical works study populism's correlates/origins in specific contexts. Becker, Fetzer, and Novy (2017) examine the main correlates of Brexit vote across UK districts looking at dozens of socio-economic indicators; they find that low levels of education and low income, historical reliance on manufacturing and to a lesser extent unemployment are significant correlates, while there is no strong relationship with the levels of immigration. Colantone and Stanig (2016) show that globalization in general—and import competition from China in particular—is a strong correlate of Brexit vote. This is in line with Autor *et al.* (2016b, 2017) and Che *et al.* (2016), who show rising political polarization and higher likelihood for Trump voting in US counties that were affected the most by China's accession to the WTO.¹ Colantone and Stanig (2017) uncover a similar link between import competition and support for nationalistic right-wing parties across EU regions. Similarly, Dippel, Gold, and Heblich (2016) reveal a link between import competition from China and voting for extreme-right parties in Germany over the period 1997-2009. Using opinion surveys from many European countries, De Vries and Hoffmann (2016) provide additional evidence that the fear of globalization is a decisive factor behind the demands for changes away the political mainstream. While this fast-growing strand of the literature focuses on medium-term origins of political populism-extremism (mostly related to trade and immigration)², we examine the impact of the deep economic crisis that hit Europe during 2008-2009 (alongside the United States and other industrial countries) and the subsequent crisis in the European periphery (mostly over 2009-2013).

We show that large economic downturns fuel political polarization.³ In this regard, our work relates to empirical studies quantifying recovery after severe (typically short-term) economic downturns, banking, currency, and balance of payment crises. Recent work by Rogoff (2016) and Fatas and Summers (2016) connect sluggish recoveries to pre-crisis trends. Our main finding—that

¹ Jensen, Quinn, and Weymouth (2017) also document a correlation between import competition from China and Mexico and employment in low-skilled services with voting against the incumbent.

² Recent works examining the impact of immigration on voting for extremist/nationalistic parties include Hatton (2016), Becker and Fetzer (2016), Mayda *et al.* (2016), and Barone *et al.* (2016). Dinas *et al.* (2016) study the link between refugee flows and voting for far-right parties in Greece. Dehdari (2017) connects economic distress and immigration to voting for far-right parties in Sweden.

³ Stock (1984) presents cross-county regression evidence that rising indebtedness of American farmers in the run of the 20th century was related to political unrest and voting for populist candidates. De Bromhead, Eichengreen, and O'Rourke (2014) connect voting with the severity of economic contraction in the inter-war period (1919-1939). Studying 171 elections in 28 countries, they find that the depth and duration of the crisis are related to the rise of far-right parties. Tabellini (2017) shows that the influx of immigrants in the United States in the Interwar period fuelled the success of conservative politicians and the support of anti-immigrant legislation, although rising immigration increased locals' wages and employment. In parallel work, Matakos and Xefteris (2017) present cross-country evidence that while mild recessions foster support for mainstream parties, large economic downturns fuel anti-establishment vote.

the sharp increase in political extremism and the associated drop of trust in political institutions are correlated with the severity of the economic downturn—offers a plausible mechanism explaining the long-lasting consequences of economic crises. Our results thus complement the findings of Funke *et al.* (2016), who, studying 20 advanced economies over 1870-2014, document with panel regressions that financial crisis increase political polarization, raise fragmentation in the parliament, and spur political unrest (see also Matakos and Xefteris (2017)).

The closest to our papers are the parallel studies of Guiso *et al.* (2017), Inglehart and Norris (2016) and Dustmann *et al.* (2017)⁴. Guiso *et al.* (2017) study the demand and supply of populism both empirically and theoretically. They document a link between individual-level economic insecurity and distrust in political parties, voting for populist parties, and low electoral participation. They also show that in response to economic insecurity parties shift their agenda to cater to voters' preferences (an interesting aspect that we do not address). Inglehart and Norris (2016) also use survey-level data and argue that the rise of populism reflects cultural rather than economic factors. Unlike these two studies, we use actual region-level voting data rather than self-reported information from surveys (that have much smaller regional coverage and may be subject to reporting biases). We focus on the crisis impact, in particular the sizable rise in regional unemployment after the 2008-2009 financial crisis. We develop an instrumental variable approach to identify causal effects and associate regional industrial specialization and especially the pre-crisis boom of construction to the rise in anti-establishment voting in the aftermath of the crisis. Although our IV strategy does not exploit fully random/exogenous variation, the reduced-form link between construction and voting is an interesting result by itself, as it connects the pre-crisis boom with current developments. In contrast to Inglehart and Norris (2016), we find that economic insecurity explains a substantial share of the rise in populism when controlling for time-invariant factors.⁵ Our divergence with the latter paper stems from two main reasons. First, we look at the effect of within-region variation of unemployment on institutional trust and populism, accounting for time-invariant factors and looking at actual votes. Our analysis shows that voting for non-mainstream parties (and BREXIT) and political distrust stem from increases in unemployment during the crisis rather than the *level* of unemployment. Second, we take a different perspective on what we consider as cultural values and attitudes. While Inglehart and Norris (2016) explain populism by—presumably exogenous—rise of institutional distrust, we show that increase in distrust itself stems directly from

⁴ Hernandez and Kriesi (2016) report cross-country evidence of a link between the severity of the Great Depression and the electoral losses of incumbent parties.

⁵ Our results are consistent with DeVries (2017) that the rise of populism mirrors a shift from left-right to cosmopolitan-parochial divide: regions with a larger increase in unemployment are more likely to have a negative attitude to immigrants, mostly because of their impact on the economy and not because of their alien cultural identity (see also Hobolt and De Vries (2016)).

the crisis. We show that, since economic insecurity increases populist voting and spurs distrust in political institutions and dissatisfaction with democracy, the changes in the latter variables cannot be considered as independent drivers of the former.⁶ Our result suggests that the cultural backlash and economic insecurity explanations are connected. Economic insecurity has a direct impact on values and beliefs. But, these values might also in turn amplify or mediate the effect of economic shocks. In particular, we find that the older generations are experiencing a larger decline in trust than the younger generations, although the latter have suffered more from the rise in unemployment during the crisis. One plausible explanation is that older generations have more conservative or traditional values and are more sensitive to changes in the economic environment. Thus, our contribution to the debate around the cultural hypothesis is mainly to bring other aspects, and in particular economic factors, for explaining the rising support for populism.

In concurrent work, Dustmann *et al.* (2017) also use ESS data and uncover that unemployment (and GDP) shocks at the regional level are accompanied by a trust deficit (defined as the ratio of political to general trust). Dustmann *et al.* (2017) further show that regional unemployment correlates with non-mainstream vote in European Parliament elections. These results complement our findings from national parliamentary and presidential elections that are more important, as the European Parliament has rather limited authority. Moreover, our sample is noticeably larger (for voting outcomes we have 220 regions vs. 132 in Dustmann *et al.* (2017)). We also uncover a link between pre-crisis construction share, rise in unemployment and post-crisis voting suggesting that the pre-crisis boom plays a role to the recent spike of populism. Our paper also contributes to the large body of research linking trust (as well as civiness, social capital, and beliefs) with economic performance (see Algan and Cahuc (2014), Guiso, Sapienza and Zingales (2011), Durlauf and Fafchamps (2005), Fernandez (2011) for detailed surveys of the theoretical and empirical literature). While there has been extensive research on the implications of trust and social/civic capital for various aspects of economic performance (e.g., Tabellini (2010), Algan and Cahuc (2010)), the literature on its origins is relatively limited. Building on Robert Putnam's influential work (Putnam *et al.* (1994)), empirical works study the long-run impact of important historical episodes, for example the culture of city-states in medieval Italy (Guiso, Sapienza, and Zingales (2016a)), the role of Africa's slave trades (Nunn and Wantchekon (2011)), and the role of communism and the secret police in Eastern Germany (Jacob and Tyrell (2010)). Our paper contributes to this research in several ways. To start with, instead of looking at long-run determinants, we study the impact of the crisis. In this sense, our work is conceptually close to Ananyev and Guriev (2015) who provide evidence linking the severity of the 2009 crisis in Russia

⁶ The caveat holds for most of the variables considered as independent by Inglehart and Norris (2016), such as attitudes towards immigration, demand for authority and political orientation. Unemployment affects these beliefs directly.

on general trust. While the literature has focused on interpersonal trust, we look at trust in political institutions (courts, police, political parties, the European Union), a largely unexplored dimension. We show that trust in institutions is much more volatile and influenced by short-term fluctuations than interpersonal trust. Our analysis of the role of business cycles on institutional trust echoes Stevenson and Wolfers (2011), who study the relationship between the crisis and trust in the financial system across US states. The link between unemployment and political/institutional distrust is also related to research on the interactions between cultural norms/beliefs and institutions (see Alesina and Giuliano (2015) for a review). We document that institutional trust is the critical element for understanding political preferences and voting behavior.

Third, our paper contributes to the research on the political economy of the European Union. Until recently, policymakers and economists have focused on economic convergence – discussing the issues of debt, deficits, and inflation. However, the European crisis has shifted attention to cultural differences.⁷ Guiso, Sapienza, and Zingales (2016b) study historical data from the Eurobarometer Surveys documenting that the considerable cross-country gaps in supporting the European Union have closed. Guiso, Herrera, and Morelli (2016) stress cultural differences between Northern and Southern European countries and argue that future integration (with common enforcement) is needed to confront the “cultural clash.” However, Alesina, Tabellini, and Trebbi (2017) show that what is striking in the EU is the high degree of within-country (rather than cross-country) heterogeneity in beliefs and trust. Applying simple variance decompositions on various cultural proxies from the World Value Surveys during the period 1980-2007, Alesina, Tabellini, and Trebbi (2017) show that within-country variation dwarfs between-country variability, a pattern that is similar across US states. They show that the degree of cultural heterogeneity across and within EU countries was similar to that in the US, an allegedly efficient and well-functioning political and currency union. The closest to our paper is a recent study by Lechler (2017) on the impact of employment shocks on anti-EU sentiments. Lechler (2017) combines regional industry- specific employment shocks with individual level Eurobarometer survey data over the period 1996-2014. She applies panel data and instrumental variable methods to identify a strong impact of employment changes on anti-EU sentiment, especially among the unemployment and the unskilled. Our paper complements these works by studying the impact of the crisis on both attitudes towards Europe and the rise in populism.. We find that the crisis has stopped the process of cultural convergence within Europe. The rise in unemployment goes hand in hand with a fall in political trust and a rise in political extremism and populism, therefore creating additional strains within the EU.

⁷ Papaioannou (2015, 2016) and Alesina, Tabellini, and Trebbi (2017) stress the importance of divergence in the national institutions (courts, investor protection, and public administration). In an early contribution, Collins (1995) discussed social cohesion and support for European Community, presenting evidence from France, Germany, and Italy.

Finally, our finding that it is changes in economic conditions, and not the level of it, that matters is related to the “happiness” literature and the well-known Easterlin paradox of a small correlation between income and happiness in rich countries (Easterlin (1974, 2013), Kahneman and Deaton (2010)). Individuals appear sensitive to changes in income—rather than income levels; and this effect is transitory, as people adapt rather quickly their expectations and habits (see Clark *et al.* (2012) for a literature review on the adaptation and habituation effect for well-being). Research in psychology also reveals a strong asymmetry in the way positive and negative economic shocks are experienced, individual well-being being significantly more sensitive to losses (De Neve (2015)). We find a similar relationship between unemployment and institutional trust and political attitudes.

II. Data and Descriptive (Before-After) Analysis

II.A Data Description

We use three main types of data. First, we compile regional unemployment and output statistics at NUTS-2 level of geographical aggregation from Eurostat. We also use Eurostat to extract information on the shares of six broad sectors (construction, agriculture, finance, government, manufacturing, and trade-commerce) in gross value added. The data cover 215 regions in 26 countries. We group countries in four broad regional categories. The North comprises Denmark, Finland, Iceland, Ireland, Sweden and the UK. The South includes Cyprus, Greece, Italy, Portugal and Spain. The Centre consists of Austria, Belgium, France, Germany, the Netherlands and Switzerland. The East (former Transition economies) group is composed of Bulgaria, Czech Republic, Estonia, Hungary, Poland, Romania, Slovakia and Slovenia⁸.

Second, we collect voting data for parliamentary and presidential elections using country-specific archives. We then obtain information on political parties’ orientation using the Chapel Hill Expert Survey and online resources (which in turn follows Hix and Lord (1997)). While the Chapel Hill Expert Survey details many party attributes, it does not cover all parties. We have identified and classified the remaining parties based on their platforms from their websites. We focus on four aspects of anti-establishment politics: (i) Far right, often nationalistic, parties, such as the Golden Dawn in Greece and the National Front in France; (ii) Radical left parties, such as Podemos in Spain and Syriza in Greece; (iii) Populist parties, such as the Party for Freedom in the Netherlands and UKIP in the UK; (iv) Eurosceptic and separatist parties, such as the Five Star Movement in Italy and True Finns. These four categories are not mutually exclusive (with the exception of radical

⁸ For robustness, we also report estimates in a sample of 11 countries at NUTS3-level

left and far right). Most populist parties are Eurosceptic (correlation of 0.72). The correlation of Euroscepticism with extreme right and radical left is 0.45 and 0.52, respectively. The correlations between populist and far right is 0.53, between populist and radical left is 0.61⁹.

After matching the electoral data with parties' political orientation, we calculate the percentage of votes to parties in each of the four orientations over the total valid votes at each election for each region. We also sum the votes of all types of non-mainstream parties, classified as far right, radical left, populist and Eurosceptic/separatist. We also study the dynamics of turnout, defined as the percentage of voters over registered¹⁰.

Third, we use individual-level data on trust and beliefs/attitudes from the European Social Survey (ESS), conducted biennially, from 2002 until 2014. ESS covers 32 European nations. We exclude Israel, Russia, Turkey and Ukraine. We also drop Croatia and Lithuania, as there are no surveys before the crisis and Luxembourg that lacks a post-crisis survey. There have been seven rounds (in 2002, 2004, 2006, 2008, 2010, 2012 and 2014). The (pseudo)-panel is not balanced, as the ESS study has not been carried in all countries for all waves. Unfortunately, we miss the latest rounds from Greece and Italy, that have suffered considerably from the crisis. The ESS sample covers 183 NUTS-2 regions in 24 countries. The ESS team interviews residents, regardless of their nationality, citizenship, language, or legal status. On average, each country-round survey covers approximately 2,000 individuals. ESS asks questions on beliefs along various dimensions, such as the role of immigrants and minorities, trust towards courts and the police, beliefs on the role of government. We focus on general trust and trust towards political institutions (politicians, national parliament, the European Parliament, the United Nations, national courts, and the police). We also examine questions, reflecting respondents' self-identified position on the left-right scale, satisfaction with democracy, beliefs on whether the EU has gone too far. Since the variables have different scales, we standardize them to range between 0 and 1, with higher values indicating more trust. For the baseline analysis, we average across NUTS2 regions for each ESS country-round, though we also use the data at the individual level when we examine heterogeneity.

⁹ The CHES database contains much information on parties' political platform that we do not use, the reason being incomplete coverage. Another limitation is that our classification does not reflect small movements in political ideology of mainstream parties or the election with mainstream parties of radical candidates in the parliament. However, if non-extremist parties also take in some issues extremist views or embrace populist policies, then our estimates will be conservative (Colantone and Stanig (2017), Inglehart and Norris (2016)). Guiso *et al.* (2017) develop a model of the response of established parties to voters' beliefs and the emergence of new parties.

¹⁰ We will use "anti-establishment" and "extremist" interchangeably. However, we should stress that not all policies advocated by these parties are "extremist".

The Data Appendix provides details on coverage. Table 1 presents summary statistics for the main variables at the regional level, distinguishing between the pre-crisis period (2000-2008) and the post-crisis period (2009-2017). Below we provide a descriptive analysis of patterns in the data.

II.B Unemployment, Voting, and Trust Before and After the Crisis

II.B.1 Regional Unemployment

Figure 1a plots the evolution of unemployment (for individuals aged between 15 and 64 years) between 2000 and 2016. Pre-crisis unemployment was below 10% across all country-groups. Differences in the South and the East were around 8%-9%, in the Centre at 6.5%-7%, and in the North around 5%-6%. Unemployment increased during the global financial crisis (2008-2010) across all countries. But, the spike in the Core was moderate while in the South unemployment rates doubled. In Greece, unemployment (across 14 NUTS 2 areas) jumped from 9% in 2007 to 27% in 2013 and then fell to 23%-25%. Mean (median) unemployment across Spain's 20 NUTS 2 regions jumped from 7.5% (8.9%) in 2007 to 23.6% (25.7%) in 2013 and then dropped to around 20%.

The distribution of regional unemployment rates in Figure 1b illustrates the increase in the mean and variance. Compared to the pre-crisis distribution, the distribution of post-crisis unemployment has a long right tail, indicative of the very high unemployment rates in some regions of the South. The standard deviation of NUTS 2 unemployment doubles (from 0.037 to 0.071); the effect again mostly comes from the South. Eight EU regions (six in Spain and two in Greece) exhibit unemployment rates exceeding 30% in 2013; ten other EU regions have unemployment rates between 25% and 30%.¹¹

¹¹ We focus on unemployment rather than output as the latter is conceptually a less clean measure of the crisis' social costs. Moreover, regional GDP statistics are quite noisy, yielding biased (attenuated in the case of classical error-in-variables) estimates. In the Supplementary Appendix, we show that changes in regional unemployment rates and changes in log regional output co-vary, though the correlation is far from being perfect. Appendix Figure A1a graphs the association between unemployment and log GDP per capita, conditioning on region and general year fixed-effects. There is a significant negative relationship between the two variables with few outliers corresponding to regions of former transition economies. Appendix Figure A1b plots the correlation of changes in regional unemployment to changes in the logarithm of GDP per capita after and before the crisis. The graph paints a clearer picture regarding the loss of income and employment after the crisis across different country groups.

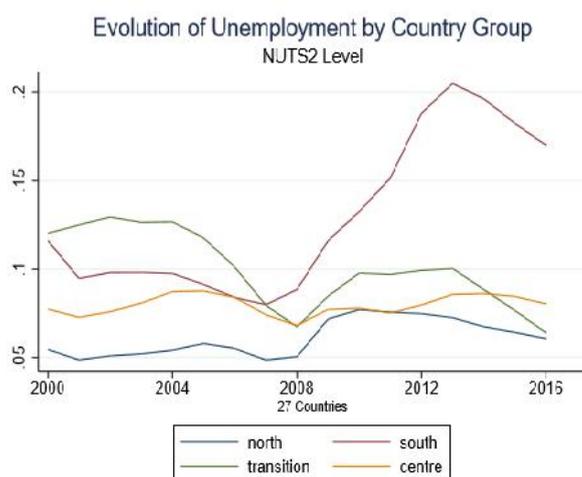


Figure 1a

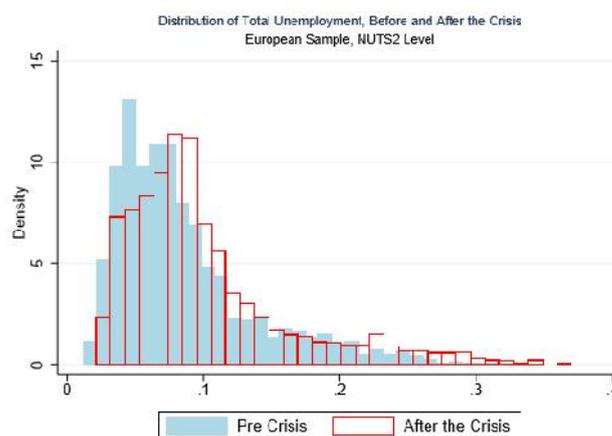


Figure 1b

II.B.2 Voting

Table 1, Panel B reports the mean, median, and standard deviation of voting for extremist parties and political participation before and after 2008. Mean (median) participation in general elections before the crisis is 70% (74%), while after the crisis it falls to 67% (68%). This drop mostly comes from the South where participation decreases from 74% to 68% and former transition economies, where turnout drops from 57% to 52%. Participation falls only slightly in the North and Centre.

Table 1 Panel B demonstrates the considerable increase in voting for extremist parties. The mean (median) share of extremist parties before the crisis (2000-2008) was 25% (20%); it climbs to 31% (32%) after 2009. The increase in the voting share of extremist parties is strong in the South; the change in the mean (median) is close to 6% and 12%. Voting for extremist parties also rises in the North, with the increases in the mean and in the median of 3% and 5.3%, respectively. Figure 2 plots the corresponding distribution. There is an evident shift of the mean and median values to the right; the shape of the distribution is also different in the second period, with an increased concentration in the range of medium and high percentage of extremist outcomes.

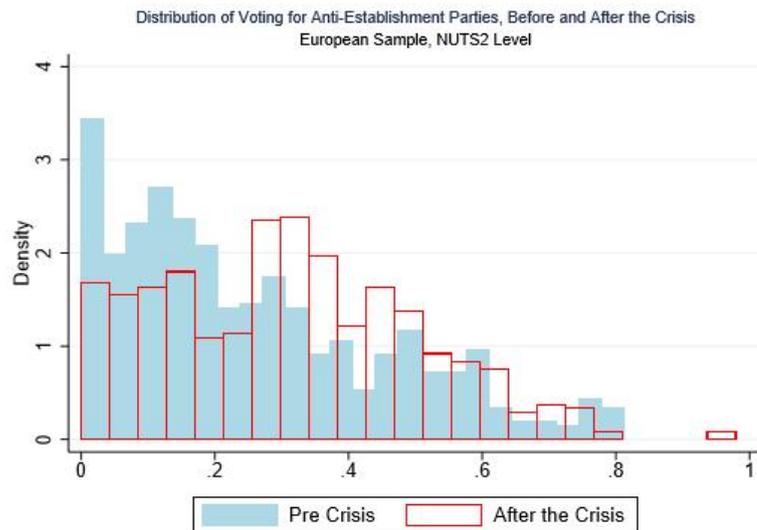


Figure 2

Vote shares of all four types of non-mainstream parties have increased, though at a differential pace (see Appendix Figures 2a-2d). Voting for radical left parties displays a small increase of just 1%, though there is considerable heterogeneity across countries. It grows in Spain (Podemos), Greece (Syriza) and to a lesser extent in Portugal (Bloco de Esquerda) and Finland (Vasemmisto). It falls in Slovakia (Communist Party of Slovakia), Italy (Communist Refoundation Party), and France (Workers' Struggle). Mean (median) voting for far-right parties goes from 7% (2%) to 10% (7%). The rise of far-right parties mostly comes from the North and Centre (rather than the South and Eastern European countries), where the increase is around 5%-7%. The rise of far-right party voting is considerable in Hungary (increase of 8.5%) and Greece (increase of 5%). Voting for populist parties increases considerably; the mean moves from 13% to 22%, while the median almost triples. This increase is strong in the South, the North, and Centre. Only in former transition countries the mean share for populist parties does not go up, as the sizable increase in Hungary, the Czech Republic, and Poland is offset by declines in Estonia, Romania, Slovenia and Slovakia. Eurosceptic parties are also on the rise. The mean (median) vote increases by 6% (10%). This rise is strong in the South, where the mean and median increase by 15%, and in the North where the mean (median) increases from 12% (16%) to 22%.

II.B.3 Trust and Beliefs

Let us start with the evolution of general trust. If anything, interpersonal trust across European regions somewhat increased since the crisis. Though the increase in the mean and median is small, this pattern applies with all measures of general trust (Table 1, Panel C).

The situation with trust in political institutions is very different. There is a sharp decline in the trust in national political system in the post-crisis period. The mean value of trust towards the national parliament falls by 3 points (from 45 to 42 points on the 0-100 scale), roughly half of the pre-crisis standard deviation. As Figure 3a shows, after 2008 the distribution moves to the left. There is also a significant drop in a similar question reflecting trust towards politicians. Figure 3b shows that distrust is not limited to the political system; it extends to the legal system, though to a lesser extent. South drives this result. In former transition countries, there is no movement, while in the countries of the European core trust towards national courts slightly increases. Interestingly, trust towards the police moves in the opposite direction, increasing with the crisis (Figure 3c). Distrust towards political parties and national courts reflect a dissatisfaction with the functioning of democratic institutions, driven mostly by the South, where mean satisfaction falls from 0.55 to 0.42.

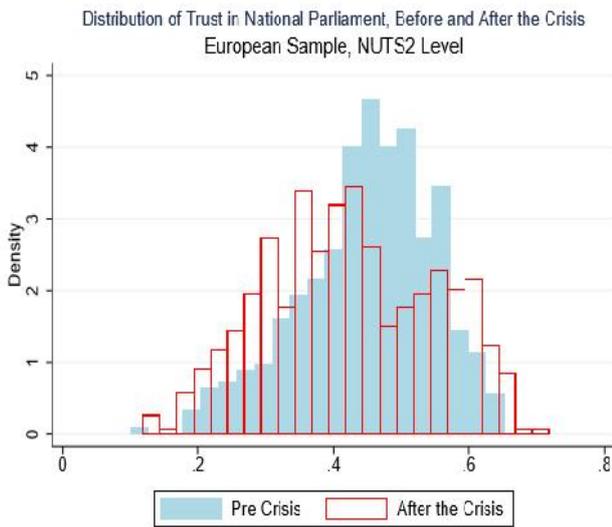


Figure 3a

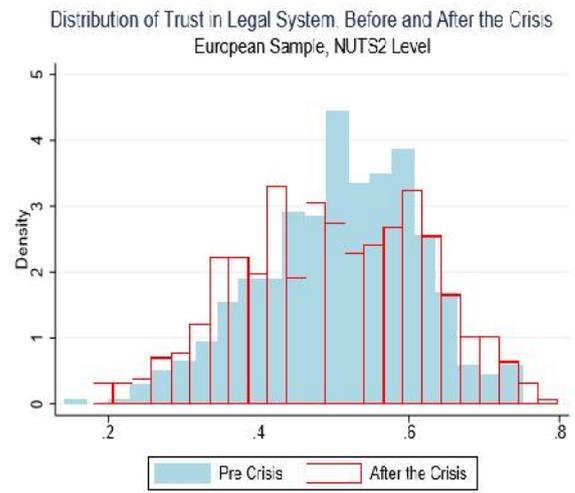


Figure 3b

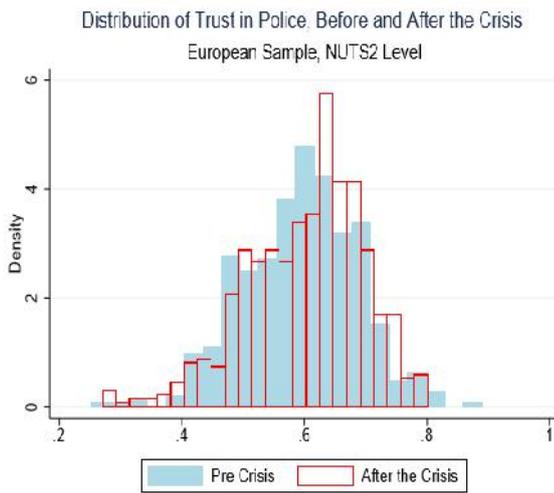


Figure 3c

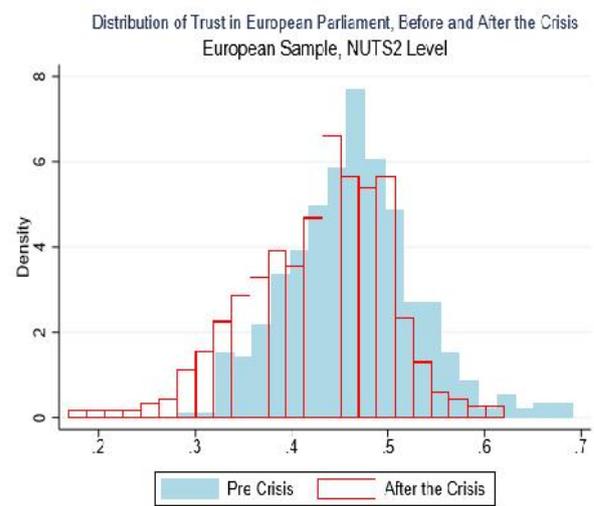


Figure 3d

To measure the change in trust towards the European Union, we use the ESS question on the trust in the European Parliament. There is a significant decline; median drops by roughly a third of the pre-crisis standard deviation. The deterioration in trust towards the EU is especially large in the South (from 0.54 to 0.50), but is present in all groups of countries. Distrust towards the EU increases in all EU countries except for Belgium, Netherlands and Denmark (where it stays flat) and Sweden where it falls modestly. The post-crisis distribution of trust in the European Parliament has a long left tail (Figure 3d). As Europeans' trust towards the EU is falling, their views on whether the EU should go further or whether it has gone too far, have, on average, also changed (Table 1, Panel C). We also tabulate the distribution of trust towards the United Nations. Distrust in the UN may capture anti-globalization sentiment or an overall dissatisfaction with international institutions, but it does not have the European angle. There is some decline in trust towards the UN, but it is smaller relative to the drop in trust towards the EU. The sizable drop in trust towards the EU and domestic institutions is in line with the Eurobarometer Survey data (Frieden and Foster (2017)).

We also examine political positioning on the left-right scale and closeness to a particular party. There is no indication that Europeans are, on average, moving to the left or to the right. There is a small decline of respondents' closeness to a particular party.

Since extremist, nationalistic, and populist parties often embrace an anti-minority and anti-immigration agenda, we examine the evolution of variables reflecting European's beliefs on immigration. Table 1, Panel D, gives means and medians before and after the crisis. ESS data show no major change in attitudes towards the immigrants – or even a more welcoming stance. On average, Europeans are more likely to allow immigration of the same or different race (increase of 2 percentage points from 59 and 51 percent, respectively). They also appear ready to welcome

immigrants from poorer countries. They still believe that immigrants make the country a better place to live (two percentage points increase from 48 percent before the crisis).

III. The European Crisis and the Rise of Populism

In this Section, we analyse the role of unemployment on voting for non-mainstream parties and on turnout. First, we report the within-region correlations that assess whether the European crisis and the rise of anti-establishment vote are related. Second, we discuss an instrumental variable approach that helps identifying causal effects and report the 2SLS estimates. Third, we carry out an “out-of-sample” test of the link between the crisis and populist voting, associating regional differences in unemployment across the United Kingdom during the crisis and Brexit voting.

III.A OLS estimates

We examine the role of unemployment with the four types of anti-establishment vote and turnout rate using two (closely related) approaches that exploit variation in NUTS 2 regions over time¹².

First, we run panel fixed effects specifications that explore within-region variation over time. We use the full sample period that extends from 2000 until the mid of 2017 (including the recent elections in France, Netherlands, Bulgaria and the United Kingdom).¹³ Table 2 reports the results. In Panel A we include year dummies to account for general trends in unemployment and voting patterns across the EU. As there are not many elections in a given year, we run specifications with four sub-period dummies. We split the sample into two pre-crisis periods (2000-2004, 2005-2008) and two post-crisis periods (2009-2012 and 2013-2017). Panel B presents the results. In Panel C we interact the period dummies with the country-group dummies to allow for differential dynamics in unemployment and voting across the South, Centre, East and North of Europe.

Second, we carry out difference-in-differences estimations that associate post-vs-pre-crisis differences in the various electoral outcomes with the respective differences in regional unemployment. Specifically, we average all observations after the crisis (2009-2017) and before the crisis (2000-2008) and then estimate the model in differences (dropping 2008 altogether or assigning it to the post crisis period does not change the results in any way).¹⁴ Table 3 presents

¹² Ideally, we would want to run the specifications at the electoral district level to account for strategic voting and other unobserved issues (proportional or majoritarian system). However, we lack data on output-unemployment at the electoral district. As Colantone and Stanig (2017) show, NUTS 2 regions include (in most countries) more than one electoral district. The analysis at the NUTS 3 level of aggregation that we conduct for a subsample of the countries partially addresses this, as electoral districts sometimes overlap with NUTS 3 level districts.

¹³ The specification is as follows: $y_{r,c,t} = \beta U_{r,c,t} + a_r + d_t + \varepsilon_{r,c,t}$. Here y denotes non-mainstream party vote in region r in country c in year (period) t and U denotes regional unemployment rate (in some specifications we use lagged unemployment and other controls).

¹⁴ The difference specification reads: $\Delta y_{r,post-pre} = a + \beta \Delta U_{r,post-pre} + \varepsilon_r$, where Δy and ΔU denote changes in regional non-mainstream party vote and unemployment over the post-crisis period (mean over 2009-2017) and the pre-crisis period (mean over 2001-2008).

these estimates. In Panel A we do not include any controls, while in Panel B we add country-group dummies that account for differential pre-post crisis changes in unemployment and voting.

Let us first discuss the within-region correlation between total anti-establishment vote (i.e. vote for far right, far left, populist and Eurosceptic parties) and unemployment. The unemployment coefficient is significant in all panels of Table 2. There is a one-to-one relationship between unemployment and the anti-establishment voting. The before-after specification in Table 3-column (1) yields an estimate that is statistically significant and similar in magnitude. The link between unemployment and anti-establishment voting is strongest in the South (where the crisis has been the deepest), considerable in the North and the East (the magnitude is 0.5); and it is absent in the Centre (the results by the four country groups are available on request). Figure 4a illustrates the before-after correlation, distinguishing between NUTS 2 districts across the main macro regions.

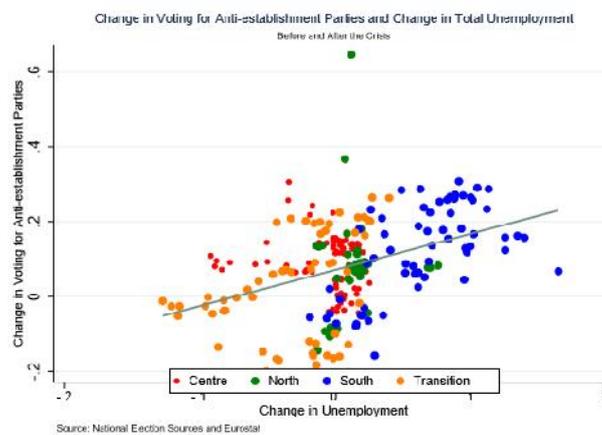


Figure 4a

In columns (2) and (3) we assess separately the role of unemployment in voting for far-left and far-right parties. The results in Table 2's Panel B point out that higher unemployment fuels voting for far left parties. A similar pattern emerges in Panel A of Table 3.

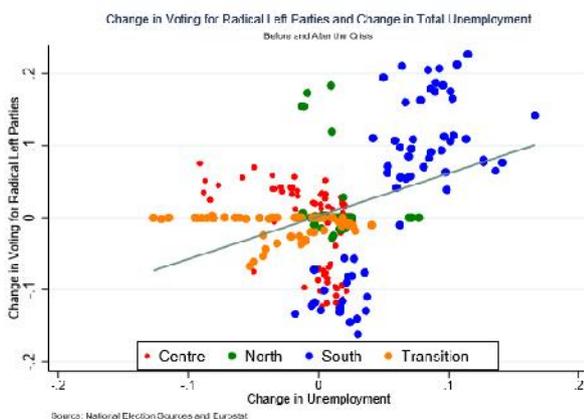


Figure 4b

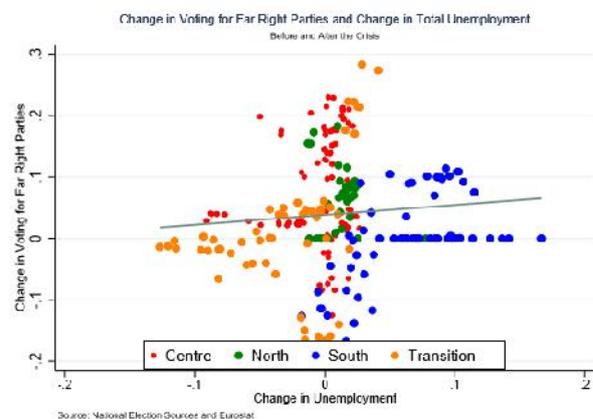


Figure 4c

The results change, however, when we add country-group-specific period effects (in Panel C of Table 2 and Panel B of Table 3). The estimates are now comparable in magnitude (both in the panel and difference specifications), but the coefficients for far-left and Eurosceptic parties are no longer significant; the coefficient at unemployment is statistically significant in the voting for far-right and populist parties. We examine further the relationship between unemployment and specific types of anti-establishment vote in each of the four main macro regions (results are available on request). The link between unemployment and the far right vote is present in all country groups; it is stronger in the South and somewhat weaker in the East. In contrast, the relationship between unemployment and the radical left vote is quite heterogeneous. It is strong in the South (with the rise of Podemos in Spain and Syriza in Greece), insignificant in the North and Centre, and negative and significant in former transition economies, where people seem to turn their back to communist parties leaning towards right-wing nationalists.

In column (4) we examine voting for populist parties. In all specifications, coefficients are positive and highly significant. The results from the before-after crisis estimations are also highly significant (Table 3), as shown also in Figure 4d. The “standardized beta coefficient” (the effect of one standard deviation change in the independent variable expressed in terms of standard deviations of dependent variable) is around 0.4 in the panel specifications and 0.5 in the difference specifications. A one-percentage point increase in unemployment is associated with a one-percentage point increase in the populist vote. When we estimate the models by country groups, we find a strong effect in the South; the relationship is also present in the East and the Centre; it is not significant in the North.

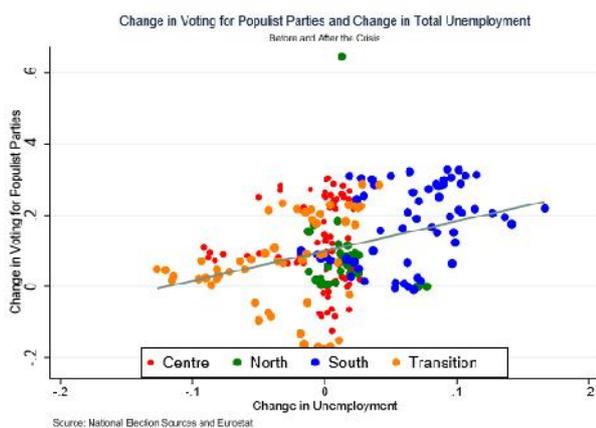


Figure 4d

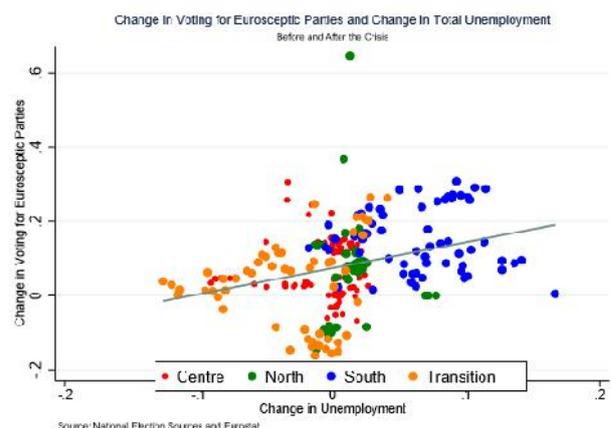


Figure 4e

In column (5) we focus on the share of parties with an anti-European or separatist agenda. The coefficients on unemployment in Table 2’s Panels A and B and in Panel A of Table 3 are statistically significant; the coefficient is again close to 1. Figure 4e illustrates this pattern: while the positive relationship between unemployment and Eurosceptic vote pertains in all four macro

regions, once we account for differential macro-region trends the estimates drop and lose significance. In column (6) we focus on turnout. An increase in unemployment of 5 percentage points (one standard deviation) is associated with a decrease in turnout of 2.5 percentage points (around 0.2 of standard deviation). The difference specifications yield less clear, though similar, results. The correlation is strong in Panel A, but once we account for different trends in the North, South, East, and Centre it loses significance.¹⁵ There is substantial heterogeneity, as the correlation is strong in the East, present in the South, but absent in the North and the Centre.

Crisis and Recession. We also examine the unemployment – extremist voting correlation dropping regions with very high (or considerable increases) in unemployment (mostly in the South). This is useful both to assess the outliers and to examine whether the relationship between unemployment and voting outcomes emerges only in severely crisis-hit regions. The correlation retains statistical significance when we exclude high-unemployment regions (top 5% or even top 10%, with rises of unemployment exceeding 8.5%), though the estimate drops. When we drop the top 25%, the estimate drops further (to around 0.5) and turn statistically insignificant (t -stats around 1.3-1.5). This suggests that it is the severity of the crisis and the associated sharp increase in unemployment that fuel support for non-mainstream parties (see Matakos and Xefteris (2017) for associated cross-country results).

NUTS 3 Analysis. To further account for unobservable time-invariant features, we estimated specifications at a finer regional level. We aggregate the voting data at NUTS 3 regions; using data from Cambridge Econometrics on employment rates, we rerun the analysis for 344 regions in 11 countries¹⁶. Table 4 presents the results. The elasticity of non-mainstream party voting with regard to employment is -1. This is mostly driven by voting for populist parties. When we allow for differential time trends in the core and the periphery, we obtain attenuated estimates, as most of the variation comes from the differences between regions in the periphery and the core. Yet, the effects are still statistically significant. The results remain intact when we add country-group specific time effects (Appendix Table 2).

III.B Instrumental Variables Estimations

The OLS estimates linking unemployment with voting do not necessarily imply a causal relationship. By exploiting within-region variation, we control for all time-invariant features shaping voting for non-mainstream parties and unemployment. However, we cannot rule out that

¹⁵ Using ESS data, Guiso *et al.* (2017) estimate “selection” models that jointly associate unemployment with turnout and voting. They also find that unemployment and economic insecurity are associated with a fall in turnout.

¹⁶ These countries (number of regions) are: Austria (35), Bulgaria (28), Cyprus (1), Czech Republic (14), Greece (51), Spain (52), France (98), Hungary (20), Ireland (8), Norway (19), Sweden (21), Slovakia (8).

omitted time-varying regional factors drive the correlation. Another potential problem is reverse causation, though few would argue that it was the rise in populist and Eurosceptic voting (and the decline in political trust, discussed in the next section) that led to the downturn of 2008-2010 and the deep recession in the European periphery. Yet another concern is error-in-variables that is likely to be non-negligible. Unemployment statistics are noisy; they do not account well for part-time employment and workers marginally attached to the labor force. Moreover, official statistics miss activities in the shadow economy, which may be important in the South and the East.

To advance on causality, we develop an instrumental variables approach that uses the share of construction in regional value added as an excluded (Bartik-style) instrument¹⁷. Construction and real estate played a key role in the build-up to the 2008-2009 financial crisis and its severity (e.g., Fernandez-Villaverde *et al.* (2013), Fernandez-Villaverde and Ohanian (2009), Lane (2014), and Reis (2015)). The rise of construction and real estate services was important in the pre-crisis boom in Spain, Ireland, Portugal, Greece, the United Kingdom, Cyprus, and some Eastern European countries, contributing to misallocation and asset price inflation (e.g., Gopinath, *et al.* (2017)).

Our identification strategy is based on two assumptions. First, the share of construction in the regional economy affects unemployment, even when accounting for other sectoral shares. Below we show that this is indeed the case. Second, the share of construction should affect voting (trust and beliefs) only via its impact on unemployment. In the before-after specifications, the pre-crisis share of construction in regional value added should affect the changes in voting (and other outcomes) via its impact on the increase in regional unemployment.

While directly testing the “exclusion restriction” is not possible, it seems reasonable that the primary impact of changes in regional specialization on voting and attitudes is via unemployment, especially in the short term that we focus on. Construction may affect voting via alternative mechanisms, for example via corruption, immigration or human capital. While we cannot fully rule these channels out, we provide evidence below that they are unlikely to be important in our case.

The average share of construction in regional value added in our sample is 6.5% (the median is 7%). Together with agriculture, it is one of the less important broad sectors in our sample (see Table 1). Therefore, swings in the share of construction are less likely to be endogenous to unobserved features that may affect voting and trust. There is substantial cross-sectional variation in the share of construction; the range across the 227 regions goes from 2.35% to 15.25% in 2007. The within-country variation is also substantial. Construction share in Greece ranges from 6% to 13%; in Germany from 2.5% to 7.2%; in Italy from 4.7% to 8.4%; and in Belgium from 2.6% to 7.5%.

¹⁷ See Goldsmith-Pinkham, Sorkin, and Swift (2017) for a discussion of “Bartik” instruments.

III.B.1 First-Stage Results. Construction and Unemployment

We start with an examination of the first stage relationship between unemployment and the share of construction in regional value added. Table 5 reports the results. Panel A present panel specifications with region fixed effects and year dummies (in columns (1)-(2)) and country-group specific year effects (in columns (3)-(4)). The coefficient on the share of construction is highly significant. The most conservative estimate is in column (4), where we allow for different trends across the country-groups and control for regions' industrial composition, implies that a 1-percentage point increase in the share of construction is associated with a 0.9 drop in unemployment. This translates into a standardized "beta" coefficient of around 0.3.¹⁸ Figures 5a and 5b plot the correlation between construction share and unemployment controlling for region and period fixed effects (and the shares of all other sectors). The relationship is significant in all country-groups.

In Table 5's Panel B we focus on the impact of the crisis. The dependent variable is the difference in regional unemployment pre- and post-crisis. For the post-crisis we take the average over 2009-2016 and for the pre-crisis we use the 2000-2008 mean. The main independent variable is the pre-crisis share of construction. As sectoral shares are noisy and there are gaps in Eurostat data, we use the 2004-2007 mean (in Appendix Table 4 we show that using 2007 or earlier years yields similar though attenuated coefficients). A higher pre-crisis share of construction is associated with an increase in regional unemployment after 2008-2009. The coefficient on the pre-crisis share of construction is significant, implying that regional specialization in construction in the booming 2002-2007 years contributed to the rise in unemployment post 2008-2010. The estimate (standardized beta) in column (4) is 0.8 (0.32) quite similar to the panel specifications in the full panel¹⁹. Figures 5c-d illustrate the relationships between post- vs. pre-crisis differences.

¹⁸ In Appendix Table 3 we use lagged values of construction and other industry shares. The results are similar.

¹⁹ In Appendix Table 5 we regress changes in unemployment over various periods (2016-2008, 2015-2008, 2014-2008, 2013-2008, and 2012-08) on the pre-crisis share of construction (conditional on other sectoral shares and country-group fixed-effects). The initial share of construction always enters with a negative coefficient that is larger (and more precisely estimated), when we look at the immediate aftermath of the crisis. The coefficient at the initial construction when we focus on changes in unemployment over 2012-2008 change is 0.66; it declines to 0.41 for 2015-2008 and to 0.27 for 2016-2008. As the European economies recover from the recession of 2009-2012, the role of the pre-crisis construction weakens. Likewise, we associated 5-year, 6-year, and 7-year changes in regional unemployment to initial share of construction. Construction enters with a significantly positive coefficient only when we look at post- vs. pre-crisis windows. When we examine the association before the crisis or in 2016-2015, there is no systematic link between changes in unemployment and construction.

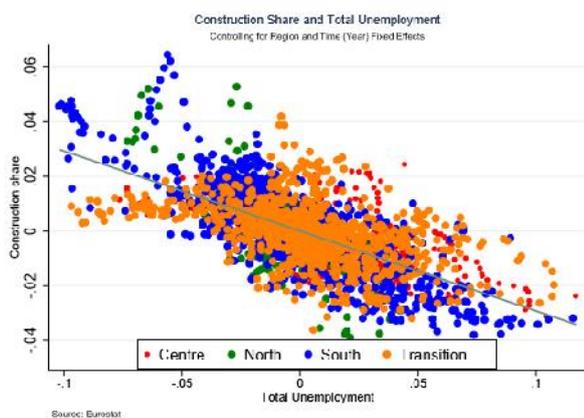


Figure 5a

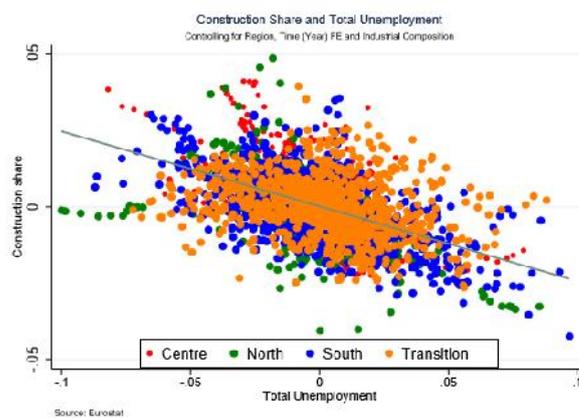


Figure 5b

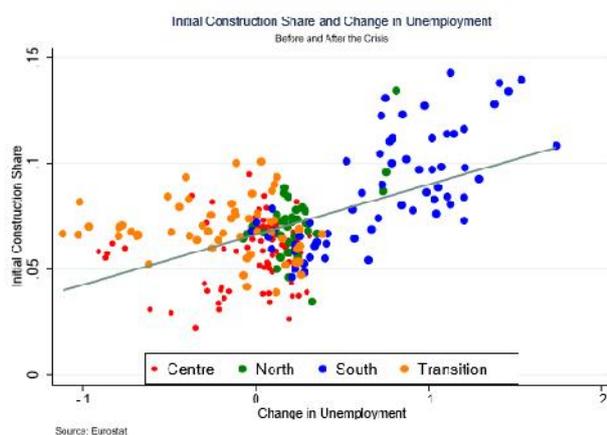


Figure 5c

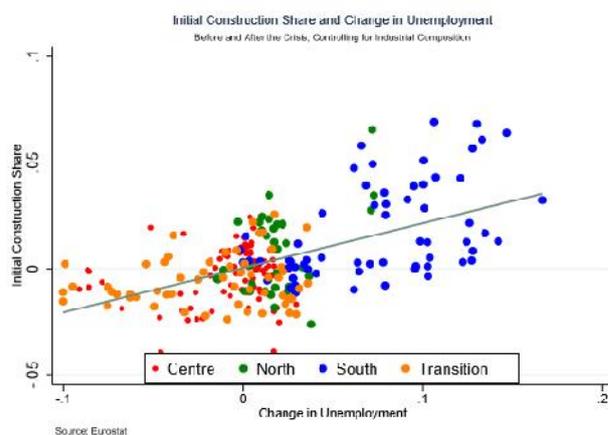


Figure 5d

III.B.2 Reduced-Form Estimates. Construction Share and Voting Outcomes

We now turn to the “reduced-form” specifications that associate voting patterns with the pre-crisis share of construction. Table 6 reports the panel estimates. There is a strong relationship between the share of construction in the regional economy and the voting share of the anti-establishment parties. This result holds in all specifications. The coefficient in Panel C’s column (1) implies that a one percent increase in the share of construction is associated with three percentage points increase in anti-establishment vote. The effect is strongest for populist parties (coefficient around 3), followed by Eurosceptic parties (around 2) and radical left and far right parties (with the magnitude between 1 and 1.7). There is no effect on turnout.

One may wonder whether the voting outcomes are associated with the share of some other sectors (rather than construction). We re-estimate all specifications in Table 6 controlling for all sectoral shares. Appendix Table 6 reports the panel estimates that associate voting patterns for non-mainstream parties and turnout with the shares in regional value added of construction, agriculture (incl. forestry, fishing, and mining), trade, government, and finance (with manufacturing serving as

the omitted category)²⁰. Construction share enters all specifications with a negative coefficient that is usually statistically significant. The coefficient on regional construction share in explaining voting for anti-establishment parties in column (1) of Panel C is -3.9, quite similar to the unconditional estimate. Furthermore, no consistent pattern emerges regarding the link between voting for non-mainstream parties and the shares of other sectors.

We also estimate “reduced-form” before-after crisis specifications; these specifications, reported in Table 7, associate *changes* in voting patterns before and after the crisis with the pre-crisis share of construction (conditional also on country-group dummies and/or shares of all other sectors in regional value added). The merit of the difference specifications is that the pre-crisis share of construction is less likely to affect changes in voting directly or through channels other than its impact on regional unemployment. We find that the pre-crisis share of construction correlates with pre- vs. post-crisis changes in non-mainstream party voting²¹.

III.B.3 2SLS Estimates

Table 8 presents 2SLS estimates that combine the “reduced-form” estimates with the first stage results. Panel A presents 2SLS panel fixed effects estimates, controlling for period dummies. In Panel B, we control for the share of agriculture, finance, commerce, and government services in regional value added. Panels C and D include country-group-specific period dummies that account for differential across Europe trends in unemployment, regional specialization, and voting²².

In all specifications, unemployment (instrumented by the share of construction in regional value added) has a statistically significant effect on anti-establishment vote. The 2SLS coefficient is somewhat higher than in OLS. A one-percentage point increase in unemployment is associated with 2 -3.9 percentage points increase in the share of anti-establishment parties. The effect is strongest for populist parties. We find no significant impact of unemployment on turnout. The difference specifications in Table 9 yield similar—albeit somewhat smaller—estimates. A five percent higher share of construction before the crisis is associated with an increase in the vote share of the anti-establishment parties by 7.5 to 10 percentage points²³.

²⁰ We also re-estimated the panel specifications using lagged values of construction and other sectors. The results are similar and not reported for brevity.

²¹ Appendix Figures 8a-8f illustrate the “reduced-form” relationship between pre-crisis share of construction and changes in voting for non-mainstream parties and turnout.

²² The Kleibergen-Paap Wald F-test of the first-stage is 26, 14, 20 and 16. The critical values of the Stock and Yogo (2002) weak instrument tabulations are 16.38 and 8.96 for the 10% and 15% level (see also Staiger and Stock (1997)).

²³ Appendix Table 7 reports similar specifications; but since the rise of populist and far left/right parties occurred after the crisis, we associate changes in the anti-establishment voting from 2013-2017 to 2007-2004 with the corresponding changes in unemployment instrumented with the pre-crisis construction share. The 2SLS coefficients are similar.

III.B.4 Identification Issues and Instrument Validity Checks

The “reduced form” link between the share of construction in regional value added and voting patterns and the strong relationship between construction and unemployment do not necessarily imply a causal nexus between construction, unemployment and non-mainstream voting. The necessary condition for causality is that construction does not affect voting directly or via other-than-unemployment channels. It is impossible to test this condition formally, as the structure of the regional economy is not random and related to various socio-economic factors that can also affect political outcomes. In this section, we examine some alternative explanations.

The first alternative explanation relates to corruption. It is possible that construction, a sector dependent on government connections, promotes bribes, which in turn affects voting for non-mainstream parties (see De Vries and Solaz (2017) for an overview of research on the electoral consequences of corruption). As the ESS includes three corruption perception questions (though only in the 2004 round), we examine the link between the share of construction and (self-reported) corruption, failing, however, to detect any significant correlation (Appendix Table 8).

The second potential mechanism involves education. Construction is not a skill-intensive sector; so regions specializing in construction or experiencing increases in construction may have lower levels of human capital. In this case, the 2SLS estimates may pick up the role of education. We have added regional education levels to the regressions, using Eurostat data on educational attainment. Table 10, columns (1)-(3) reports panel and post-vs.-pre-crisis difference 2SLS specifications, controlling for education (in particular the share of regional population with completed tertiary education). To further assuage endogeneity concerns, we use lagged values. The 2SLS estimate is unaffected by the inclusion of college attainment that is not uncorrelated with voting and construction, once we include regional fixed effects. The pre-crisis share of tertiary education is also unrelated to subsequent changes in unemployment and voting. Therefore, the 2SLS estimates are similar. Conditional on education, there is still a significant correlation between the component of regional unemployment stemming from construction and voting for non-mainstream parties. The results are similar when we add country-group specific time constants and control for other sectoral shares (Appendix Table 9).

The third alternative explanation regards a potential link between construction and immigration. Construction sector in richer economies often employs immigrants from low/middle income countries. Using data on net migration from Eurostat, we thus estimated 2SLS models controlling for an indicator that takes the value of one for regions experiencing positive net migration flows (and zero otherwise). Table 10, columns (4)-(6) gives the results (see also

Appendix Table 9). Construction is unrelated to net migration; and the 2SLS estimates are unaffected by the inclusion of these controls²⁴. We also estimated models controlling for the share of ESS respondents, who were born in the country and who are not citizens. While such data are available only for 7 countries, the 2SLS unemployment coefficient retains its economic magnitude and statistical significance (Appendix Table 10).

Finally, we examine whether there are pre-crisis trends on voting parties and regional sectoral specialization. Pre-crisis voting for non-mainstream parties (during 2000-2007) is unrelated to the share of construction at the onset of the crisis, in 2007-2008 (results not shown for brevity).

III.C Unemployment and Brexit

III.C.1 Motivation

One of the quintessential examples of the rise of populism in Europe was the UK referendum on leaving the European Union. The June 23, 2016 referendum resulted in a majority (52%) for leaving the EU. There is no clear definition of pro- and anti-Brexit party alignment and this vote seems to have transcended party lines. The ruling Conservative Party split between “Leavers” and “Remainers”. The situation was similar, though less stark, in the Labour party. While many Labour politicians were active in the Remain campaign, its leader Jeremy Corbin was lukewarm; eventually, Brexit did well in traditional labour districts. We thus carry out an analysis of Brexit vote in an “out-of-sample” fashion. We consider the relationship between the vote in the UK’s 379 electoral districts and the change in unemployment before and after the crisis²⁵.

III.C.2 OLS estimates

Table 11, column (1) shows the correlation between Brexit vote share and unemployment in 2014 (both are expressed in percentage points). The coefficient is marginally significant and its magnitude rather moderate. A rise in unemployment of one standard deviation (2 percentage points) increases the “Leave” vote by 1 percentage point. The share of variation explained by unemployment is small. In column (2) we add dummies for Greater London, Scotland and Wales (with England being the omitted category). The significance of unemployment increases. The statistically significant (although economically small) relationship between unemployment and Brexit vote echoes the findings of Becker, Fetzer, and Novy (2017) analysis of the correlates of Brexit.

²⁴ The results are similar if we do not transform the net migration data or if we use the logarithm of migration flows and migration outflows (results available upon request).

²⁵ Recent empirical studies examine the role of various socio-economic variables, such as unemployment, output, immigration, and dependency on EU funds on Brexit. See, among others, Los *et al.* (2017), Becker, Fetzer, and Novy. (2017), Colantone and Stanig (2016), and Arnorsson and Zoega (2016).

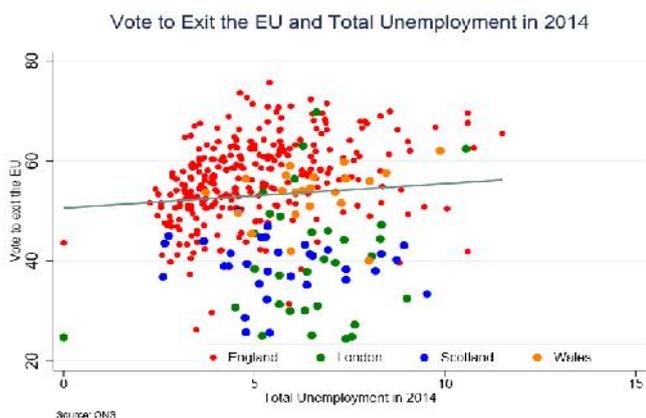


Figure 6a

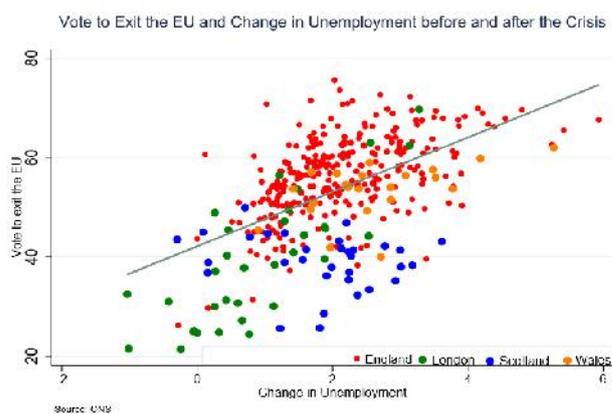


Figure 6b

In columns (3) and (4) we report regressions where the independent variable is the difference in the district’s unemployment rate averaged over the 2008-14 and 2002-06 periods, respectively (Average increase in the unemployment in the UK electoral districts was 2 percentage points). The relationship is much stronger for the *change* in unemployment. An increase in the unemployment change by one standard deviation (one percentage point) results in 4-5 percentage points increase in the Brexit vote. Unemployment performs stronger in changes than in levels, when we include both variables (results not shown). Figures 6a-b provide an illustration.

III.C.3 2SLS estimates for the Brexit vote

To approximate the causal impact of the change in unemployment over the crisis on Brexit, we instrument the change in unemployment (over 2008-2014) with the pre-crisis share of construction. To reduce noise we average the share of construction in districts’ employment for the period 2005-08 (the results are similar when we use 2007). Construction share ranges from 3% to 15%. As shown in columns (5)-(6), there is strong first-stage fit; the pre-crisis share of construction correlates strongly with subsequent changes in unemployment. A one standard variation change in the pre-crisis share of construction (two percentage points) accounts for 2.5-3 percentage points change in unemployment (a quarter or a third of its standard deviation). The “reduced-form” relationship in columns (7)-(9) is also statistically significant. A two percentage points increase in construction share is associated with 4-5 percentage points increase in Brexit vote. Columns (10)-(12) report 2SLS coefficients. We find a statistically significant relationship between the change in regional unemployment instrumented by the pre-crisis share of construction and the Brexit vote.

IV. Unemployment, General and Political Trust, and Political Beliefs

In this section, we examine whether the economic and trust crises are related using the data from the European Social Survey.

IV.A Approach and Specification

We assess the impact of the economic crisis on trust, attitudes and beliefs, employing two related approaches. First, using all ESS rounds we estimate panel specifications with regional fixed effects. This is key as the literature on the origins of trust and culture more generally, has established the importance of time-invariant or slow-changing local factors, including geography (e.g., Alesina, Giuliano, and Nunn (2013), Buggle and Durante (2017)) and history (Tabellini (2010)). Second, we explore the relationship between changes in trust/beliefs/attitudes and changes in unemployment before and after the crisis. Since many countries recover from the recessions by 2012, we estimate the difference specifications using two pre- vs. post-crisis periods: 2008-2014 and 2008-2012.²⁶

IV.B OLS Estimates

Table 12 presents OLS panel fixed effects estimates. In Panel A we include ESS round dummies and in Panel B we include country-group-round fixed effects to account for differential trends across the main European macro regions.²⁷ Table 13 reports difference specifications with country-group dummies that account for differential group-specific time trends.

IV.B.1 General Trust

Table 12's columns (1)-(3) report the panel estimates with the three measures of interpersonal trust. The coefficients on unemployment are statistically significant in Panel A, though they become imprecise when we include country-group-time fixed effects. The estimate in Panel B column (1) implies that a 10 percentage points increase in regional unemployment is associated with a fall in general trust of about 0.11, roughly one standard deviation. The within-region association between unemployment and general trust is negative across all country groups, though it is significant only in East European countries and to a lesser extent in the South.

The before-after specifications in Table 13 suggest that unemployment and general trust are only weakly related. The 2008-2014 specifications yield significantly negative coefficients, though the coefficients in the 2008-2012 specifications are smaller in absolute value and insignificant. The significance is driven by Bulgaria and Slovakia, where there is no link between unemployment and general trust. When we omit these two countries from the 2014-2008 specifications, the coefficient on unemployment in columns (1), (2), and (3) becomes -0.15, -0.03, and, -0.72, respectively. The estimate is significant at the 10% level only in column (3).

²⁶ In the Supplementary Online Appendix, we present the graphical before-after analysis, using average values for 2010, 2012, and 2014 for the post-crisis period and average values from 2004, 2006, and 2008 for the pre-crisis period.

²⁷ We have estimated specifications with region fixed effects and country-year fixed effects that account for differential trends on unemployment and trust. There is not much variation on unemployment and beliefs within countries in a given year; thus this approach yields in general noisy and much more attenuated coefficients.

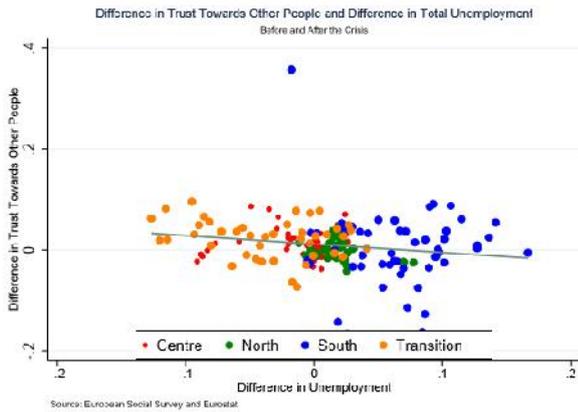


Figure 7a

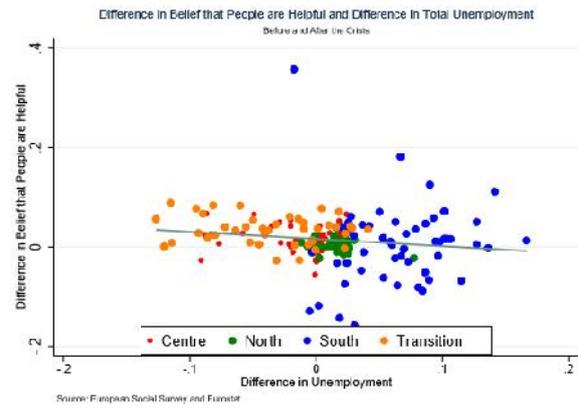


Figure 7b

Figures 7a-b illustrate the before-after correlation between general trust (and whether people are helpful) and unemployment, when we pool post-crisis (2010, 2012, and 2014) and pre-crisis (2004, 2006, and 2008) observations. The slope is small and statistically indistinguishable from zero, pointing out that the link between regional unemployment and general trust is weak.

IV.B.2 Trust in Political Institutions

Given the impact of unemployment on the anti-voting for extremist parties, we examine its role on trust towards political institutions. Columns (4)-(8) in Table 12 and Table 13 report the estimates.

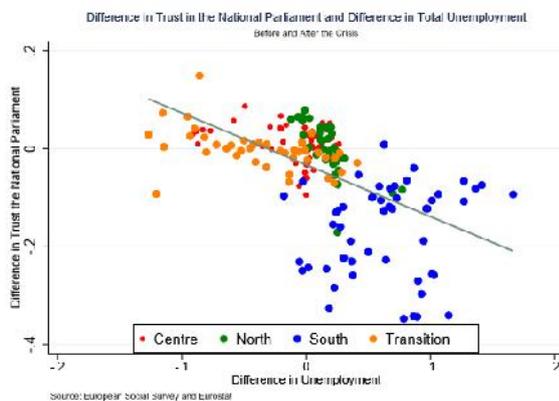


Figure 7c

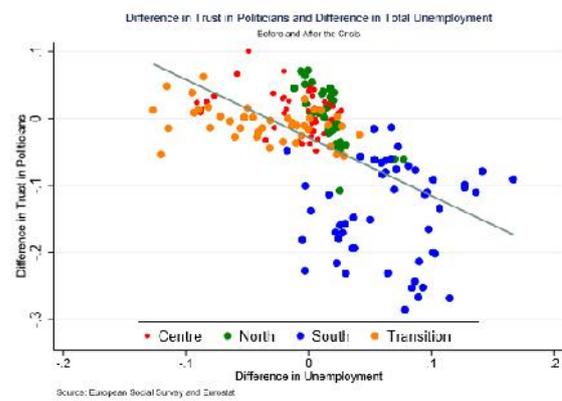


Figure 7d

Political Trust. The panel estimates yield negative and highly significant coefficients, showing a strong link between unemployment and political distrust. The coefficients drop by half when we include country-group-time dummies implying that while a sizable part of the negative association between unemployment and political trust stems from comparing countries in the Core with the Southern and Eastern Europe, the link is present in all groups of countries. A 5 percentage points increase in unemployment is associated with a 1.5 percentage points drop in political trust, a con-

siderable effect as the latter's standard deviation is 11 percentage points (Table 1). The standardized "beta" coefficients are around -0.15, twice as large as the corresponding coefficients with the proxies of general interpersonal trust. The specifications in Table 13 also yield statistically significant estimates. The spike in unemployment is accompanied by a rise in political distrust. Figures 7c-7d give a graphical illustration of the before-after patterns in regional unemployment and political trust, when we average the variables over 2010-2014 (post-crisis) and over 2004-2008 (pre-crisis). The regression line is steep; and the correlation is present in all groups of countries.

Trust towards the Legal System and the Police. Column (6) shows that unemployment is related to distrust towards the legal system. The panel estimate is highly significant. The coefficient falls and loses significance once we add country-group-time effects (in Panel B), suggesting that the link is driven by the considerable variability between Core and Periphery countries. When we estimate models by country groups, we get significantly negative estimates in Eastern and Northern countries (and positive but insignificant estimates in the Centre and the South). The difference-in-differences specifications are as clear, as the coefficient at unemployment is negative and significant in the 2008-2012 model (130 regions in 17 countries), but is insignificant in the 2008-2014 specification (119 regions in 14 countries). Overall, there seems to be a relationship between the severity of the crisis and distrust towards the legal system, though this relationship is less strong than the one for the distrust towards politicians. In contrast to the link between the change in unemployment and the change in trust in the legal system, there is no significant relationship between the intensity of the crisis and trust towards the police. This applies to both the panel and the difference specifications.

IV.B.3 Trust towards the European Union

In an effort to shed light on the drivers of the relationship between unemployment and Eurosceptic voting, we use the ESS question on trust towards the European Parliament as a proxy of the anti-EU sentiment. ESS also asks Europeans on their trust towards the UN. As the UN is an institution of global—rather than European—governance, we use the trust in the UN as a placebo.

The panel estimates in column (8) of Table 12 (Panel A) yield a negative correlation between unemployment and trust towards the European parliament (coefficient -0.33). Figure 7e provides an illustration. In contrast, there is no systematic link between unemployment and trust towards the United Nations (column (9)), implying that the estimates in column (8) do capture a resentment towards EU rather than to all international institutions. When we add the country-group-year dummies, the coefficient becomes (marginally) insignificant, as most of the variation comes from the difference between the main European macro regions. The negative correlation between unemployment and trust in the European Parliament is strong in Eastern European countries, but is insignificant in the Core and in the South. The difference specifications are similar; changes in trust

towards the EU are correlated with changes in regional unemployment. There is no robust correlation between changes in unemployment and changes in trust towards the United Nations (Figure 7f).

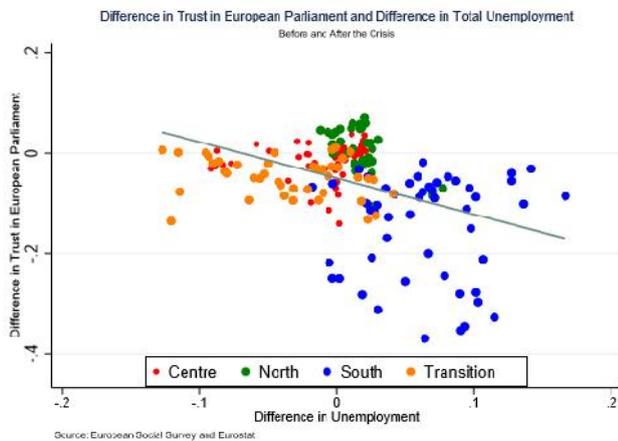


Figure 7e

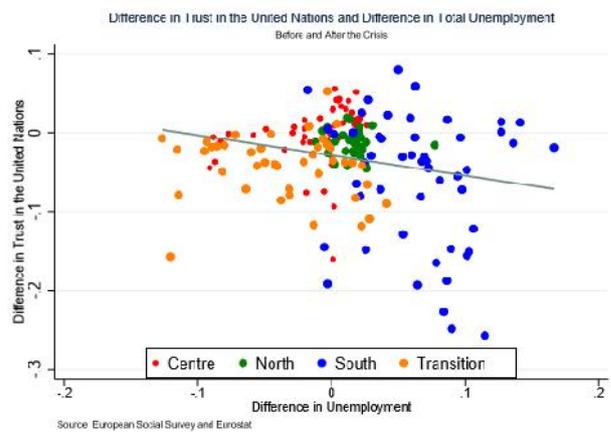


Figure 7f

IV.B.4 Political Attitudes

We also examine the correlation between unemployment and political attitudes and beliefs.

Specification (10) shows that regional unemployment correlates strongly with people’s dissatisfaction with democracy. The standardized “beta” coefficient that quantifies the change in satisfaction with democracy to a one standard deviation increase in unemployment is -0.26 (controlling for country-group ESS round fixed-effects), three to four times larger than the respective values for interpersonal trust. This pattern is present in all country groups and is especially strong in the Core and former Transition economies. The specifications in Table 13 reveal a one-to-one link between changes in regional unemployment and changes in satisfaction with democracy. ESS also asks respondents on their satisfaction with the government, the state of the economy, and their life. Regional unemployment correlates strongly with all these variables, and especially with dissatisfaction with the economy and with the government. Therefore, the patterns shown in Tables 12 and 13 do not necessarily imply that Europeans residing in regions with high unemployment have “non-democratic beliefs”. Yet, there seems to be a metastasis from economic disparity and dissatisfaction with the economy to a more general dissatisfaction with democracy and the inability of institutions to protect people against economic risks during the crisis.

We then examine whether unemployment has moved people to the left or to the right of the political spectrum. As shown in column (11), there is not much evidence of a relationship between unemployment and self-reported left-right political orientation. This applies in both the panel and the difference specifications. This is due to considerable heterogeneity. In some countries, unem-

ployment moves people to the “right” (e.g., Poland and to a lesser extent France and Germany), while in others, unemployment moves voters to the “left” (e.g., Portugal). We also examine related questions, for example, whether respondents support more redistribution or whether they prioritize security, again failing to detect robust patterns (results not shown for brevity).

The specifications in (12) show that the unemployment-distrust link reflects a feeling of crisis-hit Europeans that no political party is close to them. This pattern is strong in Central and Northern Europe and in transition economies; it is absent in the South where people seem to align closely to far-left and far-right parties. The standardized “beta” coefficient (-0.15) is implying an economic effect that is as strong as the one with distrust towards politicians and the national parliament (though more noisy).

We also examine the impact of unemployment on beliefs about European integration using a question that reads: “... *some say European unification should go further. Others say it has already gone too far. What number on the 0-10 scale (where higher numbers indicate that unification should go further and lower numbers indicating that unification has already gone too far), best describes your position?*” On average, changes in unemployment are related neither with the view that the EU has gone too far nor with attitudes that the EU unification should proceed more aggressively. This non-result masks important heterogeneity. In the South, people hope for *deeper* integration. In contrast, in the North and in the Centre, the correlation is negative and significant; in more crisis-hit regions of the European Core, respondents believe that the European project has gone too far.

IV.B.5 Attitudes towards immigrants

We now examine whether unemployment has affected attitudes towards immigrants. This is important, since “safeguarding” the country from immigration is a crucial element of the populist rhetoric (e.g., Front National in France, UKIP in the UK, Golden Dawn in Greece). Tables 14 and 15 give panel fixed-effects and before-after specifications for all immigration-related questions.

The panel specifications in columns (1)-(3) of Table 14 (Panel A) yield weak associations. Interestingly, there is a small “racial bias”, as the unemployment coefficients are larger in absolute value, for immigrants from different than the majority ethnic/racial group and non-EU countries. Yet, the coefficients are not statistically significant. Specification (4) establishes a positive relationship between unemployment and European’s views that immigration has a negative impact on the economy. The standardized “beta” coefficient is large (-0.39). In contrast, there is no association between unemployment and respondents’ views on immigrants’ role in country’s cultural life (column (5)), suggesting that economic—rather than cultural—explanations are at play.

When we add country-group-year dummies, the negative correlations between regional unemployment and attitudes towards immigration turn significant. Panel B further reveals the strong economic insecurity component of anti-immigration sentiment. The unemployment coefficient is negative and highly significant in column (4), when ESS asks respondents to express their views on immigrants' impact on the economy. Unemployment's correlation with views on immigrants' cultural contribution is close to zero and statistically insignificant. A similar pattern emerges from the before-after specifications. Differences in unemployment during the crisis correlate with views that immigration harms country's economic life, but are unrelated to views on immigrants' role on cultural life. Economic factors seem to fuel support for anti-immigrant parties.

IV.C 2SLS Estimates

To estimate the causal effects of the crisis on trust and beliefs and in order to account for endogeneity (related to time-varying omitted variables and measurement error), we run 2SLS specifications using the share of construction in regional value added as an instrument in the panel specifications and the pre-crisis share of construction in the difference specifications. Tables 16 and 17 report the 2SLS estimates (see also Appendix Table 12-13). For brevity, we report in Supplementary Appendix Table 11 the "reduced-form" specifications, associating trust and beliefs with construction.

IV.C.1 General Trust

The 2SLS panel estimates yield significant negative coefficients at unemployment on general trust. Interestingly, the estimates are quite similar to OLS, suggesting that either endogeneity is not a major concern or that upward sources of bias cancel with attenuation stemming from classical error-in-variables. When we add country-group time dummies, the coefficients decline in absolute value and become statistically insignificant. The 2SLS difference specifications are again quite similar to the OLS estimates; the second stage coefficient at the change in regional unemployment is negative, but statistically indistinguishable from zero in the period 2008-2012, while it passes significance levels in the period 2008-2014. Therefore, there is a weak-to-moderate link between the regional unemployment instrumented by the pre-crisis structure of the economy and general trust.

IV.C.2 Trust towards Political Institutions

The 2SLS specifications linking the share of construction with unemployment and in turn with trust towards politicians or the country's parliament are pointing to a causal link. The 2SLS coefficients are negative and highly statistically significant. The second state estimates in Panel B imply that an increase in regional unemployment of 5 percentage points (roughly one standard deviation) is associated with a 3.5 percentage points drop in trust towards the country's parliament (roughly a third of

a standard deviation). Again, 2SLS coefficients are comparable to the corresponding OLS estimates. The 2SLS panel and difference specifications show that the intensity of the crisis has affected trust in the legal system. The 2SLS coefficient in column (6), Panel A of Table 16, is negative and significant at the 5% confidence level. The coefficient's magnitude (-0.65) is comparable, though larger in absolute value, to the OLS panel specification (-0.44). Once we add country-group-time dummies (Panel B), the 2SLS coefficient is -0.30 and statistically insignificant – exactly as in the respective OLS estimation. Yet, Table 17 shows that changes in unemployment (instrumented with the pre-crisis construction share) play a significant role on trust in the legal system. In contrast, there is no systematic link between unemployment and the trust towards the police.

IV.C.3 Trust towards the European Union

In columns (8) and (9) we examine the link between unemployment and trust towards the European Parliament and the United Nations. The 2SLS coefficient in the panel specifications is negative and highly significant; its magnitude (-0.8) is larger in absolute value than the analogous OLS estimate (which was also more imprecise). A 5 percentage-point construction-driven increase in regional unemployment is related to a 4 percentage point drop in trust towards the European Parliament. In contrast, there is no association with trust in the UN. The 2SLS difference-in-differences specifications yield similar patterns: a significant relationship between changes in unemployment coming from pre-crisis construction share and distrust towards the European Parliament. There is weak effect for the UN trust, in the 2SLS difference specifications only for the period 2008-2014.

IV.C.4 Political Views

The 2SLS panel estimates show that unemployment is related to dissatisfaction with the functioning of democracy in the country. The magnitude of coefficients is large. Yet, we should stress that unemployment correlates with dissatisfaction with the government and economic uncertainty and a general feeling of dissatisfaction with life, which in turn are collinear. Hence, it is hard to isolate the impact of unemployment on support for democratic institutions from these related issues. The link between unemployment and political self-orientation is again weak. The panel estimates show that there is a significant second-stage relationship between unemployment (instrumented by construction share) and disconnect with the political system (Table 16, column (12)). In contrast, the 2SLS coefficient on beliefs that European integration went too far are small and are not statistically significant.

IV.C.5 Attitudes and Beliefs on Immigration

Tables 18 and 19 report 2SLS panel and before-after difference estimates examining the role of construction driven swings in unemployment on immigration attitudes. The 2SLS coefficients are

all negative. Yet, the only robust and statistically significant coefficient in the more efficient panel estimates is on the questions asking Europeans on whether immigration is harmful for the economy. There is no relationship with the perceived impact of immigrants on the country's cultural life. These results emphasize the importance of economic insecurity as the main driver of populism.

IV.D Heterogeneity

The microstructure of the ESS dataset allows for a finer examination of the role of the crisis on beliefs, trust, and attitudes. We explore heterogeneity of the effect identified above in an attempt to shed light on the underlying mechanisms. The literature has put forward various potential explanations of the rise of populist voting and the decline in political trust. For example, district-level demographics and educational features seem to correlate with political extremism in the US and Brexit vote (Autor *et al.* (2016, 2017) and Becker *et al.* (2017); see also Foster and Frieden (2017)). To explore heterogeneity we move from regional means to the individual level ESS data; we run the specifications above separately for subsamples divided by gender, age, and education.

Table 20 presents panel OLS estimates linking regional unemployment with individual-level responses on general trust (columns (1)-(3)), trust towards political institutions (column (4)-(9)), and political beliefs (columns (10)-(13)). Table 21 reports panel estimates focusing on attitudes towards immigration. In all specifications we include region (NUTS 2) fixed-effects and general ESS round dummies. The standard errors are adjusted for two-way clustering: at the NUTS 2 level to account for serial correlation and at the country-year level to account for residual interrelations across all individuals in a given country-round.²⁸ Running the regressions at the individual level is also useful to assess the robustness of the benchmarks OLS panel estimates to the inclusion of respondent-level characteristics. Following Nunn and Wantchekon (2011) and Giuliano and Spilimbergo (2013), we control for age, age squared, gender, education fixed effects, religion fixed effects, marital status and fixed effects for 51 occupations. Panel A shows the results at the full sample that covers more than 100,000 individuals. These serve as the baseline estimates. Not surprisingly, the regressions in the full sample of respondents yield results similar to the regional level analysis.

In Panel B we split the sample by gender. The panel estimates imply no substantial differences. The coefficients are quite similar for males and females in all questions reported in Tables 18 and 19, the exception being the question on political self-orientation. There is some evidence that in response to rising regional unemployment women are moving slightly to the left of the political spectrum, a finding consistent with works showing women's higher sensitivity to social issues.

²⁸ This adjustment produces larger errors as compared to clustering at the region-year level or only at one dimension.

In Panel C we examine heterogeneity with regard to respondents' age, distinguishing between young (below 30 years), middle-age (31-60) and old (60 or older). These account for 14%, 52%, and 34% of the sample, respectively. We do not discover major differences on the impact of the regional unemployment on political trust and political beliefs between age categories (Table 20). Interestingly, there is heterogeneity on general trust; regional unemployment is unrelated to interpersonal trust in young cohorts, while the correlation is significant for older respondents. Young cohorts' views on immigrants are also not much affected by regional unemployment, a non-result that deserves future research, as the crisis has affected considerably the young (Table 21).

In Panel D we distinguish between respondents with completed tertiary (college) and non-college education. The correlation between regional unemployment and political distrust is strong for both college and non-college graduates (columns (4)-(9)). The same applies to political beliefs and attitudes (columns (10)-(13)). There is, however, important heterogeneity in general trust (columns (1)-(3)). On the one hand, the coefficients for the college-educated are small and in general statistically indistinguishable from zero. On the other hand, the coefficient on the non-college graduates sample is much larger in absolute value and more precisely estimated, pointing out that regional unemployment does contribute to falling trust for the group of unskilled individuals.

IV.E Taking Stock

Taken together, the OLS and 2SLS results imply that economic factors do not affect generalized trust as much as trust in political institutions.²⁹ This finding is consistent with the argument that the generalized trust has a moral component inherited through education and socialization. In Uslaner's (2002) formulation, general trust is a "*moral commandment to treat people as if they were trustworthy*" and a belief that others share our fundamental values; people extrapolate from their experiences with specific individuals or from their background to extend trust to groups of people with similar characteristics. In contrast, the European economic crisis has undermined trust in political institutions at the national and European level. The fact that we do find a rise in distrust towards the national and EU politicians (but not towards police or United Nations) suggests that citizens have assigned the blame for the rise in unemployment on the inefficient national and European institutions. The relationship between unemployment and distrust in legal system is also alarming, as an independent, impartial, and well-functioning legal-judicial system is a key pillar of modern capitalist societies and democracies (Hayek (1960)), guaranteeing freedom (La Porta *et al.* (2004)) and promoting development (La Porta *et al.* (2008)). These findings connect to the large literature

²⁹ Ananyev and Guriev (2015) find a substantial effect of the Great Recession on generalized social trust in Russia, a country with very political institutions relative to the EU. This result is similar to the one documented by Dustmann *et al.* (2017) who link the ratio of political to interpersonal trust to unemployment.

studying the interplay between economic growth and democracy³⁰. While the literature mostly compares democracies to non-democracies, our results from established democracies point out that democracy is at risk if the citizens do not believe that it delivers shared prosperity.

Finally, the relationship between unemployment and attitudes to immigration help shedding light on the relative importance of the economic and cultural drivers of populism. The impact of unemployment on attitudes towards immigration is especially strong for voters' economic concerns. The crisis has shifted Europeans' views on the impact of immigrants on the economy, an effect that is especially salient for individuals without college degree that are perhaps affected the most by the negative consequences of globalization and technological progress. Another interesting result is that while the younger generations suffer the most from the crisis, their attitudes towards immigrants have not moved much, most likely because of rising cosmopolitanism and open-mindedness.

V. Conclusion: Policy Implications

Our results imply that the loss of confidence in national and European political institutions and the rise of populism are related to the crisis-driven increase in unemployment. This leads to yet another rationale for countercyclical macroeconomic policies preventing rising unemployment and attenuating its impact. Even a temporary increase in unemployment may result in political fallout, which in turn would give rise to anti-market policies undermining long-term growth. In this case, a large downturn may have sustained negative economic implications.

The Great Recession coupled with the relative weakness of European institutions and the indecisiveness of policy markets to cope with its severe consequences, led to a dramatic decline in the confidence of citizens in political and even legal institutions. The literature on attitudes and preferences finds lasting effects of large economic downturns (e.g., Giuliano and Spilimbergo (2013), Malmendier and Nagel (2011)); therefore trust towards key democratic institutions of modern capitalist economies may well have been damaged persistently.

Our results have policy implications, as it seems vital restoring confidence in democracy and trust in institutions, EU and national governments. The recent address on the future of the EU by the European Commission's President rightly emphasizes the restoration of trust; on the other hand, implementation is yet to follow.

What can be done to restore economic security and political trust? First, the EU should prioritize pro-growth investments such as research, innovation and public infrastructure to leverage the scale economies and cross-border externalities in Europe. The next Multiannual Financial Frame-

³⁰ See for example Barro (1996), Persson and Tabellini (2006), Giavazzi and Tabellini (2005), Acemoglu et al. (2017) and Papaioannou and Siourounis (2008a) for the effect of democratization on growth and Barro (1999), Acemoglu et al. (2008) and Papaioannou and Siourounis (2008b) for the reverse link between development and democracy.

work (MFF), starting in 2018-19, goes into this direction by making employment and growth top priorities. Second, national and EU authorities should pursue supply-side reforms of labor, capital, and product markets (see Baldwin and Giavazzi (2015)) as well as pan-European counter-cyclical fiscal policies. This requires revamping the EU budget, which remains very small (about 1% of EU's GDP). Third, given the high vulnerability of unskilled workers to the crisis, there is a case for targeted support of this population group. Education and training remain mainly the responsibility of member states, but at the EU level, the European Social Fund and the European Globalization Adjustment Fund should play a role as well.³¹

While EU needs reforms for improving its economic performance, the reforms in turn can only be carried out if national and European politicians preserve legitimacy and citizens' trust. The loss of trust in political institutions caused by the crisis may result in a vicious circle of lack of reforms and continuing stagnation in Europe. The post-crisis recovery of the European economy offers an opportunity to break this circle. This opportunity should not be missed.

³¹ Appendix Figure 2 illustrates the importance of social safety nets in times of crisis; there is strong positive correlation between the change of trust in the European parliament before and after the crisis and the change of social benefits per capita. The positive cross-country correlation holds also with trust in national parliament and satisfaction with democracy. While this finding stems from cross-country variation (as there are no comparable region-level data), it opens a new scope for research on public policy to protect trust and democracy in crisis times.

References

- Acemoglu, Daron, Georgy Egorov, and Konstantin Sonin. (2013). "A Political Theory of Populism". *Quarterly Journal of Economics*, 128(2):771.
- Acemoglu, Daron, Suresh Naidu, Pascual Restrepo, and James A. Robinson. (2017). "Democracy Does Cause Growth". *Journal of Political Economy*, Forthcoming
- Acemoglu, Daron, Simon Johnson, James A. Robinson, and Pierre Yared. (2008). "Income and Democracy". *American Economic Review*, 98(3): 808-842.
- Alesina, Alberto, Yann Algan, Pierre Cahuc, and Paola Giuliano. (2010). "Family Ties and the Regulation of Labor", *Journal of the European Economic Association*, 13(4): 599-630.
- Alesina, Alberto, and Paola Giuliano. (2015). "Culture and Institutions". *Journal of Economic Literature*, 53(4): 898-944.
- Alesina, Alberto, Nathan Nunn, and Paola Giuliano. (2013). "On the Origins of Gender Roles: Women and the Plough". *Quarterly Journal of Economics*, 128(2): 469-530.
- Alesina, Alberto, Guido Tabellini, and Francesco Trebbi. (2017). "Is Europe an Optimal Political Area?". *Brookings Papers on Economic Activity*, Fall.
- Algan, Yann, and Pierre Cahuc. (2010). "Inherited Trust and Growth". *American Economic Review*, 100(5): 2060-2092.
- Algan, Yann, and Pierre Cahuc. (2014). "Trust and Growth". In Aghion Philippe, Durlauf Steven N. *Handbook of Economic Growth*, Elsevier Science, pp.49-120, 2014.
- Ananyev, Maxim, and Sergei Guriev. (2015). "Effect of Income on Trust: Evidence from the 2009 Crisis in Russia". CEPR Discussion Paper 10354.
- Autor, David H., David Dorn, and Gordon H. Hanson. (2013). "The China Syndrome: Local Labor Market Effects of Import Competition in the US". *American Economic Review*, 103(6): 2121-68.
- Autor, David H., David Dorn, and Gordon H. Hanson. (2016a). "The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade". *Annual Review of Economics*, 8: 205-240.
- Autor, David H., David Dorn, Gordon H. Hanson, and Kaveh Majlesi. (2016b). "Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure." Working paper. MIT Department of Economics.

Autor, David H., David Dorn, Gordon H. Hanson, and Kaveh Majlesi. (2017). "A Note on the Effect of Rising Trade Exposure on the 2016 Presidential Elections" Working paper. MIT Department of Economics.

Arnorsson, Agust and Gylfi Zoega (2016), "On the Causes of Brexit", CESifo Working Paper No. 6056, Munich.

Baldwin, Richard E., and Francesco Giavazzi, eds. (2015). "The Eurozone Crisis: A Consensus View of the Causes and a Few Possible Remedies". CEPR Press.

Barone, Guglielmo, Alessio D'Ignazio, Guido de Blasio, and Paolo Naticchioni. (2016). "Mr. Rossi, Mr. Hu and Politics. The Role of Immigration in Shaping Natives' Voting Behavior". *Journal of Public Economics*, 136: 1-13.

Barro, Robert J. (1996). "Determinants of Economic Growth: A Cross-Country Empirical Study". *Journal of Economic Growth*, 1(1).

Barro, Robert J. (1999). "Determinants of Democracy". *Journal of Political Economy* 107(6): 158-183.

Becker, Sascha O., and Thiemo Fetzer. (2016). "Does Migration Cause Extreme Voting". No. 306. Competitive Advantage in the Global Economy (CAGE).

Becker, Sascha O., Thiemo Fetzer and Dennis Novy, (2017). "Who Voted for Brexit? A Comprehensive District-Level Analysis", CESifo Working Paper No. 6438.

de Bromhead, Alan, Barry Eichengreen, and Kevin O' Rourke (2013). "Political Extremism in the 1920s and 1930s: Do the German Lessons Generalize?" *Journal of Economic History*

Buggle, Johannes, and Ruben Durante. (2017) "Climate Risk, Cooperation, and the Co-Evolution of Culture and Institutions". Mimeo.

Che, Yi, Yi Lu, Justin R. Pierce, Peter K. Schott, and Zhigang Tao. (2016). "Does Trade Liberalization with China Influence US Elections?". No. w22178. National Bureau of Economic Research.

Clark, A., Frijters, P. and M. Shields. (2008). "Relative Income, Happiness and Utility: An Explanation for the Easterlin Paradox and Other Puzzles". *Journal of Economic Literature*, 46(1), 95-144.

Colantone, Italo and Pierro Stanig (2016), "Global Competition and Brexit", BAFFI CAREFIN Centre Research Paper No. 2016-44.

- Colantone, Italo, and Piero Stanig. (2017). "The Trade Origins of Economic Nationalism: Import Competition and Voting Behavior in Western Europe". Mimeo.
- Collins, Susan M. (1995). "Economic Integration: Conflict versus Cohesion." *American Economic Review, Papers and Proceedings*. 85(2): 307-311
- Dehdari, Sirus. (2017). "Economic Distress and Support for Far-Right Parties – Evidence from Sweden." Mimeo, IIES.
- De Neve, J.E, Ward, G., De Keulenaer, F., Van Landeghem, B., Kavetsos, G., and M. Norton. 2015. "The Asymmetric Experience of Positive and Negative Economic Growth: Global Evidence Using Subjective Well-being Data". CEP Discussion paper n° 1304.
- De Vries, Catherine E. (2017) The Cosmopolitan-Parochial Divide: What the 2017 Dutch Election Result Tells Us About Political Change in the Netherlands and Beyond. *Journal of European Public Policy*, forthcoming.
- Catherine E. De Vries and Isabell Hoffman (2016). "Fear Not Values: Public opinion and the populist vote in Europe". *Eupinions report*
- Catherine E. De Vries and Hector Solaz. (2017). "The Electoral Consequences of Corruption". *Annual Review of Political Science*, 20(2): 391-408.
- Dinas, Elias, Konstantinos Matakos, Dimitrios Xefteris, and Dominik Hangartner. (2016) "Waking Up the Golden Dawn: Does Exposure to the Refugee Crisis Increase Support for Extreme-Right Parties?". Mimeo.
- Dippel, Christian, Robert Gold, and Stephan Heblich. (2016). "Globalization and its (Dis-)Content: Trade Shocks and Voting Behavior". *Mimeo UCLA, Anderson School of Management*. .
- Di Tella, Rafael, and Julio J. Rotemberg. (2016). "Populism and the Return of the "Paranoid Style": Some Evidence and a Simple Model of Demand for Incompetence as Insurance against Elite Betrayal". No. w22975. National Bureau of Economic Research.
- Dornbusch Rudiger, and Sebastian Edwards. (1991). "The Macroeconomics of Populism in Latin America". University of Chicago Press, Chicago, ILL.
- Durlauf Steven N., and Marcel Fafchamps. (2005). "Social Capital". In Philippe Aghion and Steven N. Durlauf, Editors, *Handbook of Economic Growth*, Volume 1, Chapter 26: 1639–1699. Elsevier, Amsterdam, Netherlands.

Dustmann, Christian, Barry Eichengreen, Sebastian Otten, Andre Sapir, Guido Tabellini and Gylfi Zoega (2017), *Europe's Trust Deficit: Causes and Remedies*, Monitoring International Integration 1, CEPR Press.

Easterlin, Richard. (1974). "Does economic growth improve the human lot? Some empirical evidence." In David, R. and Reder, R. (Eds.), *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*. New York: Academic Press.

Easterlin, Richard. (2013). "Happiness, Growth, and Public Policy," *Economic Inquiry*, 51(1):1–15.

Fatás, Antonio, and Lawrence H. Summers. (2016). "The Permanent Effects of Fiscal Consolidations". No. w22374. National Bureau of Economic Research.

Fernandez, Raquel (2011). "Does Culture Matter?". In Jess Benhabib, Matthew O. Jackson and Alberto Bisin, editors, *Handbook of Social Economics, Vol. 1A, North-Holland*.

Fernandez-Villaverde, Jesus, Luis Garicano, and Tano Santos. (2013). "Political Credit Cycles: the Case of the Eurozone". *Journal of Economic Perspectives*, 27(3): 145-166.

Fernández-Villaverde, Jesús, and Lee Ohanian. (2010). "The Spanish crisis from a global perspective". In *The Crisis of the Spanish Economy*, FEDEA.

Foster, Chase and Jeffrey Frieden. (2017). "Crisis of Trust: Socio-economic Determinants of European's Confidence in Government." *European Union Politics*.

Funke, Manuel, Moritz Schularick and Christoph Trebesch (2016) "Going to extremes: Politics after financial crises, 1870–2014." *European Economic Review*, 88(C): 227-260.

Giavazzi, Francesco, and Guido Tabellini. (2005). "Economic and Political Liberalizations". *Journal of Monetary Economics*, 52(7): 1297-1330.

Gidron, Noam, and Bart Bonikowski. (2013). "Varieties of Populism: Literature Review and Research Agenda". Working Paper Series, Weatherhead Center for International Affairs, 13-0004.

Gill, Indermit and Martin Raiser. (2012). "Golden Growth: Restoring the Lustre of the European Economic Model". *World Bank*.

Giuliano, Paola, and Antonio Spilimbergo. (2013). "Growing up in a Recession". *Review of Economic Studies*, 81(2): 787-817.

Goldsmith-Pinkham, Paul; Isaac Sorkin, and Henry Swift (2017). "Bartik Instruments: What, When, Why and How". Working paper, Stanford University, Department of Economics.

- Gopinath, Gita, ebnem Kalemli-Özcan, Loukas Karabarbounis, and Carolina Villegas-Sanchez. (2017). "Capital Allocation and Productivity in South Europe". *Quarterly Journal of Economics*, Forthcoming.
- Guiso, Luigi, Helios Herrera, and Massimo Morelli. (2016). "Cultural Differences and Institutional Integration". *Journal of International Economics*, 99: S97-S113.
- Guiso, Luigi, Helios Herrera, and Massimo Morelli. (2017) "Demand and Supply of Populism". Working Paper n°1703, Einaudi Institute for Economics and Finance (EIEF).
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales. (2011). "Civic Capital as the Missing Link". *Handbook of Social Economics*, Chapter 1, 417 – 480.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales. (2016a). "Long-Term Persistence". *Journal of the European Economic Association*, 14(6): 1401-1436.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales. (2016b). "Monnet's Error?". *Economic Policy* 31(86): 247-297.
- Hatton, Timothy J. (2016). "Immigration, Public Opinion and the Recession in Europe". *Economic Policy*, 31(86): 205-246.
- Hayek, Friedrich A. von. (1960). "The Constitution of Liberty". *University of Chicago Press*.
- Hernandez, Enrique and Hanspeter Kriesi. (2016). "The Electoral Consequences of the Financial and Economic Crisis in Europe." *European Journal of Political Research*, 55(2): 203-224.
- Hobbolt Sara B and Catherine De Vries. (2016). "Turning against the Union? The Impact of the Crisis on the Eurosceptic Vote in the 2014 European Parliament Elections"" *Electoral Studies*, 44(2): 504-514.
- Inglehart Ronald, F., and Pippa Norris. (2016). "Trump, Brexit, and the Rise of Populism: Economic Have-Nots and Cultural Backlash". *Harvard Kennedy School RWP16-026*.
- Jacob, Marcus, and Marcel Tyrell. (2010). "The Legacy of Surveillance: An Explanation for Social Capital Erosion and the Persistent Economic Disparity between East and West Germany".
- Jensen, J. Bradford, Dennis P. Quinn, and Stephen Weymouth. (2017). "Winners and Losers in International Trade: The Effects on US Presidential Voting". *International Organization*: 1-35.
- Kahneman, Daniel and Angus Deaton. 2010. "High Income Improves Evaluation of Life but Not Emotional Well-being." *Proceedings of the National Academies of Science* 107 (38): 16489–93.

- Lane, Philip R. (2014). "International Financial Flows and the Irish Crisis". In *CESifo Forum*, vol. 15, no. 2, p. 14. Institut für Wirtschaftsforschung (Ifo).
- La Porta, Rafael, Florencio Lopez-de-Silanes, Cristian Pop-Eleches, and Andrei Shleifer. (2004). "Judicial Checks and Balances". *Journal of Political Economy*, 112(2): 445-470.
- La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer. (2008). "The Economic Consequences of Legal Origins". *Journal of Economic Literature*, 46(2): 285-332.
- Layard, Richard. (2006). *Happiness: Lessons from a New Science*. Penuin, London, UK.
- Lechler, Marie (2017). "Employment shocks and anti-EU sentiment". Working Paper LMU Munich.
- Los, Bart, Philipp McCann, John Springford and Mark Thissen (2017), "The mismatch between local voting and the local economic consequences of Brexit", *Regional Studies*, 51(5): 786–799.
- Malmendier, Ulrike, and Stefan Nagel. (2015). "Learning from inflation experiences". *The Quarterly Journal of Economics*, 131(1): 53-87.
- Matakos, Konstantinos and Dimitrios Xefteris. (2017). "Economic Insecurity and Political Stability: A Case for Growth-Targeting Systemic Vote", mimeo King's College, Univeristy of London
- Mayda, Anna Maria, Giovanni Peri, and Walter Steingress. (2016). "Immigration to the US: A problem for the Republicans or the Democrats?". No. w21941. National Bureau of Economic Research.
- Mudde, Cas, and Cristóbal Rovira Kaltwasser. (2017). "Populism: a Very Short Introduction". *Oxford University Press*. Oxford, UK
- Mukand, Sharun, and Dani Rodrik. (2017). "The Political Economy of Liberal Democracy". CESifo Working Paper No. 6433.
- Nunn, Nathan, and Leonard Wantchekon. (2011). "The Slave Trade and the Origins of Mistrust in Africa". *American Economic Review*, 101(7): 3221-3252.
- Papaioannou, Elias. (2015). "Eurozone's Original Sin? Nominal rather than Institutional Convergence". In *The Eurozone Crisis: A Consensus View of the Causes and a Few Possible Solutions*. Editors. R. Baldwin and F. Giavazzi. VOX E-book. September 2015.
- Papaioannou, Elias. (2016). "Needed: A European Institution Union". In *How to Fix the Eurozone. Views of Leading Economists*. Editors. R. Baldwin and F. Giavazzi. VOX E-book. February 2016.

- Papaioannou, Elias, and Gregorios Siourounis. (2008a). "Democratisation and Growth". *The Economic Journal*, 118(532): 1520-1551.
- Papaioannou, Elias, and Gregorios Siourounis. (2008b). "Economic and Social Factors Driving the Third Wave of Democratization". *Journal of comparative Economics*, 36(3): 365-387.
- Persson, Torsten, and Guido Enrico Tabellini. (2006). "Democracy and Development: The Devil in the Details". *American Economic Review (Papers and Proceedings)*, 96(2): 319-324.
- Putnam, Robert D., Robert Leonardi, and Raffaella Y. Nanetti. (1994). "Making Democracy Work: Civic Traditions in Modern Italy". Princeton University Press. Princeton, NJ.
- Reis, Ricardo. (2015). "Looking for a Success in the Euro Crisis Adjustment Programs: the Case of Portugal". *Brookings Papers on Economic Activity* 2015(2): 433-458.
- Rodrik, Dani. (2017). "Populism and the Economics of Globalization". No. w23559. National Bureau of Economic Research.
- Rogoff, Kenneth. (2015) "Debt Supercycle, Not Secular Stagnation". VOXEU, April 2015.
- Spolaore, Enrico. (2013). "What is European integration really about? A Political Guide for Economists". *The Journal of Economic Perspectives*, 27(3): 125-144.
- Stock, James H. (1984). "Real Estate Mortgages, Foreclosures, and Midwestern Agrarian Unrest, 1865–1920". *The Journal of Economic History*, 44(1): 89-105.
- Staiger, Douglas O., and James H. Stock. (1994). "Instrumental Variables Regression with Weak Instruments". *Econometrica*, 65(3): 557-586.
- Stevenson, Betsey and Justin Wolfers. (2011). "Trust in Public Institutions over the Business Cycle." *American Economic Review Papers and Proceedings*, 101(3): 281-287.
- Stock, James H., and Motohiro Yogo. (2002). "Testing for Weak Instruments in Linear IV Regression".
- Tabellini, Guido. (2010). "Culture and Institutions: Economic Development in the Regions of Europe". *Journal of the European Economic Association*, 8(4): 677-716.
- Tabellini, Marco. (2017). "Gifts of Immigrants, Woes of the Natives: Lessons from the Age of Mass Migration." Mimeo MIT, Department of Economics.
- Taggart, Paul. (2000). "Populism: Concepts in the Social Sciences". *Philadelphia: Open*.

Uslaner, Eric M. (2002). *The Moral Foundations of Trust*. Cambridge University Press, UK.

Table 1. Summary Statistics

	Pre Crisis Period (2000-2008)				Post Crisis Period (2008-2015)			
	Obs. (1)	mean (2)	median (3)	St. Dev. (4)	Obs. (5)	mean (6)	median (7)	St. Dev. (8)
Panel A. Economic Variables. EUROSTAT								
Unemployment	1959	0.09	0.07	0.053	2371	0.10	0.08	0.060
Log Real GDP p.c.	1932	9.86	9.96	0.467	1994	10.05	10.07	0.382
Share of Construction	1913	0.07	0.07	0.021	1817	0.06	0.06	0.019
Share of Agriculture (incl. Forestry, Fishing)	1905	0.04	0.03	0.037	1809	0.03	0.02	0.025
Share of Finance	1913	0.21	0.21	0.057	1817	0.23	0.23	0.057
Share of Commerce	1913	0.24	0.23	0.054	1817	0.24	0.23	0.052
Share of Government	1913	0.22	0.22	0.058	1817	0.24	0.24	0.065
Share of Industry (Manufacturing)	1905	0.22	0.22	0.080	1810	0.21	0.20	0.086
Panel B. Voting Variables. Country-Specific Sources								
Voting Share of Extremist Parties	549	0.27	0.21	0.209	585	0.32	0.32	0.198
- Radical Left Parties	549	0.08	0.05	0.098	585	0.09	0.03	0.122
- Far Right Nationalistic Parties	549	0.07	0.02	0.106	585	0.10	0.05	0.140
- Populist Parties	549	0.13	0.05	0.166	585	0.22	0.14	0.196
- Anti-European and Separatist Parties	549	0.19	0.15	0.167	585	0.25	0.25	0.192
Participation Rate	540	0.70	0.74	0.134	538	0.67	0.69	0.132
Panel C. General and Political Trust and Political Attitudes. European Social								
Trust Other People	475	0.49	0.48	0.097	613	0.50	0.49	0.095
People Fair	475	0.55	0.55	0.093	613	0.56	0.56	0.087
People Helpful	475	0.47	0.47	0.100	613	0.48	0.49	0.093
Trust Country's Parliament	475	0.45	0.46	0.098	613	0.42	0.42	0.124
Trust Politicians	475	0.35	0.35	0.093	613	0.34	0.33	0.120
Trust Legal System	475	0.51	0.51	0.105	613	0.50	0.50	0.124
Trust Police	475	0.59	0.60	0.092	613	0.60	0.62	0.095
Satisfaction with Working of Democracy	475	0.53	0.54	0.103	613	0.52	0.51	0.123
Trust in European Parliament	475	0.46	0.46	0.067	613	0.46	0.44	0.072
Trust in the United Nations	475	0.53	0.52	0.075	613	0.53	0.51	0.082
Placement on Left-Right Scale	475	0.50	0.50	0.053	613	0.51	0.51	0.054
Feel Close to a Particular Party	475	0.50	0.51	0.136	613	0.47	0.48	0.144
European Unification Go Further	475	0.54	0.53	0.087	613	0.52	0.51	0.081
Panel D. Beliefs on Immigration. European Social Survey								
Allow Immigrants of Same Race	475	0.58	0.58	0.092	613	0.61	0.61	0.101
Allow Immigrants of Different Race	475	0.50	0.50	0.103	613	0.53	0.54	0.116
Allow Immigrants from Poorer Countries	475	0.49	0.49	0.108	613	0.50	0.51	0.120
Immigrants are Good for Economy	475	0.48	0.48	0.072	613	0.49	0.50	0.079
Immigrants Improve Cultural Life	475	0.55	0.56	0.088	613	0.56	0.57	0.091
Immigrants Make Country a Better Place	475	0.47	0.47	0.075	613	0.50	0.51	0.084

The Table reports summary statistics (mean, median, and standard deviation) for the main variables employed in the empirical analysis distinguishing between the pre-crisis period (2000-2007) and the post-crisis period (2008-2017) at the regional level (EU NUTS-2). The Data Appendix gives detailed variable sources and definitions.

**Table 2. Unemployment and Voting for Extremist Parties
Panel Fixed-Effects OLS Estimates. 2000-2017**

	Extremist Parties (All Types) (1)	Radical Left Parties (2)	Far-Right Parties (3)	Populist Parties (4)	Anti-European Parties (5)	Participation Rate (6)
Panel A. General Year Fixed-Effects						
Unemployment	1.0834** (0.4251)	0.5131 (0.3099)	0.2554 (0.1853)	1.1785*** (0.3900)	1.0970*** (0.3620)	-0.3099* (0.1627)
standardized "beta"	0.321	0.291	0.122	0.378	0.363	-0.143
adj. R square	0.397	0.554	0.429	0.566	0.517	0.378
within R-square	0.408	0.562	0.440	0.574	0.526	0.390
Panel B. General Period (4-year) Time Fixed-Effects						
Unemployment	1.1530*** (0.3615)	0.8237** (0.3502)	0.2359 (0.2062)	1.1376*** (0.3616)	1.0459** (0.4107)	-0.4185** (0.1716)
standardized "beta"	0.342	0.468	0.113	0.365	0.346	-0.193
adj. R square	0.310	0.159	0.136	0.391	0.415	0.237
within R-square	0.312	0.163	0.139	0.394	0.418	0.241
Panel C. Country-Group Period (4-year) Time Fixed-Effects						
Unemployment	0.9393* (0.4731)	0.4163 (0.4224)	0.5836** (0.2240)	1.0036** (0.4303)	0.6228 (0.4662)	-0.4804** (0.2039)
standardized "beta"	0.278	0.236	0.280	0.322	0.206	-0.221
adj. R square	0.327	0.359	0.289	0.414	0.470	0.369
within R-square	0.336	0.368	0.299	0.422	0.477	0.378
Countries	23	23	23	23	23	22
Regions	220	220	220	220	220	931
Observations	982	982	982	982	982	1053

The table reports panel (region) fixed-effects OLS estimates. All specifications include NUTS2 constants (coefficients not reported). Panel A includes year constants (not reported). Panel B includes four period constants (not reported), corresponding to 2000-2003 (period 1), 2004-2008 (period 2), 2009-2012 (period 3), and 2013-2017 (period 4). Panel C includes country-group specific period effects (constants not reported), allowing the four period constants to differ across for main European regions (North, South, East, and Centre). Regional unemployment data come from Eurostat. Information on voting comes from various country-specific databases and the classification of parties' orientation is mostly based on the Chappell Hill Expert Survey. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Table 3. Unemployment and Voting for Extremist Parties Before and After the Crisis
OLS Difference Specifications.
Post-Crisis Average [2017-2009] - Pre-Crisis Average [2001-2008]

	Extremist Parties (All Types) (1)	Radical Left Parties (2)	Far-Right Parties (3)	Populist Parties (4)	Anti-European Parties (5)	Participation Rate (6)
Panel A. General Constant						
Difference Unemployment	1.3280*** (0.4286)	0.9306** (0.3817)	0.1020 (0.2592)	1.2683*** (0.4282)	1.2369*** (0.4372)	-0.4390** (0.1833)
standardized "beta"	0.484	0.573	0.064	0.478	0.491	-0.459
adj. R square	0.231	0.326	0.000	0.225	0.238	0.207
Panel B. Country-Group Constants						
Difference Unemployment	1.3637* (0.6742)	0.7294 (0.5632)	0.7493** (0.3404)	1.2339** (0.5201)	0.1797 (0.4311)	-0.2440 (0.2529)
standardized "beta"	0.497	0.449	0.471	0.465	0.071	-0.255
adj. R square	0.226	0.339	0.205	0.229	0.392	0.411
Countries	26	26	26	26	26	25
Regions	244	244	244	244	244	230

The table reports cross-sectional OLS estimates where the main variables are expressed in differences. The dependent variable is the change in the voting before and after the crisis across EU NUTS-2 regions. The independent variable is the change in regional unemployment before and after the crisis. For both the dependent and independent variable, we first take mean values over the period 2009-2017 [post-crisis] and over the period 2000-2008 [pre-crisis] and then take the difference. Panel A includes also a constant term (not reported). Panel B includes four macro-region constants for the North, South, Centre and East (not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Table 4.
Employment/Population and Voting for Extremist Parties at NUTS3 Level

	Extremist Parties (All Types) (1)	Radical Left Parties (2)	Far-Right Parties (3)	Populist Parties (4)	Anti-European Parties (5)	Participation Rate (6)
Panel A. Panel Fixed-Effects with General Period (4-year) Time Fixed-Effects						
Employment/Population	-1.0699*** (0.2883)	-0.7913*** (0.2204)	-0.031 (0.2297)	-1.0704*** (0.2173)	-0.8515** (0.3382)	0.1258 (0.1935)
standardized "beta"	-0.377	-0.545	-0.014	-0.402	-0.302	0.098
adj. R square	0.317	0.156	0.167	0.444	0.276	0.152
within R-square	0.319	0.158	0.169	0.446	0.278	0.154
Observations	1673	1673	1673	1673	1673	1630
Panel B. OLS Difference Specifications. Post-Crisis Average [2017-2009] - Pre-Crisis Average [2001-2008]						
Difference Employment/Pop	-0.9619** (0.3293)	-0.7057*** (0.1945)	0.0575 (0.2463)	-0.9827** (0.3360)	-0.5899* (0.3239)	0.1382 (0.2110)
standardized "beta"	-0.307	-0.319	0.035	-0.310	-0.190	0.102
adj. R square	0.092	0.099	-0.002	0.093	0.033	0.008
Countries	11	11	11	11	11	11
Observations/Regions	354	354	354	354	354	354

The table reports panel (region) fixed-effects OLS estimates (Panel A) and cross-sectional OLS estimates where the main variables are expressed in differences (PanelsB). Panel A include NUTS3 constants (coefficients not reported) and four period constants (not reported), corresponding to 2000-2004 (period 1), 2005-2008 (period 2), 2009-2012 (period 3), and 2013-2017 (period 4). In Panel B the dependent variable is the change in the voting before and after the crisis across EU NUTS-3 regions. The independent variable is the change in regional employment over total population before and after the crisis. For both the dependent and independent variable, we first take mean values over the period 2009-2017 [post-crisis] and over the period 2000-2008 [pre-crisis] and then take the difference. Regional employment data come from Cambridge Econometrics, who use Eurostat data. Information on voting comes from various country-specific databases and the classification of parties' orientation is mostly based on the Chappell Hill Expert Survey. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Table 5. Construction Share in Regional Value Added and Unemployment Dynamics

	(1)	(2)	(3)	(4)
Panel A. Panel Fixed-Effects OLS Specifications.				
Dep. Var.: Unemployment				
Share of Construction	-1.6765*** (0.3006)	-1.2975*** (0.2407)	-0.9836*** (0.2937)	-0.9070*** (0.2570)
adj. R square	0.451	0.536	0.590	0.628
within R-square	0.454	0.539	0.598	0.635
Countries	22	22	22	22
Regions	228	227	228	227
Observations	3240	3231	3240	3231
Region Fixed-Effects	Yes	Yes	Yes	Yes
Year Fixed-Effects	Yes	Yes	No	No
Country-Group Year Fixed-Effects	No	No	Yes	Yes
Other Industrial Shares	No	Yes	No	Yes
Panel B. Difference Specifications.				
Dep. Var.: Difference in Unemployment [2016-2008]-[2007-2000]				
Pre-Crisis Share of Construction [2007-2003]	1.4038*** (0.3387)	1.6099*** (0.3544)	0.7807*** (0.2596)	0.8007*** (0.2352)
adj. R square	0.317	0.384	0.628	0.651
Countries	23	23	23	23
Observations/Regions	239	239	239	239
Country-Group Constants	No	No	Yes	Yes
Other Industrial Shares	No	Yes	No	Yes

The table reports panel (region) fixed-effects OLS estimates (in Panel A) and cross-sectional OLS estimates where the main variables are expressed in differences (Panel B) examining the within-region correlation between unemployment and the share of construction in regional value added. In Panel A the dependent variable is regional unemployment and the main independent variable is the share of construction in regional value added. Columns (1)-(2) include year fixed-effects and columns (3)-(4) include country-group year fixed-effects (constants not reported). Columns (2) and (4) include as controls the share in regional value added of agriculture (incl. fishing, forestry and mining), trade, finance, and government services (coefficients not reported). In Panel B the dependent variable is the change in regional unemployment before and after the crisis across EU NUTS-2 regions. We first take mean values over the period 2009-2017 [post-crisis] and over the period 2000-2008 [pre-crisis] and then take the difference. The main independent variable is the share of construction in regional value added before the crisis (mean value 2004-2007). Columns (3)-(4) include country-group constants (not reported). Columns (2) and (4) include as controls the pre-crisis share in regional value added of agriculture (incl. fishing, forestry and mining), trade, finance, and government services, averaged over the period 2004-2008 (coefficients not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 6. Construction and Voting for Extremist Parties
"Reduced-Form" Estimates, 2000-2017**

	Extremist Parties (All Types)	Radical Left Parties	Far-Right Parties	Populist Parties	Anti-European Parties	Participation Rate
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. General Year Fixed-Effects						
Construction Share	-3.2565*** (0.8490)	-0.9461*** (0.2957)	-1.2789* (0.7100)	-2.9316*** (0.8770)	-2.3949*** (0.7866)	0.0362 (0.8279)
adj. R square	0.373	0.419	0.232	0.480	0.448	0.332
within R-square	0.385	0.430	0.247	0.490	0.459	0.346
Panel B. General Period (4-year) Time Fixed-Effects						
Construction Share	-3.1945*** (0.6799)	-1.5015*** (0.4585)	-0.8947 (0.6767)	-2.8914*** (0.6422)	-2.4994*** (0.7575)	0.2181 (0.8556)
adj. R square	0.260	0.183	0.104	0.321	0.340	0.127
within R-square	0.264	0.187	0.109	0.324	0.343	0.131
Panel C. Country-Group Period (4-year) Time Fixed-Effects						
Construction Share	-3.5546*** (0.9849)	-1.7370** (0.7845)	-1.3714** (0.4979)	-3.0215*** (0.7703)	-1.8169** (0.8356)	-0.0766 (0.7216)
adj. R square	0.285	0.241	0.262	0.352	0.457	0.272
within R-square	0.296	0.253	0.274	0.362	0.466	0.284
Countries	21	23	23	23	23	19
Regions	213	213	213	213	213	211
Observations	833	982	982	982	982	790

The table reports panel (region) fixed-effects OLS estimates, illustrating the "reduced-form" association between voting for non-mainstream parties (and electoral turnout) and the share of construction in regional value added. All specifications include NUTS2 constants (coefficients not reported). Panel A includes year constants (not reported). Panel B includes four period constants (not reported), corresponding to 2000-2003 (period 1), 2004-2008 (period 2), 2009-2012 (period 3), and 2013-2017 (period 4). Panel C includes country-group specific period effects (constants not reported), allowing the four period constants to differ across for main European regions (North, South, East, and Centre). Industrial share data come from Eurostat. Information on voting comes from various country-specific databases and the classification of parties' orientation is mostly based on the Chappell Hill Expert Survey. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 7. Pre-Crisis Construction Share and Changes in Voting for Extremist Parties
"Reduced-Form" Estimates**

	Extremist Parties (All Types)	Radical Left Parties	Far-Right Parties	Populist Parties	Anti-European Parties	Participation Rate
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. General Constant						
Initial Pre-Crisis Construction Share	2.1315*** (0.8030)	1.8361*** (0.6172)	-0.4235 (0.4898)	1.6414* (0.9077)	1.1641 (0.7264)	-0.5013 (0.3247)
adj. R square	0.101	0.199	0.007	0.058	0.034	0.042
within R-square	0.385	0.430	0.247	0.490	0.459	0.346
Panel B. Country-Group Constants						
Construction Share	1.5692* (0.9424)	1.1114 (0.8545)	0.2984 (0.5865)	1.0094 (0.8665)	-0.5213 (0.5165)	0.0939 (0.2844)
adj. R square	0.170	0.303	0.151	0.147	0.431	0.355
Regions	23	23	23	23	23	22
Observations	229	229	229	229	229	213

The table reports cross-sectional OLS estimates, illustrating the "reduced-form" association between changes in voting for non-mainstream parties (and electoral turnout) during the crisis and the pre-crisis share of construction in regional value added. In both panels the dependent variable is the change in voting for non-mainstream political parties and turnout before and after the crisis across EU NUTS-2 regions. The independent variable is the share of construction in regional value added before the crisis, average value over 2004-2007. Panel A includes also a constant term (not reported). Panel B includes four macro-region constants for the North, South, Centre and East (not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 8. Construction, Unemployment and Voting for Extremist Parties
Panel 2SLS Estimates. 2000-2016**

	Extremist Parties (All Types)	Radical Left Parties	Far-Right Parties	Populist Parties	Anti-European Parties	Participation Rate
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. General Period Fixed-Effects. No Controls						
Unemployment	2.1807*** (0.5351)	1.0250*** (0.2522)	0.6107 (0.5312)	1.9738*** (0.5136)	1.7062*** (0.6338)	-0.1471 (0.5433)
Kleibergen-Paap F-Stat	25.97	25.97	25.97	25.97	25.97	26.13
Other Industrial Shares	No	No	No	No	No	No
Panel B. General Period Fixed-Effects. Industrial Shares Controls						
Unemployment	3.7983*** (1.0614)	1.8561*** (0.6236)	1.4654** (0.6285)	3.2286*** (0.9312)	1.9415* (1.0802)	0.0800 (0.7465)
Kleibergen-Paap F-Stat	13.97	13.97	13.97	13.97	13.97	13.73
Other Industrial Shares	Yes	Yes	Yes	Yes	Yes	Yes
Panel C. Country-Group Period (4-year) Time Fixed-Effects						
Unemployment	2.6956*** (0.8909)	1.3015*** (0.4275)	0.5423 (0.6044)	2.2160*** (0.7207)	1.7622** (0.8403)	-0.5403 (0.5127)
Kleibergen-Paap F-Stat	20.00	20.00	20.00	20.00	20.00	19.64
Other Industrial Shares	No	No	No	No	No	No
Panel D. Country-Group Period (4-year) Time Fixed-Effects						
Unemployment	3.9096*** (1.1307)	2.1490*** (0.7253)	1.2915** (0.5223)	3.0338*** (0.8632)	1.8667** (0.8920)	-0.2472 (0.5698)
Kleibergen-Paap F-Stat	16.222	16.222	16.222	16.222	16.222	15.903
Other Industrial Shares	Yes	Yes	Yes	Yes	Yes	Yes
Countries	21	23	23	23	23	19
Regions	213	213	213	213	213	211
Observations	833	982	982	982	982	790

The table reports panel (region) fixed-effects 2SLS (two-stage-least-squares) estimates. The first-stage associates regional unemployment with the share of construction in regional value added. The second-stage associates voting for non-mainstream political parties (and turnout) to “instrumented” by the construction share regional unemployment. All specifications include NUTS2 constants (coefficients not reported). Panels A and B include four period constants (not reported), corresponding to 2000-2003 (period 1), 2004-2008 (period 2), 2009-2012 (period 3), and 2013-2017 (period 4). Panels C and D include country-group specific period effects (constants not reported), allowing the four period constants to differ across for main European regions (North, South, East, and Centre). Industrial share data come from Eurostat. The specifications in Panels B and D include as controls the share in regional value added of agriculture (incl. fishing, forestry and mining), trade, finance, and government services (coefficients not reported). Information on voting comes from various country-specific databases and the classification of parties’ orientation is mostly based on the Chappell Hill Expert Survey. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Table 9. Unemployment and Voting for Extremist Parties Before and After the Crisis
2SLS Difference Specifications.
Post-Crisis Average [2017-2009] - Pre-Crisis Average [2001-2008]

	Extremist Parties (All Types) (1)	Radical Left Parties (2)	Far-Right Parties (3)	Populist Parties (4)	Anti-European Parties (5)	Participation Rate (6)
Panel A. General Constant						
Difference Unemployment	1.4861*** (0.4817)	1.2834*** (0.3897)	-0.299 (0.3365)	1.1422** (0.4787)	0.8085* (0.4418)	-0.3474 (0.2226)
Cragg Donald F-Stat	108.53	108.53	108.53	108.53	108.53	104.07
Kleibergen-Paap F-Stat	18.19	18.19	18.19	18.19	18.19	19.28
Panel B. Country-Group Constants						
Difference Unemployment	1.9569** (0.8296)	1.3908* (0.7963)	0.3658 (0.6800)	1.2578 (0.8715)	-0.6635 (0.6198)	0.1083 (0.3644)
Cragg Donald F-Stat	44.905	44.905	44.905	44.905	44.905	43.046
Kleibergen-Paap F-Stat	9.50	9.50	9.50	9.50	9.50	9.78
Countries	226	226	226	226	226	212
Regions	23	23	23	23	23	22

The table reports cross-sectional 2SLS (two-stage-least-squares) estimates. The first-stage associates changes in regional unemployment before and after the crisis with the pre-crisis share of construction in regional value added. The second-stage associates changes in voting for non-mainstream political parties (and turnout) to “instrumented” by the pre-crisis construction share changes in regional unemployment. The post-crisis values for voting and unemployment are averages over 2009-2017 and the pre-crisis values are averages over 2001-2008. Panel A includes also a constant term (not reported). Panel B includes four macro-region constants for the North, South, Centre and East (not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Table 10. Further Identification Tests
Construction, Unemployment and Voting for Extremist Parties, cond. On Education and Immigration
Panel and Difference 2SLS Estimates

	Extremist Parties (All Types)	Populist Parties	Eurosceptic Parties	Extremist Parties (All Types)	Populist Parties	Eurosceptic Parties
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Panel Fixed-Effects with General Period Constants						
Lagged Unemployment	2.2441*** (0.3329)	2.0253*** (0.3333)	1.3310*** (0.4389)	2.2817*** (0.3616)	2.0900*** (0.3646)	1.4335*** (0.4417)
Lagged College Attainment	0.0057 (0.0073)	0.0053 (0.0066)	0.005 (0.0041)			
Lagged Net Migration Indicator				0.0087 (0.0139)	0.0143 (0.0155)	0.023 (0.0149)
Kleibergen-Paap F-Stat	63.77	63.77	63.77	56.62	56.62	56.62
Observations	818	818	818	820	820	820
Countries	19	19	19	20	20	20
Panel B. Difference [Post-Pre] Crisis Specifications						
Difference Unemployment	1.2526*** (0.3542)	1.0844** (0.4894)	0.6437 (0.4006)	1.1984*** (0.4162)	1.1135** (0.5521)	0.6729 (0.4885)
Pre-Crisis College Attainment	0.0016 (0.0023)	-0.0002 (0.0025)	-0.0015 (0.0026)			
Pre-Crisis Net Migration Indicator				0.0133 (0.0302)	0.0013 (0.0393)	0.0032 (0.3390)
Kleibergen-Paap F-Stat	22.92	22.92	22.92	22.45	22.45	22.45
Observations/Regions	221	221	221	220	220	220
Countries	23	23	23	23	23	23

Panel A reports panel (region) fixed-effects 2SLS (two-stage-least-squares) estimates. The first-stage associates lagged regional unemployment with the lagged share of construction in regional value added. The second-stage associates voting for non-mainstream political parties (and turnout) to “instrumented” by the lagged construction share regional unemployment. All specifications include NUTS2 constants (coefficients not reported) and four period (electoral-cycle) constants (not reported), corresponding to 2000-2003 (period 1), 2004-2008 (period 2), 2009-2012 (period 3), and 2013-2017 (period 4). Columns (1)-(3) control for lagged share of regional population with completed tertiary education. Columns (4)-(6) control for an indicator that takes the value of one for regions that experience positive migration inflows in the previous year.

Panel B reports cross-sectional 2SLS (two-stage-least-squares) estimates. The first-stage associates changes in regional unemployment before and after the crisis with the pre-crisis share of construction in regional value added. The second-stage associates changes in voting to “instrumented” by the pre-crisis construction share changes in regional unemployment. Columns (1)-(3) control for pre-crisis share of regional population with completed tertiary education (mean 2004-2007). Columns (4)-(6) control for an indicator that takes the value of one for regions that experience positive migration inflows during the pre-crisis period (2004-2007).

Information on voting comes from various country-specific databases and the classification of parties’ orientation is mostly based on the Chappell Hill Expert Survey. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 11. Unemployment, Crisis-Related Changes in Unemployment and BREXIT Vote
OLS Estimates**

Dependent Variable	Laeve the EU Votte				Change in Unemploymentnt		Leave the EU Vote					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Unemployment [2014]	0.50*	1.35***										
	(0.30)	(0.23)										
Changes in Unemployment [2007-2014]			5.48***	4.31***						15.48***	17.35***	12.00***
			(0.45)	(0.43)						(2.04)	(2.76)	(1.44)
Pre-Crisis Construction Share [2005-2008]					0.16***	0.12***	2.44***	2.16***	1.90***			
					(0.03)	(0.03)	(0.28)	(0.24)	(0.22)			
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
adj. R square	0.01	0.43	0.29	0.53	0.08	0.17	0.19	0.52	0.56	-0.69	-0.93	0.41
Regions	379	379	379	379	370	370	370	370	370	370	370	370
First-Stage F-statistic										32.5	23.3	52.0

The table reports OLS and 2SLS across electoral district specifications examining the role of unemployment (in 2014), changes in unemployment (over 2008-2014), and the pre-crisis share of construction in the share of the vote to leave from the European Union (BREXIT). The dependent variable in columns (1)-(4) and (7)-(12) is the vote share for BREXIT in the June 2016 referendum. The dependent variable in columns (5)-(6) is changes in unemployment over the period 2014-2008. The specifications in even-numbered columns include as controls log population, male/female ration, median age, urbanization rate, share of whites in total population, and dummy variables for districts in Greater London, Scotland, and Wales. Standard errors adjusted for heteroscedasticity are reported below the point estimates. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 12. Unemployment, General and Political Trust, and Political Beliefs
Panel Fixed-Effects OLS Estimates. 2000-2014**

	General Trust	People Fair	People Helpful	Trust Parliament	Trust Politicians	Trust Legal System	Trust Police	Trust Eur. Parliament	Trust UN	Satisf. Democ	Left-Right Orientat.	Feel Close to a Party	Unificatio n
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Panel A. General ESS Round (Time) Fixed-Effects													
Unemployment	-0.1867** (0.0669)	-0.0941* (0.0567)	-0.1629*** (0.0570)	-0.6845*** (0.1504)	-0.5903*** (0.1819)	-0.4431*** (0.0916)	-0.0393 (0.0638)	-0.3337*** (0.1137)	-0.0233 (0.0846)	-0.9532*** (0.1466)	-0.0654 (0.0838)	-0.3975* (0.1992)	0.1058 (0.1983)
stand. "beta"	-0.107	-0.057	-0.091	-0.324	-0.293	-0.208	-0.023	-0.248	-0.016	-0.450	-0.065	-0.153	0.067
adj. R square	0.851	0.855	0.849	0.759	0.807	0.807	0.803	0.449	0.656	0.744	0.652	0.655	0.689
within R-square	0.0806	0.0297	0.1001	0.2426	0.2427	0.1068	0.0684	0.233	0.1088	0.2636	0.0262	0.0497	0.1549
Panel B. Country-Group ESS Round (Time) Fixed-Effects													
Unemployment	-0.1142* (0.0668)	-0.1212* (0.0710)	-0.0346 (0.0728)	-0.3027** (0.1395)	-0.3025*** (0.0788)	-0.1087 (0.1411)	0.1229 (0.1324)	-0.0645 (0.1591)	0.0516 (0.1277)	-0.5500*** (0.1371)	0.1210 (0.0728)	-0.4638* (0.2725)	-0.1632 (0.1288)
stand. "beta"	-0.065	-0.074	-0.019	-0.150	-0.143	-0.051	0.165	-0.05	0.04	-0.26	0.12	-0.18	-0.10
adj. R square	0.86	0.86	0.85	0.83	0.86	0.85	0.82	0.59	0.69	0.81	0.68	0.71	0.742
within R-square	0.123	0.0513	0.1431	0.4611	0.4693	0.3103	0.0712	0.4392	0.2198	0.4642	0.1179	0.2281	0.3188
Countries	22	22	22	22	22	22	22	22	22	22	22	22	20
Regions	184	184	184	184	184	184	184	184	184	184	184	184	178
Observations	1051	1051	1051	1051	1051	1051	1051	1051	1051	1051	1051	1051	709

The table reports panel (region) fixed-effects OLS estimates, associating general interpersonal trust, trust towards institutions, and political beliefs with regional unemployment. All specifications include NUTS2 constants (coefficients not reported). Panel A includes year constants (not reported). Panel B includes country-group year fixed effects (constants not reported), allowing the year constants to differ across for main European regions (North, South, East, and Centre). Regional unemployment data come from Eurostat. Information on trust and beliefs come from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 13. Unemployment, General and Political Trust, and Political Beliefs before and after the Economic Crisis
Difference OLS Estimates**

	General Trust (1)	People Fair (2)	People Helpful (3)	Trust Parliament (4)	Trust Politicians (5)	Trust Legal System (6)	Trust Police (7)	Trust Eur. Parliament (8)	Trust UN (9)	Satisf. Democ (10)	Left-Right Orientat. (11)	Feel Close to a Party (12)	Further Unification (13)
Panel A. 2012-2008													
Unemployment	-0.0537 (0.1442)	0.0251 (0.1171)	-0.0765 (0.2018)	-0.6484* (0.3180)	-0.7317*** (0.2427)	-0.3795** (0.1765)	-0.122 (0.1639)	-0.4369** (0.1548)	0.023 (0.1287)	-0.7502* (0.4289)	0.1174 (0.1947)	0.22 (0.4698)	-0.1812 (0.4073)
adj. R square	0.011	0.002	0.028	0.459	0.463	0.270	0.111	0.293	0.060	0.526	0.070	0.094	0.217
Regions	142	142	142	142	142	142	142	142	142	142	142	142	142
Countries	17	17	17	17	17	17	17	17	17	17	17	17	17
Panel B. 2014-2008													
Unemployment	-0.2740** (0.0993)	-0.1453 (0.1465)	-0.4597** (0.1622)	-0.9481*** (0.2491)	-0.9270*** (0.1944)	-0.1973 (0.1902)	0.0114 (0.2417)	-0.2814* (0.1575)	0.271 (0.1744)	-1.0191*** (0.2170)	0.2556*** (0.0332)	-0.5944 (0.5690)	-0.2234 (0.3150)
adj. R square	0.11	0.045	0.128	0.432	0.376	0.141	0.051	0.25	0.025	0.53	0.081	0.074	0.161
Regions	132	132	132	132	132	132	132	132	132	132	132	132	132
Countries	15	15	15	15	15	15	15	15	15	15	15	15	15

The table reports cross-sectional OLS estimates, associating general interpersonal trust, trust towards institutions, and political beliefs with regional unemployment in before-after crisis differences. The dependent variable is the change in the various trust and beliefs variables over 2012-2008 in Panel A and over 2014-2008 in Panel B. The independent variable is the change in regional unemployment over 2012-2008 in Panel A and over 2014-2008 in Panel B. All specifications in both panels include macro-region constants for the North, South, Centre and East (not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 14. Unemployment and Beliefs on Immigration
Panel Fixed-Effects OLS Estimates. 2000-2014**

	Allow Immigrants			Immigrants' Role		
	Majority Race/Ethnic Group (1)	Different Race/Ethnic Group (2)	Poor Non- EU Countries (3)	Economy (4)	Cultural Life (5)	Country Better/Worse (6)
Panel A. General ESS Round (Time) Fixed-Effects						
Unemployment	-0.1627 (0.1945)	-0.2562 (0.1661)	-0.2714 (0.1953)	-0.5554*** (0.0800)	-0.0441 (0.0770)	-0.1767* (0.0907)
standardized "beta"	-0.088	-0.123	-0.127	-0.390	-0.026	-0.116
adj. R square	0.047	0.081	0.048	0.195	0.049	0.075
within R-square	0.054	0.088	0.054	0.201	0.056	0.081
Panel B. Country-Group ESS Round (Time) Fixed-Effects						
Unemployment	-0.3547* (0.1913)	-0.3973** (0.1858)	-0.4582** (0.1928)	-0.5226*** (0.1416)	-0.0656 (0.0773)	-0.1075 (0.1402)
standardized "beta"	-0.193	-0.191	-0.214	-0.367	-0.039	-0.071
adj. R square	0.178	0.199	0.133	0.280	0.082	0.130
within R-square	0.198	0.218	0.153	0.297	0.104	0.151
Countries	22	22	22	22	22	22
Regions	184	184	184	184	184	184
Observations	1053	1053	1053	1053	1053	1053

The table reports panel (region) fixed-effects OLS estimates, associating beliefs and attitudes towards immigrants with regional unemployment. All specifications include NUTS2 constants (coefficients not reported). Panel A includes year constants (not reported). Panel B includes country-group year fixed effects (constants not reported), allowing the year constants to differ across for main European regions (North, South, East, and Centre). Regional unemployment data come from Eurostat. Information on attitudes and beliefs towards immigration come from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 15. Unemployment and Beliefs on Immigration before and after the Economic Crisis
Difference OLS Estimates**

	Allow Immigrants			Immigrants' Role		
	Majority Race/Ethnic Group	Different Race/Ethnic Group	Poor Non-EU Countries	Economy	Cultural Life	Country Better/Worse
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. 2012-2008						
Unemployment	0.0893 (0.3928)	-0.1668 (0.3252)	-0.052 (0.3599)	-0.3245 (0.3492)	0.232 (0.3207)	0.0565 (0.2648)
adj. R square	0.198	0.033	0.022	0.077	-0.017	0.009
Regions	142	142	142	142	142	142
Countries	17	17	17	17	17	17
Panel B. 2014-2008						
Unemployment	-0.5318*** (0.1760)	-0.5870*** (0.1492)	-0.6671*** (0.1799)	-0.7716*** (0.2249)	0.0199 (0.1748)	-0.2486* (0.1359)
adj. R square	0.378	0.241	0.169	0.285	0.025	0.112
Regions	132	132	132	132	132	132
Countries	15	15	15	15	15	15

The table reports cross-sectional OLS estimates, associating beliefs and attitudes towards immigrants with regional unemployment in before-after crisis differences. The dependent variable is the change in attitudes - beliefs variables over 2012-2008 in Panel A and over 2014-2008 in Panel B. The independent variable is the change in regional unemployment over 2012-2008 in Panel A and over 2014-2008 in Panel B. All specifications in both panels include macro-region constants for the North, South, Centre and East (not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 16. Unemployment, General and Political Trust, and Political Beliefs
Panel Fixed-Effects 2SLS Estimates. 2000-2014**

	General Trust	People Fair	People Helpful	Trust Parliament	Trust Politicians	Trust Legal System	Trust Police	Trust Eur. Parliament	Trust UN	Satisf. Democ	Left-Right Orientat.	Feel Close to a Party	Further Unification
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Panel A. General ESS Round (Time) Fixed-Effects													
Unemployment	-0.2346*** (0.0879)	-0.0972* (0.0516)	-0.2109*** (0.0480)	-1.1344*** (0.2967)	-0.9429*** (0.2331)	-0.6512*** (0.1889)	-0.1527 (0.2135)	-0.8074** (0.3405)	-0.2257 (0.1795)	-1.4496*** (0.3700)	-0.1774 (0.1113)	-0.8715* (0.5226)	0.1753 (0.2225)
F-Stat	24.10	24.10	24.10	24.10	24.10	24.10	24.10	24.10	24.10	24.10	24.10	24.10	55.06
Panel B. Country-Group ESS Round (Time) Fixed-Effects													
Unemployment	-0.1592 (0.1458)	-0.1639 (0.1213)	-0.0837 (0.1241)	-0.7258** (0.3382)	-0.6060** (0.2555)	-0.3026 (0.2237)	-0.0663 (0.2431)	-0.8261** (0.3699)	-0.2769 (0.1995)	-1.2145*** (0.3729)	-0.0338 (0.1207)	-1.4469*** (0.4901)	-0.0339 (0.2332)
F-Stat	22.52	22.52	22.52	22.52	22.52	22.52	22.52	22.52	22.52	22.52	22.52	22.52	27.91
Controls	No	No	No	No	No	No	No	No	No	No	No	No	No
Countries	20	20	20	20	20	20	20	20	20	20	20	20	18
Observations	969	969	969	969	969	969	969	969	969	969	969	969	651

The table reports panel (region) fixed-effects 2SLS (two-stage-least-squares) estimates. The first-stage associates regional unemployment with the share of construction in regional value added. The second-stage associates general trust, trust towards institutions, and political attitudes to “instrumented” by the construction share regional unemployment. All specifications include NUTS2 constants (coefficients not reported). Panel A includes year constants (not reported). Panel B includes country-group year fixed effects (constants not reported), allowing the year constants to differ across for main European regions (North, South, East, and Centre). Regional unemployment data and data on construction share come from Eurostat. Information on trust and beliefs come from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Table 17. Unemployment, General and Political Trust, and Political Beliefs before and after the Economic Crisis
Difference 2SLS Difference Estimates

	General Trust	People Fair	People Helpful	Trust Parliament	Trust Politicians	Trust Legal System	Trust Police	Trust Eur. Parliament	Trust UN	Satisf. Democ	Left-Right Orientat.	Feel Close to a Party	Further Unification
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Panel A. 2012-2008													
Unemployment	-0.3915 (0.3171)	0.0527 (0.3460)	-0.2783 (0.2473)	-1.8597*** (0.5887)	-1.9775*** (0.5180)	-1.3742*** (0.4665)	-0.7603* (0.3976)	-0.9828** (0.4727)	-0.3312 (0.4351)	-1.8466*** (0.7111)	0.291 (0.2001)	-0.0737 (0.5278)	0.1450 (0.8045)
F-Stat	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69
Observations	130	130	130	130	130	130	130	130	130	130	130	130	130
Countries	17	17	17	17	17	17	17	17	17	17	17	17	17
Panel A. 2014-2008													
Unemployment	-0.6679*** (0.1896)	0.6561*** (0.1213)	-0.7960*** (0.2427)	-2.1427*** (0.6024)	-2.0174*** (0.5622)	-1.0658** (0.4207)	-0.5708 (0.4368)	-1.7362** (0.7267)	-1.2131** (0.5715)	-1.8365*** (0.5414)	0.6541** (0.2581)	-0.9638 (0.7062)	-0.4132 (0.5918)
F-Stat	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09
Observations	119	119	119	119	119	119	119	119	119	119	119	119	119
Countries	14	14	14	14	14	14	14	14	14	14	14	14	14

The table reports cross-sectional 2SLS (two-stage-least-squares) estimates. The first-stage associates changes in regional unemployment before and after the crisis with the pre-crisis share of construction in regional value added. The second-stage associates changes in general trust, trust towards institutions, and political attitudes to “instrumented” by the pre-crisis construction share changes in regional unemployment. Panel A gives difference estimates over the period 2012-2008. Panel B gives difference estimates over the period 2014-2008. All specifications (in both panels) include macro-region constants for the North, South, Centre and East (not reported). Regional unemployment data and data on construction share come from Eurostat. Information on trust and beliefs come from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 18. Unemployment and Beliefs on Immigration
Panel Fixed-Effects 2SLS Estimates. 2000-2014**

	Allow Immigrants			Immigrants' Role		
	Majority Race/Ethnic Group (1)	Different Race/Ethnic Group (2)	Poor Non-EU Countries (3)	Economy (4)	Cultural Life (5)	Country Better/Worse (6)
Panel A. General ESS Round (Time) Fixed-Effects						
Unemployment	-0.0448 (0.2307)	-0.2492 (0.2386)	-0.267 (0.2775)	-0.6348*** (0.1849)	-0.0777 (0.1484)	-0.2074 (0.1431)
Kleibergen-Paap F-Stat	24.10	24.10	24.10	24.10	24.10	24.10
Panel B. Country-Group ESS Round (Time) Fixed-Effects						
Unemployment	-0.239 (0.3334)	-0.4248 (0.2982)	-0.5621* (0.3135)	-0.6405** (0.3183)	-0.2635 (0.2356)	-0.145 (0.2176)
Kleibergen-Paap F-Stat	22.52	22.52	22.52	22.52	22.52	22.52
Countries	20	20	20	20	20	20
Regions	174	174	174	174	174	174
Observations	969	969	969	969	969	969

The table reports panel (region) fixed-effects 2SLS (two-stage-least-squares) estimates. The first-stage associates regional unemployment with the share of construction in regional value added. The second-stage associates attitudes towards immigration to “instrumented” by the construction share regional unemployment. All specifications include NUTS2 constants (coefficients not reported). Panel A includes year constants (not reported). Panel B includes country-group year fixed effects (constants not reported), allowing the year constants to differ across for main European regions (North, South, East, and Centre). Regional unemployment data and data on construction share come from Eurostat. Information on beliefs-attitudes towards immigration comes from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 19. Unemployment and Beliefs on Immigration before and after the Economic Crisis
Difference 2SLS Estimates**

	Allow Immigrants			Immigrants' Role		
	Majority Race/Ethnic Group (1)	Different Race/Ethnic Group (2)	Poor Non-EU Countries (3)	Economy (4)	Cultural Life (5)	Country Better/Worse (6)
Panel A. 2012-2008						
Unemployment	1.0817** (0.5507)	0.0587 (0.6683)	0.1486 (0.7789)	-0.388 (0.6470)	0.3178 (0.7095)	-0.1356 (0.5870)
Kleibergen-Paap F-Stat	33.44	33.44	33.44	33.44	33.44	33.44
Regions	128	128	128	128	128	128
Countries	15	15	15	15	15	15
Panel B. 2014-2008						
Unemployment	-0.8058*** (0.2325)	-1.3433*** (0.3100)	-1.7330*** (0.5228)	-1.0239** (0.4006)	-0.2813 (0.3763)	-0.5505** (0.2703)
Kleibergen-Paap F-Stat	28.08	28.08	28.08	28.08	28.08	28.08
Regions	118	118	118	118	118	118
Countries	13	13	13	13	13	13

The table reports cross-sectional 2SLS (two-stage-least-squares) estimates. The first-stage associates changes in regional unemployment before and after the crisis with the pre-crisis share of construction in regional value added. The second-stage associates changes in attitudes towards immigration to “instrumented” by the pre-crisis construction share changes in regional unemployment. Panel A gives difference estimates over the period 2012-2008. Panel B gives difference estimates over the period 2014-2008. All specifications (in both panels) include macro-region constants for the North, South, Centre and East (not reported). Regional unemployment data and data on construction share come from Eurostat. Information on beliefs-attitudes towards immigration comes from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Table 20. Heterogeneity. OLS
Unemployment, General and Political Trust, and Political Beliefs

	General Trust (1)	People Fair (2)	People Helpful (3)	Trust Parliament (4)	Trust Politicians (5)	Trust Legal System (6)	Trust Police (7)	Trust Eur. Parliament (8)	Trust UN (9)	Satisf. Democ (10)	Left-Right Orientat. (11)	Feel Close to a Party (12)	Further Unification (13)
Panel A. Full Sample													
Unemployment	-0.3015*** (-3.32)	-0.1672*** (-2.87)	-0.2474** (-2.52)	-0.8248*** (-4.41)	-0.6811*** (-4.25)	-0.4909*** (-3.77)	-0.1648* (-1.83)	-0.5454*** (-3.70)	-0.1506 (-1.32)	-0.9546*** (-5.53)	-0.0772 (-1.01)	-1.1357*** (-4.44)	-0.158 (-0.85)
Observations	103875	103448	103671	101481	102392	101509	103055	92932	93177	100605	90877	102237	61437
Panel B1. Males													
Unemployment	-0.3255*** (-3.45)	-0.1698*** (-2.85)	-0.2672*** (-2.70)	-0.8552*** (-4.51)	-0.6950*** (-4.29)	-0.5590*** (-3.98)	-0.1802 (-1.66)	-0.5422*** (-3.65)	-0.1286 (-1.15)	-0.9752*** (-5.41)	0.0044 (0.0600)	-0.9691*** (-3.63)	-0.117 (-0.60)
Observations	46780	46626	46693	46133	46352	46154	46601	43072	43560	45987	42148	46155	28391
Panel B2. Females													
Unemployment	-0.2718*** (-2.92)	-0.1621** (-2.48)	-0.2272** (-2.24)	-0.7986*** (-4.31)	-0.6654*** (-4.14)	-0.4263*** (-3.48)	-0.1483* (-1.86)	-0.5509*** (-3.68)	-0.1748 (-1.45)	-0.9333*** (-5.55)	-0.1574** (-2.01)	-1.2896*** (-5.15)	-0.193 (-1.06)
Observations	57040	56767	56923	55295	55986	55303	56401	49815	49571	54569	48683	56029	33015
Panel C1. Young (Up to 30 Years)													
Unemployment	-0.1137 (-1.27)	-0.0336 (-0.53)	-0.1055 (-1.35)	-0.5535** (-2.46)	-0.4431** (-2.28)	-0.4590*** (-2.63)	-0.1373 (-1.09)	-0.4120** (-2.60)	-0.1445 (-1.11)	-0.7994*** (-3.51)	-0.0607 (-0.64)	-0.9867*** (-4.16)	-0.1056 (-0.71)
Observations	14488	14439	14460	13965	14190	14168	14415	13238	13380	14058	12327	14250	8712
Panel C2. Middle-Age (31-60 Years)													
Unemployment	-0.2843*** (-3.02)	-0.2245*** (-4.45)	-0.2758** (-2.58)	-0.8522*** (-4.70)	-0.7080*** (-4.40)	-0.5018*** (-4.04)	-0.2110** (-2.16)	-0.5804*** (-3.82)	-0.1352 (-1.15)	-1.0067*** (-5.97)	-0.1143 (-1.48)	-1.0512*** (-3.89)	-0.1403 (-0.79)
Observations	54331	54153	54242	53408	53731	53523	54013	49755	49922	53180	47921	53439	32537

Panel C3. Old (Over 60 Years)

Unemployment	-0.4470***	-0.1457	-0.2998**	-0.9288***	-0.7778***	-0.5333***	-0.1374	-0.5663***	-0.1809	-0.9763***	-0.0617	-1.3572***	-0.2363
	(-3.78)	(-1.43)	(-2.62)	(-4.97)	(-4.74)	(-3.83)	(-1.50)	(-3.44)	(-1.39)	(-5.67)	(-0.60)	(-4.34)	(-0.97)
Observations	35050	34850	34963	34101	34464	33811	34620	29932	29868	33361	30622	34542	20178

Panel D1. Attended College

Unemployment	-0.0996	-0.0307	-0.1428*	-0.7883***	-0.6388***	-0.3702**	-0.0279	-0.4264**	0.0386	-0.8687***	-0.0234	-1.2547***	-0.2134
	(-1.28)	(-0.42)	(-1.69)	(-4.71)	(-4.26)	(-2.48)	(-0.27)	(-2.59)	-0.39	(-4.42)	(-0.34)	(-5.33)	(-1.12)
Observations	29699	29643	29666	29332	29449	29421	29580	28028	28360	29415	27639	29299	19299

Panel D2. Have Not Attended College

Unemployment t-stat	-0.3595***	-0.2154***	-0.2756**	-0.8332***	-0.6881***	-0.5319***	-0.2070**	-0.5873***	-0.2105*	-0.9727***	-0.0974	-1.0480***	-0.1466
	(-3.43)	(-3.29)	(-2.47)	(-4.30)	(-4.14)	(-4.22)	(-2.14)	(-3.91)	(-1.69)	(-5.79)	(-1.17)	(-3.94)	(-0.79)
Observations	74171	73800	74000	72143	72937	72082	73469	64900	64813	71185	63231	72933	42134

The table reports OLS estimates, associating general interpersonal trust, trust towards institutions, and political beliefs at the individual level with regional unemployment. All specifications include NUTS2 fixed-effects and year (ESS round) fixed-effects (constants not reported). All specifications include as controls for age, age squared, gender, 5 education fixed effects, 8 religion fixed effects, marital status and 51 occupation fixed effects. Regional unemployment data come from Eurostat. Panel A reports results on the full sample of respondents. Panel B distinguishes between males (Panel B1) and females (Panel B2). Panel C distinguishes by three age groups, “young” (Panel A), “middle-age” (Panel B) and “old” (Panel C). Panel D distinguished by education, between college-graduates (Panel D1) and non-college graduates (Panel D2). Information on trust and beliefs come from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Table 21. Heterogeneity. OLS
Unemployment and Beliefs on Immigration**

	Allow Immigrants			Immigrants' Role		
	Majority Race/Ethnic Group	Different Race/Ethnic Group	Poor Non-EU Countries	Economy	Cultural Life	Country Better/Worse
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Full Sample						
Unemployment	-0.4681** (-2.35)	-0.4870*** (-3.72)	-0.5436*** (-3.66)	-0.7209*** (-5.92)	-0.1771** (-2.08)	-0.3345*** (-3.69)
Observations	101010	100836	100615	99430	99250	99091
Panel B1. Males						
Unemployment	-0.4555** (-2.21)	-0.5003*** (-3.44)	-0.5492*** (-3.34)	-0.7891*** (-6.57)	-0.1981** (-2.30)	-0.3511*** (-3.65)
Observations	45730	45635	45577	45464	45106	45112
Panel B2. Females						
Unemployment	-0.4686** (-2.33)	-0.4615*** (-3.55)	-0.5288*** (-3.64)	-0.6587*** (-4.92)	-0.1523 (-1.61)	-0.3119*** (-3.38)
Observations	55229	55149	54987	53918	54094	53931
Panel C1. Young (Up to 30 Years)						
Unemployment	-0.4739*** (-2.69)	-0.3370*** (-2.72)	-0.4207*** (-3.53)	-0.4670*** (-5.93)	-0.0422 (-0.48)	-0.1544 (-1.47)
Observations	14206	14196	14187	14062	14128	14002
Panel C2. Middle-Age (31-60 Years)						
Unemployment	-0.4470** (-2.26)	-0.4923*** (-3.55)	-0.5241*** (-3.32)	-0.7266*** (-5.85)	-0.1770* (-1.79)	-0.3410*** (-3.39)
Observations	52951	52890	52816	52577	52533	52263
Panel C3. Old (Over 60 Years)						
Unemployment	-0.5580** (-2.39)	-0.6374*** (-4.39)	-0.7023*** (-4.06)	-0.9328*** (-4.97)	-0.3406*** (-3.00)	-0.4751*** (-3.75)
Observations	33847	33744	33606	32785	32584	32821
Panel D1. Attended College						
Unemployment	-0.4086* (-1.85)	-0.3240** (-2.29)	-0.3769** (-2.22)	-0.5872*** (-4.61)	-0.0573 (-0.68)	-0.2776*** (-2.82)
Observations	29127	29095	29045	29077	29285	28944
Panel H. Have Not Attended College						
Unemployment	-0.4784** (-2.41)	-0.5348*** (-3.95)	-0.5956*** (-4.07)	-0.7689*** (-5.88)	-0.2170** (-2.26)	-0.3600*** (-3.60)
Observations	71878	71736	71565	70347	69960	70142

The table reports OLS estimates, associating attitudes-beliefs on immigration at the individual level with regional unemployment. All specifications include NUTS2 fixed-effects and year (ESS round) fixed-effects (constants not reported). All specifications include as controls for age, age squared, gender, 5 education fixed effects, 8 religion fixed effects, marital status and 51 occupation fixed effects. Regional unemployment data come from Eurostat. Panel A reports results on the full sample of respondents. Panel B distinguishes between males (Panel B1) and females (Panel B2). Panel C distinguishes by three age groups, “young” (Panel A), “middle-age” (Panel B) and “old” (Panel C). Panel D distinguished by education, between college-graduates (Panel D1) and non-college graduates (Panel D2). Information on trust and beliefs come from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

The European Trust Crisis and the Rise of Populism

Supplementary Online Appendix

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Abstract

The Supplementary Online Appendix consists of three parts. First, we provide summary statistics, additional sensitivity checks and further evidence. Second, we provide details and sources on the data covering regional output and unemployment, trust, beliefs, attitudes and voting statistics. Third, we provide the classification of non-mainstream political parties' political orientation (far-right, radical-left, populist, eurosceptic and separatist) for all countries.

1. Summary Statistics, Additional Sensitivity Checks, and Further Evidence

1.1 Summary Statistics

Appendix Table 1 reports the summary statistics at the individual level for all variables that we use from the ESS distinguishing between the pre-crisis period (2000-2008) and the post-crisis period (2009-2014). Panel A looks at all questions on general trust, trust in national and supranational institutions, party identification, ideological position on the left-right scale and beliefs on the European unification issue whereas in Panel B we focus on attitudes to immigration.

1.2 Additional Sensitivity Checks

Appendix Table 2 looks at the relationship between labor force participation and voting for anti-establishment parties. Panel A reports panel OLS estimates with region fixed effects. Panel B reports difference-in-differences estimates. In contrast to Table 4, the specifications now include a dummy that takes on the value of one for core countries (Austria, France, Norway, Sweden) and zero for the periphery countries (Bulgaria, Czech Republic, Greece, Spain, Hungary, Ireland, Slovakia). When we allow for differential time trends in the core and the periphery, we obtain smaller estimates which are still statistically significant. Panel B results also hold true when we add country-group-specific time effects.

Appendix Table 3 looks at the first stage relationship between unemployment and the lagged share of construction in regional value added. Similarly to Table 5, we run panel specifications with region fixed effects year dummies (in columns (1)-(2)) and country-group-specific year effects (in (3)-(4)). However, we now use lagged values of construction and other industry shares. The results are similar to the baseline estimates; the coefficient on the lagged share of construction is negative and statistically significant.

Appendix Table 4 reports the estimates for the change in regional unemployment before and after the crisis period. The independent variable is the pre-crisis share of construction. Unlike Panel B of Table 5 of the paper, instead of using the 2004-2007 mean of construction we use the pre-crisis share of construction in 2003 as well as in 2007 as a robustness check. Coefficients are somewhat smaller, but retain statistical significance.

Appendix Table 5 presents the regressions of the change in regional unemployment before and after the crisis on the pre-crisis share of construction in regional value added. In Panel A we use the 2007 value, while in Panel B we use the mean over 2004-2007. In column (1) we take the difference in regional unemployment over the period 2016-2008; in column (2) over

2015-2008; in column (3) over 2014-2008; in column (4) over 2013-2008; and in column (5) over 2012-2008. The share of construction in regional value added enters with a positive and statistically significant in all specifications (except for (1)) implying that a large pre-crisis construction share is associated with rises in unemployment post 2008.

Appendix Table 6 looks at the relationship between voting patterns for non-mainstream parties and turnout with the shares in regional value added of construction, agriculture (incl. forestry, fishing, and mining), trade, government, and finance, with manufacturing serving as the omitted category. The coefficient at the construction share is negative, implying that relatively high specialization in construction, a labor intensive sector, associated with lower unemployment is related to smaller vote share of non-mainstream parties. The coefficient is significant for all types of non-mainstream parties, except for voting for extreme right parties. The relationship between voting for anti-establishment parties and other sectoral shares is insignificant, showing that is construction rather than specialization in agriculture, services on manufacturing that is related to voting for non-mainstream parties.

Appendix Table 7 reports 2SLS difference specifications that combine the “reduced-form” estimates (in Appendix Table 6) with the first stage estimates (in Appendix Table 5). The specifications in Panels A and B are similar, though Panel B includes four macro-region dummies for the North, South, Centre and East to account for differential trends across Europe and other hard-to-observe factors. In all specifications, unemployment (instrumented by the share of construction in regional value added) has a statistically significant effect on anti-establishment and populist vote and a slightly less significant impact on the vote for the radical left.

Appendix Table 8 looks at the correlation between construction and corruption. The table gives cross-sectional estimates, associating self-reported incidents of corruption (in columns (1), (3), (4), and (6)) and corruption perceptions (in column (2) and (5)) with the share of construction in regional value added in 2003/2004, using data from the 2nd wave of the ESS (unfortunately these data are not available post crisis). We find no significant correlation between share of construction and any measure of corruption.

Appendix Table 9 performs additional identification tests in a two-stage least-squares framework. The first-stage relates regional lagged unemployment to the lagged share of construction in regional value added. The reported second-stage links voting for anti-establishment parties to the component of regional unemployment explained by construction’s share in regional value added. In Appendix Table 9 we control for lagged share of regional

population with completed tertiary education (in columns (1)-(3)), while in columns (4)-(6) we add a dummy variable that takes the value of one for regions experiencing positive net migration inflows in the previous years. [For both variables we use data from Eurostat.] These are useful specifications as construction may affect voting via attracting immigrants (who usually work in construction) or via shaping regional education. The first-stage fit is strong (F-stats around 20 to 39), suggesting that the relationship between construction and unemployment is present, even when we condition on net migration and education. The 2SLS coefficient on lag unemployment is positive in column (1), implying that the component of regional unemployment explained by construction is a significant correlate of voting for non-mainstream parties, even conditional on migration and education that do not seem to matter. This result mostly reflect voting for populist parties and to a lesser extent for voting for Eurosceptic parties. [There is some weak evidence that in the share of voting for populist parties is somewhat related to net migration, column (5)].

Appendix Table 10 presents 2SLS estimates, where we control for the share of ESS respondents, who are citizens of the country (Panel A) or were born in the country (in Panel B). We do so to assuage concerns that the link between anti-establishment vote and construction does not operate via unemployment, but rather by immigration. Sadly, ESS data on respondents' place of birth and citizenship are available for just 7 countries. The 2SLS coefficient on regional unemployment retains its economic and statistical significance and is not affected much by the inclusion of these variables. There is also some weak evidence that a relatively large share of domestic citizens is positively related to voting for non-mainstream parties.

Appendix Table 11 reports “reduced-form” difference specifications, linking changes in trust and beliefs over the crisis to the pre-crisis share of construction in regional value added. In line with the baseline results, we obtain negative and significant coefficients mainly for the variables that measure trust towards national and European institutions; this is especially so when we look between 2012 and 2008.

Appendix Table 12 reports 2SLS panel fixed-effects specifications associating general and political trust and political beliefs on the component of regional unemployment explained by construction share. To isolate the impact of construction, in all specifications we control for the share of agriculture, services, and manufacturing in regional value added. The first-stage fit continues to be strong (F-stat 17.91). The estimates show that there is a link between construction, unemployment and distrust towards politicians. In contrast the correlation between construction-driven swings in unemployment and general trust is muted and does not always passes significance confidence levels. There is also a link between unemployment and how close respondents' feel to political parties and satisfaction with the functioning of democracy,

Appendix Table 13 reports 2SLS panel fixed-effects specifications using the share of construction in regional value added as an instrument for regional unemployment that in turn is linked to beliefs about immigrants. The 2SLS coefficients are negative across all specifications, hinting that high unemployment rates may be related to anti-immigration sentiment. Yet the estimates are small and noisy. The coefficients are statistically indistinguishable from zero when we examine respondents' views on immigrants role in cultural life or when we look at questions on whether immigrants should be allowed in the country (columns (1)-(3)). Only when we look at people's views on immigrants' role in the economy (in column (4)), the coefficient passes standard significance levels.

2. Data Sources and Variable Definitions

For our analysis we combine three main datasets:

- (i) Regional unemployment, output statistics by industry and variables measuring regional population, demographics, migration flows and education. Data come from Eurostat and from Cambridge Econometrics (that in turn process, update and clean Eurostat data);
- (ii) Voting data. These data come from country-specific electoral archives that are then matched to political parties' political orientation (using Chapel Hill Expert Survey and other sources) between 2000 and June 2017;
- (iii) Individual-level data on trust, attitudes and beliefs from the European Social Survey (ESS), conducted biennially, from 2000 till 2014.

In this section we discuss the data, provide definitions of the variables, and present summary statistics and descriptive evidence.

2.1. Regional Unemployment, Value Added Statistics and Region-Level Controls (Eurostat)

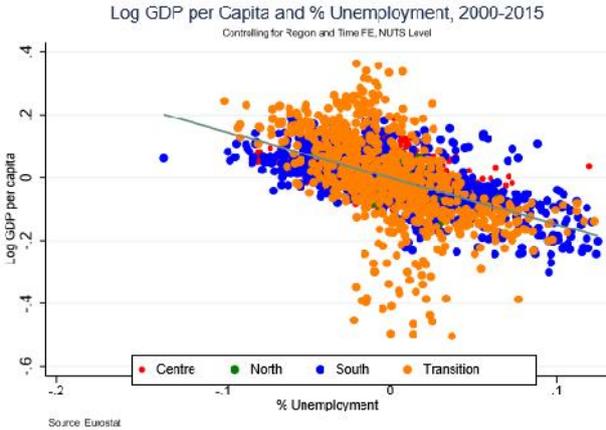
Regional unemployment

We use total unemployment rate for individuals aged between 15 and 74 years from the regional labor market statistics database of Eurostat (LFS annual series, *lfst_r_lfu3rt*). We match the 234 NUTS2 European regions of the electoral data and the (mostly overlapping) 218 European regions of the ESS data for a period ranging between 2000 and 2016.¹

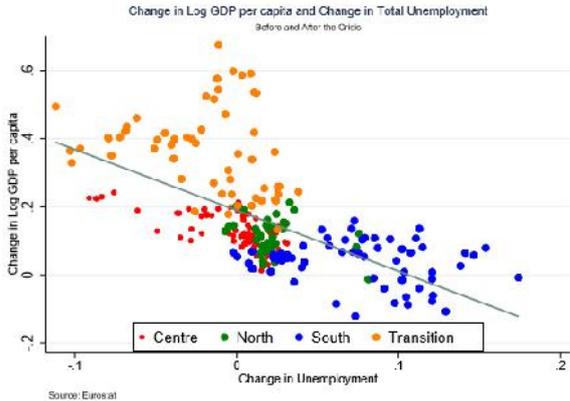
¹ For Cyprus we use unemployment data from the statistical service of Cyprus (CYSTAT) for five macro-regions that match election data at five out of the six Cypriot districts (we do not have the data for Kyrenia District, the smallest of Cyprus' districts, and the only one controlled by the Turkish Republic of Northern Cyprus in its entirety). This is why we have five observations for Cyprus. We consider working at district level an improvement over carrying the analysis at the country level (Cyprus does not have a subdivision at either NUTS 2 or NUTS 3 level).

In the specifications linking trust, attitudes, and beliefs with unemployment we use average unemployment rate over the two-year period that corresponds to each ESS round. For instance, observations from ESS' Round 1, that was administered in 2002 and 2003, are matched with the region's average unemployment rate for years 2002 and 2003.

We focus on unemployment rather than on output as the latter is conceptually a less clean measure of the social costs of the crisis. Moreover, regional GDP contains non-negligible measurement error. Appendix Figures 1a-1b reveal the strong negative relationship between unemployment and log GDP per capita at the NUTS 2 level of geographical aggregation (nama_10_pc series at current prices, PPP per capita) in levels, controlling for region and time fixed effects (Figure 1a), and in difference-in-differences specification (Figure 1b). Regional GDP per capita and regional unemployment are highly correlated both in levels and in differences. The few outliers correspond to regions in former transition economies.



Appendix Figure 1a



Appendix Figure 1b

Gross value added by sector

We use Eurostat's regional data for gross value added at basic prices for the following six broad sectors: agriculture, construction, finance, industry, trade (wholesale and retail) and government (classification of economic activities: NACE Rev.2). The data cover 215 regions in 25 countries (we do not have the data on Switzerland), over the period 2000-2015 (though there are gaps in the initial years and in 2015). The Data Appendix Table III below provides details on coverage.

Labor Force Participation

In our attempt to account for unobservable time-invariant features, we run regressions at the finer NUTS 3 geographical level. We compute labor force participation as the ratio of total employment over total population from the Cambridge Econometrics' European Regional Database, which contains annual observations for the period 1980-2014. Coverage is for the EU28 and Norway. We focus on an 11-country sample² where we have managed to match the economic data with the voting data for 354 NUTS 3 European regions for a period ranging between 2000 and 2014. We use total population in an attempt to proxy active population given than the latter is unavailable at the NUTS 3 level.

Net Migration Flows

We use net migration flow data from Eurostat database, series CNMIGRAT. Net migration is defined as the difference between the number of immigrants and the number of emigrants from a given region during the year. Net migration takes negative values when the number of emigrants exceeds the number of immigrants. *Net migration including statistical adjustment* (as it is referred in the Eurostat database) is a general estimation of the net migration, based on the difference between population change and natural change between two dates. In different countries net migration including statistical adjustment may, besides the difference between inward and outward migration, cover other changes in the population figures between 1 January for two consecutive years which cannot be attributed to births, deaths, immigration or emigration.

Educational Attainment Statistics

We use regional educational statistics from Eurostat. The classification of educational activities is based on the International Standard Classification of Education (ISCED). There are eight ISCED 2011 categories. Level 0 – Less than primary education; Level 1 – Primary education; Level 2 – Lower secondary education; Level 3 – Upper secondary education; Level 4 – Post-secondary non-tertiary education; Level 5 – Short-cycle tertiary education; Level 6 – Bachelor's or equivalent level; Level 7 – Master's or equivalent level; Level 8 – Doctoral or equivalent level. We use the following series:

- Less than secondary. Series ED0-2. It is the share of the population with less than primary, primary and lower secondary education.

² These countries (number of regions) are: Austria (35), Bulgaria (28), Czech Republic (14), Greece (51), Spain (52), France (98), Hungary (20), Ireland (8), Norway (19), Sweden (21), Slovakia (8).

- Secondary. Series ED3-4. It is the share of population that has completed upper secondary and post-secondary non-tertiary education
- Secondary and tertiary. Series ED3-8. It is the share of population with upper secondary, post-secondary non-tertiary and tertiary education;
- Tertiary. Series ED5-8. It is the share of the population percentage that has successfully completed tertiary education.

2.2. Voting Statistics. Country-Specific Databases

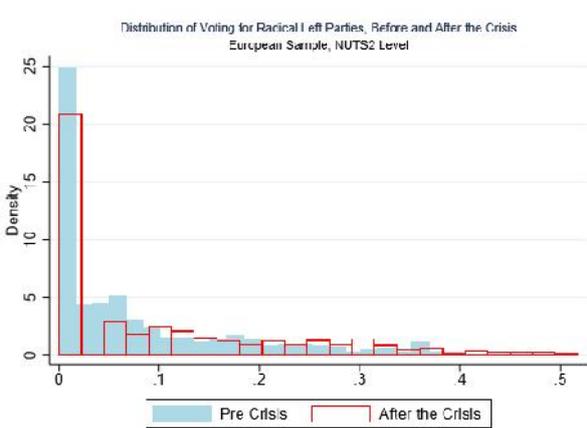
We collect voting data from country-specific electoral archives for all general elections between 2000 and June 2017. For France – the only presidential republic in our dataset – we compile the presidential election results instead. Appendix Table IV gives a complete list of national elections by country. Data cover Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

For most parties' political orientation we rely on the Chapel Hill Expert Surveys (CHES). CHES provides parties' main political positions (family name) which we use as the basis for our classification. CHES also reports additional parties' orientation and position measures, such as parties' positioning on European integration, ideology and various policy issues. The first CHES survey was conducted in 1999, with subsequent waves in 2002, 2006, 2010, and 2014. The coverage expanded from 14 Western European countries in 1999 to 24 current or prospective EU members in 2006 to 31 countries in 2014, followed by a notable increase in the number of national parties from 143 to 268. Iceland is not covered, while Norway and Switzerland are recent additions; although we can observe the corresponding parties' general stance on European integration, EU policies, general left/right, economic left/right, and social left/right, we lack information on their main political position. CHES database is incomplete, as it does not report information on small and new parties. We complement the characterization of CHES with online resources that include membership or affiliation with international and EU party associations and self-identification (on party's own websites).

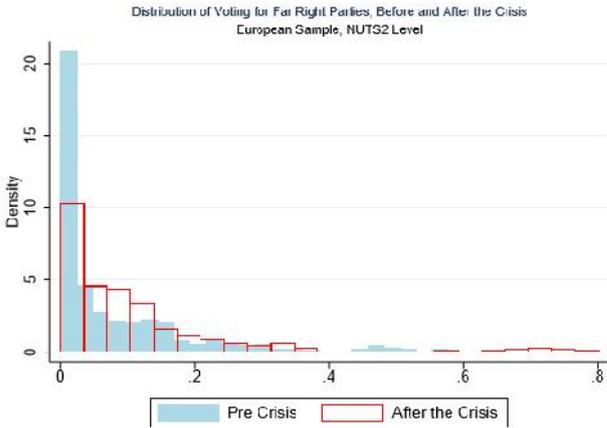
Using the CHES dataset and web resources, we identify the following four types of anti-establishment parties: (i) far-right, often nationalistic, parties; (ii) radical-left parties; (iii) populist parties, and (iv) Eurosceptic and separatist parties. The Data Appendix Tables V.a-V.z below provide the list of all parties that we identify as anti-establishment, along with their classification into far-right, radical-left, populist and Eurosceptic/separatist ones.

After matching the electoral data with the parties' political orientation we calculate the vote shares of parties with anti-establishment orientation at each election for each NUTS2 region. Turnout is defined as the percentage of voters over the registered electorate adjusted for the percentage of blank and invalid votes at each election round.

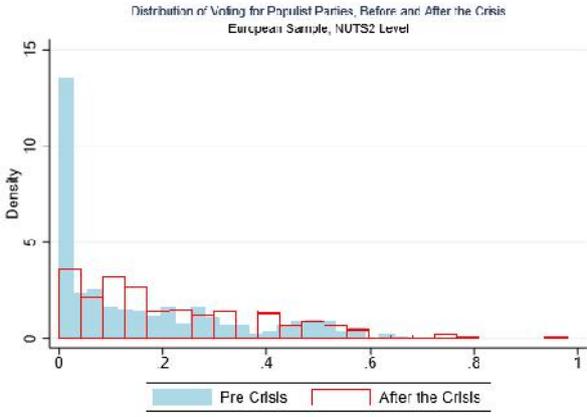
Appendix Figures 2a-2d give a histogram of the evolution of voting shares for all four types of anti-establishment parties before and after the crisis.



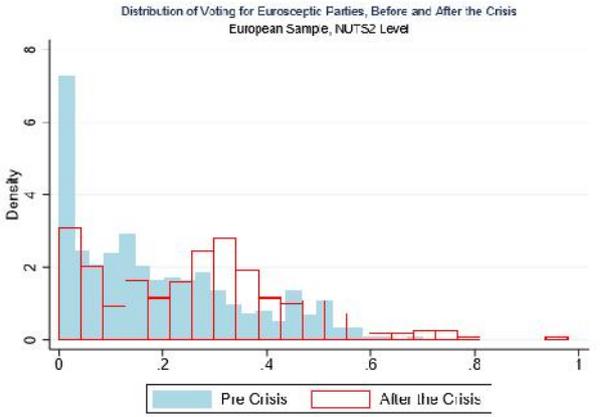
Appendix Figure 2a



Appendix Figure 2b



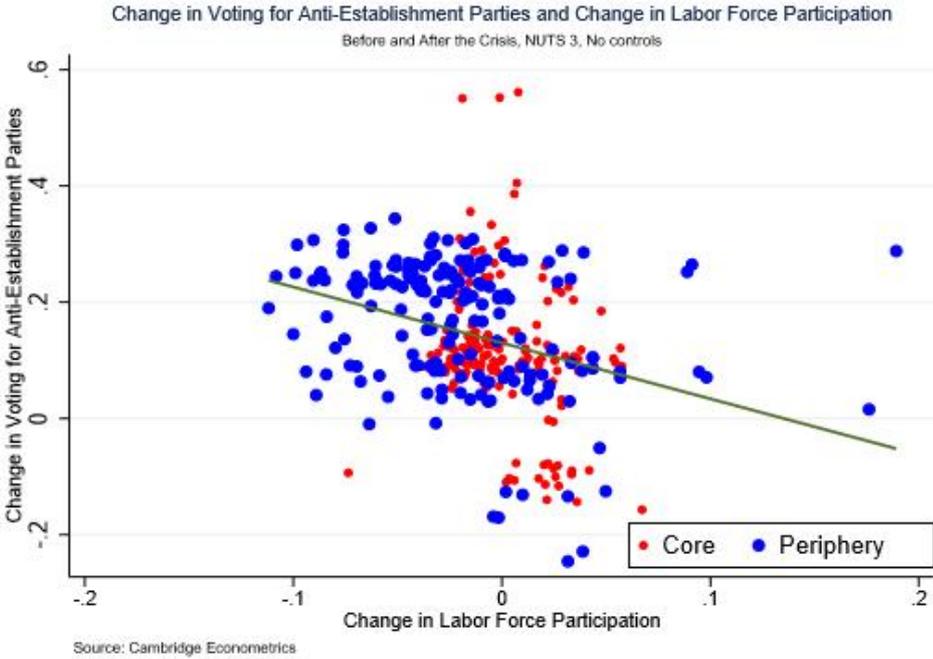
Appendix Figure 2c



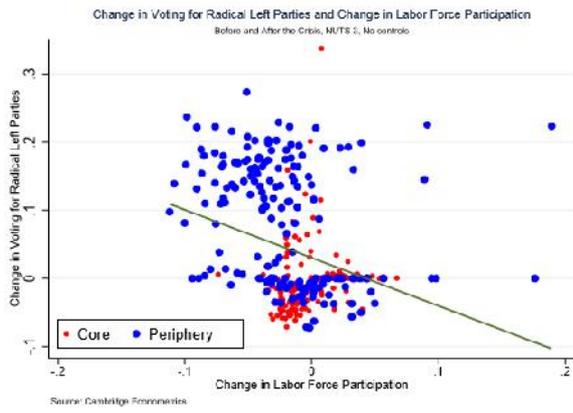
Appendix Figure 2d

The main part of the analysis is carried out across 234 NUTS 2 European regions (Data Appendix Table I). Additionally, to control for unobservable time-invariant features, we also carry part of the analysis across 354 NUTS 3 level European regions in 11 countries; namely Austria, Bulgaria, Czech Republic, Greece, Spain, France, Hungary, Ireland, Norway, Sweden, and Slovakia (see Data Appendix Table I and Appendix Figures 3a-3f). Appendix Figure 3a gives the association between post and pre crisis changes in labor force participation with the

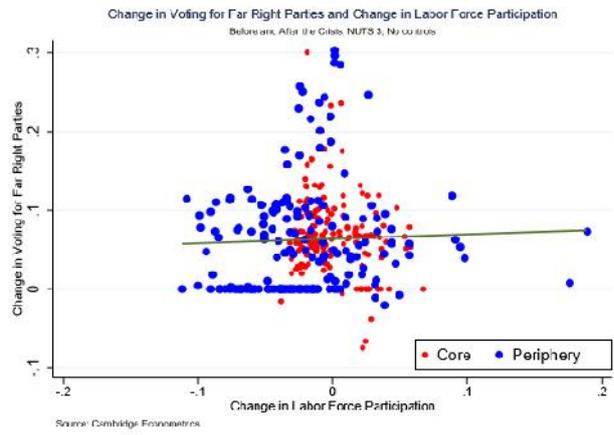
post-pre crisis change in the voting share of all four types of anti-establishment parties. There is a clear negative association. European regions that experienced a relatively large drop in labor force participation experienced a relatively higher increase of anti-establishment voting share. The influence of all four anti-establishment parties has increased, though not at the same rate. This pattern mostly comes from the European periphery, though the country sample is small. Appendix Figures 3b-3e give the scatterplots associating changes in labor force participation before and after the crisis to the voting share of each type of anti-establishment party vote. In line with the baseline estimates (at NUTS 2), there is a stronger association between labor force participation and voting for populist and to a lesser extent radical-left parties; the trend-line with voting for far-right parties is flat. The relationship between the change in labor force participation and the change in voting participation in Figure 3f is also weak, in line with the baseline estimates in the paper.



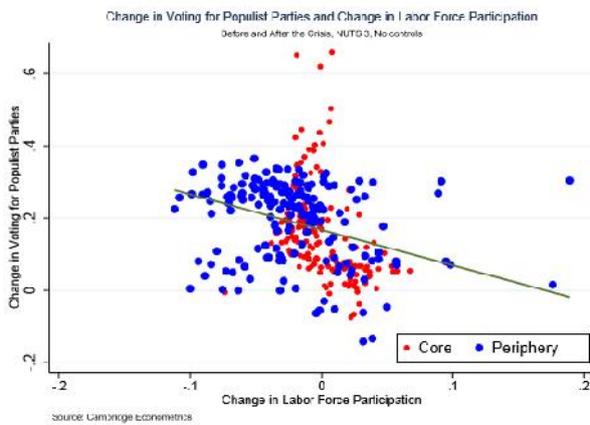
Appendix Figure 3a



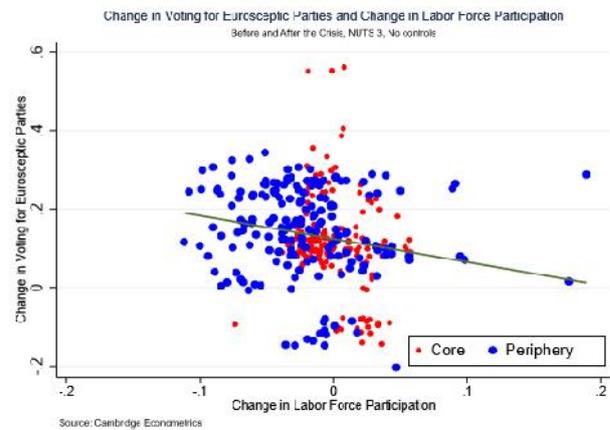
Appendix Figure 3b



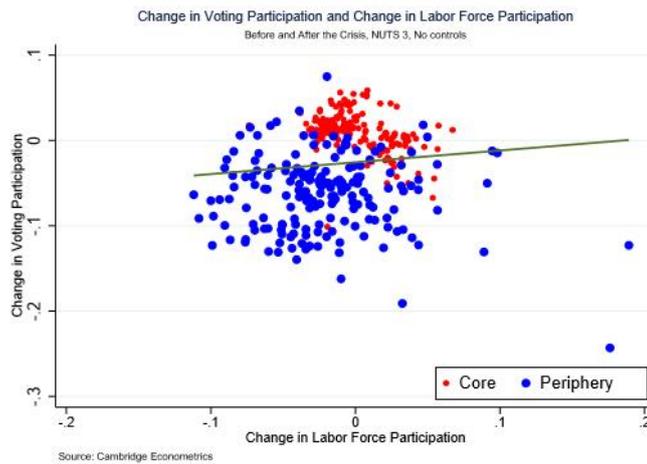
Appendix Figure 3c



Appendix Figure 3d



Appendix Figure 3e



Appendix Figure 3f

2.3. Trust, Attitudes and Beliefs (European Social Survey)

We use data on trust, beliefs and attitudes from the European Social Survey (ESS). The ESS consists of biennial cross-sectional surveys, covering 32 nations. We exclude Israel, Russia, Turkey and Ukraine. We also drop Croatia and Lithuania (no surveys before the crisis) and Luxembourg (no surveys in the post-crisis period). We also omit Finland due to a change in the classification of the NUTS2 regions. The ESS sample covers 183 NUTS2 regions in 24 countries (The Data Appendix Table II provides details. There have been seven ESS rounds, in 2002, 2004, 2006, 2008, 2010, 2012 and 2014. The (pseudo)-panel is not balanced, as the ESS has not been carried in all countries for all waves. For each ESS round we tabulate regional averages of the following variables.

General trust

We use the following question: ‘Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people? Please tell me on a scale of zero to ten how much you trust people. Zero means you can’t be too careful, and ten means that most people can be trusted.’

People are fair

This is the response to the following question: ‘Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair? Please tell me on a scale of zero to ten whether you think people are fair. Zero means that most people try to take advantage of you if they get the chance, and ten means that most people try to be fair.’

People are helpful

This is the response to the following question: ‘Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves? Please tell me on a scale of zero to ten whether you think people are helpful. Zero means that people are mostly looking out for themselves and ten means that people try to be helpful most of the time.’

Trust in country’s parliament/legal system/police/politicians/political parties, the European Parliament/the United Nations

This is the response to the following question: ‘Please tell me on a scale of zero to ten how much you personally trust each of the following institutions. Zero means you do not trust an institution at all, and ten means you have complete trust. How much do you personally trust [the name of the institution]?’

Satisfaction with democracy

This is the response to the following question: ‘And on the whole, how satisfied are you with the

way democracy works in [the name of the country]? Zero means you are extremely dissatisfied, and ten means you are extremely satisfied.'

Placement on the left-right scale

This is a response to the following question: 'In politics people sometimes talk of "left" and "right". Where would you place yourself on this scale, where zero means the left and ten means the right?'

Feeling close to a particular party

This is a response to the following question: 'Is there a particular political party you feel closer to than all the other parties? One means "Yes" and two means "No".'

Future of European unification

This is a response to the following question: 'Now thinking about the European Union, some say European unification should go further. Others say it has already gone too far. Please tell me on a scale of zero to ten what number on that scale best describes your position? Zero means unification has already gone too far, and ten means unification should go further.'

Allow people of the same race or ethnic group as majority/a different race or ethnic group from majority / from the poorer countries outside Europe, to come and live here

This is a response to the following question: 'Would you allow many/few immigrants from the following groups to come and live in the country? One means that you would allow many to come and live here and four means that you would allow none.'

Immigration good/bad for economy

This is a response to the following question: 'Would you say it is generally bad or good for [the name of the country]'s economy that people come to live here from other countries? Zero means that it is bad for the economy and ten means it is good for the economy.'

Immigration undermines/enriches cultural life

This is a response to the following question: 'Would you say that [the name of the country]'s cultural life is generally undermined or enriched by people coming to live here from other countries? Zero means that the cultural life is undermined and ten means that cultural life is enriched.'

Immigration makes country worse/better place to live

This is a response to the following question: 'Is [the name of the country] made a worse or a better place to live by people coming to live here from other countries? Zero means it is made a worse place to live and ten means it is made a better place to live.'

Individual characteristics

In addition, we collect answers to questions relevant to the socio-demographic profile of the respondents that we subsequently use as controls for the analysis at the individual level. These include: **gender**; **age**; **marital status** (legally married, in a legally registered civil union, cohabiting legally recognised, cohabiting not legally recognised and legally separated); **religion** (Roman Catholic, Protestant, Eastern Orthodox, Other Christian denomination, Jewish, Islamic, Eastern religions and Other non-Christian religions), **education** (different education levels in accordance with the ISCED classification system), and **occupation** (51 occupation types following the International Standard Classification of Occupations: ISCO-88 and ISCO-08).

Corruption

We also tabulate the following variables that are available for the 2004 ESS round:

- (i) Frequency of public official asking for a bribe. This is a response to the following question: ‘How often, if ever, has a public official asked you for a favour or a bribe in return for a service? One means never and five means five times or more’.
- (ii) Severity a public official asking for a bribe. This is a response to the following question: ‘How wrong, if at all, do you consider the following ways of behaving to be? How wrong is a public official asking someone for a favour or bribe in return for their services? One means “not wrong at all” and four means “seriously wrong”’.
- (iii) Frequency of offering a bribe to public official. This is a response to the following question: ‘How often, if ever, have you offered a favour or bribe to a public official in return for their services? One means never and five means five times or more’

Sample. Our sample covers the following European NUTS Regions.

Abruzzo, Agderog Rogaland, Åland, Alentejo, Algarve, Alsace, Ammochostos, Anatoliki Makedonia-Thraki, Andalucía, Aquitaine, Aragón, Área Metropolitana de Lisboa, Attiki, Auvergne, Baden-Württemberg, Basilicata, Basse-Normandie, Bassin Parisien, Bayern, Berlin, Border-Midlandand Western, Bourgogne, Brandenburg, Bratislavskýkraj, Bremen, Bretagne, Bucuresti-Ilfov, Burgenland (AT), Calabria, Campania, Canarias (ES), Cantabria, Castillay León, Castilla-la Mancha, Cataluña, Centre(FR), Centre-Est (FR), Centro (PT), Centru, Ceuta, Champagne-Ardenne, Ciudad Autónoma de Ceuta (ES), Ciudad Autónoma de Melilla (ES), Comunidad Foralde Navarra, Comunidad Valenciana, Comunidadde Madrid, Corse, Dolnoslaskie, Drenthe, Dytiki Ellada, Dytiki Makedonia, Dél-Alföld, Dél-Dunántúl, East Midlands (UK), East of EnglaEnd, Emilia-Romagna, Espace Mittelland, Est(FR), Észak-Alföld,

Észak-Magyarország, Extremadura, Flevoland, Franche-Comté, Friesland (NL), Friuli-Venezia Giulia, Galicia, Gelderland, Groningen, Guadeloupe, Guyane, Hamburg, Haute-Normandie, Hedmarkog Oppland, Helsinki-Uusimaa, Hessen, Hovedstaden, Iceland, Île de France, Illes Balears, Ionia Nisia, Ipeiros, Jihovýchod, Jihozápad, Kentriki Makedonia, Kriti, Kujawsko-Pomorskie, Kärnten, Közép-Dunántúl, Közép-Magyarország, La Rioja, La Réunion, Languedoc-Roussillon, Larnaka, Lazio, Lefkosia, Lemesos, Liguria, Limburg (NL), Limousin, Lombardia, London, Lorraine, Lubelskie, Lubuskie, Luxembourg, Łódzkie, Malopolskie, Marche, Martinique, Mayotte, Mazowieckie, Mecklenburg-Vorpommern, Melilla, Mellersta Norrland, Midi-Pyrénées, Midtjylland, Molise, Moravskoslezsko, Méditerranée, Niedersachsen, Niederösterreich, Noord-Brabant, Noord-Holland, Nord-Pas-de-Calais, Nord-Est (RO), Nord-Norge, Nord-Vest, Nordjylland, Nordrhein-Westfalen, Nordwestschweiz, Norra Mellansverige, Norte, North East (UK), North West (UK), Northern Ireland (UK), Northern and Eastern Finland, Notio Aigaio, Nyugat-Dunántúl, Oberösterreich, Opolskie, Osloog Akershus, Östra Mellansverige, Ostschweiz, Ouest (FR), Overijssel, Övre Norrland, Pafos, Pays de la Loire, País Vasco, Peloponnisos, Picardie, Piemonte, Podkarpackie, Podlaskie, Poitou-Charentes, Pomorskie, Praha, Principado de Asturias, Prov. Antwerpen, Prov. Brabant Wallon, Prov. Hainaut, Prov. Limburg (BE), Prov. Luxembourg (BE), Prov. Namur, Prov. Oost-Vlaanderen, Prov. Vlaams-Brabant, Prov. West-Vlaanderen, Provence-Alpes-Côte d'Azur, Provincia Autonoma di Trento, Puglia, Região Autónoma da Madeira (PT), Región de Murcia, Rheinland-Pfalz, Rhône-Alpes, Région de Bruxelles, Région Lémanique, Région Wallonne, Saarland, Sachsen, Sachsen-Anhalt, Salzburg, Sardegna, Schleswig-Holstein, Scotland, Severantsentralen, Severoiztochen, Severovýchod, Severozapaden, Severozápad, Sicilia, Sjælland, Slaskie, Smålandmedöarna, South East (UK), South West (UK), Southern Finland, Southern and Eastern, Steiermark, Sterea Ellada, Stockholm, Stredné Slovensko, Strední Čechy, Strední Morava, Sud-Muntenia, Sud-Est, Sud-Ouest (FR), Sud-Vest Oltenia, Swietokrzyskie, Syddanmark, Sydsverige, Sør-Østlandet, Thessalia, Thüringen, Ticino, Tirol, Toscana, Trøndelag, Umbria, Utrecht, Veneto, Vest, Vestlandet, Vlaams Gewest, Vorarlberg, Voreio Aigaio, Vzhodna Slovenija, Västsverige, Východné Slovensko, Wales, Warminsko-Mazurskie, West Midlands (UK), Western Finland, Wielkopolskie, Wien, Yorkshire and The Humber, Yugoiztochen, Yugozapaden, Yuzhentsentralen, Zachodniopomorskie, Zahodna Slovenija, Zeeland, Zentralschweiz, Zuid-Holland, Západné Slovensko, Zürich.

3. Country-specific tables with party classifications

In Appendix Tables V.a-V.z, we provide information on political parties' orientation using the Chapel Hill Expert Survey and online resources (which in turn follows Hix and Lord (1997)). Given that the Chapel Hill Expert Survey does not cover all parties we classified the rest according to information available at their platforms from their websites. We distinguish among four (not mutually exclusive) aspects of anti-establishment politics (see Appendix Table VI): (i) Far right and nationalistic, parties; (ii) Radical left parties; (iii) Populist parties; and (iv) Eurosceptic and separatist parties.

Appendix Table 1. Summary Statistics at the Individual Level

	Pre Crisis Period (2000-2008)				Post Crisis Period (2008-2015)			
	Obs. (1)	mean (2)	median (3)	St. Dev. (4)	Obs. (5)	mean (6)	median (7)	St. Dev. (8)
Panel A. General and Political Trust and Political Attitudes. European Social								
Trust Other People	109634	0.50	0.50	0.246	143730	0.50	0.50	0.243
People Fair	109053	0.56	0.60	0.234	143221	0.56	0.60	0.228
People Helpful	109484	0.48	0.50	0.237	143519	0.49	0.50	0.230
Trust Country's Parliament	106620	0.46	0.50	0.246	140419	0.42	0.50	0.259
Trust Politicians	107759	0.37	0.40	0.232	141659	0.34	0.30	0.240
Trust Legal System	107032	0.51	0.50	0.257	140653	0.50	0.00	0.267
Trust Police	108616	0.60	0.60	0.249	142665	0.59	0.60	0.251
Satisfaction with Working of Democracy	105420	0.53	0.50	0.241	139406	0.52	0.50	0.254
Trust in European Parliament	95655	0.46	0.50	0.239	131235	0.44	0.50	0.245
Trust in the United Nations	98472	0.53	0.50	0.249	130485	0.51	0.50	0.250
Placement on Left-Right Scale	95379	0.50	0.50	0.214	126153	0.51	0.50	0.219
Feel Close to a Particular Party	107671	0.51	-	0.500	141401	0.49	-	0.500
European Unification Go Further	68404	0.53	0.50	0.263	95769	0.51	0.50	0.261
Panel B. Beliefs on Immigration. European Social Survey								
Homosexuals Should Live Free	105790	0.69	0.75	0.283	138858	0.72	0.75	0.286
Allow Immigrants of Same Race	106293	0.59	0.67	0.283	140015	0.61	0.67	0.290
Allow Immigrants of Different Race	106139	0.50	0.67	0.290	139884	0.51	0.67	0.299
Allow Immigrants from Poorer Countries	105902	0.49	0.33	0.293	139569	0.48	0.33	0.306
Immigrants are Good for Economy	104186	0.49	0.50	0.241	138451	0.49	0.50	0.243
Immigrants Improve Cultural Life	104429	0.55	0.50	0.248	138383	0.55	0.50	0.250
Immigrants Make Country a Better Place	104515	0.48	0.50	0.225	137942	0.49	0.50	0.229

The Table reports summary statistics (mean, median, and standard deviation) for the main trust-related, political beliefs, and attitudes towards immigration variables employed in the empirical analysis distinguishing between the pre-crisis period (2000-2007) and the post-crisis period (2008-2017) at the individual level. Data come from the European Social Surveys (2000-2014). The Data Appendix gives detailed variable sources and definitions.

Appendix Table 2.
Employment/Population and Voting for Extremist Parties at NUTS3 Level

	Extremist Parties (All Types) (1)	Radical Left Parties (2)	Far-Right Parties (3)	Populist Parties (4)	Anti-European Parties (5)	Participation Rate (6)
Panel A. Panel Fixed-Effects with Core-Periphery Specific Period (4-year) Time Constants						
Employment/Population	-0.9346*** (0.2113)	-0.5769*** (0.1551)	-0.0265 (0.2268)	-0.9441*** (0.1598)	-0.7613** (0.2785)	0.026 (0.1547)
standardized "beta"	-0.329	-0.397	-0.012	-0.355	-0.270	-0.003
adj. R square	0.356	0.400	0.169	0.478	0.301	0.368
within R-square	0.359	0.403	0.172	0.480	0.304	0.371
Observations	1673	1673	1673	1673	1673	1630
Panel B. OLS Difference Specifications with Core-Periphery Constants Post-Crisis Average [2017-2009] - Pre-Crisis Average [2001-2008]						
Difference Employment/Population	-0.8438** (0.3404)	-0.4137** (0.1754)	0.0537 (0.2120)	-0.9050** (0.3601)	-0.5156* (0.2720)	-0.1491 (0.1328)
standardized "beta"	-0.269	-0.187	0.033	-0.285	-0.166	-0.111
adj. R square	0.106	0.297	-0.004	0.098	0.037	0.526
Countries	11	11	11	11	11	11
Observations/Regions	354	354	354	354	354	354

The table reports panel (region) fixed-effects OLS estimates (Panel A) and cross-sectional OLS estimates where the main variables are expressed in differences (PanelsB). Panel A include NUTS3 constants (coefficients not reported) and core-periphery-specific period constants (not reported), corresponding to 2000-2004 (period 1), 2005-2008 (period 2), 2009-2012 (period 3), and 2013-2017 (period 4). In Panel B the dependent variable is the change in the voting before and after the crisis across EU NUTS-3 regions. The independent variable is the change in regional employment over total population before and after the crisis. For both the dependent and independent variable, we first take mean values over the period 2009-2017 [post-crisis] and over the period 2000-2008 [pre-crisis] and then take the difference. The difference specifications include a dummy that takes on the value of one for core countries (Austria, France, Norway, Sweden) and zero for the periphery countries (Bulgaria, Czech Rep, Greece, Spain, Hungary, Ireland, Slovakia). Regional employment data come from Cambridge Econometrics, who use Eurostat data. Information on voting comes from various country-specific databases and the classification of parties' orientation is mostly based on the Chappell Hill Expert Survey. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Appendix Table 3. Lagged Construction Share and Unemployment
Panel Region Fixed-Effects OLS Estimates**

	(1)	(2)	(3)	(4)
Lagged Share of Construction	-1.5168*** (0.2726)	-1.0327*** (0.2121)	-0.7488** (0.2914)	-0.6513** (0.2516)
adj. R square	0.380	0.526	0.579	0.635
within R-square	0.383	0.529	0.587	0.642
Countries	22	22	22	22
Regions	228	227	228	227
Observations	3264	3254	3264	3254
Region Fixed-Effects	Yes	Yes	Yes	Yes
Year Fixed-Effects	Yes	Yes	No	No
Country-Group Year Fixed-Effects	No	No	Yes	Yes
Other Industrial Shares	No	Yes	No	Yes

The table reports panel (region) fixed-effects OLS examining the within-region correlation between unemployment and the one-year lagged share of construction in regional value added. The dependent variable is regional unemployment. The main independent variable is the lagged share of construction in regional value added. Columns (1)-(2) include year fixed-effects and columns (3)-(4) include country-group year fixed-effects (constants not reported). Columns (2) and (4) include as controls the lagged share in regional value added of agriculture (incl. fishing, forestry and mining), trade, finance, and government services (coefficients not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Appendix Table 4.
Pre-Crisis Construction Share and Unemployment Dynamics during the Crisis

	(1)	(2)	(3)	(4)
Panel A. Industrial Share in 2007				
Pre-Crisis Share of Construction [2007]	1.0942** (0.4455)	1.1964** (0.4813)	0.6587** (0.2726)	0.6418** (0.2686)
adj. R square	0.199	0.277	0.614	0.631
Panel B. Industrial Share in 2003				
Pre-Crisis Share of Construction [2003]	1.5490*** (0.3481)	1.8157*** (0.3428)	0.7342** (0.3245)	0.7243*** (0.2388)
adj. R square	0.346	0.414	0.608	0.643
Countries	23	23	23	23
Observations/Regions	240	239	240	239
Country-Group Constants	No	No	Yes	Yes
Other Industrial Shares	No	Yes	No	Yes

The table reports cross-sectional OLS estimates. In both panels the dependent variable is the change in regional unemployment before and after the crisis across EU NUTS-2 regions. We first take mean values over the period 2009-2017 [post-crisis] and over the period 2000-2008 [pre-crisis] and then take the difference. The main independent variable is the share of construction in regional value added before the crisis. In Panel A we use the 2007 shares. In Panel B we use the 2002 shares. Columns (3)-(4) include country-group constants (not reported). Columns (2) and (4) include as controls the pre-crisis (in Panel A in 2007 and in Panel B in 2002) share in regional value added of agriculture (incl. fishing, forestry and mining), trade, finance, and government services (coefficients not reported). The The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Appendix Table 5. Pre-Crisis Construction and Unemployment Dynamics during the Crisis
OLS specifications

Difference	<u>2016-2008</u>	<u>2015-2008</u>	<u>2014-2008</u>	<u>2013-2008</u>	<u>2012-2008</u>
	(1)	(2)	(3)	(4)	(5)
Panel A. Industrial Share in 2007					
Pre-Crisis Share of Construction [2007]	0.2744 (0.1806)	0.4134** (0.1833)	0.4790** (0.2035)	0.6299** (0.2587)	0.6611** (0.2599)
adj. R square	0.610	0.647	0.691	0.686	0.642
Panel B. Industrial Share in 2004-2007					
Pre-Crisis Share of Construction [2004-2007]	0.2504 (0.1698)	0.4222** (0.1771)	0.5300** (0.1882)	0.7315*** (0.2376)	0.7852*** (0.2317)
adj. R square	0.612	0.649	0.693	0.693	0.654
Countries	20	20	20	20	20
Observations/Regions	217	217	217	217	217
Country-Group Constants	Yes	Yes	Yes	Yes	Yes
Other Industrial Shares	Yes	Yes	Yes	Yes	Yes

The table reports cross-sectional OLS estimates. In both panels the dependent variable is the change in regional unemployment before and after the crisis across EU NUTS-2 regions. In column (1) we take the difference in regional unemployment over the period 2016-2008; in column (2) over 2015-2008; in column (3) over 2014-2008; in column (4) over 2013-2008; and in column (5) over 2012-2008. The main independent variable is the share of construction in regional value added before the crisis. In Panel A we use the 2007 shares. In Panel B we use the average over 2004-2007. All specifications (in both panels) include country-group constants (not reported) and the pre-crisis (in Panel A in 2007 and in Panel B the mean 2004-2007) share in regional value added of agriculture (incl. fishing, forestry and mining), trade, finance, and government services (coefficients not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Appendix Table 6. Industrial Regional Composition and Voting for Extremist Parties
"Reduced-Form" Estimates. 2000-2017**

	Extremist Parties (All Types)	Radical Left Parties	Far-Right Parties	Populist Parties	Anti-European Parties	Participation Rate
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. General Year Fixed-Effects						
Construction Share	-3.1785*** (0.8545)	-0.9245*** (0.3112)	-0.9732 (0.6050)	-2.6079*** (0.7730)	-1.9641** (0.7734)	0.6311 (0.6440)
Agriculture (Forestry & Mining) Share	0.2357 (0.6096)	0.2102 (0.2270)	0.7530* (0.4034)	0.666 (0.6232)	0.6607 (0.5828)	1.0546*** (0.3020)
Trade and Commerce Share	-0.8526* (0.4305)	-0.3839* (0.2090)	-0.1254 (0.2739)	-1.0682*** (0.3517)	-0.1339 (0.4648)	-0.2375 (0.3136)
Government Services Share	-1.164 (0.6862)	-0.2666 (0.4143)	0.2471 (0.4769)	-0.4184 (0.5735)	0.0298 (0.5602)	0.6339 (0.3844)
Finance Share	0.4192 (0.8927)	-0.1142 (0.4931)	0.189 (0.4101)	0.3407 (0.6207)	0.8472 (0.5777)	0.5105 (0.3062)
adj. R square	0.392	0.427	0.244	0.502	0.463	0.396
within R-square	0.406	0.441	0.262	0.514	0.476	0.411
Panel B. General Period (4-year) Time Fixed-Effects						
Construction Share	-3.1059*** (0.8588)	-1.4995*** (0.5047)	-0.6249 (0.6270)	-2.5533*** (0.7284)	-2.0305** (0.8047)	0.6272 (0.6585)
Agriculture (Forestry & Mining) Share	0.3014 (0.8023)	-0.359 (0.3937)	1.0761* (0.5838)	0.8429 (0.6444)	1.0857** (0.4921)	1.5482** (0.6546)
Trade and Commerce Share	-0.4872 (0.7446)	-0.4132 (0.3768)	-0.0992 (0.5208)	-0.832 (0.6590)	-0.3127 (0.7210)	0.0349 (0.4267)
Government Services Share	-0.8525 (0.6532)	0.0377 (0.3995)	0.258 (0.5539)	-0.0137 (0.5050)	0.3823 (0.4642)	0.2712 (0.3350)
Finance Share	0.7333 (0.7824)	0.0766 (0.5170)	0.2162 (0.5286)	0.6445 (0.6611)	0.729 (0.8216)	0.41 (0.4122)
adj. R square	0.274	0.194	0.133	0.343	0.363	0.224
within R-square	0.281	0.202	0.142	0.349	0.369	0.232

Panel C. Country-Group Period (4-year) Time Fixed-Effects

Construction Share	-3.5517*** (1.1838)	-1.9523** (0.8382)	-1.1733** (0.4740)	-2.7561*** (0.9068)	-1.6958** (0.7266)	0.2287 (0.5925)
Agriculture (Forestry & Mining) Share	-0.0425 (1.1459)	-1.0050* (0.4886)	0.734 (0.5929)	0.9831 (0.9312)	0.7565 (0.5463)	1.2451** (0.4491)
Trade and Commerce Share	-0.9541 (0.6501)	-0.7068* (0.3467)	-0.2569 (0.4273)	-1.0511 (0.6829)	-0.9862 (0.6689)	-0.1195 (0.3743)
Government Services Share	-0.6558* (0.3575)	-0.1327 (0.2398)	0.1769 (0.2542)	0.2784 (0.3507)	-0.4066 (0.3541)	0.2104 (0.3248)
Finance Share	1.1588* (0.6102)	0.3434 (0.4811)	0.5188 (0.4177)	0.9142 (0.6700)	0.2314 (0.7275)	0.2119 (0.3871)
adj. R square	0.311	0.296	0.284	0.386	0.486	0.328
within R-square	0.325	0.311	0.299	0.399	0.496	0.343
Countries	21	23	23	23	23	19
Regions	213	213	213	213	213	211
Observations	833	982	982	982	982	790

The table reports panel (region) fixed-effects OLS estimates, associating voting for non-mainstream parties (and electoral turnout) with the share of the main sectors in regional value added. All specifications include NUTS2 constants (coefficients not reported). Panel A includes year constants (not reported). Panel B includes four period constants (not reported), corresponding to 2000-2003 (period 1), 2004-2008 (period 2), 2009-2012 (period 3), and 2013-2017 (period 4). Panel C includes country-group specific period effects (constants not reported), allowing the four period constants to differ across for main European regions (North, South, East, and Centre). Industrial share data come from Eurostat. Information on voting comes from various country-specific databases and the classification of parties' orientation is mostly based on the Chappell Hill Expert Survey. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Appendix Table 7. Unemployment and Voting for Extremist Parties Before and After the Crisis
2SLS Difference Specifications.
Post-Crisis Average [2017-2013] - Pre-Crisis Average [2004-2008]

	Extremist Parties (All Types) (1)	Radical Left Parties (2)	Far-Right Parties (3)	Populist Parties (4)	Anti-European Parties (5)	Participation Rate (6)
Panel A. General Constant						
Difference Unemployment	2.7705*** (0.7748)	1.4513* (0.8647)	0.4805 (0.7148)	2.8974*** (1.0707)	0.7373 (0.8354)	-0.1926 (0.3797)
Cragg Donald F-Stat	52.09	52.09	52.09	52.09	52.09	49.92
Kleibergen-Paap F-Stat	17.13	17.13	17.13	17.13	17.13	17.60
Panel B. Country-Group Constants						
Difference Unemployment	1.6281*** (0.3509)	1.7446*** (0.4004)	-0.3729 (0.4068)	1.6074*** (0.5366)	1.0230** (0.3993)	-0.3427* (0.1752)
Cragg Donald F-Stat	121.83	121.83	121.83	121.83	121.83	118.23
Kleibergen-Paap F-Stat	26.79	26.79	26.79	26.79	26.79	29.51
Countries	206	206	206	206	206	193
Regions	21	21	21	21	21	20

The table reports cross-sectional 2SLS (two-stage-least-squares) estimates. The first-stage associates changes in regional unemployment before and after the crisis with the pre-crisis share of construction in regional value added. The second-stage associates changes in voting for non-mainstream political parties (and turnout) to “instrumented” by the pre-crisis construction share changes in regional unemployment. The post-crisis values for voting and unemployment are averages over 2013-2017 and the pre-crisis values are averages over 2001-2008. Panel A includes also a constant term (not reported). Panel B includes four macro-region constants for the North, South, Centre and East (not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Appendix Table 8.
Construction and Self-Reported Corruption and Views on Corruption
Cross-Sectional Estimates in 2003/2004

	Public Official Asked Favor/Bribe past 5 years (1)	Public Official Asking Favor/Bribe is Wrong (2)	Respondent Offered Favor/Bribe last 5 years (3)	Public Official Asked Favor/Bribe past 5 years (4)	Public Official Asking Favor/Bribe is Wrong (5)	Respondent Offered Favor/Bribe past 5 years (6)
Construction Share	0.1652 (0.2604)	0.0589 (0.2657)	0.0871 (0.1319)	0.107 (0.1773)	0.1777 (0.2925)	0.0576 (0.1433)
adjusted R-square	0.01	-0.006	0.003	0.406	0.386	0.169
mean dependent variable	0.022	0.888	0.009	0.022	0.888	0.009
Country Fixed-Effects	No	No	No	Yes	Yes	Yes
Observations/Regions	146	146	146	146	146	146
Countries	17	17	17	17	17	17

The table reports cross-sectional estimates, associating self-reported incidents of corruption (in columns (1), (3), (4), and (6)) and corruption perceptions (in column (2) and (5)) with the share of construction in regional value added in 2003/2004, using data from the 2nd round of the European Social Surveys. Industrial share data come from Eurostat. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Appendix Table 9. Further Identification Tests
Construction, Unemployment and Voting for Extremist Parties
Panel 2SLS Estimates with Country-Group Time Effects

	Extremist Parties (All Types)	Populist Parties	Eurosceptic Parties	Extremist Parties (All Types)	Populist Parties	Eurosceptic Parties
	(1)	(2)	(3)	(4)	(5)	(6)
Lag Unemployment	4.0101*** (0.6956)	3.2172*** (0.7159)	1.1175 (0.6862)	4.3243*** (0.8501)	3.5498*** (0.8584)	1.3025* (0.7225)
Lag College Attainment	0.0042 (0.0073)	0.0014 (0.0064)	0.0037 (0.0037)			
Lag Net Migration Indicator				0.0413 (0.0275)	0.0454* (0.0246)	0.0223 (0.0153)
Kleibergen-Paap F-Stat	30.35	30.35	30.35	38.70	38.70	38.70
Other Industrial Shares	Yes	Yes	Yes	Yes	Yes	Yes
Countries	19	19	19	20	20	20
Regions	199	199	199	200	200	200
Observations	818	818	818	820	820	820

The table reports panel (region) fixed-effects 2SLS (two-stage-least-squares) estimates. The first-stage associates regional lagged unemployment with the lagged share of construction in regional value added. The second-stage associates voting for non-mainstream political parties (and turnout) to “instrumented” by the construction share regional unemployment. All specifications include NUTS2 constants (coefficients not reported) and country-group specific period effects (constants not reported), allowing the four period constants to differ across for main European regions (North, South, East, and Centre). All specifications include as controls the lagged share in regional value added of agriculture (incl. fishing, forestry and mining), trade, finance, and government services (coefficients not reported). Columns (1)-(3) control for lagged share of regional population with completed tertiary education. Columns (4)-(6) control for an indicator that takes the value of one for regions that experience positive migration inflows in the previous year. Information on voting comes from various country-specific databases and the classification of parties’ orientation is mostly based on the Chappell Hill Expert Survey. Industrial share, unemployment, migration, and educational attainment data come from Eurostat. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Appendix Table 10. Further Identification Tests
Construction, Unemployment and Voting for Extremist Parties
Panel 2SLS Estimates with General Time Effects

	Extremist Parties (All Types)	Radical Left Parties	Far-Right Parties	Populist Parties	Anti-European Parties	Participation Rate
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Controlling for Share of ESS Respondents being Citizens						
Lagged Unemployment	1.7247** (0.7976)	1.3529* (0.8190)	-0.136 (0.2153)	1.3529* (0.8190)	0.6838 (0.4457)	-0.4394 (0.3310)
Lagged Citizen Share	0.306 (0.2872)	0.6494** (0.3189)	-0.1799 (0.1356)	0.6494** (0.3189)	0.1494 (0.1283)	0.0321 (0.0640)
Cragg Donald F-Stat	128.06	128.06	128.06	128.06	128.06	134.04
Kleibergen-Paap F-Stat	33.95	33.95	33.95	33.95	33.95	38.83
Panel B. Controlling for Share of ESS Respondents Born in the Country						
Lagged Unemployment	1.7106** (0.8198)	0.8967* (0.5449)	-0.1321 (0.2239)	1.3416 (0.8515)	0.6779 (0.4490)	-0.4242 (0.3329)
Lagged Born in Country Share	(0.0667) (0.2303)	(0.1298) (0.1524)	(0.0621) (0.0593)	(0.2373) (0.2217)	(0.0376) (0.1544)	0.0981* (0.0550)
Cragg Donald F-Stat	125.869	125.869	125.869	125.869	125.869	129.266
Kleibergen-Paap F-Stat	36.66	36.66	36.66	36.66	36.66	39.08
Regions	73	73	73	73	73	61
Countries	7	7	7	7	7	6
Observations	204	204	204	204	204	180

The table reports panel (region) fixed-effects 2SLS (two-stage-least-squares) estimates. The first-stage associates regional lagged unemployment with the lagged share of construction in regional value added. The second-stage associates voting for non-mainstream political parties (and turnout) to “instrumented” by the construction share regional unemployment. All specifications include NUTS2 constants (coefficients not reported) and general period (electoral-cycle, 4-year) effects (constants not reported). Panel A controls for the one-year lagged share of European Social Survey respondents who are citizens of a country. Panel B controls for the one-year lagged share of European Social Survey respondents who were born in the country. Information on voting comes from various country-specific databases and the classification of parties’ orientation is mostly based on the Chappell Hill Expert Survey. Industrial share, unemployment, migration, and educational attainment data come from Eurostat. The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Appendix Table 11.
Precrisis Construction and General and Political Trust, and Political Beliefs before and after the Economic Crisis
"Reduced-Form" Estimates in Differences

	General Trust	People Fair	People Helpful	Trust Parliament	Trust Politicians	Trust Legal System	Trust Police	Trust Eur. Parliament	Trust UN	Satisf. Democ	Left-Right Orientat.	Feel Close to a Party	Further Unification
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Panel A. 2012-2008													
Construction	-0.3025 (0.2526)	0.0407 (0.2666)	-0.2151 (0.2026)	-1.4372*** (0.3994)	-1.5282*** (0.3635)	-1.0620*** (0.3404)	-0.5875** (0.2899)	-0.7596** (0.3258)	-0.2560 (0.3246)	-1.4271*** (0.5511)	0.2249 (0.1429)	-0.0569 (0.4108)	0.1120 (0.6271)
adj. R square	-0.01	-0.03	0.00	0.48	0.50	0.27	0.13	0.27	0.03	0.52	0.03	0.05	0.21
Countries	17	17	17	17	17	17	17	17	17	17	17	17	17
Observations	130	130	130	130	130	130	130	130	130	130	130	130	130
Panel B. 2014-2008													
Construction	-0.5427*** (0.1558)	-0.5330*** (0.1483)	-0.6467** (0.2626)	-1.7408*** (0.4015)	-1.6390*** (0.3803)	-0.8659*** (0.2962)	-0.4637 (0.3172)	-1.4105*** (0.4426)	-0.9856*** (0.3668)	-1.4920*** (0.4100)	0.5314*** (0.1859)	-0.783 (0.6310)	-0.3357 (0.4530)
adj. R square	0.10	0.05	0.09	0.45	0.38	0.15	0.05	0.32	0.04	0.48	0.06	0.03	0.14
Countries	14	14	14	14	14	14	14	14	14	14	14	14	14
Observations	119	119	119	119	119	119	119	119	119	119	119	119	119

The table reports cross-sectional OLS estimates, illustrating the "reduced-form" association between changes in general trust, trust towards institutions, and political beliefs during the crisis and the pre-crisis share of construction in regional value added. The dependent variable is the change in the various trust-beliefs measures over the period 2012-2008 in Panel A and over the period 2014-2008 in Panel B. The independent variable is the share of construction in regional value added before the crisis, averaged over 2004-2007. All specifications (in both panels) include four macro-region constants for the North, South, Centre and East (not reported). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Appendix Table 12. Unemployment, General and Political Trust, and Political Beliefs
Panel Fixed-Effects 2SLS Estimates. 2000-2014**

	General Trust	People Fair	People Helpful	Trust Parliament	Trust Politicians	Trust Legal System	Trust Police	Trust Eur. Parliament	Trust UN	Satisf. Democ	Left-Right Orientat.	Feel Close to a Party	Further Unification
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Panel A. General ESS Round (Time) Fixed-Effects													
Unemployment	-0.2682** (0.1329)	-0.0964 (0.0623)	-0.1257 (0.0911)	-1.1592*** (0.3651)	-0.9850*** (0.2682)	-0.5675** (0.2520)	-0.0024 (0.2043)	-0.9430*** (0.3516)	-0.3939 (0.2400)	-1.4186*** (0.3803)	-0.1214 (0.1462)	-0.9935 (0.6604)	0.0729 (0.2373)
F-Stat	19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.89	46.07
Panel B. Country-Group ESS Round (Time) Fixed-Effects													
Unemployment	-0.1866 (0.1882)	-0.1624 (0.1547)	-0.054 (0.1501)	-0.5731 (0.3749)	-0.4578* (0.2671)	-0.1644 (0.2601)	0.0696 (0.2430)	-0.7954** (0.4029)	-0.3249 (0.2634)	-1.0374*** (0.3471)	-0.0367 (0.1243)	-1.3229** (0.5361)	0.0027 (0.2591)
F-Stat	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	17.91	22.16
Industrial Share:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Countries	20	20	20	20	20	20	20	20	20	20	20	20	18
Observations	965	965	965	965	965	965	965	965	965	965	965	965	648

The table reports panel (region) fixed-effects 2SLS (two-stage-least-squares) estimates. The first-stage associates regional unemployment with the share of construction in regional value added. The second-stage associates general trust, trust towards institutions, and political attitudes to “instrumented” by the construction share regional unemployment. All specifications include NUTS2 constants (coefficients not reported). All specifications condition on the pre-crisis share in regional value added of agriculture, trade, finance, and government services (using mean values over 2004-2007). Panel A includes year constants (not reported). Panel B includes country-group year fixed effects (constants not reported), allowing the year constants to differ across for main European regions (North, South, East, and Centre). Regional unemployment data and data on sectoral shares come from Eurostat. Information on trust and beliefs come from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

**Appendix Table 13. Unemployment and Beliefs on Immigration
Panel Fixed-Effects 2SLS Estimates. 2000-2014**

	Allow Immigrants			Immigrants' Role		
	Majority Race/Ethnic Group	Different Race/Ethnic Group	Poor Non-EU Countries	Economy	Cultural Life	Country Better/Worse
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. General ESS Round (Time) Fixed-Effects						
Unemployment	-0.0228 (0.3263)	-0.2866 (0.3309)	-0.336 (0.3788)	-0.6041** (0.2563)	-0.0927 (0.1886)	-0.1076 (0.1919)
Kleiberger-Paap F-Sta	19.89	19.89	19.89	19.89	19.89	19.89
Panel B. Country-Group ESS Round (Time) Fixed-Effects						
Unemployment	-0.1556 (0.4017)	-0.3497 (0.3666)	-0.5052 (0.3983)	-0.5214 (0.3562)	-0.2768 (0.2682)	-0.0559 (0.2412)
Kleiberger-Paap F-Sta	17.91	17.91	17.91	17.91	17.91	17.91
Industrial Shares Control Countries	Yes 20	Yes 20	Yes 20	Yes 20	Yes 20	Yes 20
Regions	173	173	173	173	173	173
Observations	965	965	965	965	965	965

The table reports panel (region) fixed-effects 2SLS (two-stage-least-squares) estimates. The first-stage associates regional unemployment with the share of construction in regional value added. The second-stage associates beliefs towards immigration to “instrumented” by the construction share regional unemployment. All specifications include NUTS2 constants (coefficients not reported). All specifications condition on the pre-crisis share in regional value added of agriculture, trade, finance, and government services (using mean values over 2004-2007). Panel A includes year constants (not reported). Panel B includes country-group year fixed effects (constants not reported), allowing the year constants to differ across for main European regions (North South, East, and Centre). Regional unemployment data and data on sectoral shares come from Eurostat. Information on attitudes and beliefs towards immigration come from the European Social Surveys (ESS). The Data Appendix gives detailed variable definitions and sources. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate statistical significance at the 10%, 5% and 1% confidence level.

Data Appendix Tables

Data Appendix Table I. Electoral Data: Number of NUTS Regions by Country

VOTING DATA: COUNTRIES AND NUMBER OF NUTS REGIONS BY ELECTION YEAR

Country	Number of NUTS 1 regions	Number of NUTS 2 regions	Number of NUTS 3 regions
Austria	1	9	35
Belgium	1	11	
Bulgaria	1	6	28
Cyprus	1	1	
Czech Republic	1	8	14
Denmark	1		
Estonia	1	1	
Finland	1	5	
France	1	27	98
Germany	16		
Greece	1	13	51
Hungary	1	7	20
Ireland	1	2	8
Iceland	1	1	
Italy	1	20	
Netherlands	1	12	
Norway	1	7	19
Poland	1	16	
Portugal	1	7	
Romania	1	8	
Spain	1	19	52
Sweden	1	8	21
Switzerland	1	7	
Slovakia	1	4	8
Slovenia	1	2	
United Kingdom	12		

Data Appendix Table I. details the number of available NUTS regions per country by election year. As a general rule, the analysis is carried at the NUTS2 level, with the exception of Germany, UK and Cyprus, for the analysis of which we employ 16, 12 and 5 regions at NUTS1, NUTS1, and NUTS3 level, respectively.

Data Appendix Table II. ESS Data: Number of Regions by Country

COUNTRIES AND NUMBER OF NUTS REGIONS BY WAVE (ESS)

Country	Wave	No of NUTS 2 Matched to Unemployment Data	Remarks	No of NUTS Used
Austria	1,2,3,7	6,6,6,6		6
Belgium	1,2,3,4,5,6,7	3,3,3,3,3,3,3		3
Bulgaria	3,4,5,6	6,6,6,6		6
Cyprus	3,4,5,6	1,1,1,1		1
Czech Republic	1,2,4,5,6,7	8,8,8,8,8,8		8
Denmark	1,2,3,4,5,6,7	5,5,5,5,5,5,5		5
Estonia	2,3,4,5,6,7	1,1,1,1,1,1		1
Finland	1,2,3,4,5,6,7	0,0,0,0,0,0,0	NUTS classification issue	0
France	1,2,3,4,5,6,7	8,8,8,8,8,8,8		8
Germany	1,2,3,4,5,6,7	16,16,16,16,16,16,16		16
Greece	1,2,4,5	13,13,(8),13	dropped wave 4	13
Hungary	1,2,3,4,5,6,7	6,6,6,6,6,6,6		6
Ireland	1,2,3,4,5,6,7	2,2,2,2,2,2,2		2
Iceland	2,6	1,1		1
Italy	1,6	17, 17	dropped ITC2, ITD1, ITD2	17
Netherlands	1,2,3,4,5,6,7	12,12,12,12,12,12,12		12
Norway	1,2,3,4,5,6,7	7,7,7,7,7,7,7		7
Poland	1,2,3,4,5,6,7	16,16,16,16,16,16,16		16
Portugal	1,2,3,4,5,6,7	5,5,5,5,5,5,5		5
Romania	-	-		-
Spain	1,2,3,4,5,6	17,17,17,17,17,17,17	dropped ES53, ES63, ES64	17
Sweden	1,2,3,4,5,6,7	8,8,8,8,8,8,8		8
Switzerland	1,2,3,4,5,6,7	(5),7,7,7,7,7,7	dropped wave 1	7
Slovakia	2,3,4,5,6	4,4,4,4,4		4
Slovenia	1,2,3,4,5,6,7	2,2,2,2,2,2,2		2
United Kingdom	1,2,3,4,5,6,7	12,12,12,12,12,12,12		12
Sum				183

Data Appendix Table II. details the number of available NUTS regions per country by ESS Round. The analysis is carried at the NUTS2 level. The mapping of the regions with Total Unemployment data from Eurostat yields 183 NUTS regions in 24 countries (Romania is absent in ESS Rounds 1-7 while Finland cannot be consistently mapped having undergone a change in the country's regional classification during our sample period). For the purposes of the analysis we drop ESS Round 4 for Greece, ESS Round 1 for Switzerland and three NUTS regions of Italy ITC2 (Valle d'Aosta), ITD1 (South Tyrol) and ITD2 (Trento) in order to keep the number of regions constant per country.

Data Appendix Table III. Number of Regions by Country
Gross Value Added Shares (Source: Eurostat)

GVA SHARES: COUNTRIES AND NUMBER OF NUTS REGIONS

Country	Number of NUTS 1 Regions	Number of NUTS2 Regions	Number of NUTS 3 Regions
Austria	1	9	35
Belgium	1	12	44
Bulgaria	1	6	28
Cyprus	1	1	1
Czech Republic	1	8	14
Denmark	1	1	11
Estonia	1	1	5
Finland	1	1	19
France	1	27	101
Germany	1	16	402
Greece	1	12	52
Hungary	1	7	20
Ireland	1	2	8
Iceland	1	1	-
Italy	1	19	110
Netherlands	1	12	40
Norway	1	7	19
Poland	1	16	72
Portugal	1	6	25
Romania	1	8	42
Spain	1	19	59
Sweden	1	8	21
Switzerland	-	-	-
Slovakia	1	4	8
Slovenia	1	2	12
United Kingdom	1	12	173
Sum		215	1321

Data Appendix Table III. details the number of NUTS regions per country for which there is availability of Gross Value Added (GVA) by Industry, sourced from Eurostat.

Data Appendix Table IV. List of National Elections

NATIONAL ELECTIONS BY COUNTRY

Country	Elections
Austria	Parliamentary elections that took place in 2002, 2006, 2008 and 2013.
Belgium	General/federal elections that took place in 2003, 2007, 2010 and 2014.
Bulgaria	Parliamentary elections that took place in 2001, 2005, 2009, 2013, 2014 and 2017.
Cyprus	Parliamentary elections that took place in 2001, 2006, 2011, 2016.
Czech Republic	Parliamentary elections that took place in 2002, 2006, 2010 and 2013.
Denmark	Parliamentary (Folketing) elections that took place in 2001, 2005, 2007, 2011 and 2015.
Estonia	Parliamentary elections that took place in 2003, 2007, 2011 and 2015.
Finland	Parliamentary elections that took place in 2003, 2007, 2011 and 2015.
France	Presidential elections that took place in 2002, 2007, 2012 and 2017.
Germany	Parliamentary elections that took place in 2002, 2005, 2009 and 2013.
Greece	Parliamentary election that took place in 2000, 2004, 2007, 2009, 2012 (May), 2012 (Jun), 2015 (Jan) and 2015 (Sep).
Hungary	Parliamentary elections that took place in 2002, 2006, 2010 and 2014.
Ireland	General elections that took place in 2002, 2007, 2011 and 2016.
Iceland	Parliamentary (Upper House) elections that took place in 2003, 2007, 2009, 2013 and 2016.
Italy	General elections that took place in 2001, 2006, 2008 and 2013.
Netherlands	General elections that took place in 2002, 2003, 2006, 2010, 2012 and 2017
Norway	Parliamentary elections that took place in 2001, 2005, 2009 and 2013.
Poland	Parliamentary elections that took place in 2001, 2005, 2007, 2011 and 2015.
Portugal	Parliamentary elections that took place in 2002, 2005, 2009, 2011 and 2015.
Romania	Parliamentary elections that took place in 2000, 2004, 2008, 2012 and 2016.
Spain	General elections that took place in 2000, 2004, 2008, 2011, 2015 and 2016.
Sweden	General elections that took place in 2002, 2006, 2010 and 2014.
Switzerland	Parliamentary elections that took place in 2003, 2007, 2011 and 2015.
Slovakia	Parliamentary elections that took place in 2002, 2006, 2010, 2012 and 2016.
Slovenia	Parliamentary elections that took place in 2000, 2004, 2008, 2011 and 2014.
United Kingdom	General Election that took place in 2001, 2005, 2010, 2015 and 2017.

Data Appendix Table IV., details the year and the type of National Elections, by country, that we take into account for the analysis of voting outcomes.

Data Appendix Table V.a Classification of anti-establishment parties: Austria

Classification of Anti-Establishment Parties in Austria

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Freedom Party of Austria	FPO	1	1	0	1	1	Right-wing populism; National conservatism; Anti-immigration; Euroscepticism; German nationalism; National liberalism; Right-wing to Far-right	rad right
Alliance for the Future of Austria	BZO	1	1	0	1	1	Economic liberalism; Social conservatism; Right-wing populism; Euroscepticism; Center-right to Right-wing	rad right
Communist Party of Austria	KPO	1	0	1	0	0	Communism; Eurocommunism; Left-wing to Far-left	-
Hans-Peter Martin's List	MARTIN	1	0	0	0	1	Anti-corruption politics; Pro-transparency; Euroscepticism	no family
Team Stronach	FRANK	1	0	0	1	1	Euroscepticism; Populism; Economic liberalism	no family

Data Appendix Table V.a, details the classification of the anti-establishment parties that were politically active in Austria, between 2000 and 2013, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.b Classification of anti-establishment parties: Belgium

Classification of Anti-Establishment Parties in Belgium

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Flemish Bloc	VB	1	1	0	1	1	Flemish nationalism; Separatism; Euroscepticism; Right-wing populism; Far-right	rad right
Flemish Interest	VB	1	1	0	1	1	Flemish nationalism; Right-wing populism; Separatism; National conservatism; Economic liberalism; Euroscepticism; Right-wing to far-right	rad right
National Front	FN	1	1	0	1	1	Nationalism; Far-right; Populism; Euroscepticism	rad right
New Flemish Alliance	NVA	1	0	0	0	1	Flemish nationalism; Regionalism; Separatism; Conservatism; Liberal conservatism; Centre-right	regionalist
People's Union - ID21	VU-ID21	1	0	0	0	1	Flemish nationalism Federalism	regionalist
Popular Party	PP	1	1	0	1	1	National conservatism; Belgian unionism; Right-wing populism; Economic liberalism; Euroscepticism; Right-wing to far-right	conservative
Socialist Party. Different - Spirit	SPA_Spirit	1	0	0	0	1	Coalition between Socialist Party Different and Spirit. Spirit was moderately nationalistic, separatist; regionalist	socialist; libera
Workers' Party of Belgium (PTB)	PTB / PVDA	1	0	1	0	0	Communism; Marxism; Marxism-Leninism; Socialism; Far-left	rad left

Data Appendix Table V.b, details the classification of the anti-establishment parties that were politically active in Belgium, between 2000 and 2014, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.c Classification of anti-establishment parties: Bulgaria

Classification of Anti-Establishment Parties in Bulgaria

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Attack	ATAKA	1	1	0	1	1	Bulgarian nationalism; Right-wing populism; Russophilia; Anti-globalism; Euroscepticism; Islamophobia; Far-right	rad right
Patriotic Front	IMRO_NFSB	1	0	0	1	1	Bulgarian nationalism; National conservatism; Social conservatism; Euroscepticism; Russophilia; Right-wing; Populism	-
Volya	WILL	1	0	0	1	1	Right-wing populism; Russophilia; Anti-corruption; Patriotism; Liberal democracy; Euroscepticism; Centre-right	-
United Patriots	UNITED_PATRIOTS	1	1	0	1	1	Bulgarian nationalism; National conservatism; Social conservatism; Right-wing populism; Protectionism; Euroscepticism; Anti-Islam; Right-wing to Far-right	-

Data Appendix Table V.c, details the classification of the anti-establishment parties that were politically active in Bulgaria, between 2000 and 2017, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.d Classification of anti-establishment parties: Cyprus

Classification of Anti-Establishment Parties in Cyprus

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Progressive Party of Working People	AKEL	1	0	1	0	1	Communism; Democratic socialism; Soft euroscepticism; Left-wing	rad left
Citizens' Alliance	SYPOL	1	0	0	1	0	Left-wing populism; Social democracy; Greek Cypriot nationalism; Centre-left	-
European Party	EVROKO	1	1	0	0	0	Greek-Cypriot nationalism; Pro-Europeanism	conservative
National Popular Front	ELAM	1	1	0	1	1	Ultranationalism; Greek nationalism; Far-right; Eurosceptic	-
New Horizons	NO	1	1	0	1	0	radical right-wing; populist	-
Solidarity Movement	KA	1	1	0	0	1	National conservatism; Right-wing; Eurosceptic by affiliation	-

Data Appendix Table V.d, details the classification of the anti-establishment parties that were politically active in Cyprus, between 2000 and 2016, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.e Classification of anti-establishment parties: Czech Republic

Classification of Anti-Establishment Parties in Czech Republic

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Action of Dissatisfied Citizens	ANO	1	0	0	1	0	Big tent; Centrism; Liberalism; Populism; Syncretic politics; Centre to centre-right	no family
Communist Party of Bohemia and Moravia	KSCM	1	0	1	0	1	Communism; Marxism; Euroscepticism; Left-wing to far-left	rad left
Czech Pirate Party	CPS	1	0	0	1	0	Pirate politics; Direct democracy; Centre; Populism	-
Dawn of Direct Democracy	UPD	1	1	0	1	1	Czech nationalism; Right-wing populism; Direct democracy; Anti-immigration; Euroscepticism; Right-wing	-
Free Citizens Party	SSO	1	0	0	0	1	Classical liberalism; Right-libertarianism; Libertarian conservatism; Liberal conservatism; Hard Euroscepticism; Right-wing	-
Public Affairs	VV	1	0	0	1	0	Conservative liberalism; Direct democracy; Populism; Centre-right	liberal
Republicans of Miroslav Sladek	RMS	1	1	0	1	1	National conservatism; Austrian economics; Republicanism; Euroscepticism; Anti-immigration; Non-interventionism; Anti-Ziganism; Anti-Germanism; Czechoslovak unionism; Right-wing	-
Sovereign Party	Sovereign Party	1	0	0	1	1	Nationalism; Euroscepticism; Centre-left to Right-wing	-
Civic Democratic Party	ODS	1	0	0	0	1	Majority: Liberal conservatism; Klausism; Euroscepticism. Factions: Social conservatism; Neoconservatism; National conservatism; National liberalism; Centre-right to right-wing	conservative

Data Appendix Table V.e, details the classification of the anti-establishment parties that were politically active in Czech Republic, between 2000 and 2013, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.f Classification of anti-establishment parties: Denmark

Classification of Anti-Establishment Parties in Denmark

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Danish People's Party	DF	1	1	0	1	1	Danish nationalism; National conservatism; Social conservatism; Right-wing populism; Euroscepticism; Right-wing to far-right	rad right
Minority Party	MP	1	0	0	0	1	Humanism; Euroscepticism	-
Progress Party	FP	1	1	0	1	1	Right-wing populism; Anti-tax; Anti-immigration; Right-wing; Euroscepticism	rad right
Socialist People's Party	SF	1	0	1	0	1	Socialism; Popular socialism; Democratic socialism; Eco-socialism, Left wing; Partly	red left
Unity List - Red-Green	EL	1	0	1	0	1	Socialism; Eco-socialism; Anti-capitalism; Euroscepticism; Left-wing to far-left	rad left

Data Appendix Table V.f, details the classification of the anti-establishment parties that were politically active in Denmark, between 2000 and 2015, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.g Classification of anti-establishment parties: Estonia

Classification of Anti-Establishment Parties in Estonia

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Estonian Center Party	EK	1	0	0	1	0	Centrism; Social liberalism; Populism; Centre to Centre-left	liberal
Conservative People's Party	EKRE	1	1	0	1	1	Estonian nationalism; National conservatism; Ethnopluralism; Euroscepticism; Direct democracy; Right-wing	-
Estonian Christian Democrats /	EEKD	1	0	0	0	1	Christian democracy; Euroscepticism	-
People's Union of Estonia / Estonian	ERL / EME	1	0	0	1	0	Agrarian party with populist, social democratic influences	agrarian/centre
Res Publica	ERP	1	0	0	1	0	Conservatism, Populism	conservative

Data Appendix Table V.f, details the classification of the anti-establishment parties that were politically active in Estonia, between 2000 and 2015, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.h Classification of anti-establishment parties: Finland

Classification of Anti-Establishment Parties in Finland

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Left Alliance	VAS	1	0	1	0	1	Democratic socialism; Eco-socialism; Left-wing; Eurosceptic by	rad left
Communist Party of Finland	SKP	1	0	1	0	1	Communism; Marxism; Soft Euroscepticism; Left-wing to Far-left	-
Independence Party	IP	1	0	0	1	1	Populism; Euroscepticism; Right-wing Finnish nationalism; National conservatism; Economic nationalism;	-
Finns Party	PS	1	1	0	1	1	Social conservatism; Right-wing populism; Euroscepticism; Right-wing	rad right

Data Appendix Table V.h, details the classification of the anti-establishment parties that were politically active in Finland, between 2000 and 2015, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.i Classification of anti-establishment parties: France

Classification of Anti-Establishment Parties in France

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
National Front	FN	1	1	0	1	1	French nationalism; National conservatism; Souverainism; Protectionism; Right-wing populism; Anti-immigration; Hard Euroscepticism	rad right
Unbowed France	LFI	1	0	0	1	1	Democratic socialism; Eco-socialism; Left-wing populism; Environmentalism; Alter-globalization; Soft Euroscepticism	not available
France Arise	DLR (DLF)	1	1	0	0	1	French nationalism; National conservatism; Gaullism; Republicanism; Souverainism; Social conservatism; Euroscepticism	rad right
Popular Republican Union	UPR	1	1	0	0	1	French nationalism; Gaullism; Hard Euroscepticism; Souverainism; Right-wing to Far-right	not available
Workers' Struggle	LO	1	0	1	0	1	Trotskyism; Marxism; Leninism; Internationalism; Feminism	rad left
Solidarity and Progress	SP	1	0	0	1	1	Protectionism; Euroscepticism; Colbertism; Anti-imperialism; Conspirationism	not available
New Anticapitalist Party	LCR	1	0	1	0	1	Anti-capitalism; Democratic socialism; Eco-socialism; Alter-globalization; Anti-nationalism; Anti-racism; Progressivism; Feminism; Neo-communism; Far-left	rad left
Left Front	FG	1	0	1	1	1	Socialism; Communism. Left-wing to Far-left	not available
Workers' Party	LPT	1	0	1	0	1	Internationalism; Trotskyism; Socialism; Communism; Anarcho-syndicalism; Euroscepticism	rad left
National Republican Movement	MNR	1	1	0	1	1	French nationalism; Neoconservatism; National conservatism; Social conservatism; Anti-immigration; Right-wing populism; Euroscepticism; Far-right	not available
Movement for France	MPF	1	1	0	1	1	National conservatism; Social conservatism; Souverainism; Soft euroscepticism; Right-wing	rad right
French Communist Party	PCF	1	0	1	0	1	Communism; Marxism. Far-left	rad left
Independent Workers' Party	POI	1	0	1	0	1	Trotskyism; Marxism; Communism; Proletarian internationalism	red left

Data Appendix Table V.i, details the classification of the anti-establishment parties that were politically active in France, between 2000 and 2017, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.j Classification of anti-establishment parties: Germany

Classification of Anti-Establishment Parties in Germany

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
The Republicans	REP	1	1	0	1	1	German nationalism; National conservatism; Euroscepticism; Social conservatism; Populism; Right-wing	rad right
Party of Democratic Socialism	PDS	1	0	1	1	0	Democratic socialism; Left-wing populism; Left-wing to Far-left	rad left
German People's Union	DVU	1	1	0	1	1	German nationalism; Pan-Germanism; Right-wing populism; Far-right	rad right
Party of Democratic Socialism	Linkspartei/PDS	1	0	1	1	0	Democratic socialism; Left-wing populism; Left-wing to Far-left	rad left
The Left	LINKE	1	0	1	1	1	Democratic socialism; Left-wing populism; Anti-capitalism; Antimilitarism	rad left
National Democratic Party of Germany	NPD	1	1	0	1	1	Neo-Nazism; Ultranationalism; Pan-Germanism; Anti-immigration;	rad right
Party for a Rule of Law Offensive	Schill	1	1	0	1	0	Anti-globalism; Far-right populism; Right-wing populism; Conservatism; Right-wing	-
Die PARTEI	Die PARTEI	1	0	0	1	0	Satire (Political); Dadaism; Populism; Anti-Far Right	-
Alternative for Germany	AfD	1	1	0	1	1	Grassroots democracy; Wage labour; Animal welfare; Elitism with Rule of law	no family
Free Voters	FREIE	1	0	0	1	1	German nationalism; Right-wing populism; Euroscepticism	-
							Populism; Euroscepticism	-

Data Appendix Table V.j, details the classification of the anti-establishment parties that were politically active in Germany, between 2000 and 2013, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.k Classification of anti-establishment parties: Greece

Classification of Anti-Establishment Parties in Greece

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Euroseptic/Separatist	Internet Resources	Chapel Hill
Coalition of the Left, of Movements and Ecology	SYN	1	0	1	0	1	Democratic socialism; Eco-socialism; Eurocommunism; Environmentalism; Feminism; Pacifism; Left wing	rad left
Communist Party of Greece	KKE	1	0	1	0	1	Communism; Marxism–Leninism; Far-left	rad left
Democratic Social Movement	DIKKI	1	0	1	0	1	Socialism; Social democracy; Soft Eurosepticism; Left-wing nationalism	rad left
Coalition of the Radical Left	SYRIZA	1	0	1	1	1	Democratic socialism; Left-wing populism; Eco-socialism; Anti-capitalism; Alter-globalisation; Secularism; Soft eurosepticism	rad left
Popular Orthodox Rally	LAOS	1	1	0	1	1	Greek nationalism; Right-wing populism; Religious conservatism; Eurosepticism; Right-wing to Far-right	rad right
Independent Greeks	ANEL	1	1	0	1	1	Greek nationalism; National conservatism; Social conservatism; Right-wing populism; Eurosepticism	rad right
Popular Association – Golden Dawn	XA	1	1	0	1	1	Neo-Nazism; Ultranationalism; Metaxism; Eurosepticism; Anti-globalism; Anti-communism; Far-right	rad right
Popular Unity	LAE	1	0	1	1	1	Socialism; Eurosepticism; Left-wing populism; Left-wing to Far-left	-

Data Appendix Table V.k, details the classification of the anti-establishment parties that were politically active in Greece, between 2000 and 2015, as well as their further characterisation as far right, radical left, populist and/or euroseptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.1 Classification of anti-establishment parties: Hungary

Classification of Anti-Establishment Parties in Hungary

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Hungarian Justice and Life Party	MIEP	1	1	0	1	1	Hungarian nationalism; Social conservatism; Right-wing; Euroscepticism	-
Movement for a Better Hungary	Jobbik	1	1	0	1	1	Hungarian nationalism; Hungarian irredentism; Hungarian Turanism; National conservatism; Social conservatism; Right-wing populism; Economic nationalism; Hard Communism; Marxism–Leninism; Euroscepticism; Far-left	rad right
Workers' Party	MP	1	0	1	0	1	Hungarian nationalism; National conservatism; Social conservatism; Soft Euroscepticism; Right-wing populism; Christian democracy; Conservatism; Christian democracy; National conservatism; Hungarian nationalism; Right-wing	-
Fidesz	Fidesz	1	0	0	1	1	Coalition	conservative
Hungarian Democratic Forum	MDF	1	0	0	1	1	Coalition	conservative
Fidesz-MDF	Fidesz-MDF	1	0	0	1	1	Coalition	conservative
Fidesz-Hungarian Civic Union-KDNP	Fidesz-Hungarian Civic Union-KDNP	1	0	0	1	1	Coalition	-
Fidesz-KDNP-MVMP joint candidate	Fidesz-KDNP-MVMP	1	0	0	1	1	Coalition	-
MDF-Fidesz-KDNP	MDF-Fidesz-KDNP	1	0	0	1	1	Coalition	-
MIEP-Jobbik Third Way Alliance of Parties	MIEP-Jobbik	1	1	0	1	1	Coalition	-

Data Appendix Table V.1, details the classification of the anti-establishment parties that were politically active in Hungary, between 2000 and 2014, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.m Classification of anti-establishment parties: Iceland

Classification of Anti-Establishment Parties in Iceland

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Independence Party	D	1	0	0	0	1	Liberal conservatism; Economic liberalism; Euroscepticism; Centre-right to right-wing	-
Left-Green Movement	VG	1	0	0	0	1	Democratic socialism; Eco- socialism; Euroscepticism; Feminism; Pacifism; Left- wing	-
Liberal Party	FF	1	0	0	0	1	Liberalism; anti- establishment; coastal and fishermen's interests; Euroscepticism; centre-right	-
Progressive Party	FSF	1	0	0	1	1	Agrarianism; Euroscepticism; Populism; Centre-right	-
Rainbow	XJ	1	0	0	0	1	Environmentalism; Euroscepticism; Socialism; Left-wing	-
Right Green People's Party	G	1	0	0	0	1	Euroscepticism; Libertarianism	-

Data Appendix Table V.m, details the classification of the anti-establishment parties that were politically active in Iceland, between 2000 and 2016, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from various online resources.

Data Appendix Table V.n Classification of anti-establishment parties: Ireland

Classification of Anti-Establishment Parties in Ireland

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Sinn Fein	SF	1	0	0	1	0	Irish republicanism; Left-wing nationalism; Democratic socialism; Populist socialist; Centre-left to left-wing Democratic socialism;	regionalist
Socialist Party	SP	1	0	1	0	1	Political radicalism; Trotskyism; Euroscepticism; Left-wing to far-left Marxism–Leninism;	rad left
Workers Party	WP	1	0	1	0	1	Communism; Irish republicanism; Eurosceptic by Socialism; Trotskyism;	-
People Before Profit Alliance	PBPA	1	0	1	0	1	Euroscepticism; Left-wing to far-left	rad left
United Left Alliance	ULA	1	0	1	0	1	Democratic socialism; Euroscepticism; Left-wing Trotskyism; Democratic socialism; United Ireland;	-
Socialist Workers Party	SWP	1	0	1	0	1	Euroscepticism; Far-left	-

Data Appendix Table V.n, details the classification of the anti-establishment parties that were politically active in Ireland, between 2000 and 2016, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.o Classification of anti-establishment parties: Italy

Classification of Anti-Establishment Parties in Italy

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Left Ecology Freedom / Sinistra Ecologia Liberta	SEL	1	0	0	0	1	Democratic socialism; Eco-socialism; Left-wing; Eurosceptic by affiliation	socialist
Rivoluzione Civile	RC	1	0	1	0	0	Anti-corruption; Internal factions: Communism; Green politics; Left-wing	rad left
Alleanza Nazionale	AN	1	1	0	1	1	Conservatism; National conservatism; Right-wing; Eurosceptic by affiliation	rad right
Movimento Sociale – Fiamma Tricolore	MS	1	1	0	0	1	Ultranationalism; Fascism; Third Position; Far-right; Eurosceptic by affiliation	rad right
Partito dei Comunisti Italiani	PdCI	1	0	1	0	1	Communism; Left-wing; Soft Euroscepticism by affiliation	rad left
MoVimento 5 Stelle	M5S	1	0	0	1	1	Populism; Anti-establishment	no family
Casa delle Liberta	CdL	1	0	0	1	0	Direct democracy; E-democracy; Environmentalism; Euroscepticism; Non-interventionism; Big tent	-
Forza Italia	FI	1	0	0	1	0	Centre-right; populist	-
Fratelli d'Italia	FdI	1	0	0	1	0	Liberal conservatism; Christian democracy; Liberalism; Populism; Centre-right	cons
Il Popolo della Liberta	PdL	1	1	0	0	1	National conservatism; Nationalism; Euroscepticism; Right-wing	cons
Italia dei Valori	IdV	1	0	0	1	0	Liberal conservatism; Christian democracy; Liberalism; Centre-right	cons
La Sinistra l'Arcobaleno	SA	1	0	1	0	0	Populism; Centrism; Anti-corruption politics	liberal
Lega Nord	LN	1	0	0	1	1	Communism; Green socialism; Democratic socialism; Left-wing	-
Movimento per l'Autonomia	MpA	1	0	0	0	1	Regionalism; Federalism; Populism; Anti-immigration; Euroscepticism; Anti-globalization; Historical, now minorities:	regionalist
Alternativa Sociale con Alessandra Mussolini	AS	1	1	0	0	1	Separatism; Padanian nationalism; Liberalism	-
La Destra	LD	1	1	0	0	1	Regionalism; Autonomism; Christian democracy; Centre-right	-
							Neofascism; Nationalism; Anticommunism;	-
							Conservatism; Social Right; Euroscepticism; Extreme right	-
							National conservatism; Euroscepticism; Right-wing	-

Data Appendix Table V.o, details the classification of the anti-establishment parties that were politically active in Italy, between 2000 and 2013, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.p Classification of anti-establishment parties: Netherlands

Classification of Anti-Establishment Parties in the Netherlands

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Party for Freedom	PVV	1	1	0	1	1	Dutch nationalism; National conservatism; National liberalism; Right-wing populism; Anti-Islam; Anti-immigration; Hard Euroscepticism; Right-wing to Far-right[rad right
Socialist Party	SP	1	0	1	1	1	Democratic socialism; Left-wing populism; Social democracy; Soft Euroscepticism; Left-wing	rad left
Christian Union	CU	1	0	0	0	1	Christian democracy; Social conservatism; Soft euroscepticism; Confessionalism; Centre to Centre-right	confessional
50 PLUS	50PLUS	1	0	0	1	0	Populism	
Reformed Political Party	SGP	1	0	0	0	1	Christian right; Social conservatism; Theocracy; Soft Euroscepticism	confessional
Forum voor Democratie	FvP	1	0	0	0	1	National conservatism; Fiscal conservatism; Souverainism; Hard Euroscepticism; Direct democracy; E-governance; E-democracy; Right-wing	-

Data Appendix Table V.p, details the classification of the anti-establishment parties that were politically active in the Netherlands, between 2000 and 2017, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.q Classification of anti-establishment parties: Norway

Classification of Anti-Establishment Parties in Norway

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Center Party	Sp	1	0	0	0	1	Agrarianism; Decentralisation; Euroscepticism; Protectionism; Centre Christian democracy;	-
Christian Democratic Party	KrF	1	0	0	0	1	Social conservatism; Euroscepticism; Centre to centre-right Regionalism;	-
Coastal Party	Kystpartiet	1	0	0	0	1	Agrarianism; National conservatism; Euroscepticism; Centre- right	-
Progress Party	FrP	1	0	0	1	1	Conservative liberalism; Economic liberalism; Right-wing populism; National conservatism; Right-wing Revolutionary socialism	-
Red Electoral Alliance	RV	1	0	1	0	1	Marxism; Democratic socialism; Eurosceptic by affiliation; Far-left Democratic socialism;	-
Socialist Left Party	SV	1	0	0	0	1	Eco-socialism; Euroscepticism; Feminism; Left-wing	-

Data Appendix Table V.q, details the classification of the anti-establishment parties that were politically active in Norway, between 2000 and 2013, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from various online resources.

Data Appendix Table V.r Classification of anti-establishment parties: Poland

Classification of Anti-Establishment Parties in Poland

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Law and Justice	PiS	1	1	0	1	1	Polish nationalism; National conservatism; Social conservatism; Anti-immigration; Economic nationalism; State interventionism; Christian democracy; Right-wing populism; Centralisation; Euroscepticism; Political Catholicism; Right-wing	rad right
Self-Defence of the Republic of Poland	S	1	1	0	1	1	Polish nationalism; Populism; Agrarianism; Economic nationalism; Social conservatism; Far-right	agrarian/centre
League of Polish Families	LPR	1	1	0	1	1	National Democracy; Polish nationalism; Social conservatism; Political Catholicism; Euroscepticism; Far-right	confessional
Polish Labour Party	PPP	1	0	1	0	1	Socialism; Trotskyism; Marxism; Anti-capitalism; Far-left; Eurosceptic by affiliation	
Alternative Social Movement	ARS	1	0	0	0	1	Nationalistic ; National Catholicism; Euroscepticism	
Platforma Janusza Korwin-Mikke	PJKM	1	0	0	0	1	conservative liberalism; libertarianism; monarchism; euroscepticism; capitalism; liberalism; libertarianism	-
Poland Comes First	PJN	1	0	0	0	1	Conservatism; Christian democracy; Conservative liberalism; Soft euroscepticism; Economic liberalism; Centre-right	-
Congress of the New Right	NP	1	0	0	1	1	Conservatism; Libertarianism; Right-wing populism; Euroscepticism; Social conservatism; Libertarian conservatism; Right wing	cons
Poland Together	PR	1	0	0	0	1	Conservatism; Economic liberalism; Soft euroscepticism; Centre-right	cons
Liberty	KORWiN	1	1	0	0	1	Libertarianism; Paleoconservatism; Hard Euroscepticism; Economic liberalism; Right-wing	-
Kukiz15	Kukiz15	1	0	0	1	1	Right-wing populism; Direct democracy; Anti-establishment; Soft euroscepticism; Conservatism; Fiscal conservatism; Right-wing	-

Data Appendix Table V.r, details the classification of the anti-establishment parties that were politically active in Poland, between 2000 and 2015, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.s Classification of anti-establishment parties: Portugal

Classification of Anti-Establishment Parties in Portugal

Party	Party Abbrev.	ti-Establishm	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Bloco de Esquerda	BE	1	0	1	1	1	Democratic socialism; Feminism; Euroscepticism; Anti-capitalism; Eco-socialism; Left-wing; Eurosceptic by affiliation	rad left
CDS - Partido Popular	CDS-PP	1	0	0	1	0	Conservatism; Christian democracy; National conservatism; Populism; Centre-right to right-wing	cons
Coligacao Democratica Unitaria	PCP-PEV	1	0	1	0	1	Communism; Eco-socialism; Far-left; Eurosceptic by affiliation	rad left
Partido Democratico Republicano	PDR	1	0	0	1	1	Liberalism; Social liberalism; Populism; Euroscepticism; Centre to centre-left	-
Partido Comunista dos Trabalhadores Portugueses	PCTP_MRPP	1	0	1	0	1	Communism; Marxism-Leninism; Maoism; Anti-revisionism; Far-left	-

Data Appendix Table V.s, details the classification of the anti-establishment parties that were politically active in Portugal, between 2000 and 2015, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.t Classification of anti-establishment parties: Romania

Classification of Anti-Establishment Parties in Romania

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Partidul România Mare	PRM	1	1	0	1	1	Romanian nationalism; Romanian irredentism; Right-wing populism; National conservatism; Euroscepticism; Far-right	rad right
Partidul Romania Unita	PRU	1	1	0	0	1	Nationalism; Protectionism; Extreme right	-
Alianta Noastra Romania	ANR	1	1	0	1	1	Conservative; Nationalism; right-wing	-
New Generation Party – Christian Democratic	PNG / PNGCD	1	1	0	1	0	Romanian nationalism; Right-wing populism; Christian right Populism; Romanian nationalism; Left-wing; Eurosceptic by affiliation	-
People’s Party – Dan Diaconescu	PP-DD	1	0	0	1	1		no family
Romanian National Unity Party	PUNR	1	1	0	1	0	Nationalism; extreme right	-
Hungarian People's Party of Transylvania	PPMT	1	0	0	0	1	Hungarian minority interests; Christian democracy; Autonomism; Separatist	-

Data Appendix Table V.t, details the classification of the anti-establishment parties that were politically active in Romania, between 2000 and 2016, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties’ ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.u Classification of anti-establishment parties: Slovakia

Classification of Anti-Establishment Parties in Slovakia

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Communist Party of Slovakia	KSS	1	0	1	0	1	Communism; Marxism–Leninism; Left-wing to Far-left	rad left
True Slovak National Party	PSNS	1	1	0	1	1	Extreme; far-right; party of SNS splinters	rad right
Slovak National Party	SNS	1	1	0	1	1	Slovak nationalism; National conservatism; Social conservatism; Economic nationalism; Right-wing populism; Euroscepticism; Right-wing to Far-right	rad right
Movement for Democracy	HZD	1	0	0	0	1	Euroscepticism	no family
People’s Party – Movement for a Democratic Slovakia	LS_HZDS	1	0	0	1	0	National conservatism; Social conservatism; Populism; Centre	populism
Kotleba – People’s Party Our Slovakia	L'SNS	1	1	0	1	1	Slovak nationalism; Authoritarianism; Neo-Fascism; Reactionarism; Right-wing populism; Neo-Nazism; National conservatism; Social conservatism; Economic nationalism; Anti-globalism; Anti-immigration; Hard Euroscepticism	-
99 Percent – Civic Voice	NNPercent	1	0	0	1	0	Populism	-
Ordinary People and Independent Personalities	O ANO	1	0	0	0	1	Conservatism; Christian democracy; Centre-right; Euroscepticism	cons
Ordinary People and Independent Personalities- New Majority	O ANO–NOVA	1	0	0	0	1	Conservatism; Christian democracy; Centre-right; Euroscepticism; Liberal conservatism	cons
We Are Family	Sme Rodina	1	0	0	1	1	Slovak nationalism; Conservatism National conservatism; Economic liberalism; Right-wing populism; Anti-immigration; Euroscepticism; Centre-right to Right-wing	-
Freedom and Solidarity	SaS	1	0	0	0	1	Liberalism; Libertarianism; Soft Euroscepticism; Centre-right	liberal

Data Appendix Table V.u, details the classification of the anti-establishment parties that were politically active in Slovakia, between 2000 and 2016, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties’ ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.v Classification of anti-establishment parties: Slovenia

Classification of Anti-Establishment Parties in Slovenia

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Slovenian National Party	SNS	1	1	0	1	1	Slovenian nationalism; Populism; Euroscepticism; Far-right	rad right
Party Lime Tree	LIPA	1	1	0	0	1	Nationalism; Euroscepticism	-

Data Appendix Table V.v, details the classification of the anti-establishment parties that were politically active in Slovenia, between 2000 and 2014, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.w Classification of anti-establishment parties: Spain

Classification of Anti-Establishment Parties in Spain

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Amaiur	AMAIUR	1	0	0	0	1	Basque nationalism; Left-wing nationalism; Basque independence; Socialism; Ezker abertzalea; Left-wing	regionalist
Galician Nationalist Bloc and Coalitions	BNG	1	0	0	0	1	Galician nationalism; Socialism; Left-wing nationalism; Galician independence; Feminism; Pacifism; Euroscepticism; Left-wing	regionalist
Citizens–Party of the Citizenry Democratic	C's	1	0	0	1	0	Liberalism; Secularism; Autonomism; Pro-Europeanism; Postnationalism; Centre	liberal
Convergence of Catalonia	CDC	1	0	0	0	1	Catalan independence; Catalan nationalism; Liberalism; Conservatism; Conservative liberalism; Centrism; Social democracy (minority); Centre-right	-
Convergence and Union	CiU	1	0	0	1	1	Catalan nationalism; Centrism; Internal factions: Populism, Christian democracy, Liberalism, Conservatism, Catalan independentism, Social democracy; Centre-right	regionalist
Democracy and Freedom	DL	1	0	0	0	1	Catalan independence; Liberalism; Centre-right	-
Republican Left of Catalonia	ERC and Coalitions	1	0	0	0	1	Catalan nationalism; Catalan independence; Left-wing nationalism; Republicanism; Democratic socialism; Economic liberalism; Soft Euroscepticism; Centre-left to left-wing	regionalist
Republican Left of Catalonia–Catalonia Yes	ERC_CATSI	1	0	0	0	1	Catalan independence; Republicanism; Social democracy; Left-wing nationalism; Centre-left to left-wing	-
United Left and Coalitions	IU	1	0	1	0	1	Communism; Eurocommunism; Republicanism; Environmentalism; Federalism; Left-wing; Eurosceptic by affiliation	rad left
Podemos and Coalitions	PODEMOS	1	0	1	1	1	Democratic socialism; Social democracy; Direct democracy; Left-wing populism; Left-wing; Eurosceptic by affiliation	rad left
Andalusian Party	PA	1	0	0	0	1	Social democracy; Andalusian nationalism; Regionalism; Centre-left	regionalist
Barcelona en Comú	EnComu	1	0	0	1	0	Localism; Left-wing populism; Participatory democracy; Direct democracy; Democratic socialism; Eco-socialism; Libertarian socialism; Libertarian municipalism; Anti-capitalism; Anti-globalism; Pacifism; Anti-racism; Anti-mass tourism; Left-wing	-

Data Appendix Table V.w Classification of anti-establishment parties: Spain (cont.)

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources
Republican Left of the Valencian Country	ERPV	1	0	0	0	1	Catalan nationalism Left-wing nationalism Catalan independence Republicanism Democratic socialism Països Catalans Political position Left-wing
Euskal Herria Bildu	EHBildu	1	0	1	0	1	Basque nationalism; Separatism; Left-wing nationalism (Abertzale left); Far-left
Eusko Alkartasuna	EA	1	0	0	0	1	Basque nationalism; Social democracy; Separatism; Left-wing
Initiative for Catalonia Greens–United and Alternative Left	ICV_EUiA	1	0	1	0	1	Republicanism; Federalism; Socialism; Communism; Eco-socialism; Laicism; Ecologism; Progressivism; Catalanism; Left-wing; Eurosceptic / Separatist by affiliation
Initiative for Catalonia Greens	IC_V	1	0	0	0	1	Eco-socialism; Socialism of the 21st century; Federalism; Catalan nationalism; Left-wing
United Left of Navarre	IUN_NEB	1	0	1	0	1	Socialism; Anticapitalism; Communism; Republicanism; Feminism; Federalism; Pro-Basque; Left; Soft Eurosceptism by affiliation
Més per Mallorca	MES	1	0	0	0	1	Democratic socialism; Green politics; Left-wing nationalism; Catalanism
Nafarroa Bai	NaBai	1	0	0	0	1	Basque nationalism; Progressivism; Centre to Left wing
Geroa Bai	GBai	1	0	0	0	1	Basque nationalism; Progressivism; Centre
Communist Party of the Peoples of Spain	PCPE	1	0	1	0	1	Communism; Marxism-Leninism; Euroscepticism; Republicanism; Far-left
Communist Party of the Catalan People	PCPC	1	0	1	0	1	Communism; Marxism-Leninism; Euroscepticism; Radical left
Platform for Catalonia	PxC	1	1	0	1	1	Euroscepticism; Social conservatism; Spanish Unionism; Populism; Anti-Islam; Catalan regionalism; Far-right
Unidos Podemos	UNIDOSPODEMOS	1	0	1	1	1	Left-wing Left-wing populism; Eurosceptic by affiliation

Data Appendix Table V.w, details the classification of the anti-establishment parties that were politically active in Spain, between 2000 and 2016, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.x Classification of anti-establishment parties: Sweden

Classification of Anti-Establishment Parties in Sweden

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Green Party/Environmental Party	MP	1	0	0	0	1	Green politics; Soft Euroscepticism; Centre-left	green
Left Party	V	1	0	1	0	1	Socialism; Feminism; Euroscepticism; Left-wing	rad left
Sweden Democrats	SD	1	1	0	1	1	Swedish nationalism; Economic nationalism; Social conservatism; National conservatism; Right-wing populism; Hard Euroscepticism; Ethnopluralism; Anti-immigration; Right-wing to Far-right	rad right

Data Appendix Table V.x, details the classification of the anti-establishment parties that were politically active in Sweden, between 2000 and 2014, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table V.y Classification of anti-establishment parties: Switzerland

Classification of Anti-Establishment Parties in Switzerland

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
Democratic Center Union / Swiss Peoples' Party	SVP / UDC	1	1	0	1	1	Swiss nationalism; National conservatism; Right-wing populism; Economic liberalism; Agrarianism; Isolationism; Euroscepticism	-
Federal Democratic Union	EDU / UDF	1	0	0	0	1	Christian right; National conservatism; Social conservatism; Euroscepticism	-
Freedom Party of Switzerland	FPS / PSL	1	1	0	1	0	Nationalism; Conservatism; National conservatism; Right-wing populism	-
Popular Workers Party / Swiss Labour Party	PST / PDA	1	0	1	0	1	Democratic socialism; Communism; Marxism; Eurosceptic by affiliation	-
Solidarities	S	1	0	1	0	1	Communism; Marxism–Leninism; Trotskyism; Anti-capitalism; Proletarian internationalism; Far left; Eurosceptic by affiliation	-
Ticino League	LdT	1	0	0	1	1	Right-wing populism; Euroscepticism; National conservatism; Isolationism	-

Data Appendix Table V.y, details the classification of the anti-establishment parties that were politically active in Switzerland, between 2000 and 2015, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from various online resources.

Data Appendix Table V.z Classification of anti-establishment parties: UK

Classification of Anti-Establishment Parties in the UK

Party	Party Abbrev.	Anti-Establishment	Far Right	Rad. Left	Populist	Eurosceptic/Separatist	Internet Resources	Chapel Hill
British National Party	BNP	1	1	0	1	1	British Fascism; Right-wing populism; White nationalism; Ethnic nationalism; Ultranationalism; Euroscepticism; Far-right to extreme-right British nationalism;	rad right
Democratic Unionist Party	DUP	1	0	0	1	1	Conservatism; National conservatism; Social conservatism; British unionism; Euroscepticism; Right-wing populism Welsh nationalism; Civic nationalism;	-
Plaid Cymru	PC	1	0	0	0	1	Regionalism; Democratic socialism; Social democracy; Environmentalism; Pro-Europeanism	-
Sinn Féin	SF	1	0	0	1	1	Irish republicanism; Left-wing nationalism; Democratic socialism; Centre-left to Left-wing; Populism	-
Scottish National Party	SNP	1	0	0	0	1	Scottish nationalism; Civic nationalism; Regionalism; Social democracy; Pro-Europeanism; Centre-left	regionalist
UK Independence Party	UKIP	1	1	0	1	1	Hard Euroscepticism; Right-wing populism; Economic liberalism; British nationalism	rad right

Data Appendix Table V.z, details the classification of the anti-establishment parties that were politically active in the UK, between 2000 and 2017, as well as their further characterisation as far right, radical left, populist and/or eurosceptic/separatist. Information regarding the parties' ideology and mandate comes from the Chapel Hill Expert Survey and various online resources.

Data Appendix Table VI. Correlation of Extremist Characteristics

Correlation of Extremist Characteristics Controlling for Time and Region (NUTS 2) Fixed Effects

	Far Right	Radical Left	Populist	Eurosceptic/Separatist
Far Right	1			
Radical Left	0.175	1		
Populist	0.527	0.614	1	
Eurosceptic/Separatist	0.451	0.525	0.718	1

Data Appendix Table A.VI displays the correlation coefficients between the various extremist characteristics of the political parties in our sample partialling out for time (year) and region (NUTS 2 regions) fixed effects.