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At Which Level Does Unemployment Affect Political Trust? A Multilevel Analysis Across Europe

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Abstract

How does unemployment at the national, regional, and individual levels affect political trust in Europe? Previous research has assessed the negative impact of unemployment at the national and individual levels on political trust. However, the literature has not yet addressed the interactions between unemployment dynamics across levels, which are increasingly relevant in socio-political research. In this article, we posit that national, regional, and individual unemployment depress political trust and formulate hypotheses on their interactions, integrating perspectives from sociology, social psychology, and political science. We test these hypotheses relying on Rounds 4–9 (2008–2018) of the European Social Survey, for 28 countries, 218 regions, and 877 region-years. Results from three-level multilevel models with cross-level interactions indicate that individual and national unemployment are associated with lower political trust, although their interaction is unclear. In contrast, there are significant interactions between regional and individual unemployment levels. A Fairbrother decomposition further clarifies this pattern: lower average regional unemployment rates powerfully exacerbate the individual relationship, while the latter is mitigated at higher average unemployment rates. Robustness checks with linear regressions and country-year fixed effects reinforce the main results. Theoretically, these empirical patterns support the habituation mechanism emerging from related research on socio-political behaviour, and they thus illuminate the joint centrality of contextual and individual socio-economic hardships to understand political trust, which is crucial for the health of democracies.

Keywords Political trust · Unemployment · Habituation · Multilevel · Europe · European social survey

1 Introduction

How does unemployment affect political trust? This is a crucial question for social science, given that trust in the political system is a central pillar of contemporary democracies (Weber, 2009 [1922]; Lipset, 1960; Almond & Verba, 1963 [1963]; Miller, 1974; Levi & Stoker, 2000), and that socio-economic hardships powerfully eroded such pillar during the Great Recession and Sovereign Debt Crisis in Europe (Armington &

Guthmann, 2014; Giustozzi & Gangl, 2021; Van Erkel & Van der Meer, 2016). In the wake of the Covid-19 pandemic, the relationship between socio-economic hardships and political trust has become even more salient, with the ‘*rally-around-the-flag*’ increases in political trust being threatened by the exacerbation of existing socio-economic hardships and inequality (Vries et al., 2021; Schraff, 2021; Devine et al., 2023). Given the relevance of this relationship, scholars have extensively examined the socio-economic determinants of political trust, from both societal and individual perspectives. At the macro level, aggregate economic dynamics are considered central in shaping political trust (Uslaner, 2018), with inequality, corruption, low growth, and unemployment (Bobzien, 2023; Brehm & Rahn, 1997; Goubin & Hooghe, 2020) being associated with higher political distrust. At the micro level, social stratification plays a key role (Lipset, 1960; Almond & Verba, 2015 [1963]; Newton et al., 2018), with lower material success across the dimensions of social class/occupation, education, and income, being associated with lower political trust (Hooghe et al., 2012; Van der Meer & Hakhverdian, 2017; Zmerli and Van der Meer, 2017).

Therefore, the relationship between unemployment and political trust has been considerably studied, focusing separately on its aggregate (Armingeon & Guthmann, 2014; Brehm & Rahn, 1997; Van Erkel & Van der Meer, 2016) and individual forms (Jahoda et al., 2017 [1932]; Brand, 2015; Foster & Frieden, 2017; Bauer, 2018). However, the volume of research on the macro and micro forms of unemployment contrasts with the scarcity of attention on their *interaction*: is the negative relationship between individual unemployment experiences and political trust affected by different levels of contextual unemployment? This gap is problematic, as the macro–micro interaction between forms of unemployment is considered crucial to understand outcomes such as life satisfaction (Clark, 2003; Oesch & Lipps, 2013), health (Heggebø & Elstad, 2018), political engagement (Azzollini, 2021; Marx & Nguyen, 2016; Österman & Lindgren, 2021), social participation (Eckhard, 2022; Kunze & Suppa, 2017), and social trust (Azzollini, 2023). In this literature, the macro level interacting with the micro is not the *national* unemployment rate typically studied in political trust research (Armingeon & Guthmann, 2014; Brehm & Rahn, 1997; Van Erkel & Van der Meer, 2016), but rather the *regional* one, with the common pattern being that the negative consequences of unemployment for life satisfaction (Clark, 2003), health (Heggebø & Elstad, 2018), electoral participation and social trust (Azzollini, 2021, 2023) are alleviated when unemployment levels are *high*. The regional level is crucial for this habituation/relative deprivation mechanism (Clark, 2003; Giustozzi & Gangl, 2021), as the former is considered as potentially more powerful than the national in shaping individual outcomes (Pittau et al., 2010; Cojocar, 2016), as also found for regional inequality and political trust (Lipps & Schraff, 2021), while the opposite holds for social trust (Kanitsar, 2022). Yet, to the best of our knowledge, no research has examined the roles the different forms of unemployment at the national, regional, and individual levels play for political trust within the same specification. Only the pioneering work by Giustozzi and Gangl (2021) has theorised and examined the macro–micro relationship in Europe and the US, however finding no statistically significant interaction between unemployment experiences and *national* unemployment on political trust.

In this article, we address this gap and contribute to social scientific research on unemployment and political trust in three main ways:

First, we examine how each unemployment dynamic at the national, regional, and individual levels is associated with political trust, while controlling for the other levels, as well as for socio-demographic controls and for further contextual socio-economic dynamics.

Secondly, we examine how the relationship between unemployment experiences and political trust is affected by the unemployment rates at the national and regional levels. Our goal is to assess if context plays any moderating role, and if so, which contextual level is more relevant.

Third, we deepen our focus on the regional-individual interaction and assess the role of structural differences in unemployment between regions vs. the role of within-region longitudinal changes in the unemployment rate, to test the different theoretical perspectives from the literature on socialisation (Fairbrother & Martin, 2013) versus short-term evaluation (Uslaner, 2018).

To do so, we rely on European Social Survey Multilevel data for 28 countries, 218 regions, and 877 region-years in the 2008–2018 timeframe. To this data, we fit two types of multilevel models with cross-level interactions, including socio-demographic and contextual controls, and corroborate their results through linear regressions with country-year fixed effects, as well as several robustness checks. The substance of our findings is that, when all three are included in a regression simultaneously, both the national and individual forms of unemployment are significantly associated with lower political trust, while the regional level on its own is not. The pattern reverses when interacting the levels: while there is a dubiously significant interaction between the national and individual levels (supporting the findings by Giustozzi & Gangl, 2021), we find a considerable and significant interaction across the regional and individual ones: the negative unemployment-political trust relationship is *exacerbated* in contexts where the regional unemployment is *lower*, and *mitigated* where it is *higher*, in line with the habituation/relative deprivation hypothesis (Clark, 2003; Giustozzi & Gangl, 2021). Lastly, we find that this macro–micro interaction is entirely driven by the structural differences in the unemployment rate between regions rather than within-region longitudinal changes. This result coheres with similar research on social trust (Azzollini, 2023; Fairbrother & Martin, 2013).

2 Theoretical Framework: Unemployment and Political Trust at Different Levels

Political trust is broadly conceived as the trust in national institutions (Easton, 1975; Uslaner, 2018), encompassing typically the partisan political institutions, as executives, parliaments and political parties (Bobzien, 2023), and the impartial national institutions, such as the justice system and the police (Rothstein & Stolle, 2008; Zmerli & Newton, 2017). In both its forms, political trust is considered central for polities since Confucius (Newton et al., 2018), as it constitutes a fundamental prerequisite of democracy (Levi & Stoker, 2000; Miller, 1974), and is deeply connected with both civic and electoral participation (Lipset, 1960; Almond & Verba, 2015 [1963]). Given its centrality for democracy, a voluminous body of work has focused on how to best measure political trust (Marien, 2017; Schneider, 2017; Turper & Aarts, 2017), and on its determinants. The latter can be broadly divided into two main groups: societal and individual determinants (Zmerli & Newton, 2017; Uslaner, 2018). In the next paragraphs, we outline broadly the research on these macro¹ and micro determinants of political trust, and then focus on the specific roles played by the aggregate and individual forms of unemployment, both separately and jointly.

¹ Throughout the paper, we rely alternatively on ‘macro’, ‘contextual’, or ‘aggregate’ unemployment to refer collectively to the national and regional unemployment rates, while we use ‘micro’ to refer to individual unemployment experiences.

2.1 Macro—Contextual Unemployment and Political Trust

At the societal level, the key driver of political trust is the evaluation of the economic performance of the country: ‘*Political trust is all about the evaluations of performance [...] and is responsive to short-term variations in the state of the economy, among other factors*’ (Uslaner, 2018, p.3). In contrast to the more stable generalised social trust (Glanville and Paxton, 2007), political trust is therefore more volatile (Easton, 1975), and is affected by different forms of macroeconomic performance: income inequality (Uslaner and Brown, 2008; Goubin & Hooghe, 2020; Bobzien, 2023), corruption (Uslaner, 2002, 2017; Van der Meer & Hakhverdian, 2017), economic crises from the 1970s oil shocks to the Sovereign Debt Crisis in Europe and unemployment (Armingeon & Guthmann, 2014; Brehm & Rahn, 1997; Nannestad & Paldam, 1994; Van Erkel & Van der Meer, 2016). In this stream of research, the mechanism linking different dimensions of bad macroeconomic performance to political distrust is the same: a stronger dissatisfaction towards the political system in charge of managing economic affairs (Newton et al., 2018). The aggregate unemployment rate is no exception to this wider pattern, as its higher levels are associated with lower political trust in empirical evidence across the United States (Brehm & Rahn, 1997), Western Europe (Van Erkel & Van der Meer, 2016; Roth, Nowak-Lehmann, and Otter, 2022), and in the wider European Union (Armingeon & Guthmann, 2014; Foster & Frieden, 2017). More specifically, this *blame attribution* mechanism against the political system operates not only out of personal concerns, but out of a sociotropic concern for the wider economy (Van Erkel & Van der Meer, 2016). A consequence of this blaming mechanism is that citizens react to bad macroeconomic performance by distrusting more the domestic political institutions such as parliament and politicians, while this pattern affects less the impartial institutions of the state such as courts and police (Rothstein & Stolle, 2008; Zmerli & Newton, 2017). In line with this stream of research, we posit that:

Hypothesis 1 Higher contextual unemployment rates at the (a) national (b) regional levels are associated with lower individual political trust.

While most of the literature relates to national unemployment rates (Armingeon & Guthmann, 2014; Roth et al., 2022; Van Erkel & Van der Meer, 2016), the research on the socio-political relevance of regional unemployment rates (Azzollini, 2021, 2023; Clark, 2003; Heggebø & Elstad, 2018), which we discuss below, leads us to include a separate sub-hypothesis for the regional unemployment rate on its own. The empirical results will point out which level of context is more influential on its own (if at all) for political trust.

2.2 Micro—Past Unemployment Experiences and Political Trust

While the relationship between aggregate unemployment and political trust has mainly been explored by political scientists and political economists (Levi & Stoker, 2000), the relevance of individual unemployment experiences for political trust has mainly been analysed through a sociological perspective: since the classic study of the unemployed

community in the Austrian city of Marienthal by Jahoda et al. (2017 [1932]), being or having been unemployed is associated with greater political distrust, within a wider pattern of socio-political disengagement (Azzollini, 2023; Brand, 2015; Emmenegger et al., 2015, 2017). But what is the underlying mechanism? In the wider stream of research on the individual determinants of political trust, a common pattern since the 1960s is that individuals faring better economically tend to trust the political system more (Lipset, 1960; Almond & Verba, 2015 [1963]; Miller, 1974). This empirical regularity is codified by Newton et al. (2018) as the ‘winners-losers hypothesis’: *‘the better-offs have been materially successful, so why should they distrust arrangements that have served them well?’* (Newton et al., 2018, p. 13). Therefore, *‘is it any surprise that the wealthy in their gated communities are trusting, while the poor of the slums are not?’* (Newton et al., 2018, p. 14). In this body of work, the primary stratification dimension is education with cognitive skills as the driving mechanism (Hooghe et al., 2012; Van der Meer & Hakhverdian, 2017; Zmerli and Van der Meer, 2017), but lower social class (Schoon & Cheng, 2011) and lower income/wealth (Miller, 1974) are also associated with lower political trust. Considering that unemployment experiences are closely tied to adverse economic outcomes (DiPrete, 2002; Gangl, 2004, 2006), one may be tempted not to go beyond the winners-losers hypothesis to theorise the adverse effects of unemployment scars on political trust.

Yet, research in sociology and social psychology offers a richer array of theoretical perspectives linking the two dynamics. Jahoda (1981)’s latent deprivation theory holds that unemployment causes disruptions not only in economic terms, but also powerfully in terms of social relationships, self-identity, and wider social engagement (Marx & Nguyen, 2016). This stream of research initially focused on the socio-psychological consequences of *current* unemployment (Jahoda, 1981; Marx & Nguyen, 2016): being jobless is associated with the disruption of social relationships within and outside the former workplace (Rosenstone, 1982), with dire consequences for social and political engagement.

However, a more recent stream of research is increasingly focusing on the socio-psychological consequences of *past* unemployment experiences, even after re-employment. Originally developed at the crossroads of social stratification and life course research (Gangl, 2006), job loss is considered as a ‘trigger event’ (DiPrete & Eirich, 2006), which leaves long-lasting unemployment scars up several years after the job loss itself. A first wave of research on unemployment scarring showed how past unemployment experiences exerted lasting negative effects on labour market outcomes as decreasing quality of jobs and lower wages (Arulampalam et al., 2001), and heightened risk of further job loss after re-employment (Brandt & Hank, 2014). The key mechanism here is the social stigma assigned to unemployment experiences: even after re-employment, (potential) employers are steered by such experiences towards assigning lower quality to workers (Gangl, 2006).

Beyond labour market outcomes, scholars have started to document how past unemployment experiences undermine the domains of family, health, and life satisfaction (Clark, 2003; Oesch & Lipps, 2013; Eichhorn, 2014; Pearlman, 2015; Goñalons-Pons & Gangl, 2021; DiNallo & Köksal, 2023), and depress political engagement (Azzollini, 2021; Emmenegger et al., 2015, 2017), social participation (Brand & Burgard, 2008; Eckhard, 2022; Kunze & Suppa, 2017), social trust (Azzollini, 2023; Laurence, 2015; Mewes et al., 2021), as well as political trust (Giustozzi & Gangl, 2021) and beyond (for reviews, see Brand, 2015; Marx, 2023). While these outcomes differ, they are crucially linked again by the *social stigma* mechanism (Chabanet & Faniel, 2012), both internal

and external: the past experiences of unemployment may lead to feelings of inferiority from the individuals themselves (Eckhard, 2022), but also to stigma coming from wider society (Clark, 2003), for instance by partners (Goñalons-Pons & Gangl, 2021) and prospective employers (DiPrete, 2002; Gangl, 2006).

What is then the difference between the socio-psychological consequences of *current* vs. *past* unemployment? A life course perspective can help us identify the roots of this discrepancy: for the former, the negative consequences stem from the *state* of joblessness, and may be theorised to cease after a new job has been found. For the latter, negative consequences are associated with the *event* of unemployment having occurred at all, continuing to harm the individual even afterwards. This is not only the case for the negative labour market consequences discussed above (Gangl, 2006; Brand, 2015): past unemployment experiences are for instance associated with lower life satisfaction (Clark, 2003) and social participation (Eckhard, 2022) years after re-employment, due to internal and external feelings of social stigma. Theoretically, if job loss disrupts social relationships as argued by Rosenstone (1982), re-employment is not guaranteed to restore them. The *length* of the unemployment experiences may also play an important role: if a longer duration of the unemployment experiences exacerbates income losses and social stigma (Gangl, 2006), this also extends to socio-psychological consequences. Eckhard (2022) finds that social isolation coming from unemployment scars is further heightened if the experience lasts more than three years. Similar effects are found for social trust and electoral participation, where past unemployment experiences are more harmful if they have lasted at least one year (Azzollini, 2021, 2023).

But what is the specific relationship with political trust? In social trust research, the experience of unemployment is considered as the violation of a ‘*social contract*’ (Laurence, 2015; Mewes et al., 2021), leading to retaliation against the nexus of organisations and employers that allowed this economically damaging and socially stigmatising experience to take place, even years after the job loss actually occurred (Laurence, 2015; Mewes et al., 2021). The search for the ‘culprits’ may well be extended to the political system in charge of economic affairs: unemployment experiences may be blamed on the wider political system that failed to prevent such an experience. Building on this point, Emmenegger et al. (2015) argue that labour market hardships generate a lack of external political efficacy, or the feeling that the political system is not responsive to citizens’ input, which they empirically find in the Netherlands between 2007 and 2012 relying on LISS data. Foster and Frieden (2017) do find a negative association between (current) unemployment and political trust for EU-27 countries using Eurobarometer data (2004–2015). In contrast, Bauer (2018) does not find an association with trust in government and satisfaction with democracy relying on panel data analyses for the Netherlands (LISS) and Switzerland (SHP), constituting a minority strand in the literature debate. More recently, Giustozzi and Gangl (2021), focusing on the United States (General Social Survey) and 23 European countries (European Social Survey) between 2002 and 2017, find that both current and past experiences of unemployment are associated with lower political trust, finding stronger coefficients for the latter.

Thus, political distrust may emerge from past experiences of unemployment as a retaliation towards the political system for allowing such a socially and economically disruptive event to happen in the first place: if individuals continue to bear the socio-psychological scars of job loss even after re-employment, it is plausible that the same holds for their political outlook. Furthermore, this pattern may be exacerbated by a longer duration of the unemployment experience.

In line with the theoretical perspectives and the most recent findings, we posit that:

Hypothesis 2 a) individual unemployment scars are associated with lower individual political trust, b) and that longer unemployment scars worsen this relationship.

2.3 Macro–Micro—Cross-Level Unemployment and Political Trust

Does aggregate unemployment play any role in the individual relationship explored in the previous paragraphs? While there is some research on the differential consequences of macroeconomic performance across stratification dimensions (see Van Erkel & Van der Meer, 2016 for education; Goubin & Hooghe, 2020 for inequality and education), the only paper (to the best of our knowledge) that addresses the cross-level interaction between contextual and individual unemployment for political trust is the pioneering work by Giustozzi and Gangl (2021). In their theoretical framework, they adapt to political trust the so-called *habituation* (Clark, 2003) or *relative deprivation* hypothesis (Giustozzi & Gangl, 2021). This hypothesis has been originally developed by Clark (Clark, 2003; Clark & Oswald, 1994), and holds that experience of unemployment does not have the same psychological consequences for everyone, as the *social norms* associated with unemployment vary across different contexts. Clark (2003) argues that ‘*the psychological experience of unemployment is tempered by the labour market status of those with whom the individual is in close contact, as models of comparisons or norms would imply.*’ (Clark, 2003, p. 326). Relying on data from the British Household Panel Survey for the 1991–1998 period and panel data analyses with fixed effects, Clark (2003) finds indeed that the negative association with well-being was mitigated where the regional level of unemployment was higher, and concludes that ‘*heuristically, unemployment always hurts, but it hurts less when there are more unemployed people around*’ (Clark, 2003, p. 346), which represents the habituation side. The relative deprivation side of the coin is described by Turner (1995): where there is low unemployment, the unemployed would be more likely to assign the blame to themselves rather than on somebody else, and thus suffer more socially and psychologically. While Giustozzi and Gangl (2021) do find an interaction effect in this direction with the welfare state replacement rate at the national level, the lack of a statistically significant interaction with individual unemployment experience may depend precisely on the reliance on the *national* unemployment rate, while the habituation hypothesis was developed primarily for the *regional* level (Clark, 2003).

However, why should we expect this habituation/relative deprivation hypothesis to be stronger at the regional level than at the national?

The original development of the habituation hypothesis is indeed at the regional level: when looking at unemployment as a social norm, Clark (2003, p. 325) argues that ‘*The main implication of unemployment as a social norm is that the psychological (or utility) impact of an individual’s own unemployment will be reduced by a higher level of unemployment among relevant others*’, where the latter include ‘*those in the same region, couple, and household*’ (Clark, 2003, p. 325). The broader reason to consider the regional population as the ‘relevant others’ relates to reference group theory (Boudon, 1991), which argues that social actors think and behave while considering ‘*some persons or groups as a natural reference*’ (Boudon, 1991, p. 521). To select this natural reference’ individuals tend to rely on similarity to themselves (Goethals & Darley, 1987), starting from household members and neighbours to broader groups in society (Clark, 2003; Gugushvili, 2021). Cojocaru (2016) argues that the local contexts play a stronger role in shaping relative deprivation as they are the easiest to evaluate, as they are the most proximate to the individuals’ own experience. Some studies (Frank et al., 2014) argue how the increased proximity

and closer experience of individuals with their own local context makes it a more natural reference group than the national level in the case of income inequality. Coming specifically to the regional level in the European Union, Pittau et al. (2010) argue that ‘*local rather than national macro-variables may influence the individual well-being to a larger extent*’ (p. 340). Following this ‘*the closer the geographical unit, the stronger the influence*’ line of reasoning, we can argue that individuals may select their own regional contexts as benchmarks than the national contexts as the former are much closer to themselves than the latter. Thus, regional contexts may more directly influence the social norms surrounding the acceptability of unemployment experiences (Clark, 2003) or the centrality of work (Laurence, 2015) than the national level does. This may also be due to the sometimes powerful within-country between-region differences in the unemployment rates. Individuals who are scarred by unemployment may be exposed to radically different levels of social stigma (internal and external) according to their region of residence, even within the same country. Citizens of Andalusia (ES61, 28.9% unemployment rate in 2018), Nord-Pas-de-Calais (FRE1, 13.3% in 2018), Berlin (DE3, 7.8% in 2018), and Calabria (ITF6, 23.2% in 2016) may feel relatively less impacted by unemployment scars relatively to fellow nationals in regions where unemployment is less commonplace, as in Catalonia (ES51, 15.8% in 2018), Limousin (FRI2, 7.1% in 2018), Bavaria (DE2, 2.5% in 2018), and Trentino-Alto Adige (ITH1, 3.7% unemployment rate in 2016).

Empirically, the relevance of regions for this *habituation/relative deprivation* hypothesis was tested for several outcomes: life satisfaction research did not find a macro–micro interaction between regional unemployment and current unemployment across European regions, such as the work of Pittau et al. (2010) relying on the Eurobarometer between 1992 and 2002, or the one by Oesch and Lipps (2013), relying on panel data for Germany (1984–2010) and Switzerland (2000–2010). In contrast, Pittau et al. (2010) find an habituation pattern for own income and regional GDP.

Beyond life satisfaction, the *habituation/relative deprivation* hypothesis found extensive support for outcomes as self-rated health, social participation, social trust, and electoral participation. For self-rated health, Heggebø and Elstad (2018), relying on EU-SILC panel data for 25 countries in the 2010–2013 period, find that the negative association is mitigated when the contextual unemployment is higher. For social participation, Kunze and Suppa (2017) relying on German panel data find that regional unemployment differences do moderate the relationship between individual unemployment and social exclusion. Similar patterns are found for outcomes closer to political trust, such as electoral participation and social trust (Azzollini, 2021, 2023). Regarding the former, Azzollini (2021), relying on European Social Survey data (2008–2016), finds that the negative association between unemployment experiences and voting in national elections is only dubiously moderated by the national one, but is instead powerfully influenced by the regional unemployment rate: those with unemployment experiences in high-unemployment regions vote considerably more than peers in low-unemployment regions. In the context of social trust, Laurence’s (2015) point on the centrality of work and Clark’s (2003) habituation/relative deprivation hypothesis was found to hold in European regions between 2008 and 2018 (Azzollini, 2023, European Social Survey data), with the negative association between unemployment and social trust being moderated where regional unemployment was higher.

We therefore adapt this habituation/relative deprivation hypothesis to political trust:

Hypothesis 3 Individual unemployment scars are *less* associated with lower political trust where the (a) national (b) regional unemployment rate is *higher*.

However, a further distinction is needed: is the posited habituation hypothesis at the regional level driven by differences *between* regions or *within* regions? We focus on this distinction in light of the potentially stronger role played by regions, which we document above. Theoretically, this distinction reflects patterns of socialisation and reaction: the first perspective is supported by unemployment being envisaged as a social norm (Clark, 2003). The degree to which individuals and societies consider unemployment as acceptable, or not, and thus assign social stigma, may depend on attitudes and expectations cumulating over longer time periods. If a region has consistently experienced high (or low) structural unemployment, the societal norms surrounding unemployment scars may not change easily even when confronted with rapid changes: if a specific community considers past unemployment experiences as scarcely acceptable and such a norm has permeated society for many years, a sudden increase in the unemployment rate may not necessarily be met with greater understanding by (potential) employers and partners, or those with unemployment experiences themselves.

This may be also related to individual socialisation processes, where individuals tend to form attitudes during the ‘impressionable years’, and tend to crystallise afterwards (Neundorf & Niemi, 2014). Thus, social change in norms regarding unemployment may be largely driven by cohort change (Neundorf & Niemi, 2014), rather than by short-term reactions. Similar arguments hold for social trust, with the key variables being the structural state inequality over 25 years in the US (Fairbrother & Martin, 2013) and structural regional unemployment over 10 years in Europe (Azzollini, 2023). Thus, we posit that:

Hypothesis 4 Individual unemployment scars are *less* associated with lower political trust where the *average* regional unemployment rate is *higher*.

Yet, while these arguments were originally developed for social trust (Azzollini, 2023; Fairbrother & Martin, 2013), political trust is typically considered as a highly reactive form of trust: individual adjust their evaluations of government also on the basis of short-term variations in macro-economic performance (Easton, 1975), making political trust thus more volatile than the social over the life course of an individual (Easton, 1975; Uslaner, 2018). An individual scarred by unemployment may therefore adjust their political trust by reacting to yearly changes in the unemployment rate: if the experience becomes more commonplace and thus the internal and external social stigma towards those scarred by unemployment decreases, the negative association between unemployment experiences and political trust may be ameliorated. Thus,

Hypothesis 5 Individual unemployment scars are *less* associated with lower political trust where the regional unemployment rate *increases over time*.

3 Data and Analytical Strategy

3.1 Dataset

The dataset we rely on is the European Social Survey (ESS), a biennial cross-national survey of individuals' socio-economic, demographic, and political characteristics established in 2001. The ESS uses cross-sectional, probability samples that are representative of all persons aged 15 + resident within households in each country.

The European Social Survey is administered biennially to approximately 50,000 individuals and has been administered in over 37 countries across Europe as of the latest round (2020). In this paper, we rely on the entire set of available multilevel rounds of the ESS (round 4, 2008—round 9, 2018), which integrate information on individual respondents and contextual variables at different macro levels, including country and regional variables. We provide selected descriptive statistics in Table 1, with the full descriptive statistics for each categorical variable available in Appendix Sect. 1.

3.2 Dependent Variable

The measurement of political trust is a central issue in social indicators and survey research: differences in the measurement may yield different implications, for instance in its relationship with social trust (Newton et al., 2018).

In this paper, we rely on a variation of the so-called political trust scale (Marien, 2017), and focus specifically on trust in domestic political institutions. This scale is based on the following statement read by the interviewer: *'Using this card, please tell me on a score of 0–10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust'*, after which the respondent is asked to tell the score of, among others, the *'[country]'s parliament'*, *'politicians'*, and *'political parties'* (ESS 9 Questionnaire, p. 8).

For all three questions, the agreement is expressed on an 11-point scale ranging from 0 (completely disagree) to 10 (completely agree), which the research on trust measurement equivalence considers as *'suited to conduct cross-national research on political trust'* within the European context (Marien, 2017, p. 100, see entire chapter for a wider review on political trust measurement equivalence research), and which correlates highly with social trust (Newton et al., 2018).

The aggregation of these three variables into a single variable is a widely established practice for research on the European Social Survey (Schneider, 2017) as theoretically it follows Dalton's (2004) definition of the constitutive element of representative democracy (Turper & Aarts, 2017). On the other hand, trust in other domestic institutions (legal system, police) is typically considered as a related but separate concept (Marien, 2017; Rothstein & Stolle, 2008), as are forms of trust in supranational institutions (Zmerli & Newton, 2008).

Following this literature, we build the three-item scale by averaging the values of the three variables. The resulting trust scale similarly ranges from 0 to 10 and is validated by

Table 1 Descriptive statistics

Variable	N	Mean/Percent	SD	Min	Max
Political trust scale (dependent variable)	146,173	3.734	2.266	0	10
Unemployment scar in the last 5 years	146,173	0.439	0.667	0	2
No scar	95,667	65.45%			
Short unemployment scar (> 3 months)	35,647	24.39%			
Long unemployment scar (> 1 year)	14,859	10.17%			
National unemployment rate in %	146,173	8.513	4.146	2.2	25
National unemployment rate in % (minus grand mean)	146,173	0.341	4.146	-5.97	16.83
Regional unemployment rate in %	146,173	8.553	4.848	1.3	38.5
Average regional unemployment rate (%)	146,173	8.616	4.118	2.2	30.9
Yearly deviation from Avg. Reg. Un. Rate (%)	146,173	-0.062	2.719	-13.64	13.61
Destination social class (European socio-economic classification)	146,173			1	10
Origin social class (Erikson-Goldthorpe-Portocarero)	146,173			1	10
Household income decile	146,173	4.664	3.408	0	10
Highest level of education, ES—ISCED	146,173			0	7
Labour market position	146,173			1	6
Age	146,173	42.797	13.479	18	65
Religious	146,173	0.547	0.498	0	1
Gender	146,173	0.479	0.500	0	1
Native	146,173	0.915	0.278	0	1
Minority	146,173	0.057	0.232	0	1
National population size (thousands)	146,173	18,300.97	25,275.32	622.359	82,792.35
National population density	146,173	324.537	273.081	30.3	1183.354
National GDP per capita	146,173	71.175	45.482	3.121	213.079
National income inequality (gini coefficient)	146,173	29.168	3.644	20.9	39.6
Regional population size (thousands)	146,173	2969.408	3320.468	69.699	17,996.62
Regional population density	146,173	326.510	770.809	3.3	7471.5
Regional GDP per capita	146,173	72.405	54.046	1.617	290

Descriptive statistics with design weights

Data Source: European Social Survey, Multilevel Rounds 4–9 (2008–2018)

Cronbach's alphas above 0.9 across specifications. The mean and median levels are around 3.6, while the modal level is 0, entailing that the distribution is right-skewed (-0.345), and platykurtic (kurtosis 2.14, compared to the threshold of 3 for a normal distribution). We report the frequency tables and histograms for the Political Trust variable and for its three component variables in Appendix Sect. 1. We also report the full variable list with variable names and survey questions in the Appendix Sect. 1.

For purposes of robustness, we replicate the analysis relying on each of the three component variables as the dependent variable. Results are reported in Appendix Sect. 4, Tables A11-A15 and are discussed within the robustness checks subsection in the Results.

3.3 Independent Variables

3.3.1 Unemployment Scarring

To measure unemployment scars, we rely on the variables capturing whether the respondent has been unemployed for over 3 months or over 12 months, restricting this to within the last 5 years to ensure the experience is not in the distant past. Merging them, we build a single variable that takes on three values: 0 if the respondent has not experienced unemployment for more than 3 months ('No Scar'), 1 if the respondent has experienced unemployment for more than 3 months but less than one year ('Short Scar'), and 2 if the respondent has experienced unemployment for over one year ('Long Scar'). This will allow us also to test Hypothesis 2b on the duration of the unemployment scar.

3.3.2 Socio-Demographic Controls

Our socio-demographic controls include ten variables: origin social class, destination social class, the highest level of education, household income decile, current labour market position, age, religiosity, migrant and ethnic status, and gender. These variables address the key social correlates of political trust (Uslaner, 2018), including the stratification variables important for the 'winners-losers' hypothesis codified by Newton et al. (2018). For the social class origin, we rely on the social class of the parent with the highest class, measured according to the Erikson-Goldthorpe-Portocarero (1979) class schema. To account for a sizeable proportion of missing values (7.07%), we create an additional category for 'Missing Origin Class'. For destination social class, we transform the ISCO-08 measures into social classes according to the European Socio-Economic Classification (ESEC) by Rose and Harrison (2007), which is an updated version of the Erikson-Goldthorpe-Portocarero (1979) schema. To do so, we rely on the STATA package by Jann (2019). We create an additional category for those without codifiable occupations, 'Missing Destination Class' (16.28%). The *labour market position* variable captures current labour market position in the week preceding the survey, thus controlling for the impact of being currently unemployed. This variable further includes individuals in retirement and outside of the workforce. This choice is deliberate, as it may be the result of unemployment scarring experiences in the past. For purposes of robustness, we also assess how the key results change when excluding this variable from the analytical strategy, as well as determine whether the current labour market position mediates the relationship between unemployment scarring and political trust. We report the results of this robustness check in Appendix Tables 24, 25. For education, we rely on the ES-ISCED classification present in the ESS. We include household income decile, adding a category for missing responses (around 21% of the

sample). Controls are included for respondents' age, religiosity, native/migrant background, and gender. These variables are binary except age. In line with the literature on unemployment experiences, we restrict the sample to citizens between ages 18 and age 65 (Azzollini, 2023; Emmenegger et al., 2017).

3.3.3 Macro Variables

As regards the macro variables, we rely on those associated with countries for the highest level of aggregation, and then on NUTS2 (and 1) units in the Nomenclature of Territorial Units for Statistics, which is used by Eurostat to harmonise hierarchical levels across the European Union and the selected non-EU countries. In line with research envisaging the regional level as potentially more important than the national as closer to the individual (Clark, 2003; Pittau et al., 2010; Azzollini, 2021, 2023), we rely wherever possible on the variables for the NUTS2 units (regions). In countries where the NUTS2 regions are not present (such as Germany or the United Kingdom of Great Britain and Northern Ireland), we rely on the values for the respondents' NUTS1 macro-region.

Therefore, the sample consists of 146,173 respondents from 28 countries, 218 regions, and 877 region-years spanning 2008 to 2018. Countries include Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain and Northern Ireland (United Kingdom), Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Montenegro, the Netherlands, Norway, Poland, Portugal, Serbia, Slovakia, Slovenia, Spain, and Sweden.

Our key macro-level covariates are the national and regional unemployment rates, which in the European Social Survey Multilevel dataset are provided by the Eurostat for each year. For the national unemployment rate, we rely on its base form in the descriptive findings, second type of multilevel models, and in the robustness checks, while we rely on its grandmean-centered version in the first type of multilevel models following the approach by Kanitsar (2022) (more details in the Analytical Strategy). For the regional unemployment, we rely on its baseline form, and on its decomposed forms reflecting the theoretical framework (cross-sectional and longitudinal), following the Fairbrother (2014) decomposition. The descriptive statistics for the unemployment rates are presented in Table 1, along with those for the further macro-level controls: at both national and regional levels, population size (in thousands), population density (per km²), GDP per capita in purchasing power parity (PPP); at the national level, the Gini Coefficient for income inequality at the national level. The rationale underpinning the controls for population size and density is to address the relationship between polity size and political trust, which some studies consider as negative (Denters, 2002; Hansen, 2013). We also address the role played by corruption at the national level (relying on the corruption perceptions index collected by Transparency.org) and by different forms of inequality at the regional level (following Lipps & Schraff, 2021). Considering that these additional controls lead to substantial losses in the sample size (from -33% to -66%), we report the results including them in the key specifications in Appendix Tables 22 and 23.

The full list of countries and regions, with the associated overall unemployment rates across years, is available in Appendix Sect. 2.

3.4 Analytical Strategy

To test the hypotheses of our theoretical framework, we rely primarily on three-level Multilevel Models, and on Linear Regressions with Country-Year Fixed Effects for purposes of robustness. In the Appendix Sect. 3, we articulate how the Multilevel models are warranted empirically, and their comparison with the Country-Year Fixed Effects Models.

In the main analysis, we rely on two types of three-level multilevel models: in a first set of models, we nest individuals within regions within countries. The purpose of these models is to assess the role of national and regional unemployment rates simultaneously (with both being time-variant), separately and interacted with individual unemployment scars. To mitigate national unobserved heterogeneity, we subtract the grand mean of unemployment across all countries and all years (around 8.17%) from each national unemployment rate, which has the important advantage of making cross-country analyses more comparable (following Kanitsar, 2022). The resulting grandmean-centred national unemployment rate is therefore a time-varying variable with identical year-to-year variations relatively to the baseline national unemployment rate. See Appendix Figure 7 for a comparison between the two measures. To allow for a more precise assessment of context-specific time trends, we replicate this set of models with a four-level hierarchical structure: individuals within region-years, within regions, within countries, and report the results in Appendix Table 20.

In a second set of models, we nest individuals within region-years within regions, and include country Fixed Effects. The purpose of this model is to employ the Fairbrother (2014) decomposition at the regional level: the cross-sectional unemployment rate (average by region), and the longitudinal deviation of the region-year rate from the regional average, while the country Fixed Effects control for the country-specific time-invariant unobserved heterogeneity. Thus, this set of models allows us to empirically disentangle the roles of between-regions and within-region variation in the unemployment rate, which may have profound theoretical implications.

As our key focus is on the cross-level interactions between these contextual dynamics and individual unemployment scarring, we systematically include a random slope for the individual characteristic of unemployment scarring, at the region or region-year level depending on the multilevel model. Following Heisig and Schaeffer (2019), this is set to avoid inflation of the t-ratios for the coefficients of the cross-level interactions. Furthermore, we systematically include year Fixed Effects to capture common time trends, and other macro socio-economic dynamics: population size and density, GDP per capita in terms of Purchasing Power Parity, and the national levels of income inequality (Eichhorn, 2014; Van Erkel and Van der Meer, 2015; Uslander, 2018; Deimantas, 2021; Bobzien, 2023). These macro-level controls are set to capture well-established alternative pathways through which adverse socio-economic dynamics may affect political trust. We include further socio-economic controls for corruption and regional inequality in a robustness check, reported in Appendix Tables 22 and 23. In this model, we include country-year unemployment rates. By including country fixed effects, the national unemployment rates functionally become within-country variations over time in the

unemployment rate. To gauge their interaction with unemployment scars, we report the results including interactions in Appendix Table 21.

For purposes of robustness, we replicate the main analysis relying on Linear Regression models with Country-Year Fixed Effects, leveraging on robust Standard Errors (SEs) using regions as clusters to mitigate heteroskedasticity, design weights, and an otherwise identical set of individual and contextual controls to the second set of multilevel models. Broadly, the results are consistent with those from multilevel models in terms of magnitude, sign, and statistical significance, as shown in the results and in Appendix Sect. 3.

4 Results

4.1 Descriptive Results

We start by examining the macro-macro relationship between contextual political trust and unemployment, to assess whether the contextual associations theorised in the literature (Uslander, 2018) are corroborated by the data at both the national and regional levels. For the contextual degree of political trust, we simply average the focal dependent variable across all respondents in the context of interest. Figures 1 and 2 report the descriptive associations between the focal variables, relying on non-parametric plot smoothing (Lowess) with a tricube weighting function (Cleveland, 1979). The dots represent, respectively, the country-years and region-years (we do not report labels for purposes of graphical clarity). We report only the middle 90% in the unemployment distribution to mitigate the influence of outliers.

At the national level, the correlation coefficient between average political trust and the unemployment rate is -0.48, with Fig. 1 showing this in greater detail: in country-years where the unemployment rate is higher, the average country-year level of political trust tends to be lower, until the unemployment rate crosses the 10% threshold (roughly the 75th percentile of the national unemployment rate distribution), after which it stabilises. Globally, the difference in terms of average political trust amounts to 2 points in the scale, which is almost an entire Standard Deviation (2.27) in the dependent variable.

At the regional level, we report in Fig. 2 the descriptive associations between the Average Region-Year Political Trust and, respectively from left to right, the baseline region-year unemployment rate (left), the cross-sectional average unemployment rate by region (middle), and the longitudinal yearly deviation from the average regional unemployment rate (right). As regards the baseline unemployment rate, the regional pattern is similar to the national (correlation coefficient -0.44, with an L-shape stabilising after 11% (the 75th percentile)).

We enquire further by decomposing the regional unemployment rate into its cross-sectional (average regional unemployment rate) and longitudinal (yearly deviation from the average regional unemployment rate). For the Cross-Sectional component, the correlation coefficient is similar to the baseline (-0.45), and the descriptive pattern is similarly negative: political trust is lower in regions where the unemployment rate is structurally higher over the study period, with stabilisation after the 10% threshold. On the other hand, while superficially the Longitudinal component has a weaker association with region-year political trust (correlation coefficient: -0.14), Fig. 2 shows how positive deviations in the unemployment rate from the structural average are associated with lower levels of political trust.

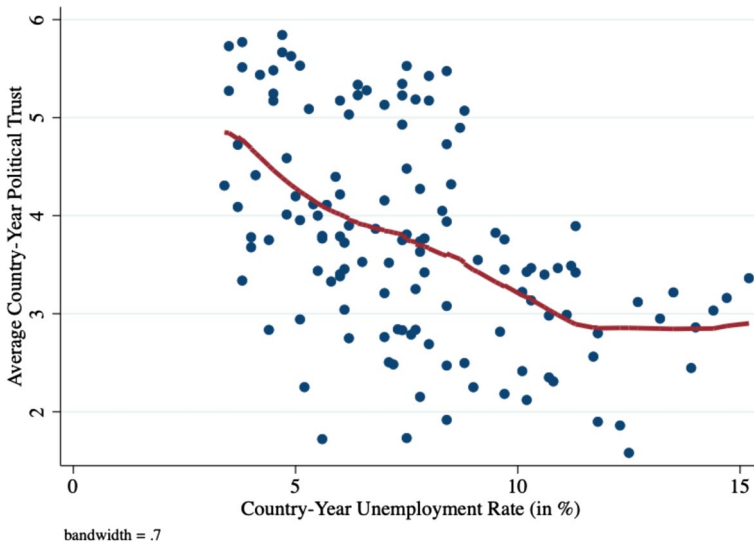


Fig. 1 Macro associations between political trust and unemployment rate (country-year). *Notes:* Lowess plots of country-year average political trust and unemployment rate. The dots represent country-years. The solid line depicts the country-year mean value of trust, obtained through non-parametric weighted smoothing function (*lowess* in STATA 17, bandwidth=0.7). *Data Source:* European Social Survey, Multilevel Rounds 4–9 (2008–2018)

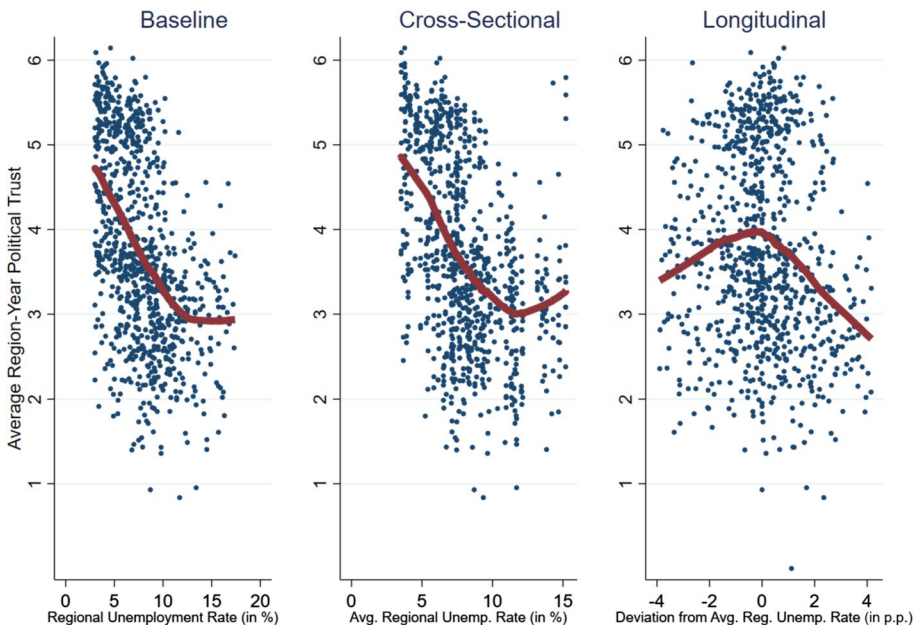


Fig. 2 Macro associations between political trust and unemployment rate (region-year). *Notes:* Lowess plots of region-year average political trust and regional unemployment rate (overall, cross-sectional, longitudinal). The dots represent region-years. The solid line depicts the region-year mean value of trust, obtained through non-parametric weighted smoothing function (*lowess* in STATA 17, bandwidth=0.7). *Data Source:* European Social Survey, Multilevel Rounds 4–9 (2008–2018)

Therefore, both the cross-sectional and longitudinal variation in the unemployment rate at the regional level appear to be relevant for political trust, at least descriptively.

4.2 Multilevel Results—Regions within Countries

Table 2 reports the results of the first set of three-level multilevel models, with regions nested within countries. For purposes of graphical clarity, we report only coefficients for the focal covariates, while those for the socio-demographic and contextual controls are available in Appendix Sect. 3. The Year Fixed Effects are systematically included.

Considering first individual unemployment scars, there is a clear pattern: against the baseline of individuals who have not experienced unemployment for more than 3 months (within the last 5 years), those that have done so for over three months but less than a year (Short Unemployment Scar), and for more than a year (Long Unemployment Scar) exhibit lower levels of trust in the political system at the $p < 0.001$ threshold of significance. In terms of effect size, these coefficients respectively correspond to around -8% and -14% of a SD in the dependent variable (2.27), with the second being sizeable. This first result at the individual level corroborates Hypothesis 2a and 2b, as unemployment experiences are negatively associated with individual political trust, a pattern which worsens for individuals with longer unemployment scars, even when controlling for contextual unemployment rates and other socio-demographic controls. The latter are also relevant for political trust, as shown in Appendix Sect. 3: political trust tends to be lower among the lowest Destination and Origin social classes, those with lower income deciles, and those with lower education levels. They are instead higher for religious individuals, for men, and for natives of the country. Globally, the pattern corroborates the ‘winners-losers’ hypothesis codified by Newton et al. (2018) to explain stratification in political trust.

At the contextual level, there is a clear negative association between the yearly national unemployment rate (from which the grand mean of all national unemployment rates has been subtracted, around 8.17%) and political trust, significant at the $p < 0.001$ level: in terms of effect size, a 1 SD increase in the covariate leads to a -16% SD change in the dependent variable. On the other hand, there seems to be no statistically significant coefficient for the regional unemployment rate. If we consider them simultaneously but separately, the results for the two contextual levels support Hypothesis 1a, but not 1b.

However, the pattern changes considerably if we interact the individual unemployment scars with the two contextual unemployment levels. In Model 2 (*Int. Country*), the interaction between the national unemployment rate and a Long Scar is positive and statistically significant, albeit only at the $p < 0.05$ level. In contrast, the interaction with the regional unemployment rate is statistically significant for both Short and Long Scars, and at $p < 0.01$ for the latter. To better interpret the meaning of these positive coefficients, we depict in Fig. 3 the Conditional Marginal Effects with 95% Confidence Intervals for Long Unemployment Scars on political trust, estimated from the 5th to the 95th percentiles of the respective distributions to curtail the potential influence of outliers. The Conditional Marginal Effects capture the predicted effect on political trust of having a Long Unemployment Scar, as opposed to not having experienced unemployment for more than 3 months in the past 5 years, estimated at different percentiles of the unemployment rate distributions. The two patterns are similar in terms of magnitude:

Table 2 Multilevel models for political trust and unemployment (regions within countries)

Dependent variable	Political trust (0–10)		
Model N	1	2	3
Specification	Baseline	Int. Country	Int. Region
<i>Unemployment scar—baseline: None</i>			
Short unemployment scar (> 3 months)	−0.177*** (0.016)	−0.179*** (0.016)	−0.232*** (0.029)
Long unemployment scar (> 1 year)	−0.319*** (0.028)	−0.331*** (0.028)	−0.430*** (0.048)
National unemployment rate in % (minus grand mean)	−0.067*** (0.006)	−0.070*** (0.006)	−0.066*** (0.006)
Regional unemployment rate in %	−0.006 (0.005)	−0.006 (0.005)	−0.010* (0.005)
<i>National Un. Rate (%) x Unemp. Scar</i>			
National Un. Rate x Short Unemp. Scar		0.006 (0.003)	
National Un. Rate x Long Unemp. Scar		0.012* (0.005)	
<i>Regional Un. Rate (%) x Unemp. Scar</i>			
Regional Un. Rate x Short Unemp. Scar			0.006* (0.003)
Regional Un. Rate x Long Unemp. Scar			0.012** (0.004)
Country fixed effects	No	No	No
Year fixed effects	Yes	Yes	Yes
Socio-demographic controls	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes
<i>Random effects parameters</i>			
Level 3 variance	0.955	0.954	0.954
Level 2 variance	0.061	0.06	0.059
Random slope (Unemp. Scar)	0.015	0.014	0.014
Covariance (Intercept, Slope)	−0.015	−0.014	−0.014
Observations	146,173	146,173	146,173
Number of countries	28	28	28
Number of regions	218	218	218

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical Strategy:* Three-level multilevel OLS regressions. Individuals nested *within Regions*, *within Countries*. Random slopes (Unemp. Scar) included

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

in context-years where the unemployment rate is lowest, the negative impact of a long unemployment scar on political trust is higher (almost -0.4 , around -18% SD). Moving to contexts where the unemployment rate is higher, the impact is lower (less than -0.2 , around -8% SD). However, the statistical significance differs between the national and regional results, with the latter being more clearly significant (the 95% CIs for the 5th and 95th percentiles do not overlap). In terms of effect size, the macro–micro habituation hypothesis seems to be supported: unemployment experiences hurt more where the contextual unemployment rate is lower, albeit only for the regional level (H3b supported, but not H3a).

4.3 Multilevel Results—Region-Years within Regions

In Table 3, we focus only on the regional perspective with the Fairbrother (2014) decomposition between the two components of the regional unemployment rate: the average regional unemployment, and the region-year deviation from said average. Country Fixed Effects are included to capture the time-invariant unobserved heterogeneity at the national level, and the specification is otherwise identical to that in the previous model, except for the national unemployment rate, included in its baseline form. Considering that the Country Fixed Effects are included, the national unemployment rate therefore functionally captures the within-country deviations of the unemployment rate over time. The relevance of this variable is discussed within the robustness check subsection (results reported in Appendix Table 21).

At the individual level, the pattern is similar to the Regions within Countries model, with Long Scars being considerably negatively associated with political trust (around -14% SD), at the $p < 0.001$ threshold of significance. At the regional level, we observe instead a different pattern: the longitudinal component of the regional unemployment rate is negatively associated with lower individual political trust, with effect sizes around -6% SD ($p < 0.001$), but the cross-sectional unemployment, on its own, is not. These results point out that living in a region where the level of unemployment increases over time is associated with lower political trust. This pattern emerges while controlling for the national unemployment rate, with similar magnitude and statistical significance relative to the first type of multilevel models.

However, only one of these components clearly matters in the macro–micro interaction: the coefficients for the Longitudinal component and unemployment scars are not statistically significant, while the Average Regional Unemployment Rate and Long Scar interaction is so at the $p < 0.001$ level, and nominally stronger in magnitude than the interaction shown in Model 3 (Table 2) for the baseline regional version. Again, we clarify the interaction by depicting the CMEs for the focal interaction in Model 5 in Fig. 4. While the pattern is similar to that in Fig. 3 in terms of magnitude, it is clearer in terms of statistical significance: the 95% Confidence Intervals for up to the 25th percentile do not overlap with the top 10% of the unemployment rate distribution. Substantively, these results point in a clear theoretical direction: the macro–micro habituation dynamic is entirely driven by structural differences in the unemployment rate between regions, rather than evolutions within the same region, supporting H4 but not H5.

4.4 Alternative Analytical Strategy—Country-Year Fixed Effects

Are our results robust to changing the analytical strategy? Table 4 reports the results of regressing linearly individual political trust on individual unemployment experiences, the region-year unemployment rate, the socio-demographic and contextual controls, with design weights and Country-Year Fixed Effects included (thus capturing the entire national-level unobserved heterogeneity).

Regarding unemployment scars, results are remarkably similar to what found in the multilevel models, with a considerable negative and statistically significant association. At the regional level, the unemployment rate on its own is not statistically significant, consistently with the multilevel models results. However, their macro–micro interaction is statistically significant at the $p < 0.001$ level and similar in magnitude to the interaction with

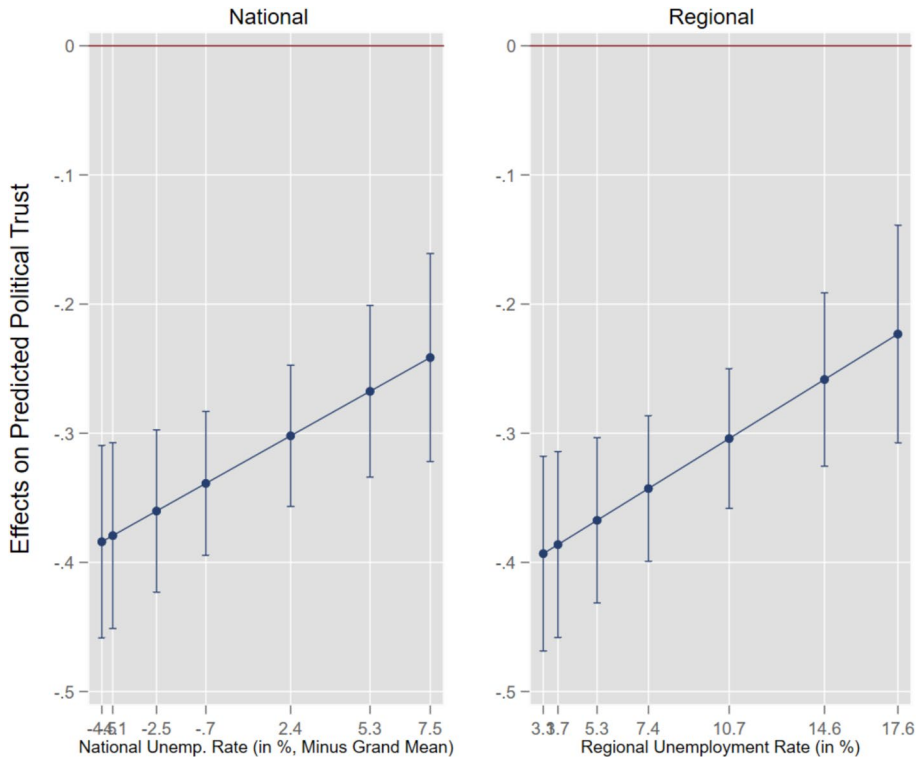


Fig. 3 Conditional marginal effects of long unemployment scars on political trust by contextual unemployment rates (multilevel, regions within countries). *Notes:* Conditional marginal effects on political trust (with 95% CIs) for the interaction between Long Unemp. Scar and national/regional unemployment rate (%). Computed after Models 2 and 3, at the 5th, 10th, 25th, 50th (median), 75th, 90th, and 95th percentiles

the cross-sectional unemployment rate in Table 3 Model 5. The robustness of this key macro–micro habituation result is further corroborated by the CMEs in Fig. 5, with a substantially similar pattern to those in the Multilevel Models. We discuss the implications of these results in the conclusive section.

4.5 Robustness Checks and Supplementary Analyses

To corroborate our main analysis results, we rely on several robustness checks and supplementary analyses. The statistical results are reported in Appendix Sects. 3 and 4, we discuss here in summary their implications for purposes of brevity.

First, we replicate the main analysis models by examining separately the three component variables of political trust as dependent variables: trust in parliament, trust in politicians, trust in political parties (Appendix Table 21). While there are some minor differences in terms of statistical significance (the key interaction with average regional unemployment rate in the second multilevel model is significant at the $p < 0.001$ for trust in politicians and in parties, but at the $p < 0.01$ for trust in parliament), the main results are corroborated.

Table 3 Multilevel models for political trust and unemployment (region-years within regions)

Dependent variable	Political trust (0–10)		
	4	5	6
Model N			
Specification	Baseline	Int. Cross-Section	Int. Longit
<i>Unemployment scar—baseline: None</i>			
Short unemployment scar (> 3 Months)	–0.185*** (0.014)	–0.253*** (0.035)	–0.185*** (0.014)
Long unemployment scar (> 1 Year)	–0.326*** (0.024)	–0.503*** (0.059)	–0.326*** (0.024)
Average regional unemployment rate (%)	–0.004 (0.007)	–0.012 (0.007)	–0.004 (0.007)
Yearly deviation from Avg. Reg. Un. Rate (%)	–0.026*** (0.007)	–0.027*** (0.007)	–0.029*** (0.007)
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>			
Avg. Reg. Un. Rate (%) x Short Unemp. Scar		0.009* (0.004)	
Avg. Reg. Un. Rate (%) x Long Unemp. Scar		0.021*** (0.006)	
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>			
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar			0.008 (0.005)
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar			0.005 (0.007)
National unemployment rate (%)	–0.058*** (0.010)	–0.059*** (0.010)	–0.059*** (0.010)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Socio-demographic controls	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes
<i>Random effects parameters</i>			
Level 3 variance	0.010	0.012	0.010
Level 2 variance	0.12	0.11	0.12
Random slope (Unemp. Scar)	0.019	0.020	0.018
Covariance (Intercept, Slope)	–0.020	–0.012	–0.019
Observations	146,173	146,173	146,173
Number of regions	218	218	218
Number of region-years	877	877	877

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical Strategy*: Three-level multilevel OLS regressions. Individuals nested *within region-years*, *within regions*. Random slopes (Unemp. scar) included

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Second, we modify the first set of multilevel models (regions within countries) from a three-level to a four-level multilevel model (individuals within region-years within regions within countries), to better capture context-specific time trends (Appendix Table 20). Results show how the interaction between the average regional unemployment rate and a long unemployment scar are similar to those of the second set of multilevel models, while

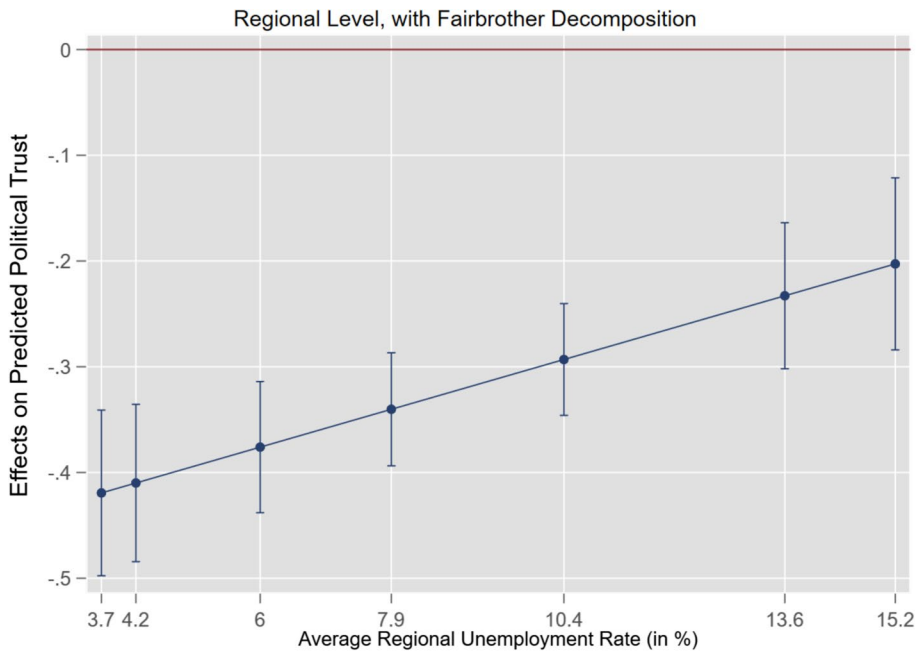


Fig. 4 Conditional marginal effects of long unemployment scars on political trust by regional average unemployment rates (multilevel, region-year within region). *Notes:* Conditional marginal effects on political trust (with 95% CIs) for the interaction between Long Unemp. Scar and average regional unemployment rate (%). Computed after Model 5, at the 5th, 10th, 25th, 50th (median), 75th, 90th, and 95th percentiles

there is no statistical significance for the interactions with the national unemployment rate and the regional deviation from the average.

Third, we focus on the role played by within-country deviations over time of the national unemployment rate in the second set of multilevel models (Appendix Table 21). We find that if we interact the national unemployment rate with unemployment scarring (with country fixed effects included), the interaction coefficient is positive and statistically significant. However, if we include the latter interaction as well as the interaction with the average regional unemployment rate, we find that the national deviations do not play a significant joint role with unemployment scars, while the role of the average regional unemployment rate is similar to the main analysis results.

Fourth, we focus on additional contextual socio-economic controls. Corruption at the national level and different forms of inequality at the regional level. Regarding within-region inequality, data is relatively scarce: we rely on the S80/S20 measure (the ratio of income held by the top 20% of the distribution and the income held by the bottom 20% of the distribution). Unfortunately, this measure is available for a limited number of regions from the EURO-STAT: we only have 16 countries (as opposed to 28), 65 regions (as opposed to 218) and 223 region-years (as opposed to 877). This drastic reduction in information leads to a similar strong reduction in the sample size, from 146,173 to 49,880 (around –66% loss). Within this powerfully reduced sample size (Appendix Table 22), neither the interaction between the regional unemployment rate nor the S80/S20 within-region inequality measure are statistically significant, most likely due to the drastic loss in geographical units and observations. As

Table 4 Linear regressions for political trust and unemployment (country-year fixed-effects)

Dependent variable	Political trust (0–10)				
	7	8	9	10	11
Model N	Baseline	Int. Region	Baseline	Int. Cross-Section	Int. Longit
<i>Unemployment Scar—Baseline: None</i>					
Short unemployment Scar (> 3 months)	–0.208*** (0.016)	–0.274*** (0.034)	–0.208*** (0.016)	–0.273*** (0.040)	–0.207*** (0.016)
Long unemployment Scar (> 1 year)	–0.337*** (0.030)	–0.507*** (0.052)	–0.337*** (0.030)	–0.536*** (0.065)	–0.339*** (0.030)
Regional Unemployment rate in %	–0.007 (0.006)	–0.012* (0.006)			
<i>Regional Un. Rate (%) x Unemp. Scar</i>					
Regional Un. Rate x Short Unemp. Scar		0.008* (0.003)			
Regional Un. Rate x Long Unemp. Scar		0.017*** (0.005)			
Average regional unemployment rate (%)			–0.002(0.006)	–0.007 (0.006)	–0.002 (0.006)
Yearly deviation from Avg. Reg. Un. Rate (%)			–0.024** (0.009)	–0.025** (0.009)	–0.027** (0.009)
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>				0.008(0.004)	
Avg. Reg. Un. Rate (%) x Short Unemp. Scar				0.021** (0.007)	
Avg. Reg. Un. Rate (%) x Long Unemp. Scar					
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>					0.007(0.006)
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar					0.007(0.007)
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar					
<i>Country-Year Fixed Effects</i>					
Socio-demographic controls	Yes	Yes	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes	Yes	Yes
Observations	146,173	146,173	146,173	146,173	146,173
adjusted R-squared	25.9%	25.9%	25.9%	25.9%	25.9%
Bayesian information criterion (BIC)	611,622.1	611,613.7	611,606.1	611,598.4	611,626.8

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy:* Linear regressions with country-year fixed effects, region cluster-robust standard errors in parentheses, and design weights

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

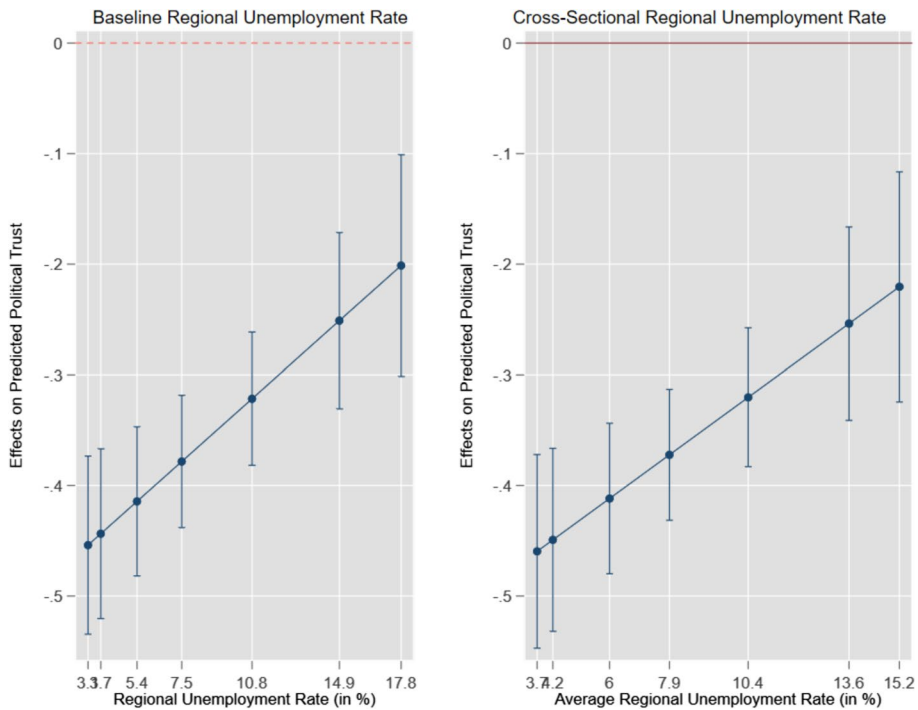


Fig. 5 Conditional marginal effects of long unemployment scars on political trust by regional unemployment rate (country-year fixed effects). *Notes:* Conditional marginal effects on political trust (with 95% CIs) for the interaction between Long Unemp. Scar and regional unemployment rate (%) (left) and average regional unemployment rate (%) (right). Computed after Models 8 and 10, at the 5th, 10th, 25th, 50th (median), 75th, 90th, and 95th percentiles

regards between-region inequality, we rely on the approach implemented by Lipps and Schraff (2021) in a similar set-up to ours: relying on the regional and national GDP to compute a between-region coefficient of variation. We include this variable together with the corruption perceptions index provided by Transparency.org to assess their roles. The inclusion of the latter variable entails a 33% loss in sample size, which is not severe in terms of contextual units (27 vs. 28 countries, 211 vs. 218 regions, 615 vs. 877 region-years). Appendix Table 23 shows how the results including these additional variables are virtually identical to those in the main analysis for unemployment. In line with the literature, the controls themselves show that higher levels of between-region inequality and lower scores in the CPI index (more perceived corruption) are associated with lower levels of political trust.

Lastly, we assess the role played by the current labour market position, measured in the week of the survey. Throughout the main analysis results (Appendix Sect. 3, Tables A8-A10), current labour market position is significantly associated with political trust: relatively to the baseline of those in paid work, those in education are systematically more trusting of the political system, the retired tend to be more trusting (although this is not significant in the country-year fixed-effects models), while those sick or disabled are consistently less trusting. Remarkably, there is no difference associated with being *currently* unemployed relative to those in paid work. What happens if we exclude this variable? Appendix Sect. 4 Table A20 shows that the key interaction between the regional unemployment rate and a long unemployment scar is

virtually unchanged in terms of magnitude and statistical significance. A mediation analysis in Table A21 sheds further light on this matter: current labour market position mediates from 11 to 13% of the association between unemployment scarring and political trust.

5 Discussion and Conclusion

How does unemployment at the national, regional, and individual levels affect political trust in Europe? In sum, our answers are the following: individual unemployment experiences are negatively associated with political trust, both consistently and considerably (-14% SD). For the contextual unemployment rates, the picture is more complicated: the national unemployment rate matters for political trust on its own, but does not in the cross-level interactions, while the opposite holds for the regional unemployment rate. The latter interaction is entirely driven by structural differences between regions, rather than within them. Let us consider each of these aspects in turn.

At the micro level, our results corroborate cross-national empirical findings on unemployment experiences, both current (Foster & Frieden, 2017) and former (Giustozzi & Gangl, 2021), with longer unemployment scars (over 1 year) further exacerbating political distrust. Importantly, this pattern emerges while controlling for the other stratification forms as origin and destination social class, education, and household income (which are all relevant for political trust, as can be found in Appendix Sect. 3). Furthermore, these results show how past unemployment experiences tend to matter more than current labour market position, as evidenced in Appendix Sect. 3 and in the robustness check in Appendix Sect. 4 (Tables A20–A21). Apparently, this evidence classifies past unemployment experiences as consistent to the classic ‘*winners-losers*’ hypothesis found in political trust research (Lipset, 1960; Almond & Verba, 2015 [1963]; Miller, 1974; Newton et al., 2018).

At the national level, the findings are coherent with the literature: citizens tend to distrust the political system more wherever the unemployment rate is higher (Uslaner 2018; Van Der Meer, 2018). Notably, this association emerges while controlling for established contextual predictors of political trust including GDP per capita and income inequality (national), which are also statistically associated with lower individual political trust at the $p < 0.001$ level of significance (see Appendix Sect. 3). This remarks how national unemployment behaves similarly to other aggregate macroeconomic dynamics such as growth and inequality in influencing political trust (Bobzien, 2023; Goubin & Hooghe, 2020; Nannestad & Paldam, 1994). Yet, the same does not hold for the regional unemployment rate: when considered per se, while controlling for the national unemployment rate, it does not have any significant association with individual political trust.

Having established consistency with the literature at the macro and micro levels, our first central contribution arises from interacting them: if the national unemployment rate only dubiously moderates the individual relationship between unemployment and trust, the cross-level interactions between regional unemployment rates and the individual unemployment scars are statistically significant, consistently across the multilevel models and the country-year fixed effects models. The direction of the moderation is also clear: the individual association is more strongly negative (-18% SD) where the regional unemployment rate is lower and mitigated (-8% SD) where the latter is higher. While these results support the *habituation/relative deprivation* hypothesis (Clark, 2003; Clark & Oswald, 1994; Giustozzi & Gangl, 2021; Turner, 1995), they also clearly identify the regional level (as opposed to the national), as the level of context driving the macro–micro

dynamic, with the varying degrees of stigmatisation of the unemployment experience and the associated blame-attribution as the likely mechanisms. This distinction between the national and regional levels may explain why Giustozzi and Gangl (2021) did not find a macro–micro interaction between unemployment levels for political trust, but also extend to other null findings for the same interaction with the national unemployment rate, such as found by Dieckhoff and Gash (2015) for social participation and by Azzollini (2021) for electoral participation. In contrast, the regional-individual interaction we find for political trust behaves similarly to what found for life satisfaction (Clark, 2003), self-rated health (Heggebø & Elstad, 2018), social participation (Kunze & Suppa, 2017), electoral participation (Azzollini, 2021), and social trust (Azzollini, 2023). This is broadly in line with the argument by Pittau et al. (2010) and Cojocaru (2016) on the relatively stronger relevance of subnational dynamics than national dynamics in shaping individual outcomes. The centrality of the regional level increases if we consider the results of the country-year Fixed Effects models, which entirely control for national level dynamics including the welfare regime (Giustozzi & Gangl, 2021), as well as any cultural differences in political trust levels (Turper and Aarts, 2015; Schneider, 2017; Marien, 2017).

If the regional level drives the habituation/relative deprivation hypothesis (Clark, 2003; Giustozzi & Gangl, 2021), does it do so through the differences *between* or *within* regions? The Fairbrother (2014) decomposition in the second type of multilevel models, as well as the country-year Fixed Effects models, point uniformly towards the structural differences in the regional unemployment rates as the engine of this macro–micro hypothesis. This empirical pattern matches well with the theory underpinning the key hypothesis: if the negative consequences of unemployment scars depend on the social norms attached to joblessness (Clark, 2003), socialisation research shows how socio-political norms and attitudes are mainly formed during youth, and tend to crystallise afterwards (Neundorff and Niemi, 2014; Emmenegger et al., 2017). Considering our timeframe of ten years between 2008 and 2018, it is plausible that only long-term developments in the unemployment rate may alter the norms associated to the individual experience, although more stringent conclusions could be drawn with longitudinal data reporting the exact timing of the unemployment spells. Beyond the similar results by Azzollini (2023) for unemployment and social trust, it is worth remarking that Fairbrother and Martin (2013) find a similar pattern for inequality and social trust in the US over a timeframe of 25 years, reinforcing the scenario of a slow change in social norms. These results are corroborated by several robustness checks and supplementary analyses, focusing on changing the dependent variable, altering the multilevel structure of the data, and focusing on the role played by other variables at the individual and contextual levels, as reported in the results section.

Globally, an integrated social science lens is central to comprehensively how economic dynamics influence a political outcome: beyond material success driving the ‘winners-losers’ hypothesis (Lipset, 1960; Almond & Verba, 2015 [1963]; Newton et al., 2018), the surrounding socio-economic context is crucial to determine *how much* does an unemployment experience hurt political trust. This macro–micro finding resonates with the sociological quest of explaining individual behaviour with individual agency *vs* social structure (Emirbayer & Mische, 1998), where the best approach is to consider agents *within* social structures (Sewell, 1992).

This paper faces two main limitations. The first relates to the structure of the dataset: as the European Social Survey is a repeated cross-section, we are unable to observe the political trust of the same individual before and after the unemployment experience, as done for

political trust by Bauer (2018), and for socio-political participation outcomes by Brand and Burgard (2008), Kunze and Suppa (2017), and Emmenegger et al. (2017). Furthermore, the ESS does not provide the exact date of job loss, which prevents us from assessing whether the unemployment rate on the date of job loss plays a more or less important role than the unemployment rate some time later. Thus, this lack of precise unemployment timing somewhat limits the argument that only long-term developments in the unemployment rate may alter the collective norms on job loss, which could be better tested with long-term longitudinal data. However, analyses with longitudinal datasets come at the expense of wide cross-national contextual variation, which is crucial to our research questions and theoretical framework. After having examined this relationship by relying on 28 countries, 218 regions, and 877 region-years, future research may test these research questions relying on longitudinal data and its analysis techniques. Secondly, we rely on the regional or macro-regional level as the most proximate to individuals. From a theoretical standpoint, it would be better to test whether the *habituation/relative deprivation* hypothesis is driven by levels of context lower than region, as commuting zone, town, and neighbourhood, whose ‘reference group’ status (Boudon, 1991) could be stronger than for regions (Cojocaru, 2016). This ideal design is not possible with this dataset due to sample size issues: the number of observations in the ESS for sub-regional geographical units can be particularly small, thus undermining statistical power. Future research, relying for instance on longitudinal or register data, may provide more clarity as to which local unit of aggregation is driving the main results, from neighbourhood to region, again at the expense of cross-national variation.

In sum, we find that unemployment dynamics at the national and individual levels influence political trust, but that regional and individual unemployment do so by interacting in a mitigating direction, corroborating the mechanism of *habituation/relative deprivation* emerging from recent research. Thus, this paper contributes to illuminating how contextual and individual socio-economic hardships jointly affect key socio-political attitudes, which are crucial for the health of democracy in contemporary European societies.

Appendix

Appendix Section 1—Variable List, and Descriptive Statistics for Dependent Variable

See Tables 5, 6, 7, 8 and Fig. 6.

Table 5 Variable list and European social survey questions

Variable	ESS variable name	European social survey question
Political trust scale (three-item average)		Using this card, please tell me on a score of 0–10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust
	<i>trsp1rl</i>	[country]'s parliament
	<i>trsp1pt</i>	politicians
	<i>trsp1rl</i>	political parties
Unemp. Scar	<i>uemp3m</i>	Have you ever been unemployed and seeking work for a period of more than three months? Have any of these periods lasted for 12 months or more?
	<i>uemp12m</i>	
Scar within the last 5 years	<i>uemp5yr</i>	Have any of these periods been within the past 5 years?
Origin social class	<i>occf14b</i>	Which of the descriptions best describes the sort of work he (your father) did when you were 14?
	<i>occm14b</i>	Which of the descriptions best describes the sort of work she (your mother) did when you were 14?
Destination social class	<i>isco08/iscoco</i>	What does/did the firm/organisation you work/worked for mainly make or do?
Education level	<i>eised</i>	What is the highest level of education you have successfully completed?
Household income decile	<i>hinctm/a</i>	Please tell me which [decile] describes your household's total income, after tax and compulsory deductions, from all sources?
Current activity	<i>mnactic</i>	Using this card, which of these descriptions applies to what you have been doing for the last 7 days?
Age	<i>agea</i>	[Coded by respondent directly]
Religious	<i>rlgblg</i>	Do you consider yourself as belonging to any particular religion or denomination?
Sex	<i>gnbr</i>	[Coded by respondent directly]
Native	<i>brncntr</i>	Were you born in [country]?
Minority	<i>blgemg</i>	Do you belong to a minority ethnic group in [country]?

Source: ESS questionnaires [English]

Table 6 Full descriptive statistics

Variable	N	Mean/Percent	SD	Min	Max
Political trust scale (Dependent variable)	146,173	3.734	2.266	0	10
Unemployment scar in the last 5 years	146,173	0.439	0.667	0	2
No scar	96,494	66.01%			
Short unemployment scar (> 3 months)	35,138	24.04%			
Long unemployment scar (> 1 year)	14,542	9.95%			
National unemployment rate in %	146,173	8.513	4.146	2.2	25
National unemployment rate in % (minus grand mean)	146,173	0.341	4.146	-5.97	16.83
Regional unemployment rate in %	146,173	8.553	4.848	1.3	38.5
Average regional unemployment rate (%)	146,173	8.616	4.118	2.2	30.9
Yearly deviation from Avg. Reg. Un. Rate (%)	146,173	-0.062	2.719	-13.64	13.61
Destination social class (European Socio-Economic Classification)	146,173	5495	3.271	1	10
Large employers and higher managers/professionals	22,098	15.12%			
Higher supervisors and lower Mgrs/Professionals	23,248	15.90%			
Intermediate Occupation	10,845	7.42%			
Small employers and self-employed (Non-Agri.)	7,877	5.39%			
Small employers and self-employed (Agri.)	2,929	2.00%			
Lower supervisors and technicians	9,569	6.55%			
Lower sales and service	20,349	13.92%			
Lower technical	13,309	9.10%			
Routine	14,745	10.09%			
Missing destination social class	21,204	14.51%			
Origin social class (Erikson-Goldthorpe-Portocararo)	146,173	5.403	2.705	1	10
Professional and technical occupations	18,731	12.81%			
Higher administrator occupations	6,729	4.60%			
Clerical occupations	17,025	11.65%			
Sales occupations	11,485	7.86%			
Service occupations	15,352	10.50%			

Table 6 (continued)

Variable	N	Mean/Percent	SD	Min	Max
Skilled workers	22,382	15.31%			
Semi-skilled workers	19,033	13.02%			
Unskilled workers	12,575	8.60%			
Farm workers	14,416	9.86%			
Missing origin social class	8,445	5.78%			
Household income decile	146,173	4.664	3.408	0	10
Missing income decile	29,299	20.04%			
Bottom income decile	8,877	6.07%			
Second decile	9,752	6.67%			
Third decile	11,044	7.56%			
Fourth decile	12,011	8.22%			
Fifth decile	12,665	8.66%			
Sixth decile	12,618	8.63%			
Seventh decile	13,462	9.21%			
Eighth decile	13,136	8.99%			
Ninth decile	11,620	7.95%			
Top decile	11,689	8.00%			
Highest level of education, ES—ISCED	146,173	3.923	1.884	0	7
Not harmonisable into ES-ISCED	5,849	4.00%			
Less than lower secondary (ES-ISCED I)	7,786	5.33%			
Lower secondary (ES-ISCED II)	21,077	14.42%			
Upper secondary, Lower (ES-ISCED IIIb)	25,657	17.55%			
Upper secondary, Higher (ES-ISCED IIIa)	33,606	22.99%			
Advanced vocational (ES-ISCED IV)	17,500	11.97%			
Lower tertiary education (ES-ISCED V I)	16,168	11.06%			

Table 6 (continued)

Variable	N	Mean/Percent	SD	Min	Max
Higher tertiary education (ES-ISCED V2)	18,530	12.68%			
Labour market position	146,173	2.014	1.640	1	6
Paid work	95,180	65.11%			
In education	10,673	7.30%			
Unemployed or inactive	11,363	7.77%			
Retired	12,364	8.46%			
Sick or disabled	4,170	2.85%			
Housework or community service	12,423	8.50%			
Age	146,173	42.797	13.479	18	65
Religious	146,173	0.547	0.498	0	1
Gender	146,173	0.479	0.500	0	1
Native	146,173	0.915	0.278	0	1
Minority	146,173	0.057	0.232	0	1
National population size (thousands)	146,173	18,300.97	25,275.32	622.359	82,792.35
National population density	146,173	324.537	273.081	30.3	1,183.354
National GDP per capita	146,173	71.175	45.482	3.121	213.079
National income inequality (Gini coefficient)	146,173	29.168	3.644	20.9	39.6
Regional population size (thousands)	146,173	2,969.408	3,320.468	69.699	17,996.62
Regional population density	146,173	326.510	770.809	3.3	7,471.5
Regional GDP per capita	146,173	72.405	54.046	1.617	290

Descriptive statistics with design weights

Data Source: European Social Survey, Multilevel Rounds 4–9 (2008–2018)

Table 7 Frequency table for political trust (scale, three-item average)

Level of political trust	N	%	Cumu. %
0	11,892.82	8.14	8.14
0.33	2,972.30	2.03	10.17
0.67	3,901.99	2.67	12.84
1	5,855.99	4.01	16.85
1.33	4,891.13	3.35	20.19
1.67	5,299.28	3.63	23.82
2	6,399.17	4.38	28.19
2.33	6,144.99	4.20	32.40
2.67	5,571.72	3.81	36.21
3	7,579.78	5.19	41.40
3.33	6,433.77	4.40	45.80
3.67	6,895.34	4.72	50.51
4	6,890.82	4.71	55.23
4.33	7,212.61	4.93	60.16
4.67	6,301.08	4.31	64.47
5	10,105.73	6.91	71.39
5.33	6,263.16	4.28	75.67
5.67	6,107.54	4.18	79.85
6	6,224.32	4.26	84.11
6.33	5,362.77	3.67	87.78
6.67	4,671.55	3.20	90.97
7	4,379.21	3.00	93.97
7.33	3,129.91	2.14	96.11
7.67	1,894.32	1.30	97.41
8	1,629.80	1.11	98.52
8.33	732.76	0.50	99.02
8.67	525.93	0.36	99.38
9	345.60	0.24	99.62
9.33	200.29	0.14	99.76
9.67	60.99	0.04	99.80
10	296.34	0.20	100.00
Total	146,173	100.00	

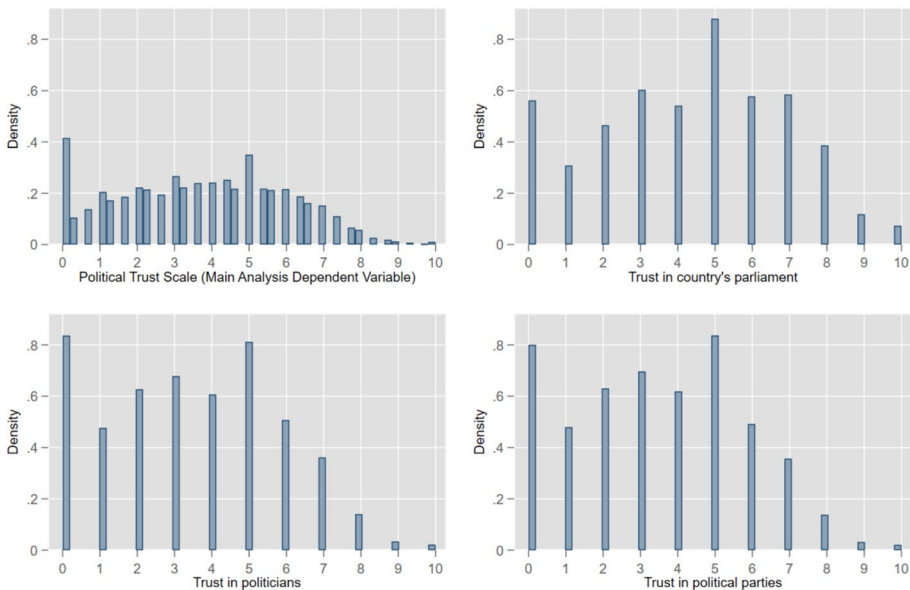
Descriptive Statistics with design weights

Data Source: European social survey, multilevel rounds 4–9 (2008–2018)

Table 8 Frequency table for political trust component variables

Level of trust	<i>trstprl</i> —Trust in [country]’s parliament		<i>trstplt</i> —Trust in politicians		<i>Trstprt</i> —Trust in political parties	
	%	Cumu. %	%	Cumu. %	%	Cumu. %
Low trust—0	10.98	10.98	16.35	16.35	15.61	15.61
1	6.01	16.99	9.30	25.65	9.35	24.96
2	9.10	26.09	12.30	37.96	12.39	37.35
3	11.75	37.83	13.28	51.24	13.64	50.99
4	10.65	48.48	11.91	63.15	12.10	63.10
5	17.30	65.78	15.95	79.10	16.49	79.58
6	11.40	77.18	9.96	89.06	9.67	89.26
7	11.53	88.70	7.10	96.16	7.01	96.27
8	7.57	96.27	2.76	98.92	2.69	98.97
9	2.29	98.56	0.65	99.57	0.63	99.60
High trust—10	1.44	100.00	0.43	100.00	0.40	100.00
Total	146,173	100%	146,173	100%	146,173	100%
Average interim covariance	4.73					
Cronbach’s alpha	0.92					

Descriptive Statistics with design weights

Data Source: European Social Survey, Multilevel Rounds 4–9 (2008–2018)**Fig. 6** Histograms for political trust scale, and component variables. *Notes:* Sample size is 146,173. *Data Source:* European Social Survey, Multilevel Rounds 4–9 (2008–2018)

Appendix Section 2—Unemployment Rates, by Contextual Level and Year

See Tables 9, 10, 11 and Fig. 7).

Table 9 Unemployment rates, by country

Country	Unemployment rate (in %)					
	2008	2010	2012	2014	2016	2018
Austria				5.6	6	4.8
Belgium	7	8.3	7.5	8.5	7.8	5.9
Bulgaria	5.6	10.2	12.3			5.2
Switzerland	3.3	4.5	4.2	4.5	4.9	4.7
Cyprus	3.7	6.2	8.4			11.8
Czech Republic	4.4	7.3	7	6.1	4	2.2
Germany	7.5	7.1	5.5	5	4.1	3.4
Denmark	3.3	7.4	7.5	6.6		5.1
Estonia	5.5	16.9	10.2	7.4	6.8	5.4
Spain	11.3	20.1	25	24.4	19.6	15.3
Finland	6.4	8.4	7.7	8.7	8.8	7.4
France	7.8	9.7	10.3	10.3	10.1	9.1
Great Britain	5.6	7.8	7.9	6.1	4.8	4
Greece	7.7	12.5				
Croatia	8.4	11.8				8.4
Hungary	7.8	11.2	10.9	7.7	5.1	3.7
Ireland	6	13.5	14.7	11.3	8.4	5.7
Israel				6		
Italy			10.7		11.7	10.6
Lithuania		17.8	13.2	10.7	7.9	6.1
Latvia	7.4					7.5
Montenegro						15.2
Netherlands	2.8	4.5	5.3	7.4	6	3.8
Norway	2.5	3.5	3.1	3.5	4.7	3.8
Poland	7.1	9.6	10.1	9	6.2	3.8
Portugal	7.6	10.8	15.7	13.9	11.1	7
Serbia						12.7
Sweden	6.2	8.4	8	8	7	6.4
Slovenia	4.4	7.2	8.8	9.7	8	5.1
Slovakia	9.5	14.4	14			6.5

Unemployment rates by country and year, with design weights

Data Source: EUROSTAT, included in European Social Survey, Multilevel Rounds 4–9 (2008–2018)

Table 10 Unemployment rates, by region (NUTS1)

NUTS1	Unemployment rate (in %)					
	2008	2010	2012	2014	2016	2018
<i>BE—Belgium</i>						
BE1—Brussels	15.9	17.3	17.4	18.3	16.7	13.2
BE2—Flanders	3.9	5.1	4.5	4.0	4.8	3.4
BE3—Wallonia	10	11.4	10	11.8	10.5	8.4
<i>CY—Cyprus</i>						
CY0—Cyprus	3.7	6.2	11.8			8.4
<i>DE—Germany</i>						
DE1—Baden-Württemberg	4.2	4.8	3.4	3.1	3.1	2.5
DE2—Bavaria	4.2	4.4	3.2	2.9	2.5	2.2
DE3—Berlin	15.1	13.2	10.6	9.8	7.8	6.1
DE4—Brandenburg	11.5	10	8.3	6.7	4.6	4.1
DE5—Bremen	9.5	8.1	6.7	6.6	5.3	4.3
DE6—Hamburg	7.1	7.1	5.4	5	4.1	4.1
DE7—Hesse	6.4	5.9	4.7	4.4	3.9	3.1
DE8—Mecklemburg-Vorpommern	14.6	12.4	10.8	9.6	6.3	4.8
DE9—Lower Saxony	7.1	6.5	5	4.6	4	3.3
DEA—North Rhine-Westphalia	7.4	7.5	5.9	5.6	4.5	3.8
DEB—Rhineland-Palatinate	5.6	5.5	4	3.9	3.6	3.1
DEC—Saarland	7.1	7	6.4	5.8	4.8	3.6
DED—Saxony	12.9	11.3	8.2	7.2	5	4
DEE—Saxony-Anhalt	14.6	11.4	9.5	8.8	7.4	5.3
DEF—Schleswig-Holstein	6.8	6.8	5.1	4.6	4	3.1
DEG—Thuringia	10.6	8.6	7.2	6	5.1	4.1
<i>GB—Great Britain and N. Ireland</i>						
UKC—North East				9	7	
UKD—North West				6.7	5	
UKE- Yorkshire and the Humber				7.2	5.6	
UKF—East Midlands				5.5	4.5	
UKG—West Midlands				7.2	5.6	
UKH—East of England				5.1	3.9	
UKI—London				6.8	5.6	
UKJ—South East				4.6	3.5	
UKK—South West				4.7	3.8	
UKL—Wales				6.6	4.4	
UKM—Scotland				5.9	5.1	
UKN—Northern Ireland				6.4	5.7	
<i>GR—Greece</i>						
EL1—Attiki	8.7	13.5				
EL2—Aegean and Crete	8.7	11.9				
EL3—Voreia Ellada	6.5	12.3				
EL4—Kentriki Ellada	6.5	11.9				
<i>IT—Italy</i>						
ITC—Northwest			8		8.1	7

Table 10 (continued)

NUTS1	Unemployment rate (in %)					
	2008	2010	2012	2014	2016	2018
ITF—South			16.9		19.1	17.8
ITG—Insular Italy			17.7		19.7	20.7
ITH—Northeast			6.7		6.8	6
ITI—Central Italy			9.5		10.4	9.4
<i>Montenegro</i>						
ME0—Montenegro						15.2

Unemployment Rates by NUTS1 and Year, with design weights

Data Source: EUROSTAT, included in European Social Survey, Multilevel Rounds 4–9 (2008–2018)

Table 11 Unemployment rates, by region (NUTS2)

NUTS2	Unemployment Rate (in %)					
	2008	2010	2012	2014	2016	2018
<i>AT—Austria</i>						
AT11—Burgenland				4.8	5.7	4.2
AT12—Lower Austria				5.1	5.2	3.8
AT13—Wien				10.2	11.3	10
AT21—Carinthia				6	5.4	4.1
AT22—Styria				4.9	5.1	4
AT31—Upper Austria				4	4.4	3.2
AT32—Salzburg				3.5	3.4	2.8
AT33—Tyrol				3.2	3.5	2.4
AT34—Vorarlberg				3.4	3.4	3.3
<i>BE—Belgium</i>						
BE10—Brussels		17.3	17.4	18.3	16.7	13.2
BE21—Antwerp		6	5.3	6.1	6.1	4.3
BE22—Limburg		5.3	4.7	5.6	4.8	3.8
BE23—East Flanders		5.2	4.1	4.3	4.2	2.7
BE24—Flemish Brabant		4.8	4.4	5	4.8	3.6
BE25—West Flanders		3.8	3.9	4.2	3.7	2.6
BE31—Walloon Brabant		8.3	7	8.8	7.9	6.9
BE32—Hainaut		13.9	12.1	14.4	11.8	9.9
BE33—Liège		11.5	10.7	12.3	11.1	8.2
BE34—Luxembourg (Belgium)		7.5	7.6	8.5	7.8	5.4
BE35—Namur		9.6	7.3	8.9	9.7	8.5
<i>BG—Bulgaria</i>						
BG31—Northwestern	7.1	11	12.3			11.2
BG32—Northern Central	8.5	11.5	14.3			6.7
BG33—Northeastern	8.6	14.5	18.2			7.4
BG34—Southeastern	5.4	5.8	10.6			11.9

Table 11 (continued)

NUTS2	Unemployment Rate (in %)					
	2008	2010	2012	2014	2016	2018
BG41—Southwestern	2.9	6.8	8.2			2.6
BG42—Southern Central	5.1	11.4	13.8			4.2
<i>CZ—Czech Republic</i>						
CZ01—Prague	1.9	3.7	3.1	2.5	2.2	1.3
CZ02—Central Bohemia	2.6	5.2	4.6	5.1	3.1	2
CZ03—Southwest	3.1	5.6	5.3	5.5	3.1	1.5
CZ04—Northwest	7.8	11.1	10.7	8.7	5.2	3.4
CZ05—Northeast	4	7	8	6.3	4	2
CZ06—Southeast	4	7.5	7.6	5.9	3.7	2.3
CZ07—Central Moravia	4.9	8.8	7.5	6.9	3.9	2.2
CZ08—Moravian-Silesian	7.4	10.2	9.5	8.6	6.9	3.7
<i>DK—Denmark</i>						
DK01—Hovedstaden	3.6	7.8	8.2	7.1	5.4	
DK02—Sjælland	3.2	6.7	6.4	6.3	5.2	
DK03—Southern Denmark	3.2	7.6	7.9	6.7	4.9	
DK04—Midtjylland	3.1	7.2	6.8	6.1	4.7	
DK05—Nordjylland	3.4	7.4	7.9	6.4	5.5	
<i>ES—Spain</i>						
ES11—Galicia	8.7	15.4	20.7	21.7	17.2	13.3
ES12—Asturias	8.4	16	21.8	21.1	17.6	13.6
ES13—Cantabria	7.2	13.9	17.7	19.4	14.9	10.7
ES21—Basque Community	6.4	10.5	14.9	16.3	12.6	10
ES22—Navarre	6.7	11.8	16.2	15.7	12.5	10
ES23—La Rioja	7.8	14.3	20.5	18.2	13.5	10.4
ES24—Aragon	7.1	14.8	18.6	20.2	14.7	10.6
ES30—Madrid	8.7	16.1	19	18.7	15.7	12.2
ES41—Castille-Leon	9.5	15.8	19.7	20.8	15.8	12.1
ES42—Castile-La Mancha	11.6	21	28.5	29	23.5	18.2
ES43—Extremadura	15.2	23	33	29.8	27.5	23.6
ES51—Catalonia	9	17.8	22.6	20.3	15.7	11.5
ES52—Valencian Community	12.1	23.3	27.7	25.8	20.6	15.6
ES53—Balearic Islands	10.2	20.4	23.2	20	13.9	11.5
ES61—Andalusia	17.8	28	34.6	34.8	28.9	23
ES62—Region of Murcia	12.6	23.4	27.9	26.6	19.8	16.8
ES63—Ceuta			38.5	31.9	24.9	29
ES64—Melilla	20.7	23.7		25.8		28.4
ES70—Canary Islands	17.4	28.7	33	32.4	26.1	20.1
<i>FI—Finland</i>						
FI13—Ita-Suomi	9	10.1				
FI18—Etela Suomi	5.3	7.4				
FI19—West Finland	6.5	9	8.2	8.7	9.4	7.4
FI1A—Pohjois-Suomi	8.5	10.1				
FI1B—Helsinki-Uusimaa			6.3	7.3	7.4	6.9

Table 11 (continued)

NUTS2	Unemployment Rate (in %)					
	2008	2010	2012	2014	2016	2018
FI1C—South Finland			7.5	9.4	9.1	7.4
FI1D—North and East Finland			9.5	10	10.2	8.1
<i>FR—France</i>						
FR10—Île de France		8.9	8.5	9.7	9.2	8.7
FR21—Champagne-Ardenne		9.6	11.2	11.4		
FR22—Picardie		12	11.1	11.6		
FR23—Haute-Normandie		10.2	11.5	11.9		
FR24—Centre		7.3	11.2	9.5		
FR25—Basse-Normandie		8.2	8.6	9.3		
FR26—Bourgogne		9.4	9.3	10.7		
FR30—Nord-Pas-de-Calais		13.1	13.6	13.8		
FR41—Lorraine		9.8	12.2	11.8		
FR42—Alsace		8.3	8.9	10.1		
FR43—Franche-Comté		8.7	9.4	9.8		
FR51—Pays de la Loire		8.9	8.8	8.6		
FR52—Bretagne		7.2	7.4	8.4		
FR53—Poitou-Charentes		8.1	8.8	10.9		
FR61—Aquitaine		8.5	9	10		
FR62—Midi-Pyrenees		8.3	8.8	9.1		
FR71—Rhône-Alpes		8.5	8.4	8.8		
FR72—Auvergne		7.4	10.6	7.4		
FR81—Languedoc-Roussillon		14.4	15.7	12.3		
FR82—Provence-Alpes-C.d'Azur		10.2	10.1	10.1		
FRB0—Centre-Val de Loire					9.9	8.3
FRC1—Bourgogne					9.5	8.9
FRC2—Franche-Comté					8.2	7.2
FRD1—Lower Normandy					8.6	8
FRD2—Upper Normandy					11.5	9.3
FRE1—Nord-Pas-de-Calais					13.3	12.2
FRE2—Picardy					11.6	9.2
FRF1—Alsace					10.9	8
FRF2—Champagne-Ardenne					11.3	8.8
FRF3—Lorraine					11.8	9.8
FRG0—Pays de la Loire					8.8	7.8
FRH0—Brittany					8.6	6.8
FRI1- Aquitaine					10.1	9.3
FRI2—Limousin					7.1	7
FRI3—Poitou-Charentes					9	8.7
FRJ1—Languedoc-Roussillon					12	11.7
FRJ2—Midi-Pyrenees					8.6	7.7
FRK1—Auvergne					7.2	7.7
FRK2—Rhône-Alpes					8	7.3
FRL0—Provence-Alpes-C. d'Azur					10.6	9.3

Table 11 (continued)

NUTS2	Unemployment Rate (in %)					
	2008	2010	2012	2014	2016	2018
<i>GR—Greece</i>						
GR11—Anatoliki Makedonia	8.7	14.2				
GR12—Kentriki Makedonia	8.3	13.5				
GR13—Dytiki Makedonia		15.5				
GR14—Thessalia	8.4	12.1				
GR21—Ipeiros		12.6				
GR22—Ionia Nisia		14.8				
GR23—Dytiki Ellada		11.7				
GR24—Sterea Ellada	8.5	12.5				
GR25—Peloponnisos	7.1	9.8				
GR30—Attiki	6.5	12.3				
GR41—Voreio Algaio		9				
GR42—Notio Aigaio		14.2				
GR43—Kriti	6.3	11.7				
<i>HR—Croatia</i>						
HR01—Northwestern	4.9	7.9				
HR02—Pannonian Croatia	12.9	18				
HR03—Adriatic Croatia	8.7	11.3				9.4
HR04—Continental Croaita						8
<i>HU—Hungary</i>						
HU10—Budapest (Old)	4.6	8.9	9.2	6.2		
HU11 Budapest (New)						3.1
HU21—Central Transdanubia	5.8	10.3	9.8	5.6	3	2.2
HU22—Western Transdanubia	4.9	9.2	7.4	4.6	2.7	2
HU23—Southern Transdanubia	10.3	12.1	12	7.8	6.2	5.6
HU31—Northern Hungary	13.4	16	16.6	10.4	6.3	4.7
HU32—Northern Great Plain	12	14.5	13.9	11.8	9.3	6.6
HU33—Souther Great Plain	8.8	10.6	10.5	9	5.6	3.3
<i>IE—Ireland</i>						
IE01—Border, Midland, and West	7	14	16.5	12.3		
IE02—Southern and Eastern	5.7	13.3	14.1	10.9		
IE04—Northern and Western						5.6
IE05—Southern						6.1
IE06—Eastern and Midland						5.6
<i>IT—Italy</i>						
ITC1—Piedmont			9.2		9.3	
ITC2—Aosta Valley					8.7	
ITC3—Liguria			8.1		9.7	
ITC4—Lombardy			7.5		7.4	
ITF1—Abruzzo			10.8		12.1	
ITF3—Campania			19.3		20.4	
ITF4—Apulia			15.7		19.4	
ITF5—Basilicata			14.5		13.3	

Table 11 (continued)

NUTS2	Unemployment Rate (in %)					
	2008	2010	2012	2014	2016	2018
ITG1—Sicily			18.6		22.1	
ITG2—Sardinia			15.5		17.3	
ITH1—Trentino			4.1		3.7	
ITH2—Alto Adige/Sudtirol			6.1		6.8	
ITH3—Veneto			6.6		6.8	
ITH4—Friuli—Venezia Giulia			6.8		7.5	
ITH5—Emilia-Romagna			6.9		7.1	
ITI1—Tuscany			7.8		9.5	
ITI2—Umbria			9.6		9.8	
ITI3—Marche			9.1		10.6	
ITI4—Latium			10.8		11.1	
<i>NL—Netherlands</i>						
NL11—Groningen	4	5.3	6.2	8.6	8.2	5.5
NL12—Friesland	2.9	4.8	5.7	7.9	6.7	4.7
NL13—Drenthe	3.6	4.5	5.7	7.3	6.5	4.1
NL21—Overijssel	2.6	4.4	5.1	7.3	6.2	3.7
NL22—Gelderland	2.6	4.1	4.8	6.9	5.6	3.3
NL23—Flevoland	3.4	5.2	6.6	11	7.9	4.5
NL31—Utrecht	2.1	3.7	4.7	6.4	5	3.4
NL32—North Holland	2.6	4.2	5	6.9	5.5	3.8
NL33—South Holland	3	5	6.3	8.4	7.1	4.3
NL34—Zeeland	2.8	2.7	3.1	5.4	3.9	2.7
NL41—North Brabant	2.3	4.2	4.7	7	5.3	3.4
NL42—Limburg	3.4	5.1	4.9	7.4	5.7	3.4
<i>PL—Poland</i>						
PL11—Lodzkie	6.7	9.3	11.1	8.9	5.5	
PL12—Mazowieckie	6	7.4	8	7.2		
PL21—Malopolskie	6.2	9.1	10.4	9.1	5.2	2.9
PL22—Slaskie	6.6	9.1	9.4	8.6	5.4	3.4
PL31—Lubelskie	8.8	9.9	10.5	9.9	8	
PL32—Podkarpackie	8.2	11.7	13.2	14	9.6	
PL33—Swietokrzyskie	8.8	12	13.1	11.4	8.9	
PL34—Podlaskie	6.4	10.2	9.2	9.1	6.7	
PL41—Wielkopolskie	6.1	8.8	8.5	7.7	4.8	2.2
PL42—Zachodniopomorskie	9.5	12.3	10.9	8.4	6.9	3.8
PL43—Lubuskie	6.5	10.5	9	8.3	4.7	3
PL51—Dolnoslaskie	9.1	11.3	11.1	9.1	5.5	3.3
PL52—Opolskie	6.5	9.6	9.5	7.8	5	3.2
PL61—Kujawsko-Pomorskie	9.1	10.6	11.9	10.7	7.4	4.3
PL62—Warminsko-Mazurkie	7.4	9.6	11	9.8	8.8	5.6
PL63—Pomorskie	5.5	9.3	9.5	8.6	5.7	3
<i>PT—Portugal</i>						
PT11—North	8.7	12.6	16.1	14.8	12	7.3

Table 11 (continued)

NUTS2	Unemployment Rate (in %)					
	2008	2010	2012	2014	2016	2018
PT15—Algarve	7	13.4	17.9	14.5	9.2	6.4
PT16—Centro	5.4	7.7	12	10.6	8.4	5.6
PT17—Lisbon Metropolitan Area	8.2	11.3	17.6	14.9	11.9	7.4
PT18—Alentejo	9	11.4	15.9	14.3	12.1	7.2
<i>RS—Serbia</i>						
RS11—Belgrade						10.9
RS12—Vojvodina						10.5
RS21—Western Serbia						13.8
RS22—South and East Serbia						16.2
<i>SE—Sweden</i>						
SE11—Stockholm	5.2	7.1	6.8	7.1	6.5	5.6
SE12—Eastern Central	6.9	9.5	8.6	8.3	7.7	7.2
SE21—Småland	5	7.7	7.4	6.7	6.2	5.7
SE22—South Sweden	7.4	8.6	9.4	10	8.4	8.6
SE23—Northern Sweden	6.1	8.5	7.7	7.6	6.5	5.6
SE31—North Central Sweden	6.6	8.7	8.6	8.6	7.5	6.4
SE32—Middle Norrland	7.1	10.2	8.4	7.4	6.8	5.5
SE33—Upper Norrland	6.6	9.2	7.7	7.4	5.8	5.4
<i>SI—Slovenia</i>						
SI01—Eastern Slovenia	5.2	7.9	10			
SI02—Western Slovenia	3.4	6.5	7.6			
<i>SK—Slovakia</i>						
SK01—Bratislava Region	3.4	6.2	5.7			2.9
SK02—Western Slovakia	6.4	12.7	11.3			4.3
SK03—Central Slovakia	13.1	16.5	16.2			7.5
SK04—Eastern Slovakia	13.2	18.5	19			10.1

Unemployment rates by NUTS2 and year, with design weights

Data Sources: EUROSTAT, included in European Social Survey, Multilevel Rounds 4–9 (2008–2018)

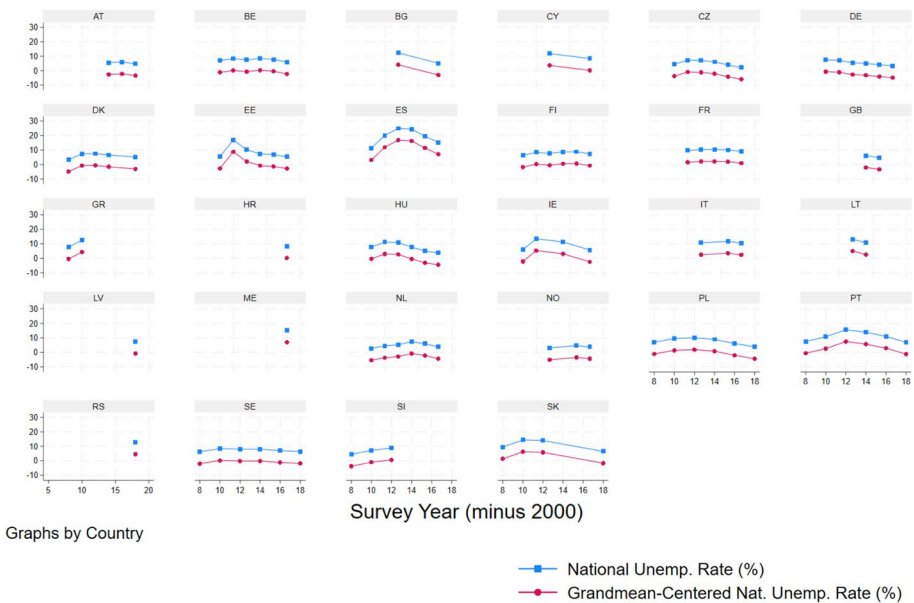


Fig. 7 Comparison between national unemployment rate (%) and Grandmean-Centered National Unemployment Rate (%). *Notes:* Sample size is 146,173. *Data Source:* European Social Survey, Multilevel Rounds 4–9 (2008–2018)

Appendix Section 3—Complete Main Analysis Regressions and Figures

Multilevel Models Versus Fixed Effects Models

To assess whether multilevel models (MLM) are also warranted empirically, we rely on two metrics. First, multilevel models typically require specific thresholds for higher-order groups (Raudenbush and Bryk, 2002; Gelman and Hill, 2006), to ensure that the contextual effects in MLM are unbiased: 25 for MLM linear regression models, and 30 for logistic regression models (Maas and Hox, 2004; Stegmueller, 2013; Bryan and Jenkins, 2016), although solutions for lower numbers are being developed (Elff, Heisig, Schaeffer, and Shikano, 2020). Our analytical strategy features 28 countries for the first type of multilevel model, and 218 regions for the second, thus exceeding the conventional thresholds. A second consideration for multilevel models is the Intra-Class Correlation (ICC), measuring the correlation between individuals in the same cluster (Rabe-Hesketh and Skrondal, 2008). While there is no firmly established ICC minimum value for MLM to be warranted (Garson, 2019), the ICC is consistently above 20% across specifications and multilevel model types, highlighting that multilevel modelling is clearly needed to address the focal research questions.

Nonetheless, multilevel models operate under assumptions such as the normal distribution of the random effects for up to three contextual levels (West, Welch, and Galecki, 2006; Rabe-Hesketh and Skrondal, 2008; Bell and Jones, 2015; Garson, 2019). For purposes of robustness, we replicate the main analysis relying on Linear Regression models with Country-Year Fixed Effects, leveraging on robust Standard Errors (SEs) using

Table 12 Full multilevel analysis (regions within countries)

Dependent variable	Political trust (0–10)		
	1	2	3
Model N			
Specification	Baseline	Int. Country	Int. Region
<i>Unemployment scar—Baseline: None</i>			
Short unemployment scar (> 3 Months)	−0.177*** (0.016)	−0.179*** (0.016)	−0.232*** (0.029)
Long unemployment scar (> 1 Year)	−0.319*** (0.028)	−0.331*** (0.028)	−0.430*** (0.048)
National unemployment rate in % (minus grand mean)	−0.067*** (0.006)	−0.070*** (0.006)	−0.066*** (0.006)
Regional unemployment rate in %	−0.006 (0.005)	−0.006 (0.005)	−0.010* (0.005)
<i>National Un. Rate (%) x Unemp. Scar</i>			
National Un. Rate x Short Unemp. Scar		0.006 (0.003)	
National Un. Rate x Long Unemp. Scar		0.012* (0.005)	
<i>Regional Un. Rate (%) x Unemp. Scar</i>			
Regional Un. Rate x Short Unemp. Scar			0.006* (0.003)
Regional Un. Rate x Long Unemp. Scar			0.012** (0.004)
<i>Destination social class (ESEC)—Baseline: Large Emps. and Higher Mgrs/Professionals</i>			
Higher supervisors and lower Mgrs/Professionals	−0.084*** (0.019)	−0.085*** (0.019)	−0.085*** (0.019)
Intermediate occupation	0.017 (0.024)	0.017 (0.024)	0.017 (0.024)
Small employers and self-employed (Non-Agri.)	−0.298*** (0.027)	−0.298*** (0.027)	−0.298*** (0.027)
Small employers and self-employed (Agri.)	−0.137*** (0.041)	−0.137*** (0.041)	−0.137*** (0.041)
Lower supervisors and technicians	−0.246*** (0.026)	−0.246*** (0.026)	−0.246*** (0.026)
Lower sales and service	−0.141*** (0.022)	−0.141*** (0.022)	−0.141*** (0.022)
Lower technical	−0.280*** (0.024)	−0.280*** (0.024)	−0.280*** (0.024)
Routine	−0.245*** (0.024)	−0.245*** (0.024)	−0.245*** (0.024)
Missing destination social class	−0.080*** (0.022)	−0.080*** (0.022)	−0.079*** (0.022)
<i>Income Decile—Baseline: Top Decile</i>			
Missing income	−0.337*** (0.023)	−0.337*** (0.023)	−0.337*** (0.023)
Bottom income decile	−0.374*** (0.030)	−0.374*** (0.030)	−0.375*** (0.030)
Second decile	−0.317*** (0.029)	−0.317*** (0.029)	−0.317*** (0.029)
Third decile	−0.293*** (0.027)	−0.293*** (0.027)	−0.293*** (0.027)
Fourth decile	−0.247*** (0.027)	−0.247*** (0.027)	−0.247*** (0.027)
Fifth decile	−0.229*** (0.026)	−0.229*** (0.026)	−0.229*** (0.026)
Sixth decile	−0.177*** (0.026)	−0.177*** (0.026)	−0.177*** (0.026)
Seventh decile	−0.108*** (0.025)	−0.108*** (0.025)	−0.108*** (0.025)
Eighth decile	−0.071** (0.025)	−0.071** (0.025)	−0.071** (0.025)
Ninth decile	−0.008 (0.026)	−0.008 (0.026)	−0.008 (0.026)
<i>Level of Education—Baseline: Higher Tertiary Education (ES–ISCED V2)</i>			
Not Harmonisable into ES-ISCED	−0.406*** (0.042)	−0.406*** (0.042)	−0.406*** (0.042)
Less than lower secondary (ES-ISCED I)	−0.629*** (0.031)	−0.630*** (0.031)	−0.630*** (0.031)
Lower secondary (ES-ISCED II)	−0.546*** (0.023)	−0.547*** (0.023)	−0.547*** (0.023)
Upper secondary, lower (ES-ISCED IIIb)	−0.547*** (0.023)	−0.547*** (0.023)	−0.547*** (0.023)
Upper secondary, higher (ES-ISCED IIIa)	−0.378*** (0.021)	−0.378*** (0.021)	−0.378*** (0.021)
Advanced vocational (ES-ISCED IV)	−0.346*** (0.022)	−0.346*** (0.022)	−0.346*** (0.022)
Lower tertiary education (ES-ISCED V1)	−0.134*** (0.022)	−0.134*** (0.022)	−0.135*** (0.022)
<i>Labour market position—baseline: Paid work</i>			
In education	0.454*** (0.024)	0.455*** (0.024)	0.455*** (0.024)
Unemployed or inactive	−0.024 (0.023)	−0.026 (0.023)	−0.027 (0.023)
Retired	0.041* (0.021)	0.041* (0.021)	0.041* (0.021)

Table 12 (continued)

Dependent variable	Political trust (0–10)		
	1	2	3
Model N			
Specification	Baseline	Int. Country	Int. Region
Sick or disabled	−0.347*** (0.032)	−0.345*** (0.032)	−0.345*** (0.032)
Housework or community service	−0.011 (0.020)	−0.012 (0.020)	−0.011 (0.020)
<i>Origin Social Class (EGP)—Baseline: Professional and Technical Occupations</i>			
Higher administrator occupations	−0.044 (0.028)	−0.043 (0.028)	−0.043 (0.028)
Clerical occupations	−0.074*** (0.021)	−0.074*** (0.021)	−0.074*** (0.021)
Sales occupations	−0.130*** (0.024)	−0.130*** (0.024)	−0.130*** (0.024)
Service occupations	−0.118*** (0.022)	−0.118*** (0.022)	−0.118*** (0.022)
Skilled workers	−0.144*** (0.020)	−0.144*** (0.020)	−0.144*** (0.020)
Semi-skilled workers	−0.148*** (0.022)	−0.148*** (0.022)	−0.148*** (0.022)
Unskilled workers	−0.183*** (0.024)	−0.183*** (0.024)	−0.183*** (0.024)
Farm workers	0.032 (0.024)	0.032 (0.024)	0.032 (0.024)
Missing origin social class	−0.141*** (0.027)	−0.140*** (0.027)	−0.140*** (0.027)
Age	−0.001** (0.000)	−0.001** (0.000)	−0.001* (0.000)
Religious	0.289*** (0.012)	0.289*** (0.012)	0.289*** (0.012)
Gender	0.092*** (0.011)	0.092*** (0.011)	0.092*** (0.011)
Native	−0.363*** (0.020)	−0.363*** (0.020)	−0.363*** (0.020)
Minority	−0.028 (0.024)	−0.027 (0.024)	−0.027 (0.024)
National population size (thousands)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
National population density	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
National GDP per capita	−0.002*** (0.000)	−0.002*** (0.000)	−0.002*** (0.000)
National income inequality (Gini coefficient)	−0.054*** (0.004)	−0.054*** (0.004)	−0.054*** (0.004)
Regional population size (thousands)	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)
Regional population density	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Regional GDP per capita	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)
Constant	5.251*** (0.243)	5.259*** (0.243)	5.294*** (0.243)
Country fixed effects	No	No	No
Year fixed effects	Yes	Yes	Yes
<i>Random Effects Parameters</i>			
Level 3 variance	0.955	0.954	0.954
Level 2 variance	0.061	0.06	0.059
Random slope (Unemp. Scar)	0.015	0.014	0.014
Covariance (Intercept, Slope)	−0.015	−0.014	−0.014
Observations	146,173	146,173	146,173
Number of countries	28	28	28
Number of regions	218	218	218

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Three-level multilevel OLS regressions. Individuals nested *within regions*, *within countries*. Random slopes (Unemp. Scar) included

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13 Full multilevel analysis (region-years within regions)

Dependent variable	Political Trust (0–10)		
	4	5	6
Model N	4	5	6
Specification	Baseline	Int. Cross-Section	Int. Longit
<i>Unemployment scar—baseline: None</i>			
Short unemployment scar (> 3 Months)	–0.185*** (0.014)	–0.253*** (0.035)	–0.185*** (0.014)
Long unemployment scar (> 1 Year)	–0.326*** (0.024)	–0.503*** (0.059)	–0.326*** (0.024)
Average regional unemployment rate (%)	–0.004 (0.007)	–0.012 (0.007)	–0.004 (0.007)
Yearly deviation from Avg. Reg. Un. Rate (%)	–0.026*** (0.007)	–0.027*** (0.007)	–0.029*** (0.007)
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>		0.009* (0.004)	
Avg. Reg. Un. Rate (%) x Short Unemp. Scar		0.021*** (0.006)	
Avg. Reg. Un. Rate (%) x Long Unemp. Scar			
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>			
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar			0.008 (0.005)
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar			0.005 (0.007)
National unemployment rate (%)	–0.058*** (0.010)	–0.059*** (0.010)	–0.059*** (0.010)
<i>Destination social class (ESEC)—baseline: Large Empls. and Higher Mgrs/Professionals</i>			
Higher supervisors and lower Mgrs/Professionals	–0.088*** (0.019)	–0.088*** (0.019)	–0.088*** (0.019)
Intermediate occupation	0.010 (0.024)	0.011 (0.024)	0.010 (0.024)
Small employers and self-employed (Non-Agri.)	–0.294*** (0.027)	–0.293*** (0.027)	–0.294*** (0.027)
Small employers and self-employed (Agri.)	–0.166*** (0.040)	–0.165*** (0.040)	–0.167*** (0.040)
Lower supervisors and technicians	–0.251*** (0.026)	–0.250*** (0.026)	–0.251*** (0.026)
Lower sales and service	–0.145*** (0.021)	–0.146*** (0.021)	–0.145*** (0.021)
Lower technical	–0.276*** (0.024)	–0.276*** (0.024)	–0.276*** (0.024)
Routine	–0.246*** (0.024)	–0.246*** (0.024)	–0.246*** (0.024)
Missing destination social class	–0.085*** (0.022)	–0.083*** (0.022)	–0.085*** (0.022)
<i>Income decile—baseline: Top decile</i>			
Missing income	–0.364*** (0.023)	–0.363*** (0.023)	–0.364*** (0.023)

Table 13 (continued)

Dependent variable	Political Trust (0–10)			
	4	5	6	
Model N	Baseline	Int. Cross-Section	Int. Longit	
Specification				
Bottom income decile	–0.390*** (0.030)	–0.390*** (0.030)	–0.391*** (0.030)	
Second decile	–0.322*** (0.029)	–0.320*** (0.029)	–0.322*** (0.029)	
Third decile	–0.290*** (0.027)	–0.289*** (0.027)	–0.290*** (0.027)	
Fourth decile	–0.252*** (0.027)	–0.250*** (0.027)	–0.252*** (0.027)	
Fifth decile	–0.235*** (0.026)	–0.235*** (0.026)	–0.235*** (0.026)	
Sixth decile	–0.183*** (0.026)	–0.182*** (0.026)	–0.183*** (0.026)	
Seventh decile	–0.109*** (0.025)	–0.109*** (0.025)	–0.109*** (0.025)	
Eighth Decile	–0.073** (0.025)	–0.071** (0.025)	–0.073** (0.025)	
Ninth decile	–0.008 (0.026)	–0.008 (0.026)	–0.008 (0.026)	
<i>Level of education—baseline: Higher tertiary education (ES-ISCED V2)</i>				
Not harmonisable into ES-ISCED	–0.340** (0.104)	–0.343*** (0.104)	–0.340*** (0.104)	
Less than lower secondary (ES-ISCED I)	–0.615*** (0.031)	–0.616*** (0.031)	–0.615*** (0.031)	
Lower secondary (ES-ISCED II)	–0.537*** (0.023)	–0.538*** (0.023)	–0.537*** (0.023)	
Upper secondary, lower (ES-ISCED IIIb)	–0.540*** (0.023)	–0.540*** (0.023)	–0.539*** (0.023)	
Upper secondary, higher (ES-ISCED IIIa)	–0.370*** (0.020)	–0.369*** (0.020)	–0.370*** (0.020)	
Advanced vocational (ES-ISCED IV)	–0.349*** (0.022)	–0.349*** (0.022)	–0.349*** (0.022)	
Lower tertiary education (ES-ISCED V1)	–0.119*** (0.022)	–0.120*** (0.022)	–0.119*** (0.022)	
<i>Labour market position—baseline: Paid work</i>				
In education	0.469*** (0.024)	0.471*** (0.024)	0.469*** (0.024)	
Unemployed or inactive	–0.005 (0.023)	–0.007 (0.023)	–0.006 (0.023)	
Retired	0.044* (0.021)	0.046* (0.021)	0.044* (0.021)	
Sick or disabled	–0.343*** (0.032)	–0.339*** (0.032)	–0.343*** (0.032)	
Housework or community service	–0.002 (0.020)	–0.001 (0.020)	–0.002 (0.020)	

Table 13 (continued)

Dependent variable	Political Trust (0–10)		
	4	5	6
Model N	4	5	6
Specification	Baseline	Int. Cross-Section	Int. Longit
<i>Origin social class (EGP)—baseline: Professional and technical occupations</i>			
Higher administrator occupations	–0.037(0.028)	–0.037 (0.028)	–0.037 (0.028)
Clerical occupations	–0.071*** (0.021)	–0.071*** (0.021)	–0.071*** (0.021)
Sales occupations	–0.125*** (0.024)	–0.125*** (0.024)	–0.125*** (0.024)
Service occupations	–0.119*** (0.022)	–0.118*** (0.022)	–0.119*** (0.022)
Skilled workers	–0.139*** (0.020)	–0.139*** (0.020)	–0.139*** (0.020)
Semi-skilled workers	–0.147*** (0.022)	–0.147*** (0.022)	–0.147*** (0.022)
Unskilled workers	–0.177*** (0.024)	–0.177*** (0.024)	–0.177*** (0.024)
Farm workers	0.035 (0.024)	0.036 (0.024)	0.035 (0.024)
Missing origin social class	–0.139*** (0.027)	–0.137*** (0.027)	–0.139*** (0.027)
Age	–0.001* (0.000)	–0.001* (0.000)	–0.001* (0.000)
Religious	0.300*** (0.012)	0.299*** (0.012)	0.300*** (0.012)
Gender	0.092*** (0.011)	0.093*** (0.011)	0.092*** (0.011)
Native	–0.368*** (0.020)	–0.370*** (0.020)	–0.368*** (0.020)
Minority	–0.033 (0.024)	–0.029 (0.024)	–0.033 (0.024)
National population size (thousands)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
National population density	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
National GDP per capita	–0.002** (0.001)	–0.002** (0.001)	–0.002** (0.001)
National income inequality (Gini coefficient)	–0.029*** (0.010)	–0.028** (0.010)	–0.029** (0.010)
Average regional population size (thousands)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Average regional population density	0.000 (0.000)	0.000(0.000)	0.000(0.000)
Average regional GDP per capita	0.001(0.001)	0.001(0.001)	0.001 (0.001)
Deviation from average regional population size (thousands)	–0.000 (0.000)	–0.000(0.000)	–0.000 (0.000)

Table 13 (continued)

Dependent variable	Political Trust (0–10)		
	4	5	6
Model N			
Specification	Baseline	Int. Cross-Section	Int. Longit
Deviation from average regional population density	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Deviation from average regional GDP per capita	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)
Constant	5.405*** (0.362)	5.434*** (0.363)	5.412*** (0.362)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
<i>Random effects parameters</i>			
Level 3 variance	0.010	0.012	0.010
Level 2 variance	0.12	0.11	0.12
Random slope (Unemp. Scar)	0.019	0.020	0.018
Covariance (Intercept, Slope)	−0.020	−0.012	−0.019
Observations	146,173	146,173	146,173
Number of regions	218	218	218
Number of region-years	877	877	877

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Three-level multilevel OLS regressions. Individuals nested *within region-years*, *within regions*. Random slopes (Unemp. Scar) included

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 14 Full linear regressions with country-year fixed effects

Dependent variable	Political trust (0–10)				
	7	8	9	10	11
Model N	Baseline	Int. region	Baseline	Int. Cross-Section	Int. Longit
Specification					
<i>Unemployment scar—baseline: None</i>					
Short unemployment scar (> 3 Months)	−0.208*** (0.016)	−0.274*** (0.034)	−0.208*** (0.016)	−0.273*** (0.040)	−0.207*** (0.016)
Long unemployment scar (> 1 year)	−0.337*** (0.030)	−0.507*** (0.052)	−0.337*** (0.030)	−0.536*** (0.065)	−0.339*** (0.030)
Regional unemployment rate in %	−0.007(0.006)	−0.012* (0.006)			
<i>Regional Un. Rate (%) x Unemp. Scar</i>					
Regional Un. Rate x Short Unemp. Scar		0.008* (0.003)			
Regional Un. Rate x Long Unemp. Scar		0.017*** (0.005)			
Average regional unemployment rate (%)					
Yearly deviation from Avg. Reg. Un. Rate (%)			−0.002 (0.006)	−0.007 (0.006)	−0.002 (0.006)
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>			−0.024** (0.009)	−0.025** (0.009)	−0.027** (0.009)
Avg. Reg. Un. Rate (%) x Short Unemp. Scar				0.008 (0.004)	
Avg. Reg. Un. Rate (%) x Long Unemp. Scar				0.021** (0.007)	
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>					
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar					0.007 (0.006)
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar					0.007 (0.007)
<i>Destination social class (ESEC)—baseline: Large Emps. and Higher Mgrs/Professionals</i>					
Higher supervisors and lower Mgrs/Professionals	−0.087*** (0.017)	−0.087*** (0.017)	−0.087*** (0.017)	−0.087*** (0.017)	−0.087*** (0.017)
Intermediate occupation	0.016 (0.026)	0.016 (0.026)	0.015 (0.026)	0.016 (0.026)	0.016 (0.026)
Small employers and self-employed (Non-Agri.)	−0.301*** (0.029)	−0.299*** (0.029)	−0.301*** (0.029)	−0.299*** (0.029)	−0.301*** (0.029)
Small employers and self-employed (Agri.)	−0.162** (0.053)	−0.161** (0.053)	−0.162** (0.053)	−0.160** (0.052)	−0.162** (0.053)
Lower supervisors and technicians	−0.262*** (0.026)	−0.261*** (0.026)	−0.262*** (0.026)	−0.262*** (0.026)	−0.262*** (0.026)
Lower sales and service	−0.149*** (0.026)	−0.149*** (0.026)	−0.149*** (0.026)	−0.149*** (0.026)	−0.149*** (0.026)
Lower technical	−0.260*** (0.042)	−0.261*** (0.042)	−0.260*** (0.042)	−0.261*** (0.042)	−0.260*** (0.042)
Routine	−0.266*** (0.030)	−0.265*** (0.030)	−0.266*** (0.030)	−0.266*** (0.030)	−0.266*** (0.030)

Table 14 (continued)

Dependent variable	Political trust (0–10)				
	7	8	9	10	11
Model N	Baseline	Int. region	Baseline	Int. Cross-Section	Int. Longit
Specification	Baseline	Int. region	Baseline	Int. Cross-Section	Int. Longit
Missing destination social class	−0.091** (0.027)	−0.088** (0.027)	−0.091** (0.027)	−0.088** (0.027)	−0.090** (0.027)
<i>Income decile—baseline: top decile</i>					
Missing income	−0.341*** (0.041)	−0.339*** (0.041)	−0.341*** (0.041)	−0.339*** (0.040)	−0.341*** (0.041)
Bottom income decile	−0.390*** (0.041)	−0.389*** (0.041)	−0.389*** (0.041)	−0.388*** (0.041)	−0.390*** (0.041)
Second decile	−0.349*** (0.038)	−0.348*** (0.038)	−0.349*** (0.038)	−0.347*** (0.038)	−0.349*** (0.038)
Third decile	−0.297*** (0.040)	−0.294*** (0.040)	−0.296*** (0.040)	−0.294*** (0.040)	−0.296*** (0.040)
Fourth decile	−0.246*** (0.036)	−0.243*** (0.036)	−0.245*** (0.036)	−0.243*** (0.036)	−0.245*** (0.036)
Fifth decile	−0.225*** (0.034)	−0.223*** (0.034)	−0.224*** (0.034)	−0.222*** (0.034)	−0.224*** (0.034)
Sixth decile	−0.177*** (0.033)	−0.175*** (0.033)	−0.177*** (0.033)	−0.175*** (0.033)	−0.176*** (0.033)
Seventh decile	−0.103** (0.033)	−0.101** (0.033)	−0.102** (0.033)	−0.101** (0.033)	−0.102** (0.033)
Eighth decile	−0.074* (0.030)	−0.073* (0.030)	−0.074* (0.030)	−0.073* (0.030)	−0.074* (0.030)
Ninth decile	0.002 (0.030)	0.002 (0.030)	0.003 (0.030)	0.003 (0.030)	0.003 (0.030)
<i>Level of education—baseline: higher tertiary education (ES-ISCED V2)</i>					
Not harmonisable into ES-ISCED	0.739*** (0.108)	0.734*** (0.108)	0.781*** (0.105)	0.776*** (0.105)	0.781*** (0.105)
Less than lower secondary (ES-ISCED I)	−0.606*** (0.052)	−0.610*** (0.052)	−0.606*** (0.052)	−0.610*** (0.052)	−0.606*** (0.052)
Lower secondary (ES-ISCED II)	−0.525*** (0.032)	−0.526*** (0.032)	−0.524*** (0.032)	−0.525*** (0.032)	−0.524*** (0.032)
Upper secondary, lower (ES-ISCED IIIb)	−0.524*** (0.031)	−0.524*** (0.031)	−0.523*** (0.031)	−0.524*** (0.031)	−0.523*** (0.031)
Upper secondary, higher (ES-ISCED IIIa)	−0.357*** (0.025)	−0.358*** (0.025)	−0.356*** (0.026)	−0.357*** (0.025)	−0.357*** (0.025)
Advanced vocational (ES-ISCED IV)	−0.341*** (0.032)	−0.342*** (0.032)	−0.340*** (0.032)	−0.342*** (0.032)	−0.341*** (0.032)
Lower tertiary education (ES-ISCED V1)	−0.104*** (0.023)	−0.105*** (0.023)	−0.104*** (0.023)	−0.105*** (0.023)	−0.104*** (0.023)
<i>Labour market position—baseline: Paid work</i>					
In education	0.467*** (0.028)	0.469*** (0.028)	0.466*** (0.028)	0.468*** (0.028)	0.467*** (0.028)
Unemployed or inactive	0.016 (0.027)	0.008 (0.027)	0.017 (0.027)	0.011 (0.027)	0.016 (0.027)

Table 14 (continued)

Dependent variable	Political trust (0–10)				
	7	8	9	10	11
Model N	Baseline	Int. region	Baseline	Int. Cross-Section	Int. Longit
Specification					
Retired	0.036 (0.027)	0.037 (0.027)	0.036 (0.027)	0.037 (0.027)	0.036 (0.027)
Sick or disabled	−0.342*** (0.046)	−0.337*** (0.046)	−0.341*** (0.046)	−0.336*** (0.046)	−0.341*** (0.046)
Housework or community service	−0.017 (0.027)	−0.016 (0.027)	−0.016 (0.027)	−0.016 (0.027)	−0.016 (0.026)
<i>Origin social class (Egp)—baseline: professional and technical occupations</i>					
Higher administrator occupations	−0.040 (0.028)	−0.039 (0.028)	−0.040 (0.028)	−0.039 (0.028)	−0.040 (0.028)
Clerical occupations	−0.075** (0.025)	−0.075** (0.025)	−0.075** (0.025)	−0.074** (0.025)	−0.074** (0.025)
Sales occupations	−0.126*** (0.024)	−0.126*** (0.024)	−0.126*** (0.024)	−0.126*** (0.024)	−0.126*** (0.024)
Service occupations	−0.122*** (0.028)	−0.121*** (0.028)	−0.123*** (0.028)	−0.122*** (0.028)	−0.123*** (0.028)
Skilled workers	−0.145*** (0.023)	−0.144*** (0.023)	−0.145*** (0.023)	−0.144*** (0.023)	−0.145*** (0.023)
Semi-skilled workers	−0.159*** (0.025)	−0.158*** (0.025)	−0.159*** (0.025)	−0.158*** (0.025)	−0.159*** (0.025)
Unskilled workers	−0.177*** (0.030)	−0.177*** (0.030)	−0.178*** (0.030)	−0.178*** (0.030)	−0.178*** (0.030)
Farm workers	0.031 (0.033)	0.031 (0.033)	0.031 (0.033)	0.031 (0.033)	0.031 (0.033)
Missing origin social class	−0.151*** (0.034)	−0.149*** (0.034)	−0.151*** (0.034)	−0.150*** (0.034)	−0.151*** (0.034)
Age	−0.001 (0.001)	−0.001 (0.001)	−0.001 (0.001)	−0.001 (0.001)	−0.001 (0.001)
Religious	0.293*** (0.028)	0.292*** (0.028)	0.292*** (0.028)	0.292*** (0.028)	0.292*** (0.028)
Gender	0.093*** (0.016)	0.093*** (0.016)	0.093*** (0.016)	0.093*** (0.016)	0.093*** (0.016)
Native	−0.382*** (0.050)	−0.385*** (0.050)	−0.382*** (0.050)	−0.385*** (0.050)	−0.382*** (0.050)
Minority	−0.018 (0.122)	−0.017 (0.122)	−0.019 (0.121)	−0.017 (0.122)	−0.019 (0.121)
Regional population size (thousands)	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)	0.000 (0.000)	0.000* (0.000)
Regional population density	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Regional GDP per capita	0.001 (0.001)	0.001 (0.001)	0.001* (0.001)	0.001* (0.001)	0.001* (0.001)
Constant	4.930*** (0.119)	4.972*** (0.120)	4.827*** (0.118)	4.877*** (0.121)	4.826*** (0.118)
Country-year fixed effects	Yes	Yes	Yes	Yes	Yes

Table 14 (continued)

Dependent variable	Political trust (0–10)					
	7	8		9	10	11
Model N		Baseline	Int. region	Baseline	Int. Cross-Section	Int. Longit
Specification						
Observations		146,173	146,173	146,173	146,173	146,173
Adjusted R-squared		25.9%	25.9%	25.9%	25.9%	25.9%
Bayesian information criterion (BIC)		611,622	611,613	611,606	611,598.4	611,626.8
		1	7	1		8

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Linear regressions with country-year fixed effects, region cluster-robust standard errors in parentheses, and design weights

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

regions as clusters to mitigate heteroskedasticity, design weights, and an otherwise identical set of individual and contextual controls to the second set of multilevel models. These models control entirely for national unobserved heterogeneity (both time-variant and time-invariant, for instance including potential cross-cultural differences in the way political trust is considered, Turper and Aarts, 2015; Schneider, 2017; Ruelens, Meuleman, and Nicaise, 2017, but also welfare regime, Giustozzi & Gangl, 2021), and therefore restrict the robustness check only to the possible interactions between the regional and individual levels. However, FEs models present potential problems with cross-level interactions, which may be biased due to region-specific heterogeneity (Giesselmann and Schmidt-Catran, 2019). Given our focus on cross-level interactions, we rely on multilevel models in the main analysis, and report FEs models as described above as a robustness check within the Results. Broadly, the results are consistent with those from multilevel models in terms of magnitude, sign, and statistical significance (See Tables 12, 13, 14.

Appendix Section 4—Robustness Checks and Supplementary Analyses

See Tables 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25.

Table 15 (continued)

Dependent variable	Trust in country's parliament			Trust in politicians			Trust in political parties		
	1	2	3	4	5	6	7	8	9
Model N	Baseline	Int. Country	Int. Region	Baseline	Int. Country	Int. Region	Baseline	Int. Country	Int. Region
Constant	8.959*** (0.270)	8.962*** (0.270)	9.020*** (0.270)	7.629*** (0.249)	7.633*** (0.249)	7.700*** (0.248)	7.640*** (0.246)	7.644*** (0.246)	7.696*** (0.245)
Country fixed effects	No	No	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Socio-demo-graphic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	146,173	146,173	146,173	146,173	146,173	146,173	146,173	146,173	146,173
Number of countries	28	28	28	28	28	28	28	28	28
Number of regions	218	218	218	218	218	218	218	218	218

Dependent variables: trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: three-level multilevel OLS regressions. Individuals nested within regions, within countries. Random slopes (Unemp. Scar) included

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 16 Disaggregated dependent variables, MLM (region-years within regions)

Dependent variable	Trust in country's parliament			Trust in politicians			Trust in political parties		
	1	2	3	4	5	6	7	8	9
Model N	Baseline	Int. Cross-Section	Int. Longit	Baseline	Int. Cross-Section	Int. Longit	Baseline	Int. Cross-Section	Int. Longit
<i>Unemployment Scar—Baseline: None</i>									
Short unemployment scar (> 3 months)	−0.160*** (0.016)	−0.240*** (0.042)	−0.160*** (0.016)	−0.189*** (0.014)	−0.239*** (0.035)	−0.189*** (0.014)	−0.208*** (0.015)	−0.280*** (0.037)	−0.208*** (0.015)
Long unemployment scar (> 1 year)	−0.307*** (0.028)	−0.477*** (0.070)	−0.304*** (0.028)	−0.317*** (0.024)	−0.493*** (0.057)	−0.319*** (0.024)	−0.355*** (0.025)	−0.539*** (0.062)	−0.357*** (0.025)
Average regional unemployment rate (%)	0.013 (0.008)	0.003 (0.008)	0.013 (0.008)	−0.010 (0.006)	−0.018* (0.007)	−0.010 (0.006)	−0.013 (0.007)	−0.022** (0.007)	−0.013 (0.007)
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>									
Avg. Reg. Un. Rate (%) x Short Unemp. Scar		0.011* (0.004)			0.007 (0.004)			0.009* (0.004)	
<i>Avg. Reg. Un. Rate (%) x Long Unemp. Scar</i>									
Avg. Reg. Un. Rate (%) x Long Unemp. Scar		0.022** (0.007)			0.020*** (0.005)			0.022*** (0.006)	
Yearly deviation from Avg. Reg. Un. Rate (%)	−0.016* (0.008)	−0.015* (0.008)	−0.016* (0.008)	−0.027*** (0.007)	−0.027*** (0.007)	−0.032*** (0.007)	−0.034*** (0.007)	−0.035*** (0.007)	−0.039*** (0.007)

Table 16 (continued)

Dependent variable	Trust in country's parliament			Trust in politicians			Trust in political parties		
	1	2	3	4	5	6	7	8	9
Model N	Baseline	Int. Cross-Section	Int. Longit	Baseline	Int. Cross-Section	Int. Longit	Baseline	Int. Cross-Section	Int. Longit
Specification	Baseline	Int. Cross-Section	Int. Longit	Baseline	Int. Cross-Section	Int. Longit	Baseline	Int. Cross-Section	Int. Longit
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>									
Dev. from Avg. Reg. Un.						0.012* (0.005)			0.011* (0.005)
Rate (%) x Short Unemp. Scar									
Dev. from Avg. Reg. Un.									
Rate (%) x Long Unemp. Scar						0.010 (0.007)			0.011 (0.008)
National unemployment rate (%)	-0.070*** (0.011)	-0.071*** (0.011)	-0.070*** (0.011)	-0.057*** (0.010)	-0.058*** (0.010)	-0.057*** (0.010)	-0.049*** (0.010)	-0.050*** (0.010)	-0.050*** (0.010)s
Constant	6.369*** (0.414)	6.453*** (0.415)	6.374*** (0.414)	5.030*** (0.361)	5.025*** (0.362)	5.039*** (0.361)	4.780*** (0.374)	4.786*** (0.375)	4.791*** (0.374)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Socio-demographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 16 (continued)

Dependent variable	Trust in country's parliament			Trust in politicians			Trust in political parties		
	1	2	3	4	5	6	7	8	9
Model N									
Specification	Baseline	Int. Cross-Section	Int. Longit	Baseline	Int. Cross-Section	Int. Longit	Baseline	Int. Cross-Section	Int. Longit
Context socio-economic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	146,173	146,173	146,173	146,173	146,173	146,173	146,173	146,173	146,173
Number of regions	218	218	218	218	218	218	218	218	218
Number of region-years	877	877	877	877	877	877	877	877	877

Dependent variables: Trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Three-level multilevel OLS regressions. Individuals nested within region-years, within regions. Random slopes (Unemp. Scar) included

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 17 Alternative DV (country-year fixed effects): trust in parliament

Dependent variable	Trust in country's parliament				
	1	2	3	4	5
Model N	Baseline	Int. Region	Baseline	Int. Cross-Section	Int. Longit
<i>Unemployment scar—baseline: None</i>					
Short unemployment scar (> 3 months)	−0.187*** (0.019)	−0.258*** (0.040)	−0.187*** (0.019)	−0.278*** (0.047)	−0.187*** (0.019)
Long unemployment scar (> 1 year)	−0.317*** (0.033)	−0.435*** (0.061)	−0.317*** (0.033)	−0.498*** (0.074)	−0.314*** (0.033)
Regional unemployment rate in %	0.017* (0.008)	0.012 (0.008)			
<i>Regional Un. Rate (%) x Unemp. Scar</i>					
Regional Un. Rate x Short Unemp. Scar		0.008* (0.004)			
Regional Un. Rate x Long Unemp. Scar		0.012* (0.006)			
Average regional unemployment rate (%)			0.025** (0.008)	0.018* (0.008)	0.025** (0.008)
Yearly deviation from Avg. Reg. Un. Rate (%)			−0.008 (0.010)	−0.008 (0.010)	−0.008 (0.010)
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>					
Avg. Reg. Un. Rate (%) x Short Unemp. Scar				0.011* (0.005)	
Avg. Reg. Un. Rate (%) x Long Unemp. Scar				0.019* (0.008)	
Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar					0.002 (0.006)
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar					−0.005 (0.010)
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar					5.018*** (0.153)
Constant	5.166*** (0.146)	5.200*** (0.146)	5.018*** (0.153)	5.071*** (0.156)	
Country-year fixed effects	Yes	Yes	Yes	Yes	Yes
Socio-demographic controls	Yes	Yes	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes	Yes	Yes
Observations	146,173	146,173	146,173	146,173	146,173
Adjusted R-squared	24.9%	24.9%	25%	25%	25%

Dependent variable: trust in parliament. *Analytical strategy*: Linear regressions with country-year fixed effects, region cluster-robust standard errors in parentheses, and design weights

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 18 Alternative DV (country-year fixed effects): trust in politicians

Dependent Variable	Trust in politicians				
	6	7	8	9	10
Model N	Baseline				
Specification	Baseline	Int. Region	Baseline	Int. Cross-Section	Int. Longit
<i>Unemployment scar—baseline: None</i>					
Short unemployment scar (> 3 Months)	−0.230*** (0.016)	−0.294*** (0.033)	−0.231*** (0.016)	−0.288*** (0.041)	−0.230*** (0.016)
Long unemployment scar (> 1 Year)	−0.344*** (0.027)	−0.491*** (0.055)	−0.344*** (0.027)	−0.502*** (0.068)	−0.347*** (0.027)
Regional unemployment rate in %	−0.010 (0.006)	−0.014* (0.006)			
<i>Regional Un. Rate (%) x Unemp. Scar</i>					
Regional Un. Rate x Short Unemp. Scar		0.008* (0.003)			
Regional Un. Rate x Long Unemp. Scar		0.015** (0.005)			
Average regional unemployment rate (%)			−0.006 (0.006)	−0.010 (0.007)	−0.006 (0.006)
Yearly deviation from Avg. Reg. Un. Rate (%)			−0.023* (0.010)	−0.024* (0.010)	−0.027** (0.010)
Avg. Reg. Un. Rate (%) x Unemp. Scar				0.007 (0.004)	
Avg. Reg. Un. Rate (%) x Short Unemp. Scar				0.017* (0.006)	
Avg. Reg. Un. Rate (%) x Long Unemp. Scar					
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>					
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar					0.008 (0.006)
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar					0.011 (0.008)
Constant	4.599*** (0.112)	4.636*** (0.113)	4.519*** (0.114)	4.560*** (0.117)	4.517*** (0.114)
Country-year fixed effects	Yes	Yes	Yes	Yes	Yes
Socio-demographic controls	Yes	Yes	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes	Yes	Yes
Observations	146,173	146,173	146,173	146,173	146,173
Adjusted R-squared	22.6%	22.6%	22.6%	22.6%	22.6%

Dependent variable: Trust in Politicians. *Analytical strategy*: Linear regressions with country-year fixed effects, region cluster-robust standard errors in parentheses, and design weights

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 19 Alternative DV (country-year fixed effects): trust in political parties

Dependent Variable	Trust in political parties			
	11	12	13	14
Model N	Baseline	Int. Region	Baseline	Int. Cross-Section
Specification	Baseline	Int. Region	Baseline	Int. Longit
<i>Unemployment scar—baseline: None</i>				
Short unemployment scar (> 3 months)	−0.205*** (0.015)	−0.271*** (0.031)	−0.206*** (0.015)	−0.254*** (0.038)
Long unemployment scar (> 1 year)	−0.308*** (0.025)	−0.450*** (0.051)	−0.308*** (0.025)	−0.461*** (0.059)
Regional unemployment rate in %	−0.009 (0.006)	−0.014* (0.006)		
<i>Regional Un. Rate (%) x Unemp. Scar</i>				
Regional Un. Rate x Short Unemp. Scar		0.008*		
Regional Un. Rate x Long Unemp. Scar		0.014*** (0.004)		
Average regional unemployment rate (%)			−0.006 (0.006)	−0.010 (0.006)
Yearly deviation from Avg. Reg. Un. Rate (%)			−0.019 (0.010)	−0.019* (0.010)
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>				
Avg. Reg. Un. Rate (%) x Short Unemp. Scar				0.006 (0.004)
Avg. Reg. Un. Rate (%) x Long Unemp. Scar				0.016** (0.006)
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>				
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar				0.011 (0.007)
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar				0.010 (0.008)
Constant	4.540*** (0.112)	4.577*** (0.114)	4.481*** (0.117)	4.479*** (0.117)
Country-year fixed effects	Yes	Yes	Yes	Yes
Socio-demographic controls	Yes	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes	Yes
Observations	146,173	146,173	146,173	146,173
Adjusted R-squared	23%	23%	23%	23%

Dependent variable: Trust in political parties. *Analytical Strategy*: Linear regressions with country-year fixed effects, region cluster-robust standard errors in parentheses, and design weights

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 20 Alternative multilevel structure: region-years within regions within countries

Dependent variable	Political trust (0–10)			
Model N	1	2	3	4
Specification	Baseline	Int. Country	Int. Region (Cross-Sectional)	Int. Region (Longitudinal)
<i>Unemployment scar—baseline: None</i>				
Short unemployment scar (> 3 months)	–0.186*** (0.014)	–0.185*** (0.023)	–0.252*** (0.035)	–0.186*** (0.014)
Long unemployment scar (> 1 year)	–0.326*** (0.024)	–0.342*** (0.044)	–0.504*** (0.058)	–0.325*** (0.024)
National unemployment rate in % (minus grand mean)	–0.075*** (0.012)	–0.071*** (0.012)	–0.075*** (0.012)	–0.075*** (0.012)
Average regional unemployment rate (%)	–0.001 (0.007)	–0.001 (0.007)	–0.009 (0.007)	–0.001 (0.007)
Yearly deviation from Avg. Reg. Un. Rate (%)	–0.012 (0.009)	–0.014 (0.009)	–0.013 (0.009)	–0.014 (0.009)
<i>National Un. Rate (%) x Unemp. Scar</i>				
National Un. Rate x Short Unemp. Scar		–0.000 (0.004)		
National Un. Rate x Long Unemp. Scar		–0.000 (0.006)		
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>				
Avg. Reg. Un. Rate (%) x Short Unemp. Scar			0.009* (0.004)	
Avg. Reg. Un. Rate (%) x Long Unemp. Scar			0.021*** (0.006)	
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>				
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar				0.007 (0.005)
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar				0.003 (0.007)
Constant	5.281*** (0.398)	5.245*** (0.400)	5.299*** (0.398)	5.285*** (0.397)
Country fixed effects	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes
Socio-demographic controls	Yes	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes	Yes
<i>Random effects parameters</i>				
Level 4 (country) variance	0.75	0.81	0.75	0.75
Level 3 (region) variance	0.016	0.015	0.023	0.015
Level 2 (region-year) variance	0.12	0.11	0.11	0.12

Table 20 (continued)

Dependent variable	Political trust (0–10)			
	1	2	3	4
Model N	Baseline	Int. Country	Int. Region (Cross-Sectional)	Int. Region (Longitudinal)
Specification				
Random slope (Unemp. Scar)	0.20	0.10	0.012	0.019
Covariance (Intercept, Slope)	−0.017	−0.049	−0.011	−0.017
Observations	146,173	146,173	146,173	146,173
Number of countries	28	28	28	28
Number of regions	218	218	218	218
Number of region-years	877	877	877	877

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Four-level multilevel OLS regressions. Individuals nested *within region-years*, *within regions*, *within countries*. Random slopes (Unemp. Scar) included

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 21 MLM (region-years within regions), with focus on national unemployment rate deviations

Dependent variable	Political Trust (0–10)	
Model N	1	2
Specification	Int. National	Both Interactions
<i>Unemployment scar—baseline: None</i>		
Short unemployment scar (> 3 months)	−0.266*** (0.030)	−0.264*** (0.036)
Long unemployment scar (> 1 year)	−0.491*** (0.048)	−0.512*** (0.061)
National unemployment rate (%)	−0.065*** (0.010)	−0.061*** (0.010)
<i>National Un. Rate (%) x Unemp. Scar</i>		
National Un. Rate x Short Unemp. Scar	0.010** (0.003)	0.005 (0.004)
National Un. Rate x Long Unemp. Scar	0.018*** (0.005)	0.003 (0.006)
Average regional unemployment rate (%)	−0.004 (0.007)	−0.011 (0.007)
<i>Avg. Reg. Un. Rate (%) x Unemp. Scar</i>		
Avg. Reg. Un. Rate (%) x Short Unemp. Scar		0.005 (0.005)
Avg. Reg. Un. Rate (%) x Long Unemp. Scar		0.019** (0.007)
Yearly deviation from Avg. Reg. Un. Rate (%)	−0.026*** (0.007)	−0.027*** (0.007)
Constant	5.476*** (0.362)	5.440*** (0.363)
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Socio-demographic controls	Yes	Yes
Context socio-economic controls	Yes	Yes
<i>Random effects parameters</i>		
Level 3 variance	0.009	0.019
Level 2 variance	0.12	0.11
Random slope (Unemp. Scar)	0.017	0.011
Covariance (Intercept, Slope)	−0.019	−0.012
Observations	146,173	146,173
Number of regions	218	218
Number of region-years	877	877

Dependent variable: Political Trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Three-level multilevel OLS regressions. Individuals nested within region-years, within regions. Random slopes (Unemp. Scar) included

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 22 Country-year fixed effects with within-region inequality measure (S80/S20)

Dependent variable	Political Trust (0–10)		
	1	2	3
Model N			
Specification	Baseline	Int. Reg. Unemp	Int. Reg. Ineq
<i>Unemployment scar—baseline: None</i>			
Short unemployment scar (> 3 months)	–0.270*** (0.028)	–0.250*** (0.061)	–0.236* (0.104)
Long unemployment scar (> 1 year)	–0.398*** (0.049)	–0.449*** (0.124)	–0.303 (0.213)
Regional unemployment rate in %	0.006 (0.009)	0.005 (0.011)	0.006 (0.009)
<i>Regional Un. Rate (%) x Unemp. Scar</i>			
Regional Un. Rate x Short Unemp. Scar		–0.002 (0.006)	
Regional Un. Rate x Long Unemp. Scar		0.005 (0.015)	
Within-Region Inequality (S80/S20)	–0.036 (0.035)	–0.036 (0.035)	–0.032(0.038)
<i>Within-region inequality (S80/S20) x Unemp. Scar</i>			
Within-region inequality (S80/S20) x Short Unemp. Scar			–0.008 (0.022)
Within-region inequality (S80/S20) x Long Unemp. Scar			–0.020 (0.042)
Constant	4.365*** (0.246)	4.367*** (0.254)	4.350*** (0.255)
Country-year fixed effects	Yes	Yes	Yes
Socio-demographic controls	Yes	Yes	Yes
Context socio-economic controls	Yes	Yes	Yes
Observations	49,880	49,880	49,880
Adjusted R-squared	29.2%	29.2%	29.2%
Number of countries	16	16	16
Number of regions	65	65	65
Number of region-years	223	223	223

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy:* Linear regressions with country-year fixed effects, region cluster-robust standard errors in parentheses, and design weights

Data Source: European Social Survey Multilevel (2008–2018) and EUROSTAT

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 23 Main analysis models with controls for corruption (national) and between-region inequality

Dependent variable	Political trust (0–10)							
	Multilevel (Regions in Countries)			Multilevel (Region-Years in Regions)			Country-Year Fixed Effects	
Model type	1	2	3	4	5	6	7	8
Model N	Baseline	Int. Country	Int. Region	Baseline	Int. Cross-Section	Int. Longit	Baseline	Interaction
<i>Unemployment scar—baseline: None</i>								
Short unemployment scar (> 3 months)	–0.185*** (0.019)	–0.193*** (0.028)	–0.250*** (0.034)	–0.198*** (0.017)	–0.279*** (0.042)	–0.199*** (0.017)	–0.228*** (0.018)	–0.296*** (0.039)
Long unemployment scar (> 1 Year)	–0.321*** (0.033)	–0.352*** (0.054)	–0.452*** (0.057)	–0.337*** (0.029)	–0.539*** (0.069)	–0.338*** (0.029)	–0.357*** (0.033)	–0.542*** (0.060)
National income inequality (Gini coefficient)	–0.013 (0.007)	–0.014* (0.007)	–0.013 (0.007)	–0.002 (0.014)	–0.003 (0.014)	–0.002 (0.014)		
Between-region inequality (coefficient of variation)	–0.422* (0.167)	–0.413* (0.167)	–0.411* (0.167)	–0.215 (0.261)	–0.170 (0.260)	–0.211 (0.261)	–0.169 (0.477)	–0.144 (0.474)
National corruption perception score	0.023*** (0.003)	0.023*** (0.003)	0.023*** (0.003)	0.033*** (0.007)	0.033*** (0.007)	0.033*** (0.007)		
Regional unemployment rate in %	–0.016* (0.006)	–0.017** (0.006)	–0.022** (0.007)				–0.011 (0.010)	–0.017 (0.010)
<i>Regional Un. Rate (%) x Unemp. Scar</i>								
Regional Un. Rate x Short Unemp. Scar			0.007* (0.003)					0.008* (0.004)

Table 23 (continued)

Dependent variable	Political trust (0–10)							
	Multilevel (Regions in Countries)			Multilevel (Region-Years in Regions)			Country-Year Fixed Effects	
Model type	1	2	3	4	5	6	7	8
Model N	Baseline	Int. Country	Int. Region	Baseline	Int. Cross-Section	Int. Longit	Baseline	Interaction
Regional Un. Rate x Long Unemp. Scar			0.014** (0.005)					0.019*** (0.005)
National unemployment Rate in % (Minus Grand Mean)	–0.050*** (0.009)	–0.046*** (0.010)	–0.049*** (0.009)					
<i>National Un. Rate (%) x Unemp. Scar</i>								
National Un. Rate x Short Unemp. Scar		–0.004 (0.005)						
National Un. Rate x Long Unemp. Scar		–0.005 (0.008)						
Average regional unemployment rate (%)				–0.007 (0.008)	–0.018* (0.009)	–0.007 (0.008)		
Avg. Reg. Un. Rate (%) x Unemp. Scar								
Avg. Reg. Un. Rate (%) x Short Unemp. Scar					0.011* (0.004)			

Table 23 (continued)

Dependent variable	Political trust (0–10)							
	Multilevel (Regions in Countries)			Multilevel (Region-Years in Regions)			Country-Year Fixed Effects	
Model type	1	2	3	4	5	6	7	8
Model N	Baseline	Int. Country	Int. Region	Baseline	Int. Cross-Section	Int. Longit	Baseline	Interaction
Specification								
Avg. Reg. Un. Rate (%) x Long Unemp. Scar	0.024*** (0.007)							
Yearly deviation from Avg. Reg. Un. Rate (%)	− 0.026** (0.009) − 0.025** (0.009) − 0.030** (0.009)							
<i>Yearly deviation from Avg. Reg. Un. Rate (%) x Unemp. Scar</i>								
Dev. from Avg. Reg. Un. Rate (%) x Short Unemp. Scar	0.009 (0.007)							
Dev. from Avg. Reg. Un. Rate (%) x Long Unemp. Scar	0.008 (0.009)							
Constant	3.370*** (0.331)	3.435*** (0.332)	3.419*** (0.331)	1.991*** (0.664)	2.135*** (0.664)	1.996** (0.663)	3.929*** (0.338)	3.975*** (0.340)
Country-year fixed effects	No	No	No	No	No	No	Yes	Yes
Country fixed effects	No	No	No	Yes	Yes	Yes	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Socio-demographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 23 (continued)

Dependent variable	Political trust (0–10)							
	Multilevel (Regions in Countries)				Multilevel (Region-Years in Regions)			
	1	2	3	4	5	6	7	8
Model type	Baseline	Int. Country	Int. Region	Baseline	Int. Cross-Section	Int. Longit	Baseline	Interaction
Model N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Context socio-economic controls								
Observations	99,846	99,846	99,846	99,846	99,846	99,846	99,846	99,846
Number of countries	27	27	27	27	27	27	27	27
Number of regions	211	211	211	211	211	211	211	211
Number of region-years	615	615	615	615	615	615	615	615

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Models (1–3): Three-level multilevel OLS regressions. Individuals nested within regions, within countries, Random slopes included (Unemp. Scar). Models (4–6): Three-level multilevel OLS regressions. Individuals nested within region-years, within regions, Random slopes included (Unemp. Scar). Models (7–8): Linear regressions with country-year fixed effects, region cluster-robust standard errors in parentheses, and design weights

Data Source: European Social Survey Multilevel (2008–2018), Corruption Perception Index (Transparency.org)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 24 Country-year fixed effects models without labour market activity

Dependent variable	Political trust (0–10)	
Model N	1	2
Specification	Baseline	Int. Region
<i>Unemployment scar—Baseline: None</i>		
Short unemployment scar (> 3 months)	−0.240*** (0.016)	−0.301*** (0.034)
Long unemployment scar (> 1 year)	−0.380*** (0.030)	−0.550*** (0.052)
Regional unemployment rate in %	−0.008 (0.006)	−0.013* (0.006)
<i>Regional Un. Rate (%) x Unemp. Scar</i>		
Regional Un. Rate x Short Unemp. Scar		0.007* (0.003)
Regional Un. Rate x Long Unemp. Scar		0.017*** (0.005)
Constant	5.075*** (0.121)	5.115*** (0.122)
Country-year fixed effects	Yes	Yes
Labour market activity	No	No
Socio-demographic controls	Yes	Yes
Context socio-economic controls	Yes	Yes
Observations	146,173	146,173
Adjusted R-squared	25.7%	25.7%

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Linear regressions with country-year fixed effects, region cluster-robust standard errors in parentheses, and design weights

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 25 Mediation analysis with Karlson-Holm-Breen decomposition method

Dependent variable	Political trust (0–10)	
Baseline variable	Unemployment scarring	
Mediator	Current labour market activity	
Mediated variables	Coefficient (with Std. Err.)	% Mediation
<i>Short unemployment scar (> 3 Months)</i>		
Reduced	−0.2370*** (0.0153)	13.35
Full	−0.2054*** (0.0152)	
Diff	−0.0316*** (0.0032)	
<i>Long unemployment scar (> 1 Year)</i>		
Reduced	−0.3971*** (0.0267)	11.39
Full	−0.3518*** (0.0271)	
Diff	−0.0452*** (0.0096)	

Dependent variable: Political trust (0–10), average of trust in parliament, trust in politicians, trust in political parties. *Analytical strategy*: Karlson-Holm-Breen decomposition method with linear probability models. Country-year fixed effects included region cluster-robust standard errors in parentheses, and design weights. Concomitant variables: Socio-demographic controls and context socio-economic controls

Data Source: European Social Survey Multilevel (2008–2018)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Section 5—References

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Declarations

Conflict of interests None.

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Datasets and Questionnaire

European Social Survey Rounds 4–9 (2008, 2010, 2012, 2014, 2016, 2018). Multilevel Dataset. NSD - Norwegian Centre for Research Data, Norway—Data Archive and distributor of ESS data for ESS ERIC.

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European Social Survey Questionnaire [English], Round 9: http://www.europeansocialsurvey.org/docs/round9/fieldwork/source/ESS9_source_questionnaires.pdf

Corruption Perceptions Index from Transparency.org: <https://www.transparency.org/en/cpi/2023>

Income Quintile Share Ratio S80/S20 by NUTS 2 regions - EU-SILC survey: <https://data.europa.eu/data/datasets/cmwwraqqg4odzezsg5sf78q?locale=en>

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