Social Ties, Trust and the Geography of Discontent

1. *Running Title*: Social Ties, Trust and the Geography of Discontent (50 characters)
2. *Authors and affiliations:*

Lawrence McKay (corresponding author)

Affiliation: Department of Politics and International Relations, University of Southampton, Southampton, SO17 1BJ United Kingdom.

Email: [L.A.McKay@soton.ac.uk](mailto:L.A.McKay@soton.ac.uk)

Will Jennings

Affiliation: Department of Politics and International Relations, University of Southampton, Southampton, SO17 1BJ United Kingdom.

Email: [W.J.Jennings@soton.ac.uk](mailto:W.J.Jennings@soton.ac.uk)

Gerry Stoker

Affiliation: Department of Politics and International Relations, University of Southampton, Southampton, SO17 1BJ United Kingdom.

Email: [G.Stoker@soton.ac.uk](mailto:G.Stoker@soton.ac.uk)

# Abstract

Alongside economic factors, regional variation in trust reflects the structure of social ties available to different regions. We support this claim by linking cross-national survey data from 22 countries in the European Social Survey with data on Facebook friendships. Regions with more local (within-region) connections exhibit lower political trust, but higher levels of (particular) social trust. Those regions with more social ties to national capitals and urban centres exhibit higher levels of political trust but lower (particular) social trust. Social ties to power centres support the creation of political trust and their absence limits it.

**Keywords:** geography of discontent, trust, political trust, social trust, social ties, big data

**JEL classifications**: Z00

# Introduction

‘Left behind’ places, which encompass a diverse mix of less dense, rural, peripheral, physically isolated, or economically lagging areas (Pike et al. 2023), are the focus of the ‘geography of discontent’ with contemporary politics and society (Los et al. 2017; MacKinnon et al. 2022).[[1]](#endnote-2) Low trust in central political institutions and actors is a key component of this discontent and has important implications for societies. Trust encourages good governance and effective public policy (Braithwaite and Levi 1998), enables a co-ordinated societal response to crises such as Covid-19 (Devine et al. 2023), and enables co-operation to confront long-term policy challenges. Absence of trust can lead to populist voting (Rooduijn 2018) or disengagement from the democratic process (Bélanger and Nadeau 2005). Alongside compositional factors (such as age and education), trust gaps between regions are one plausible explanation of geographic patterns in electoral successes for France’s National Rally, the Alternative for Germany and the Freedom Party of Austria, among many other populist parties.

Two narratives have developed to explain this discontent, and its demographic and spatial patterns. One focuses on broadly on economic grievances intensified by global competition which has seen semi-skilled workers, concentrated especially in peripheral regions, lose their foothold in the economy (Iversen and Soskice 2019). For many, discontent is driven by economic loss through individuals’ relative losses of prosperity and job security (e.g. Colantone and Stanig 2018a; 2018b; Lee et al. 2018; Baccini and Weymouth 2021; Broz et al. 2021). A version of this narrative, contrasted to a more egocentric approach, focuses on individuals’ perceptions that their local area has declined over time (e.g. Carreras et al. 2019; Carreras 2019; Bolet 2021) or has been exposed to reductions in public spending (e.g. Fetzer 2019) or variations in wealth (e.g. Adler and Ansell 2020). The second narrative focuses more on the idea of resentments being driven by cultural factors. At its most general, Norris and Inglehart (2019) argue that populations in left behind areas with more conservative values (e.g. on immigration – see Maxwell 2019) feel threatened by the increasing dominance of left-liberal values in society and among national elites in politics and the media. Others focus more on the loss of social status of those groups (e.g. Gidron and Hall 2017; 2020; Gest et al. 2018) or on resentment towards more prosperous and diverse places (Cramer 2016), cities and social groups (Green et al. 2021).

There is a third route to discontent in left-behind places that is rarely discussed: the role of social relations (communities, social networks and social capital) in generating conditions that are more or less prone to lack of trust in mainstream politics. It has been suggested that there may be an ‘underlying social capital phenomena driving the geography of discontent’ (McCann and Ortega-Argilés 2021: 546), and Rodríguez-Pose et al. (2021) find connections between social capital, decline in employment and population and patterns of voting for Donald Trump in the 2016 US presidential election, but beyond this empirical investigation is lacking. Crucially, the group consciousness that underpins place-based resentments (Cramer 2016) is forged in social relations in specific locales and communities. Cramer (2012: 518) argues that resentments and distrust are formulated in the midst of interpersonal interactions: ‘how people make sense of the political world in the course of everyday life while interacting with members of their social networks’. Yet we know little about how social ties (rather than social status, cultural threat or values of those groups) impacts political trust – generating a geography of discontent. To what extent do the grievances felt by left behind regions reflect the underlying structure of social networks in those places, leading to a lack of political trust, growing political alienation and in some cases flirtation with populism?

We argue that individuals in so-called ‘left behind’ regions may lack political trust because their areas collectively lack social ties to the places where key organs of government, and other politically influential institutions, are based. This may influence political trust through multiple mechanisms. On the one hand, the probability of people’s networks including one or more people in a position of social, economic or political power is far lower in left-behind regions. Indeed, the term ‘left behind’ has come to stand for the sense that people and places lack trust in ruling metropolitan elites because they are disconnected and distant (MacKinnon et al. 2022; Pike et al. 2023). Although no direct connection may exist, we argue that connections to these elites can facilitate trust via Granovetter’s (1973) ‘strength of weak ties’, which (as Granovetter argued, in somewhat neglected parts of his classic text) sustain political influence and encourage ‘benevolent’ trustworthy behaviour towards the communities in question. On the other hand, ties (strong or weak) to even ordinary people in power centres may form a bulwark against developing place-based resentments that can undermine trust. We develop both arguments in the next section.

We also expect that left-behind regions will suffer from a lack of general social trust. As Welch et al. (2005: 462) note in their review, ‘virtually all research suggests that social trust has beneficial effects on individuals, communities, the workplace, institutions and indeed, nations’, including better health outcomes, higher self-rated well-being and greater egalitarianism. *Low* social trust has also been connected to voting for populist radical right parties (Berning and Ziller 2017), potentially giving it an explanatory role in the geography of discontent. Left-behind regions, we argue, exhibit locally-concentrated social ties which may not extend the ‘radius of trust’ beyond those one knows personally. One possible consolation may be that – when dealing with others in their community – their dense local networks may more successfully facilitate greater *particular* trust in others within left-behind communities than do the diffuse networks of people in core areas. This may be welcome in certain contexts, although ‘particular’ social trust is not considered to be as socially beneficial as generalised social trust.

Our paper is structured as follows. We first develop our theoretical argument by exploring the relationship between different types of social ties and social and political trust, deriving a series of hypotheses based on these ideas. We next test these expectations empirically by linking cross-national survey data from the European Social Survey (ESS) with subnational data on Facebook friendships. Our survey data consist of up to 111,261 respondents in 22 countries over the period between 2010 and 2019, with a total of 298 subnational units across those countries. In our analysis, we assess how connected people in regions are *to their own region* on the one hand, and to urban areas and to the national capital on the other. We then consider the relationship between these intra- and cross-region social ties and levels of social and political trust. The paper thus offers a significant novel advance in terms of its theoretical expectations, the use of big data to measure social connections, and the design of its Europe-wide empirical study.

Our results show that people in regions with more local (within-region) connections exhibit lower political trust, but higher levels of (particular) social trust. On the other hand, people in regions with more social ties to national capitals and urban centres exhibit higher levels of political trust but lower (particular) social trust. These results hold controlling for other factors identified in the literature as contributors to the ‘geography of discontent’, including regional GDP and unemployment, industrial decline and net migration. Our results support the argument that the structure of social ties available to different regions may impact on both political trust and trust in other people.

# Political trust and the geography of discontent

A broad definition of trust is that it concerns the willingness to make oneself vulnerable in the expectation that an action will be performed without monitoring or control. Put another way, to trust is to make oneself vulnerable to an object (person, organisation or institution, for instance) that could betray you or do you some harm (Levi and Stoker 2000; Baier 2013). Trust oils the wheels of social, economic and political exchange, by enabling cooperation, but risk is involved in that transaction. Being trusted and deciding to trust are far from straightforward human tasks. These entail a complex process of signalling that you can be trusted and an appropriate reception of that signal of trustworthiness, and it regularly goes wrong (Jones 2013). Trust is a leap of faith, but one that people appear more willing and able to make in some contexts than in others (and in others trust can be credulous, see Norris 2022).

A useful set of distinctions is drawn by Newton and Zmerli (2011) between *social trust* and *political trust*, with the difference between the two largely driven by the object of trust: in the first case, *other people* and in the second case *political leaders, institutions and systems*. Social trust can, in turn, be divided into particular social trust which is trust ‘associated with specific people or groups of people, whether known or in-group others’ and general social trust which extends ‘in a more abstract manner to people as a whole in an unselective and unspecific manner’ (Newton and Zmerli 2011: 171).

Making a particular social trust judgement about a person or community you have known closely for years is different to making a trust judgement about a politician, political party or institution with which you infrequently engage with, and which is often filtered through information from mass media and via cues from other political actors. As Hardin (2006: 40-41) points out, trust in government is not the same type of relationship, nor can it mean the same thing, as trust in a relative or a neighbourhood because ‘trust in government is cognitively far too demanding to be a credible issue’. You stand a chance, through repeated direct interactions, of gaining enough knowledge to trust a friend or community (or not) but with government that is not the case. People when making trust judgement ‘seldom look for detailed evidence, which can be epistemically demanding; no doubt they often rely on quite approximate reputational evidence and heuristics’ (O’Neill 2018: 295).

The attributes commonly identified as associated with trustworthiness are competence, integrity and benevolence (Mayer et al. 1995) and are viewed as essential to coming to the judgement that government is trustworthy (Levi and Stoker 2000). As Levi (2019: 362) observes, a ‘trustworthy government is one that keeps its promises (or has exceptionally good reasons why it fails to), is relatively fair in its decision-making and enforcement processes, and delivers goods and services’. For those seeking to gain or restore trust, the lessons of how to achieve that would seem clear: act with greater effectiveness, keep your promises and show you care about those who you ask to trust you.

Connecting these insights to existing work on the geography of political trust suggests that each of the factors of competence, benevolence and integrity might be in play. Mitsch et al. (2021) argue that low trust is primarily down to a classic determinant of political trust, under-performance of government in service delivery and economic activity: ‘we test hypotheses that suggest income and values affect trust and find little or no support for them. Instead, our results suggest that rural areas are becoming less trusting of the government because they perceive worse education, worse health, and worse economies than urban areas’ (Mitsch et al. 2021: 7). Stein et al. (2021) propose a core-periphery dynamic for political trust, resting their explanation on the idea that national politicians are seen as far away and that a sense of distance makes a difference. They conclude that ‘spatial location matters’ (2021: 15) and that while weak performance in service delivery, perceived increases in inequality, economic failure or lack of cultural understanding are present as factors there is an additional spatial factor connected to the historical and on-going impact of the differences between core and periphery regions. The tendency not to trust has deep roots, based on Rokkan’s (1999) understanding of the nation-building process that created a centre-periphery tension between the capital and peripheral regions, and that tension continues to resonate*.*

# Bringing social ties in

These studies have delivered important insights, but they share a preoccupation with the immediate social context (one’s neighbourhood, town or region) rather than how places are connected. Various studies suggest that in ‘left-behind’ geographies (less dense, rural, peripheral, physically isolated or economically lagging areas), people will display a greater reliance on ‘community’ connections, with a relative deficit of ties that extend more widely. As Fischer (1982: 398) argues, ‘urbanism increases the opportunities for social relations beyond the neighbourhood and beyond the locality’ – and indeed, via road, rail and other connections – to towns and cities of other region; thus, ‘local ties decrease as urbanism increases’. Sørensen (2016) finds rural areas are higher in ‘bonding’ social capital, such as local civic associations, and urban areas higher in ‘bridging’ social capital such as non-local ones. Lee et al. (2018: 147) set out a clear economic dimension to these divides, arguing that places ‘on the losing end’ of agglomeration economics are ‘more likely to be locally-oriented in terms of their investments in knowledge and social capital’. Higher rates of social homogeneity and stability in economically ‘left-behind’ communities – places where residents cannot necessarily move out and outsiders generally do not want to move in – are conducive to denser networks of local ties, even when such areas are subject to degradation of socio-cultural institutions (Bolet 2021).

This more localised social capital concentrates (more or less by definition) in regions other than those where political power is exercised (central governments in national capitals; regional governments in major metropolitan centres). This is likely to add to the political trust penalty incurred by living in rural and peripheral contexts. There are two main mechanisms behind this argument. First, we argue that social ties to said regions can directly involve those in positions of political power (i.e., elected officials and bureaucrats) as well as groups with power to influence political agendas and discourses (for example, business, charity and media organisations). These will overwhelmingly operate through ‘weak ties’ (that is, more casual social and professional relationships involving less frequent interactions). These ties can serve to reduce relational distance while providing a greater sense of capacity for influence. Second, we suggest that even where ties are with ‘ordinary’ people (rather than with those in positions of power), they can limit the development of place-based grievance, which studies increasingly suggest plays a role in political discontent.

In a relatively neglected passage in Granovetter’s (1973) seminal article, he illustrates how the absence of weak ties contributed to the inability of what now might be termed a ‘left behind’ community in Boston, USA to counter urban redevelopment plans because they lacked weak ties, despite having extensive *close* social ties. In a passage on political trust, he argues that the decision about whether to trust a political leader is dependent on contacts or intermediaries (weak ties) that could provide some confidence that the leader is trustworthy: ‘Trust in leaders is integrally related to the capacity to predict and affect their behaviour. Leaders, for their part, have little motivation to be responsive or even trustworthy toward those to whom they have no direct or indirect connection’ (Granovetter 1973: 1374). Weak ties to areas where political elites live and work may – for some citizens, to some extent – encourage a sense of connection, understanding and linkage, facilitating trust judgements. This is consistent with research showing that political donations are higher in densely populated urban areas, due to greater exposure to information via social networks (Lin et al. 2017).

Research suggests that place-based grievances are a key dimension of the ‘geography of discontent’ and a possible precursor to populist attitudes (Cramer 2016; Munis 2022; Huijsmans 2023). As Huijsmans (2023: 4) finds, the combination of rural and peripheral context facilitates a sense of ‘place resentment’ in the Netherlands, including a perceived lack of cultural appreciation from people outside the region, a belief that government makes insufficient efforts to improve the local economy, and a feeling that politicians in The Hague disregard their region's interests. However, as Enos (2017) argues, two places can be proximate but still have few social connections. This tends to lead to outgroups being mischaracterised as more different and more homogeneous compared to one’s own group. In the case of cities, this could encourage misconceptions about their high economic status (which often belie the lived reality of high inequality within cities), and exaggerate the sense of group relative deprivation (Runciman 1966) which Cramer (2016) argues is key to ‘rural resentment’. As such, social connections to urban areas and cities, although not encouraging trust as such, may limit the development of *dis*trust.

We therefore posit the following hypothesis:

H1a: The stronger a region’s social ties with urban regions, the higher the level of political trust.

H1b: The stronger a region’s social ties with the capital region, the higher the level of political trust.

# What about social trust?

Research on social trust sets up a clear distinction between two forms. As Delhey and Newton (2005: 311) note, ‘Particularised trust… is strongest in small, face-to-face communities where people know each other well and interact closely on a daily basis’, while ‘generalised trust… is more common in modern large-scale urban society where social ties are often weaker but more extensive (Granovetter 1973), where society is more differentiated and heterogeneous, where life can be more competitive, and populations more mobile’. This has clear implications for the geography of social trust; yet few studies directly test for within-country differences in social trust based on geographic location, with a handful of relevant studies dating back fifty years (Fischer 1973; House and Wolf 1978; Putnam 2000; Delhey and Newton 2003). While Putnam (2000: 205) found that ‘smaller is better from a social capital point of view’, more recent studies, which adopt and measure the particular/general distinction, find a more nuanced pattern – Sørensen (2016) finds that urban areas of Denmark have lower ‘localised’ trust but higher ‘trust towards people in general’.

We again argue that the geography of social ties is important, and helps to understand why some places will develop different forms of social trust. This is crucial, as these forms of trust have very different societal consequences. On the one hand, we argue, urban/capital ties will be more beneficial for developing generalized social trust (GST). Those who have contacts in such areas (regardless of their immediate environment) are likely to have networks that are more diverse on various dimensions (including ethnicity, place of origin, income, class, occupation, sexuality, and so on). On the other hand, particular social trust (PST) is likely to be associated with dense clusters of local connections, often associated with smaller rural communities. As Sørensen (2012; 2016) argues, in low-density areas co-operation is often needed to provide services easily provided in urban areas – co-operation that calls for trust and trustworthiness. Fisman and Khanna (1999) add that those in rural communities are more incentivised to be trustworthy to their neighbours – wrongdoing can more easily be punished through ostracism, but urbanites can more easily substitute parts or all of their network with *connections* to urban areas and the capital (even if living in another place).

We therefore provide the following set of hypotheses:

H2a: The stronger a region’s social ties with urban regions, the *higher* the level of generalized social trust.

H2b: The stronger a region’s social ties with the capital region, the *higher* the level of generalized social trust.

H3a: The stronger a region’s internal social ties, the *higher* the level of particular social trust.

H3b: The stronger a region’s social ties with urban regions, the *lower* the level of particular social trust.

H3c: The stronger a region’s social ties with the capital region, the *lower* the level of particular social trust.

# Data and method

## Measuring social connections across space

Measuring social connections has been a significant challenge for social scientists. Research on social connections has, until recently, relied on surveys: an approach with multiple limitations. Surveys are often small-scale, not internationally comparable and not always large enough to discern demographic or geographic differences – and come with the well-known challenges of self-reported behaviour. Recent studies have moved towards a ‘big data’ approach, for example, using data on mobile phone calls and texts (e.g. Dissing et al. 2018), but the most substantial breakthrough has come from social media data.

We utilise a novel resource to measure social connections across space, the Social Connectedness Index, developed by researchers at Meta Data For Good. The Social Connectedness Index is based on friendship links between users of the global social networking service, Facebook. Facebook has many beneficial properties to measure social networks of both strong and weak ties. It has a large and relatively representative user body, including strong presence across all European countries – in every EU country, between 60 and 90% of the eligible population use the platform (Internet World Stats, 2023). Friendship pairs reflect a diverse and balanced profile of connections (Duggan et al, 2015) that overwhelmingly originate in the offline world (Hampton et al, 2011). Moreover, Facebook knows where its users are based, through both information stated on profiles, and GPS location of devices.

The Social Connectedness Index measures the intensity of social connections between locations (Bailey 2018). This is based on the ‘relative probability of a Facebook friendship link between a given Facebook user in location *i* and another user in location *j’*: the number of friendship pairs between the two locations, divided by the product of users in *i* and users in *j*. For Europe, Facebook provides a pair of datasets at NUTS-2 and NUTS-3 (2016) levels, key statistical geographies where other economic and population data can be accessed. In this ‘raw’ form, the SCI has been shown to have considerable validity and utility. For example, many of the logical predictors of social connections between regions, such as proximity, demographic similarity, shared languages, and current and historical state borders have been shown to occur in the real world, both in the U.S. (Bailey et al 2018) and European data (Bailey et al, 2020) . The SCI also has predictive validity: as Kuchler et al. (2022) show, the Covid-19 outbreak spread from early ‘hotspots’ to other regions which they were more socially connected with (over and above the effects of physical proximity).

To arrive at our measures, we process the data further. The simplest of our measures involves connections to one’s own region. For this measure, we simply identify the ‘raw’ SCI specifically of a region *to itself*; with these regions being either NUTS-2 or NUTS-3 depending on the level of geographic identification in the survey data (discussed below). Our other measures rely on aggregating the SCI between a region and another given set of regions. For urban connections, we identify the NUTS2 and NUTS3 units that are ‘predominantly urban’ under the official Eurostat definition. For capital connections, we identify the NUTS-3 units that are defined by Eurostat as ‘capital city metropolitan regions’, and NUTS-2 units that contain any NUTS-3 unit denoted as the capital city.

We aggregate the data by adapting a method introduced in Bailey et al. (2021) that aggregates SCI between region pairs to SCI between country pairs. For any country k, let i and j represent any region, u represent urban regions in country k, and c represent capital regions in country k. Pop represents the total population of each region (in 2019).[[2]](#endnote-3)

For each of own-region, urban and capital connections, we take the log base-10 to formulate our independent variables, consistent with other research using the SCI (Bailey et al. 2018; Kuchler et al. 2022), and centre the variables at the country-means.

## Validation and relationship to ‘left-behind’ geographies

We conduct three tests of validity of our measures. First, to determine face validity, we map the SCI levels for each region – do they look intuitive? Second, we assess their convergent and discriminant validity against each other – expecting to see similarity between urban and capital connections, and divergence between own-region connections and the other two. Third, we assess their predictive validity against measures of different geographical dimensions: is each type of connection prevalent in the types of places we expect, and does it correlate to the kind of regions typically deemed left-behind? On all three grounds, we believe that our measures are well justified.

[Figure 1 about here]

Figure 1 maps the logged value of our measures (which we will use in the regression analysis) for NUTS-3 regions.[[3]](#endnote-4) The first map shows density of connections to one’s own region. For example, in the United Kingdom, there are ‘hot spots’ in Wales, Western Scotland and Northern Ireland: given their relative remoteness and rurality, we would expect more ties closer to home than in much of England. The same applies to Bavaria’s eastern border, Eastern Turkey, Northern Scandinavia, and some island regions such as Corsica and Gotland. Although some patterns are discernible, this measure does behave somewhat idiosyncratically.

For urban connections, a swathe of Northern England and the Midlands is a relative hot spot compared to sparser areas like Norfolk. East Bavaria and most of former East Germany is cold while North-Rhine Westphalia, home to cities such as Köln and Düsseldorf are hot; Poland has ‘hot’ areas ringing each major city such as Łódź. Again, these patterns are roughly as expected. For capital connections, the pattern is highly systematic. Connections peak in the capital itself and dissipate with distance, but in some cases the ring is relatively wide: for instance, around Berlin, it extends to semi-rural areas nearing the Polish border. All of this fits with our expectations.

Secondly, we calculate the pairwise correlations of our different measures. We find, on the one hand, a weak positive correlation between ‘urban’ and ‘capital’ connections (r=0.22, n=1,378). On the other hand, we find moderate negative correlations between ‘own region’ and urban connections, (r=0.40, n=1,754) as well as between ‘own region’ and capital connections (r=0.33, n=1,390). These correlations are in the expected direction, but are weak enough that we can be assured that the measures are distinctive (and do not require dimension reduction).

Finally, we compare our measures to various place characteristics, as shown in Figure 2. Rather than the logged values, here we show the z-transformed *standardised* values (within each country and NUTS-level), as these can be easily interpreted in terms of standard deviations. Urban geography, whether comparing urban and rural or metropolitan and non-metropolitan, is associated with higher urban and capital connections, but lower ‘own region’ connections. Capitals themselves are characterised by high urban connections, very high capital connections, but low own-region connections. Physical barriers to the outside world – in mountainous and, more fundamentally, in island regions are associated with weaker urban and capital connections, but stronger own-region connections. Finally, economically left-behind places, where GDP is in the bottom tercile of regions within a given country, over-index on own-region connections whereas more prosperous regions in the top tercile are higher in urban connections and lower in own-region connections. An alternative demonstration is provided in Appendix Figure A-1, which shows the smoothed relationship between regional GDP/capita (relative to the national average) and each type of social connection. Own-region connections decline with GDP, while capital connections increase slightly and urban connections increase substantially.[[4]](#endnote-5)

[Figure 2 about here]

Our measures, then, appear to capture a geography of social connections which corresponds to the geography of left-behind and not-so-left-behind places. ‘Left-behind’ places over-index in (strong) local ties and under-perform in (weak) ties to the socio-political core. This, we suggest, may help explain observed political trust gaps but also factor into social trust in less-explored ways. To test this, we connect our measures to a large-scale, reliable source of survey data.

## Survey data

We use the European Social Survey (ESS) Waves 5 to 9 (2010-19), a series of high-quality face-to-face cross-sectional surveys in over 30 countries. The geographical location of respondents in the ESS is identified at either NUTS-1, NUTS-2 or NUTS-3 level depending on the survey country. As our prior method produces both NUTS-2 and NUTS-3 measures of context, we utilise countries where either NUTS-2 or NUTS-3 identifiers are given. All in all, our sample consists of 298 distinct regions in 22 countries (11 countries at both NUTS-2 and NUTS-3 level), with the North, South, East and West all well-represented. The full survey coverage is shown in Table A1 of the Appendix.

Our study focuses on three outcome variables: political trust, *general* social trust, and *particular* social trust. For political trust, we focus on the formal political institutions, and take the simple mean of trust in politicians, parliament, and parties (all measured on a 0-10 scale). For general social trust, we use a conventional measure, which asks respondents to position their own view about dealing with people on a scale from 0 – “You can’t be too careful” to 10 – “Most people can be trusted”.

For *particular* social trust, we use the item “To what extent do you feel that people in your local area help one another?”, where 0 is ‘not at all’ and 6 is ‘a great deal’. We use this item principally because it refers specifically to ‘people in your local area’, corresponding to the conceptual definition of ‘particular trust’ as trust in those more socially proximate, and matching the geographic dimension of our dependent variables. Newton and Zmerli (2011) use trust in ‘(people from the) neighbourhood’ as one of three indicators of particular social trust (alongside family and ‘people you know personally’) and find that it loads heavily on a single dimension with the other two items. While the question does not specifically ask about ‘trust’, expectations of reciprocity are an example of the kind of trust thought to be involved in relationships of strong ties.

Due to the ‘particular social trust’ item being included only in Wave 6 of the ESS, there is some variation in our sample size across the analysis. For particular social trust, n= 24,770, for ‘general social trust’, n=111,261; and for political trust, n = 110,847 (each after omitting cases with missing demographic information).

## Modelling

Our models use multilevel linear regression, with respondents at Level-1 cross-classified at Level-2 into countries and waves of the ESS. Our models use include one type of connections per model as the independent variable: i.e., we do not estimate the effects of urban connections ‘controlling’ for capital connections, and so on, as this could potentially result in multi-collinearity concerns., and as no type of connections is causally ‘prior’ to the others.

We include several demographic controls measured with the survey, namely age, gender, education level (based on 7 ES-ISCED groups), and identification as an ethnic minority. We also add measures of personal economic situation: household income (decile within country) and working status (paid work/retired/unemployed). These controls correspond closely to those used in Mitsch et al. (2022), who conduct a similar geographic analysis in the ESS. Using these controls following an initial uncontrolled model will, to some extent, help us determine whether any relationships between social connections and trust run through the most commonly discussed *compositional* pathways.

We also include four control variables measured at the region-year level, which relate to being left-behind economically. First, we include the region’s GDP/capita (as a percent of the EU average), and the working-age unemployment rate. Second, we include the rate of job losses in industry: more specifically, the annual percentage decline of the share of jobs in the industrial sector between 2000 and the survey year. Finally, we include a Eurostat measure of regions’ ‘crude’ rate of net migration, which is the difference between the total population change and the ‘natural change’ through births and deaths. These measures are similar to those used in Dijkstra et al. (2020), which they find to be associated with ‘EU discontent’. Some of these controls are imperfect, however, as they are not all measured at both the NUTS-3 and NUTS-2 level. For GDP/capita and industrial job losses, these are measured at both and so, depending on the level of the analysis, the control is at the matching level. However, net migration and unemployment are only measured at NUTS-2 and thus, even where the respondent is identified at NUTS-3, the control is at NUTS-2.

Additionally, in models with urban connections, we introduce a control for self-defined urban/rural location of respondents (in five categories: a big city; suburbs or outskirts of big city; town or small city; country village; farm or home in countryside), used in other papers as the key explanatory variable (Mitsch et al. 2021). In models with capital connections, following Stein et al. (2021), we introduce a control for distance from capital to the centroid of the NUTS unit (scaled as a proportion of distance from the most distant region in the country, rather than absolute distance). This enables us to reach more confident conclusions that the effects relate to characteristics of other places that regions connect to, rather than simply of the region itself.

# Results

In Tables 2, 3 and 4, we combine results using a single measure of social ties (urban, capital, own region) for three dependent variables (political trust, generalized social trust, and particular social trust), with four models building from a bivariate to a full model. The first is the base model with only country and ESS wave fixed effects, to demonstrate the bivariate associations. The second model includes demographic controls at the individual-level, while the third model includes income and working status at the individual level. The fourth model includes geographic variables, namely region-level measures of GDP per capita, unemployment, job losses and net migration (in all models), urban-rural location (where urban connections is the IV) and distance from capital (where capital connections is the IV).[[5]](#endnote-6) This stepwise approach is designed to show the robustness of our findings, ensuring that the contextual effects we identify for residing in an area with greater connections to its own area, urban areas or the national capital are not simply a function of the characteristics of individuals and are not explained by aggregate-level economic factors. As such, it enables us to determine whether social ties offer additional explanatory power on top of competing theoretical perspectives.

We first discuss the role of urban connections (Table 2). In these models, we include the indicator of urban-rural context from the ESS as a control, to determine whether there is a plausible specific role for the geography of connections above and beyond immediate context. First, we find that the association of connections to urban areas and trust in national political institutions is consistently positive and significant, even after individual-level, regional economic and urban-rural controls are added. This provides strong support for H1a. However, while there is a positive and significant (0.06, p<0.001) effect for the bivariate model (in Column 5) for GST, this disappears once the individual-level controls are added, providing no support for H2a. Finally, the effect on PST (shown in Columns 9 to 12 of Table 2) is negative and significant until urban-rural and regional economic context variables (i.e., GDP per capita, the unemployment rate, job losses, net migration) are introduced to the model. This provides moderate support for H3b.

We next turn to consider connections between a region and the national capital (Table 3). Here, rather than controlling for urban-rural location, we include a continuous variable for distance from capital, scaled such that the region farthest from the capital within a country is equal to 1 and the region nearest the capital (the capital region itself) is 0. Once again, we see reliably positive and significant effects of connections to the national capital on political trust, with the size of the coefficient being steadily reduced through the addition of individual- and aggregate-level controls to the final model in Column 4 (0.04, p<0.001). This offers strong support for our theoretical argument that those residing in areas more connected to the centres of power will tend to exhibit higher levels of political trust (H1b).

For social trust, as with the effects of urban connections, our evidence is mixed. Curiously, capital connections are positively correlated to GST in the bivariate and fully-controlled models but not models with solely individual-level controls – offering only weak support for H2b. In the case of PST, there is a negative effect of connections to the national capital, but this does not remain in the fully-controlled model, much as with the models using urban connections as the IV. This offers moderate support for H3c, but is not conclusive.

We now turn to the role of connections to one’s own region (Table 4). Considering first particular social trust, we find that this is a consistently positive and significant predictor. In the full model, a one-unit increase in the logged measure of connections own-region connections is associated with a 0.08 point increase in the six-point scale of particular social trust (significant at the 0.01 confidence level). This is consistent with our theoretical expectation (H3a) that local connections build trust within specific groups and communities.

Although we did not provide specific hypotheses for the effect of local connections on either GST or political trust, it is instructive to compare the effects, to ascertain whether the above reflects a general effect on propensity to trust or (as we posit) a mechanism specific to particular social trust. Turning to GST, in Columns 5 to 8 of Table 4, we see that the bivariate association with connections to own region is negative (-0.05, p<0.001) – meaning that trust tends to be lower in those areas where people have more connections to their own community. However, once demographic controls and income and working status are added, the sign of the coefficient is reversed, becoming positive. Lastly for Table 4, we observe a consistent negative and significant effect of connections to one’s own area on trust in national political institutions. This size of the effect decreases as individual- and aggregate-level controls are added, but remains highly significant in the final model (-0.06, p<0.001).

Another way to depict these results is plot the predicted values of social and political trust with the measures of social ties (the logs of connections to own region, to urban areas, and to the national capital) at their minimum and maximum values, as shown in Figure 3. The model specification used here is the most conservative possible, i.e. including the full individual- and aggregate-level controls. This shows clearly, for example, that PST is higher when own region connections are set at their maximum value, and lower when set at their minimum. GST follows this pattern, but the difference in trust from minimum to maximum is considerably smaller. For trust in political institutions, in contrast, the predicted value is higher when own region connections are set at their minimum. Similarly, trust in political institutions is higher when connections to urban areas and the national capital are set at their maximums. GST is higher with capital connections at their maximum, but urban connections make no difference to predicted values of GST.

Besides social ties, there are several other notable contextual effects. Our results indicate that GDP per capita has a positive and significant effect on GST and political trust, and a negative and significant effect on PST. Higher rates of unemployment, on the other hand, have a negative effect across all forms of social and political trust. Interestingly, the loss of manufacturing jobs appears to be linked to lower PST (for both models) and lower trust in political institutions (for one of the models). Net migration is associated consistently with negative and significant effect for generalised social trust, i.e., areas with higher migration tend to exhibit lower social trust. Our models affirm previous findings that rural areas of Europe (villages and country homes) are lower in political trust, as are areas more distant from the capital. However, they also show that rural areas are much higher in PST while peripheral areas are somewhat higher in both GST and PST. We report effects for individual-level predictors in Tables A2 to A4 of the appendix.[[6]](#endnote-7)

[Figure 3 about here]

# Discussion

In Table 5, we review our results in full. We proposed seven hypotheses governing the effect of both intra-region connections, urban connections, and capital connections on one or more of three outcomes: political trust, generalized social trust, and particular social trust. We should caveat this discussion by reflecting that there is no singular test for any one hypothesis, as each IV-DV pairing has at least four informative models (uncontrolled, demographic controls, personal economy controls, and regional controls). Rather, we conclude on the balance of evidence whether the hypothesis is/is not supported, or whether it has moderate support. Four of seven can be judged as ‘supported’, with two ‘not supported’ and one finding ‘moderate support’.

Overall, we find that our theoretical model is reasonably convincing for *political trust* and *particular social trust,* but not for *generalised social trust.* Our key finding with regard to political trust is that we find that more urban/capital connections, which we assume bring people closer to politicians, are associated with higher political trust, as expected (H1a, H1b). For particular social trust, we find that this is higher where there are strong social connections with the region, supporting H3a and reflecting the theoretical expectation concerning the commitment, loyalty and reciprocity thought to come with more localised networks. On the other hand, particular social trust is lower in areas of high connections to urban areas and the capital (H3b/H3c), perhaps supporting the theoretical expectation that these connections diminish incentives to cultivate strong trust among a narrow local network. However, our results offer only moderate support for H3b, as urban connections only have a significant negative effect until aggregate-level controls are introduced.

Our analysis does not, however, provide support for H2a and H2b, which theorised that urban/capital connections encourage people to expand their circle of (generalised) trust. This is not because geography is irrelevant to generalized social trust: indeed, we find that higher GDP, lower unemployment, and lower net migration at the regional level are all associated with higher generalized social trust. It may be that people’s trust in such a non-specific group is affected by more-or-less arbitrary recall in the survey context of experiences and interactions, so the connections that influence trust judgments in this regard will not be systematic, but this is ultimately speculative. Despite our theory, the results are not especially surprising in light of the somewhat conflicting findings in the social trust literature regarding the effects of urbanity, which are not consistently positive.

Our analysis has certain limitations that should be noted. Firstly, we measure social connections at the aggregate level, but we measure trust at the individual level. In an ideal research design, we would know the ‘map’ of connections for individual Facebook users and their trust levels: needless to say, this is a highly implausible prospect. Furthermore, our analysis, naturally, has the conventional problems of correlational and cross-sectional studies. In particular, we cannot be certain that different types of social trust are not themselves factors in who people in a region form connections with – i.e., that reverse causality could be at work in our data. It is, however, difficult to imagine that this applies to *political* trust, and to see how the geography of social connections could be convincingly manipulated in an experiment. Finally, because of limitations with the survey data in particular, our analysis omits some European countries entirely and is less granular than we would like in some cases (measuring connections and controls using larger NUTS-2 regions as opposed to NUTS-3). Optimal surveys would contain geolocation such as co-ordinates, which can be flexibly linked to various contextual containers.

# Conclusion

The links demonstrated here between social connections and trust have potentially substantial implications. Given that (1) left-behind areas are characterised by strong local ties and a relative absence of ties to urban areas and capitals, and (2) these patterns of connections predict low political trust, we can infer that the deficit in political trust in left-behind areas is even larger than strictly economic models would predict. Both the fact of the lack of trust, and the social roots of this low trust, are likely to have important consequences.

On the one hand, these dynamics may make it harder to govern with consent and co-operation. Trust is seen as an important factor behind compliance with laws, regulations, and government recommendations (such as Covid-19 lockdowns). Less trusting citizens may want to protect their personal finances from the state, limiting their support for social expenditure and protections (Hetherington 2005). They may be reluctant to enter into arrangements with government that incur short-term costs in order to secure long-term benefits (Jacobs and Matthews 2012), such as national and EU-level Green Transition policies that reduce local dependence on carbon-intensive industries (Kyriazi and Miró 2022). At the ballot box, they may reject the political mainstream entirely, backing populist candidates and parties that promise short-term solutions and scapegoats (Rooduijn 2018).

They will also make it harder for left-behind places to productively mobilise and engage from the bottom up, and confront a legacy of central state failure. Between their low trust, and limited ‘weak’ ties to those in urban centres of power, these peripheral areas may lack the capacity and confidence to mobilize to protect their interests on a sustained basis: for example, low trust tends to suppress turnout (Valgarðsson et al. 2022). If people in these regions engage in politics, they may have less influence and less impact than regions with those connections. These tendencies can leave left-behind areas “behind” other regions, not just economically but politically. Protests stemming from these regions – in the polling booths or, as with France’s Gilets Jaunes, in the streets – can spark an agenda of policy initiatives from government. However, without sustained political engagement, these run the risks of drifting off the agenda, or being reduced to a few symbolic policy gestures with little substantive impact (Jennings et al. 2021).

Our analysis suggests a different, though less serious challenge for areas located more in the ‘core’, which are not so ‘left-behind’. Namely, we find some evidence of lower *particular social trust*, with less of a sense that people in the community help one another, without any difference in general social trust. The consequences of this form of trust are, admittedly, less well studied than ‘general’ social trust, but it would be reasonable to assume that low particular social trust poses some challenge to social cohesion, making it more challenging to manage the contestation over limited space and resources that characterises dense urban areas.

Our findings and interpretation link to a growing literature on the divides between left-behind places and places at the economic, social, and political centre. As well as divides in trust (Mitsch et al. 2021; Stein et al. 2021), our account fits with characterisation of a communitarian-cosmopolitan dimension of political conflict (Kriesi et al. 2006) created by the global forces of economic change. Areas connected to the dynamic parts of the economy are often associated with an outward-looking cosmopolitan outlook and those areas that are less dynamic are often associated with a more inward-looking communitarian perspective. For example, cities are associated with lower levels of Euroscepticism and more pro-immigration attitudes, with some evidence that the divide has grown over time (Huijsmans et al. 2021; Maxwell 2019; 2020). The combination of low political trust and anti-immigration attitudes has been dubbed ‘the cocktail of right-wing populism’ and was a strong predictor of voting for Brexit in the EU referendum (Iakhnis et al. 2018). If these have shared roots in geography, the spatial polarisation observed in many advanced democracies becomes both easier to explain, and tougher to solve.

Recent studies have produced an increasingly more detailed description and explanation of discontent in left-behind places, with compelling insights into their roots in economic and cultural change. To this, drawing on classic literature on trust, social capital, and social networks, we add a *social* model, using big data insights from Facebook friendships to show how different patterns of connections within and across geographies affect trust. It is beyond the scope of this paper to show how these factors intersect and reinforce one another, though cultural and economic factors are increasingly understood to have intimate connections. At the very least, however, we can speculate that if left-behind places feel culturally estranged and alienated, economically deprived, neglected, and hopeless; *and* isolated from the ‘centre’ of society, this is a potentially dangerous combination for European and other democracies, particularly in our current moment of systemic disruption and crisis.

# Acknowledgments

This research was conducted as part of the Trust and Trustworthiness in National and Global Governance (TrustGov)' project, supported by Economic and Social Research Council (ESRC) award ES/S009809/1, and the British Academy award PF22\220092, “The Revival of the Urban-Rural Divide in Western Europe? A comparative study of the geography of discontent and political representation”. We thank Mike Bailey, Research Science Manager at Meta for his help in understanding the Social Connectedness Index, and the Meta Data For Good team for making this important resource available. We give thanks to organisers and discussants of the Cambridge Journal of Nations and Regions mini-conference on 'Left behind places and what can be done about them' held in September 2022 and the Lausanne Workshop on ‘Regional inequalities in labour markets and politics’ in September 2023. We are also grateful to the anonymous reviewers.

# Endnotes

# References

Adler, D. and Ansell, B. (2020). Housing and populism. *West European Politics*, *43*(2): 344-365.

Ansell, B. and Adler, D. (2019). Brexit and the Politics of Housing in Britain. *The Political Quarterly*, 90: 105-116.

Autor, D., Dorn, D., Hanson, G. and Majlesi, K. (2020). Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure. *American Economic Review*, *110*(10): 3139-3183.

Baier, A. (2013). What is trust? In D. Archard, M. Deveaux, N. Manson, D. Weinstock (Eds.) *Reading Onora O’Neill*. London: Routledge, pp. 185-195.

Baccini, L. and Weymouth, S. (2021). Gone For Good: Deindustrialization, White Voter Backlash, and US Presidential Voting. *American Political Science Review*, *115*(2): 550-567.

Bailey, M., Gupta, A., Hillenbrand, S., Kuchler, T., Richmond, R. and Stroebel, J. (2021). International trade and social connectedness. *Journal of International Economics*, *129*(103418).

Bailey, M., Cao, R., Kuchler, T., Stroebel, J. and Wong, A. (2018). Social Connectedness: Measurement, Determinants, and Effects. *Journal of Economic Perspectives*, *32*(3): 259-280.

Bailey, M., Johnston, D., Kuchler, T., Russel, D., State, B., & Stroebel, J. (2020). The determinants of social connectedness in Europe. In *Social Informatics: 12th International Conference, SocInfo 2020, Pisa, Italy, October 6–9, 2020, Proceedings 12* (pp. 1-14). Springer International Publishing.

Becker, S. O., Fetzer, T. and Novy, D. (2017). Who voted for Brexit? A comprehensive district-level analysis. *Economic Policy*, *32*(92): 601-650.

Bélanger, É., & Nadeau, R. (2005). Political trust and the vote in multiparty elections: The Canadian case. *European journal of political research*, *44*(1), 121-146.

Berning, C. C., & Ziller, C. (2017). Social trust and radical right-wing populist party preferences. *Acta Politica*, *52*, 198-217.

Bolet, D. (2021). Drinking alone: local socio-cultural degradation and radical right support—the case of British pub closures. *Comparative Political Studies*, *54*(9):1653-1692.

Broz, J.L., Frieden, J. and Weymouth, S. (2021). Populism in Place: The Economic Geography of the Globalization Backlash. *International Organization*, *75*(2): 464-494.

Carreras M., Irepoglu Carreras, Y. and Bowler, S. (2019). Long-Term Economic Distress, Cultural Backlash, and Support for Brexit. *Comparative Political Studies*, *52*(9): 1396-1424.

Carreras, M. (2019). ‘What do we have to lose?’: Local economic decline, prospect theory, and support for Brexit. *Electoral Studies*, *62*(102094).

Colantone, I. and Stanig, P. (2018a). Global Competition and Brexit. *American Political Science Review*, *112*(2): 201-218.

Colantone, I. and Stanig, P. (2018b). The Trade Origins of Economic Nationalism: Import Competition and Voting Behavior in Western Europe. *American Journal of Political Science* 62(4): 936-953.

Cramer, K.J. (2016) *The Politics of Resentment. Rural Consciousness in Wisconsin and the Rise of Scott Walker*. Chicago: University of Chicago Press.

Cramer Walsh, K.J. (2012). Putting Inequality in Its Place: Rural Consciousness and the Power of Perspective. *American Political Science Review*, *106*(3): 517-532.

Crick, B. (2005). *In defence of politics*. London: A & C Black.

Delhey, J., & Newton, K. (2003). Who trusts?: The origins of social trust in seven societies. *European societies*, *5*(2), 93-137.

Delhey, J., & Newton, K. (2005). Predicting cross-national levels of social trust: global pattern or Nordic exceptionalism?. *European sociological review*, *21*(4), 311-327.

Devine, D., Valgarðsson, V., Smith, J., Jennings, W., Scotto di Vettimo, M., Bunting, H., & McKay, L. (2023). Political trust in the first year of the COVID-19 pandemic: a meta-analysis of 67 studies. *Journal of European Public Policy*, 1-23.

Dijkstra, L., Florczyk, A.J., Freire, S., Kemper, T., Melchiorri, M., Pesaresi, M. and Schiavina, M. (2020). Applying the degree of urbanisation to the globe: A new harmonised definition reveals a different picture of global urbanisation. *Journal of Urban Economics*, *125*(103312).

Dijkstra, L., Poelman, H. and Rodríguez-Pose, A. (2020). The geography of EU discontent. *Regional Studies*, *54*(6): 737-753.

Dissing, A.S., Lakon, C.M., Gerds, T.A., Rod, N.H. and Lund, R. (2018). Measuring social integration and tie strength with smartphone and survey data. *PLOS ONE*, *13*(8): e0200678.

Duggan, M., Ellison, N. B. Lampe, C. Lenhart, A. Madden, M. (2015). ‘Social Media Update 2014’. Pew Research Center, Washington, DC.

Enos, R. D. (2017). *The space between us: Social geography and politics*. Cambridge: Cambridge University Press.

Fetzer, T. (2019). Did Austerity Cause Brexit? *American Economic Review*, *109*(11): 3849-3886.

Fischer, C. S. (1973). On urban alienations and anomie: Powerlessness and social isolation. *American sociological review*, 311-326.

Fischer, C. (1982). *To Dwell Among Friends: Personal Networks in Town and City*. Chicago: University of Chicago Press.

Fisman, R., & Khanna, T. (1999). Is trust a historical residue? Information flows and trust levels. *Journal of Economic Behavior & Organization*, *38*(1), 79-92.

Gest, J., Reny, T. and Mayer, J. (2018). Roots of the Radical Right: Nostalgic Deprivation in the United States and Britain. *Comparative Political Studies*, *51*(13): 1694-1719.

Gidron, N. and P.A. Hall. (2017). The politics of social status: economic and cultural roots of the populist right. *British Journal of Sociology* *68*: S57-S84.

Gidron, N. and P.A. Hall. (2020). Populism as a Problem of Social Integration. *Comparative Political Studies* *53*(7): 1027-1059.

Granovetter, M.S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, *78*(6): 1360-1380.

Granovetter, M. (1983). The Strength of Weak Ties: A Network Theory Revisited. *Sociological Theory*, 1: 201-233.

Granovetter, M. (2005). The Impact of Social Structure on Economic Outcomes. *Journal of Economic Perspectives*, 19(1): 33-50.

Hampton, K., Goulet, L.S., Rainie, L, and Purcell, K. (2011). ‘Social Networking Sites and Our Lives’. Pew Internet and American Life Project, Washington, DC.

Hardin, R. (2006). *Trust*. London: Polity.

Hetherington, M.J. (2005). *Why trust matters: Declining political trust and the demise of American liberalism*. Princeton, NJ: Princeton University Press.

Huijsmans, T. (2023). Place resentment in ‘the places that don’t matter’: explaining the geographic divide in populist and anti-immigration attitudes. *Acta Politica*, *58*(2), 285-305.

Huijsmans, T., Harteveld, E., van der Brug, W. and Lancee, B. (2021). Are cities ever more cosmopolitan? Studying trends in urban-rural divergence of cultural attitudes. *Political Geography*, *86*(102353).

House, J. S., & Wolf, S. (1978). Effects of urban residence on interpersonal trust and helping behavior. *Journal of Personality and Social psychology*, *36*(9), 1029.

Iakhnis, E., Rathbun, B., Reifler, J. and Scotto, T.J. (2018). Populist referendum: Was ‘Brexit’ an expression of nativist and anti-elitist sentiment?. *Research & Politics*, *5*(2).

Internet World Stats: Usage and Population Statistics. *Europe.* <https://www.internetworldstats.com/europa2.htm>. Last accessed 14/11/2023.

Jacobs, A.M. and Matthews, J.S. (2012). Why Do Citizens Discount the Future? Public Opinion and the Timing of Policy Consequences. *British Journal of Political Science*, *42*(4): 903-935.

Jennings, W., McKay, L. and Stoker, G. (2021). The Politics of Levelling Up. *Political Quarterly*, *92*(2): 302-311.

Jones, K. (2013). Distrusting the Trustworthy. Chapter in D. Archard, M. Deveaux, N. Manson, D. Weinstock (Eds.) *Reading Onora O’Neill*. London: Routledge.

Kenny, M. and Luca, D. (2021). The urban-rural polarisation of political disenchantment: an investigation of social and political attitudes in 30 European countries. *Cambridge Journal of Regions, Economy and Society,* *14*(3): 565-582.

Kriesi, H., Grande, E., Lachat, R., Dolezal, M., Bornschier, S. and Frey, T. (2006), Globalization and the transformation of the national political space: Six European countries compared. *European Journal of Political Research*, *45*(6): 921-956.

Kuchler, T., Russel, D. and Stroebel, J. (2022). The geographic spread of COVID-19 correlates with the structure of social networks as measured by Facebook. *Journal of Urban Economics*, *127*(103314).

Kyriazi, A., & Miró, J. (2022). Towards a socially fair green transition in the EU? An analysis of the Just Transition Fund using the Multiple Streams Framework. *Comparative European Politics*, 1-21.

Lee, N., Morris, K. and Kemeny, T. (2018). Immobility and the Brexit vote. *Cambridge Journal of Regions, Economy and Society*, *11*(1): 143-163.

Braithwaite, V., & Levi, M. (Eds.). (1998). *Trust and governance*. New York: Russell Sage Foundation.

Levi, M. and Stoker, L. (2000). Political Trust and Trustworthiness. *Annual Review of Political Science,* *3*(1): 475-507.

Levi, M. (2019). Trustworthy Government and Legitimating Beliefs. *Nomos*, 61: 362-384.

Lin, Y.-R., Kennedy, R. and Lazer, D. (2017). The geography of money and politics: Population density, social networks, and political contributions. *Research & Politics, 4*(4). <https://doi.org/10.1177/2053168017742015>

Lipset S.M. and Rokkan, S. (1967). Cleavage structures, party systems, and voter alignments: an introduction. In *Party Systems and Voter Alignments: Cross-National Perspectives*, ed. S. Rokkan, S.M. Lipset, pp. 1-64. New York, NY: Free Press.

Los, B., McCann, P., Springford, J. and Thissen, M. (2017). The mismatch between local voting and the local economic consequences of Brexit. *Regional Studies*, *51*(5): 786-799.

Luca, D., Terrero-Davila, J. Stein, J. and Lee, N. (2022). *Progressive cities: urban-rural polarisation of social values and economic development around the world.* International Inequalities Institute Working Papers (74). London: London School of Economics.

MacKinnon, D., Kempton, L., O’Brien, P., Ormerod, E., Pike, A. and Tomaney, J. (2022). Reframing urban and regional ‘development’ for ‘left behind’ places. *Cambridge Journal of Regions, Economy and Society*, *15*(1): 39-56.

Mayer, R.C., Davis, J.H. and Schoorman, F.D. (1995). An integrative model of organizational trust. *Academy of management review*, *20*(3): 709-734.

Maxwell, R. (2019). Cosmopolitan immigration attitudes in large European cities: Contextual or compositional effects? *American Political Science Review*, *113*(2): 456-474.

Maxwell, R. (2020). Geographic divides and cosmopolitanism: Evidence from Switzerland. *Comparative Political Studies*, *53*(13): 2061-2090.

McCann, P. and Ortega-Argilés, R. (2021). The UK ‘geography of discontent’: narratives, Brexit and inter-regional ‘levelling up’. *Cambridge Journal of Regions, Economy and Society*, *14*(3): 545-564.

McKay, L., Jennings, W. and Stoker, G. (2021). Political Trust in the “Places That Don't Matter”. *Frontiers in Political Science*, *3*(642236).

Mitsch, F., Lee, N. and Ralph-Morrow, E. (2021). Faith no more? The divergence of political trust between urban and rural Europe. *Political Geography*, 89(102426).

Munis, B. K. (2022). Us over here versus them over there… literally: Measuring place resentment in American politics. *Political Behavior*, *44*(3), 1057-1078.

Newton, K., and Zmerli, S. (2011). Three forms of trust and their association. *European Political Science Review*, *3*(2): 169-200.

Norris, P. and Inglehart, R. 2019. *Cultural backlash: Trump, Brexit, and authoritarian populism*. Cambridge: Cambridge University Press.

Norris, P. (2022). *In praise of skepticism: Trust but verify*. Oxford University Press.

Pike, A., Béal, V., Cauchi-Duval, N., Franklin, R., Kinossian, N., Lang, T., Leibert, T., MacKinnon, D., Rousseau, M., Royer, J., Servillo, L., Tomaney, J. and Velthuis, S. (2023) ‘Left behind places’: a geographical etymology, *Regional Studies*, doi: 10.1080/00343404.2023.2167972

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.

Rooduijn, M. (2018). What unites the voter bases of populist parties? Comparing the electorates of 15 populist parties. *European Political Science Review*, *10*(3): 351-368.

Rodríguez-Pose, A. (2018). The revenge of the places that don’t matter (and what to do about it). *Cambridge Journal of Regions, Economy and Society*, *11*(1): 189-209.

Rodríguez-Pose, A., Lee, N. and Lipp, C. (2021). Golfing with Trump. Social capital, decline, inequality, and the rise of populism in the US. *Cambridge Journal of Regions, Economy and Society*, *14*(3): 457-481.

Rokkan, S. (1999). *State formation, nation-building, and mass politics in Europe: the theory of Stein Rokkan: based on his collected works*. Oxford: Clarendon Press.

Runciman, W. G. (1966). Relative deprivation and social justice: A study of attitudes to social inequality in twentieth-century England. London: Routledge

Sørensen, J. F. (2012). Testing the hypothesis of higher social capital in rural areas: the case of Denmark. *Regional Studies*, *46*(7), 873-891.

Sørensen, J.F.L. (2016) Rural-Urban Differences in Bonding and Bridging Social Capital. *Regional Studies*, *50*(3): 391-410.

Stein, J., Buck, M. and Bjørnå, H. (2021). The centre–periphery dimension and trust in politicians: the case of Norway. *Territory, Politics, Governance*, 9(1): 37-55.

Valgarðsson, V., Stoker, G., Devine, D., Gaskell, J. and Jennings, W. (2022). Political Disengagement. In Marco Giugni and Maria Grasso (Eds.) *The Oxford Handbook of Political Participation*. Oxford: Oxford University Press.

Welch, M. R., Rivera, R. E., Conway, B. P., Yonkoski, J., Lupton, P. M., & Giancola, R. (2005). Determinants and consequences of social trust. *Sociological inquiry*, *75*(4), 453-473.

1. For the purposes of this study, we do not offer a specific definition of ‘left-behind’. As MacKinnon et al. (2022) discuss, ‘it is often not precisely clear who, what or where is left-behind’. Discussions of the left-behind, we note, encompass less dense, rural, peripheral, physically isolated, or economically lagging areas. Previous work (McKay et al. 2021) has discussed how socio-cultural discontents better explain the political discontent of less dense/rural areas (which may or may not be lagging) and socio-economic discontents better explain the political discontent of economically lagging places (which may or may not be rural). This study, we suggest, speaks to both (though perhaps more to the density axis) and additionally to the centre-periphery axis. [↑](#endnote-ref-2)
2. Given the use of population-weighting, these measures therefore represent the probability of connecting with a stylized urban/capital resident that is representative of the set of urban/capital regions that exist in a country. [↑](#endnote-ref-3)
3. The data used for these maps is slightly more extensive than that used in the regression analysis. First, it includes countries (such as Germany) not used in the regression analysis. Second, due to limited identifiers, we will actually measure connections at NUTS-2 regions in some countries. We map all the data at NUTS-3 level to show the most detailed possible picture for Europe as a whole. For the urban measure, one country (Slovenia) could not be mapped because no areas were identified as ‘predominantly urban’. The ‘metropolitan capital regions’ for countries outside the European Union are not currently recorded and as such we have no data on capital connections for countries such as Turkey. [↑](#endnote-ref-4)
4. We also correlate social connection indicators to economy and net migration data, as low net migration (i.e. population outflows) can be an indicators of ‘left-behindness’. NUTS2 regions alone (where the net migration data is available), we also find that urban connections are correlated to higher net migration (*r*=.16, n=207) but ‘own region’ connections are correlated to lower net migration (*r*=.22, n=282). [↑](#endnote-ref-5)
5. We test each regression model for various indicators of multicollinearity, including Variance Inflation Factors > 4 and high correlations (r >.5) between coefficients on predictors, and find no cause for concern. [↑](#endnote-ref-6)
6. Specifically, Tables A2 to A4 show that (in the full models) particular social trust is associated with older and ethnic majority groups, whereas the opposite was true for general social and political trust. The same pattern was found among women. Higher income was associated with all three types of trust. Higher levels of education were linked to political and general social trust, but not with particular social trust. [↑](#endnote-ref-7)