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The long shadow of local decline: Birthplace economic conditions, political attitudes, and long-term individual economic outcomes in the UK

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Abstract

Does growing up in a high-unemployment area matter for individual economic and political outcomes? Despite a significant focus upon the links between place of residence, life outcomes and political attitudes of individuals, there is less evidence on how local economic conditions at birth shape individual wages and political attitudes over the long-term. This paper links the British Household Panel Survey (BHPS) micro data from English and Welsh respondents with historic localised information on unemployment. Our results, which control for composition effects, family background, and sorting of people across places, show that being born into a high-unemployment Local Authority has a significant, long-term impact on individual's economic outcomes, decreasing earnings in adulthood. Even accounting for individual economic outcomes, being born into a local authority of high unemployment makes individuals more economically left-wing, with a greater belief in an obligation for the government to provide jobs, but also less culturally tolerant. These results contribute to the debate on the nature and rationales of place-based policy solutions.

Keywords: Place of birth; Unemployment; Territorial inequality; Lifetime mobility; Political attitudes; Place-based policies.

JEL codes: J31; J38; J62; R11; R23.

1. Introduction

There is widespread concern about high levels of spatial inequality in income and employment across the advanced world (Evenhuis et al., 2021; McCann, 2017). Since the end of the Twentieth Century, many rich countries have experienced a growing divergence in employment patterns and income differentials, with economic growth and jobs increasingly concentrated in a few 'successful areas' where workers can benefit from agglomeration economies and better opportunities. Similarly, a growing amount of research cutting across social sciences has highlighted the importance of place in shaping political attitudes and behaviours. Yet, despite the prevalent focus upon how 'place' correlates with income differentials (Baum-Snow & Pavan, 2012; D'Costa & Overman, 2014; Glaeser, 2012; Iammarino et al., 2019), individual attitudes (Abreu & Jones, 2021; Kenny & Luca, 2021), and voting preferences (Colantone & Stanig, 2018, 2019; Dijkstra et al., 2020; Lee et al., 2018), less is known on the extent to which growing up in a 'lagging behind' or declining area impacts individuals' outcomes over the long term. In this paper we help to address this gap.

Drawing on the literatures on neighbourhood effects and on political socialisation, which show that early-life experiences can significantly shape political preferences for an individual's whole life (Grasso et al., 2019; Holbein, 2017; Neundorf & Soroka, 2018; O'Grady, 2019), we empirically explore whether being born in an area of high-unemployment has a long-term effect on an individual's economic and political outcomes. We contribute to a developing body of work that shows how birthplace affects labour market outcomes in adulthood, described by the Social Mobility Commission in the UK as the 'long shadow of deprivation' (Carneiro et al., 2020). For example, in the US, using rich administrative data, Chetty et al. (2014) show pronounced differences in children's social mobility across US Commuting Zones, in part determined by local factors such as ethnic segregation. Similarly, in the UK, Bosquet and Overman (2019) show how those born in large cities experience higher earnings than those born in other locations, such as smaller cities, towns, or the countryside.

Our empirics combine two datasets: the British Household Panel Survey (BHPS) and the Vision of Britain (VoB).[1] The high-quality individual-level panel data from the BHPS allows us to track a large sample of British individuals from 1991 to 2008. This strategy allows us to control for individual sorting (Combes et al., 2008), and to disentangle 'compositional' from 'contextual' effects (Maxwell, 2019). Importantly, we have information on birthplace, which we combine with the VoB's historical census-based unemployment data using time-consistent Local Authority boundaries.

[1] This work is based on data provided through www.VisionofBritain.org.uk and uses historical material which has been re-districted by the Linking Censuses through Time system, created as part of ESRC Award H507255151 by Danny Dorling, David Martin and Richard Mitchell.

We focus on the UK, which has one of the highest levels of regional inequality of any developed country (McCann, 2017). These disparities have persisted for decades, so those working and voting today grew up in heterogenous circumstances, depending on where they happened to be born. The UK has been frequently cited as a country where birthplace matters in the media and academic scholarship. Moreover, British politicians are acutely aware of the 'geography of discontent' (McCann, 2020) and prioritise pledges to remove the perceived 'penalty' of birthplace as a barrier to success. This is only exemplified further by the latest Conservative government's promise to 'level-up' those areas which have been 'left-behind'.

Our results highlight how the effects of 'place' are engrained in the formative years of childhood, proxied by place of birth. A high level of unemployment in one's birthplace, captured at the level of Local Authority districts, decreases adulthood earnings, and makes one more 'economically left-wing' – that is, having a stronger belief in an obligation for the government to provide jobs – and to a lesser extent, less progressive on post-materialist cultural issues related to family life and individual freedoms. In the case of political attitudes and voting, our results suggest that birthplace has at least as much, if not more of an impact than where one currently lives. Potentially because of these mechanisms, survey respondents who grew up in high unemployment areas are less likely to support Britain's centre-right Conservative Party. In short, high levels of local unemployment at birth have a long-term impact over the life course.

Concerningly for current and future workers' earning prospects, these effects are most evident in the latter periods of our study – i.e., for those individuals born after the 1970s. This is an era when a mix of globalisation, technological change, and macro-policy choices have generated a 'new geography of jobs' (Moretti, 2013), characterised by the concentration of opportunities in a few core areas – frequently large urban agglomerations – and a significant rise in unemployment across many former industrial regions. For example, accounting for a broad array of individual socio-demographic factors, geographic sorting, as well as current place of residence, our model predicts that an individual born in the 1970s in East Hertfordshire (a low unemployment district) would earn £2,500 more than their peer in Liverpool (a high unemployment district). The pattern of high unemployment and regional inequality in the 1970s continued through the next two decades (and to a lesser extent persists today). This highlights a potentially worrying prospect for individuals born in the 1980s and early 1990s in areas of high unemployment, who are yet to reach the peak of their careers.

Overall, our research makes three main contributions. First, we add to the literature in economic geography and urban economics debating the importance of 'people' versus 'place', and discussing the rationales for 'place-sensitive' policies (Iammarino et al., 2019). Concerns about regional inequality are not new, and have sparked a lively discussion on whether place-based policies to redress them are needed (inter alia: Barca

et al., 2012; Ehrlich & Overman, 2020; Iammarino et al., 2019; Kline & Moretti, 2014; Partridge et al., 2015). Disparities between rich and poor areas are increasingly seen as an important national economic problem, with lagging areas representing a 'waste' in terms of economic potential (Garcilazo & Oliveira Martins, 2015), and regional economic divergence being a growing 'threat' to balanced economic progress (Iammarino et al., 2019). Similarly, spatial inequality has ethical ramifications, because it undermines the principle of equality of opportunities, and it is also increasingly seen as a political problem. For example, the wave of political disenchantment experienced by many rich countries since the mid-2010s has been explained as a 'geography of discontent' (McCann, 2020) or as a 'revenge of places that don't matter' any longer (Rodríguez-Pose, 2018). Our analysis contributes to this debate and shows that the effects of living in 'places that don't matter' go beyond one's current residence, extending to birthplace. As far as we are aware, this is the first study to show that local unemployment at time of birth influences long-term economic outcomes and political attitudes, adding to a growing field analysing the importance of birthplace for adulthood outcomes.

Second, we contribute to the literature in political science and sociology on political socialisation, showing that the effects of birthplace extend both to earnings and to political attitudes and preferences. We build on these different strands of literature, and argue that, when exploring the effects of early-life experiences on later outcomes, it is important to consider both individual earnings *and* political attitudes together. Birthplace affects income and later life outcomes, which in turn may well influence attitudes and political behaviour. However, we find an additional effect even when controlling for income, occupation, and education. More generally, we contribute to the field of political socialisation, adding birthplace-based effects to a field which emphasises the importance of formative years, for example through cohort effects (Grasso et al., 2019), the welfare regime one grew up in (Neundorf & Soroka, 2018), and national macroeconomic conditions (Giuliano & Spilimbergo, 2014).

Third, our results also provide new evidence for scholars and analysts interested in Britain's politics and its evolving electoral landscape, particularly in the light of the results of the 'Brexit' referendum to leave the European Union. A frequent narrative to explain the recent electoral advancements of the Conservative Party (the 'Tories') in former strongholds of the centre-left Labour party is that the Conservatives have tapped into the resentment of previously pro-Labour individuals living in 'left-behind' places. The current Conservative government's initiative of 'levelling up' territorial inequalities implicitly addresses the findings of this paper, as they target voters' discontent and attempt to become the party benefitting from the broader realignment of the electorate (W. Jennings et al., 2021).

The paper is structured as follows. The following section presents the debate within the context of the two literatures to which this paper speaks – the 'people' versus 'place'

debate, and political socialisation – and then develops our theoretical foundations and hypotheses. In section 3, we discuss the case selection for this work, the UK. Section 4 outlines the data used, followed by the methodological approach in section 5. We then present our main findings, supported with a section of robustness checks. Finally, our concluding discussion outlines the implications of these findings in relation to 'place-based' policy debates and avenues for further research.

2. Birthplace and life outcomes: a conceptual framework

2.1. Place and contextual individual concerns

In recent decades, different disciplines have explored potential links between place and contextual individual outcomes. With respect to socioeconomic outcomes, we draw on three key strands of research. The first one relates to the body of work carried out by geographers and other regional scholars on regional inequality. After decades of slow but progressive inter-territorial convergence in personal income and employment levels, since the end of the Twentieth Century spatial disparities have, across many advanced economies, been on the rise again (Ehrlich & Overman, 2020; Evenhuis et al., 2021; Iammarino et al., 2019). While the geography of territorial inequality is complex (cf. McCann, 2017) – that is, it depends on the scales of analysis and the countries being studied, many commentators have underlined how, across many rich economies, material prosperity and jobs are increasingly concentrated in a few 'successful areas' where workers can benefit from economies of agglomeration and network effects (McCann, 2008). In policy discussions, different approaches to addressing regional inequality have led to a contraposition between 'space-neutral' and 'place-based' approaches to addressing territorial inequality (Barca et al., 2012). While, recently, this stark divide has been bridged (cf. Iammarino et al., 2019), a 'place-sensitive' approach assumes that the social, cultural, and institutional characteristics of the geographical context where individuals live are important in explaining the developmental potential of territories and, through the effect of externalities, of individual persons who live in them (Barca et al., 2012).

Second, since the early 2000s a rich body of empirical work grounded in urban economics has specifically measured the positive effect of living in more productive places – primarily large urban agglomerations – on individual earnings (for a review, see Puga, 2010; Rosenthal & Strange, 2004). De la Roca and Puga (2017) further argue that such 'urban wage premium' is not static but, instead, is a function of the time spent in large cities. Exploiting Spanish data, they show that the longer workers live in more productive places,

the more they accumulate valuable experience.[2] Importantly, this strand of literature has attempted to distinguish between composition and contextual effects, that is, between spatial heterogeneity in observed outcomes explained by the unequal distribution of individuals with different observable/unobservable characteristics, and the specific role of place in contextually shaping individual outcomes.

A third strand of research cutting across economics, sociology, and urban studies specifically explores the role of small-scale neighbourhoods in influencing residents' socioeconomic outcomes. Stemming from seminal contributions such as Wilson's (2012 [1987]) – who argues that neighbourhood influences are essential to understand the persistence of poverty in American inner cities, the literature trying to measure potential socioeconomic spill-over effects at a micro-geographical scale has expanded significantly. This body of work has been frequently divided between qualitative and quantitative studies, with the former showing more consistent and stronger support in favour of the existence of neighbourhood effects (van Ham & Manley, 2012). Quantitative studies, by contrast – and in line with the literature on 'urban wage premia', have engaged in a lively empirical debate on 'place' versus 'people', i.e. on how to disentangle contextual from composition effects (Bolster et al., 2007; Graham, 2018). In spite of these empirical challenges – and with few contrasting views (e.g. Oreopoulos, 2003) – small-scale neighbourhoods are overall assumed to affect their residents because of differences in local public finance, social networks, peer group pressure, and the influence of role models (Durlauf, 2004).

More broadly, place has been associated not only with individual socioeconomic outcomes, but also with political attitudes and behaviours. If during much of the Twentieth Century political scientists frequently tended to explain political dynamics and the cleavages of industrialised democracies drawing on economic issues, class position, and attitudes towards the role of the state in society (Lipset & Rokkan, 1967), the last decades have witnessed a resurgence of interest towards other forms of group identity and, in particular, the role of geography (inter alia: Glaeser & Ward, 2006; Kenny & Luca, 2021; Kriesi, 2010). The recent wave of political disenchantment experienced by many established democracies has indeed been explained as a 'geography of discontent' (McCann, 2020) or as a 'revenge of places that don't matter' any longer (Rodríguez-Pose, 2018). Where one lives has been shown to correlate with voting patterns, particularly the tendency to vote for anti-system parties. The areas that are 'left-behind' are the mainstay of anti-system voting, highlighted, for example, through the case of Brexit in the UK (Goodwin & Heath, 2016). Where studies differ is on what factors determine 'feeling left-behind', varying from suffering because of relative economic decline (Dijkstra et al., 2020;

[2] By contrast, D'Costa and Overman (2014) suggest that, in the British context, the 'urban wage growth premium' is not driven by the time spent in more productive places, but simply by the increase in wage occurring when workers move to a larger location.

McCann, 2020), import competition (Colantone & Stanig, 2018), exposure to austerity (Fetzer, 2019), and rising house prices (Adler & Ansell, 2020). However, these studies all draw on the hypothesis that individuals express resentment because of poor or declining local conditions, rather than the national context (Reeves & Gimpel, 2012).

Beyond anti-system voting, there is increasing evidence on the correlation between place of residence and attitudes. Residents of large cities are more 'cosmopolitan' (Huijsmans et al., 2021; Iversen & Soskice, 2019), most notably in their attitude towards immigration (W. Jennings & Stoker, 2019) and global integration (Kenny & Luca, 2021). The importance of place is not just relevant for the urban-rural divide. For example other spatial dimensions such as local deprivation have been linked to status anxiety and area-contextual grievances (Botton, 2005). As described in detail in Salomo (2019), 'bad' socio-economic conditions, such as high unemployment rates, can lead to the feeling of 'one being next' inline to 'lose out', like many others already have in their local area. This anxiety is often expressed through ethnocentric attitudes and vented via political discontent (Sobolewska & Ford, 2020).

While the literature on place and individual attitudes has grown substantially, there is still however a lively debate on whether the differences observed across places are contextual or if, instead, they are purely compositional. Exploring European's attitudes towards immigration, Maxwell (2019, 2020) finds that differences in cosmopolitan attitudes across urban and rural areas are rather a function of the type of people that live in cities. These individuals tend to be more highly educated and in professional occupations. In Maxwell's view, it is these compositional effects rather than any substantial 'place effect' per se.

Research from the US has suggested that composition effects may be amplified by demographic sorting, either because of the increased concentration of high-skill jobs in core areas (Keuschnigg et al., 2019) – in turn attracting younger, more educated, and in general more progressive individuals – or because of 'political homophily', that is, voters' likelihood of moving to areas with a higher presence of people sharing similar political beliefs (Bishop & Cushing, 2009; Gimpel, 1999). In relation to vote choice in the UK, there is evidence that 'movers' have limited political assimilation into their new area (Gallego et al., 2016). Movers to Conservative 'safe' seats were more likely to vote Conservative but there was no similar effect when individuals move to Labour seats.

Overall, if a substantial amount of social science research has explored the contextual nexus between place and individual socioeconomic and political attitudes and outcomes, from a dynamic point of view territorial inequality and the geographical heterogeneity across places may have a significant self-perpetuating effect. The literature causally identifying this issue is, however, scarcer. Even among studies exploring 'neighbourhood effects' – which have explicitly tried to assess the extent to which small-scale areas affect individual socioeconomic variables, a frequent tendency is to analyse the instantaneous

impact of single point-in-time measurements of neighbourhood environments on residents' outcomes. However, as reminded by van Ham and Manley (2012), the *amount of time* an individual spent in an area is key to understand any potential effect of place. Drawing on the political socialisation literature, we argue that the debate over compositional versus place effects may be missing a key component, and that, instead, the effects of place may come from much earlier in one's life – e.g., from childhood – when one forms lifelong attitudes and preferences.[3]

There is a growing sub-field on the effect of birthplace. A prominent workstream based on large-scale access to historical US tax records, *Opportunities Insight*, has outlined the importance of birthplace for intergenerational mobility (Chetty et al., 2014; Chetty & Hendren, 2018). There is also recent work finding similar variation in intergenerational social mobility based on birthplace in the UK (Bell et al., 2019; Buscha et al., 2021). In causal work based on the *Moving to Opportunities* project in the US, Chetty et al. (2016) show how young children who were randomly moved from high to low poverty neighbourhoods experienced higher earnings and higher college attendance than their peers who remained in the high poverty areas. Again, research in the UK has uncovered similar findings. Carneiro et al., (2020) show that, across Britain, there is a pay gap between those from the most and least deprived families. However, the extent of this gap varies greatly by where one grew up. Some of the area-based characteristics this report highlights are deprivation, lower house price, labour market opportunities, and quality schooling. Similarly, Bosquet and Overman (2019) argue that birthplace may be an important factor in explaining earning differentials, and show that higher birthplace population size is associated with greater adulthood earnings.

2.2. Birthplace and political socialisation

Political socialisation, that is, the "possible persistence of orientations derived from the impression years" (M. K. Jennings, 2007, p. 35), has been somewhat rejuvenated in contemporary political science (Neundorf & Soroka, 2018; O'Grady, 2019). Whilst there is debate over how stable preferences are over one's lifetime (Neundorf & Smets, 2017), there is now consensus that formative years are important (Bartels & Jackman, 2014; M. K. Jennings, 2007).

This formative experience may come from the macroeconomic context in which one grew up. Giuliano and Spilimbergo (2014) find that US individuals who experience an economic recession when young are more likely to prefer more redistribution and vote Democrat. They draw on Piketty's (1995) theoretical contribution, suggesting that growing up in a 'bad' environment changes individuals' perception of the role of luck compared to effort

[3] In the case of this study, we focus on birthplace rather than the more general formative years of childhood due to data constraints. Of course, in many cases, birthplace and childhood residence will be one and the same. This is especially true across Europe, where people mobility is substantially lower than in contexts such as the US.

in success. Thus, those individuals who see more deprivation at a young age are more likely to believe that future success or failure is not necessarily due to merit, resulting in a tendency to support more redistribution. We also know that macroeconomic conditions when young impact job choice, and that individuals growing up in recessions tend to choose jobs with high monetary rewards whereas growing up in a boom increases the chance of finding a job with 'meaning' (Cotofan et al., 2021). Similarly, economic depressions in childhood influence the risk-taking propensity in later life (Malmendier & Nagel, 2016). Relatedly, research in psychology has long tried to link cross-country variation in psychological traits to factors such as child-rearing practices, motives, and values (for a review, cf. Rentfrow et al., 2008).

Whilst macro and cohort conditions are core to our argument, much of this existing work addresses country level effects. We argue that local and regional conditions are as important as the national macroeconomic backdrop. In many countries, and particularly the UK, national conditions are of somewhat secondary importance to individuals given the large underlying subnational labour market differentials. Moreover, the socialisation process comes not only from cohort political ideology (as in Grasso et al., 2019), but also from interactions with family, friends, peers at school, neighbours, and other social groups apparent at a meso-level geographical scale. These formative processes ingrain habits and dispositions (Bourdieu, 1984) which, in turn, are crucial in the formation of attitudes and preferences for adulthood. Social interactions are overwhelmingly with those who live locally. Individuals may observe friends or families lose their jobs or homes. This is more observable and 'real' than abstract national GDP or unemployment rates reported in the press.

Building on these different strands of literature, primarily focused on the contextual effect of place on individual outcomes and on 'socialisation' respectively, we now turn to our theoretical expectations.

2.3. Theory and hypotheses

We see the unemployment rate in the local area as a key indicator of economic precarity. Within the UK's research and policy community, for example, it is used as a part of the method for constructing localised deprivation indices (McLennan et al., 2019) and formed part of the widely used Townsend (1980) deprivation index. There are several mechanisms through which unemployment in one's birthplace may transfer into adulthood outcomes and attitudes.

First, high unemployment in one's birthplace may impact adulthood outcomes through sorting, that is, an intergenerational transmission of characteristics. Parents with lower socio-economic status (measured by occupation or education) are more likely to move to areas with higher levels of unemployment. Most obviously, this may occur as the cost of living in deprived areas is likely to be lower. There is a correlation between parental and

child income, and parental social origins and child attitudes (Blanden et al., 2004; Dinas, 2014; Jaime-Castillo & Marqués-Perales, 2019). Whilst this is undoubtedly a factor, our main analysis controls for parental background (see the appendix for an assessment of how not including parental characteristics increases the magnitude of our findings).

Second, the impact of seeing those in a near vicinity – especially in one's social network – struggling financially may lead to a sense of affinity (Lupu & Pontusson, 2011), or empathy with their plight (Liu et al., 2020). This may apply directly by experiencing unemployment in one's household or more broadly in one's area. These attitudes, developed in formative years, are held through to adulthood, making one more 'economically left-wing', that is, favouring redistributive economic policies. Similarly, individuals in these more deprived areas are less likely to develop post-materialistic cultural attitudes (Inglehart, 1971; Norris & Inglehart, 2019). They are rationally more concerned about economic precarity, and the idea of one 'being next' to succumb to the conditions surrounding them (Salomo, 2019). In particular, we expect cultural intolerance to be channelled through attitudes towards gender roles. In those areas where jobs are scarce in childhood, economic 'threat' may result in a reversion to more traditional male 'breadwinner' attitudes. Ideals which again may be maintained in adulthood. In turn, this may have a direct effect on adulthood earnings for women. Countries where there is a greater tendency to believe that men should have priority access to scare jobs also tend to have larger gender pay gaps (Fortin, 2005).

Third, areas with high levels of unemployment are also likely to be areas with poorer provision of public services and 'social infrastructure'. Children in these areas may 'miss out' compared to their more fortunate peers. One can think here in terms of formal education and schooling facilities, but also more informally through family and friend networks. These social networks are often seen as crucial for securing 'good jobs' and hence associated with earnings (Friedman & Laurison, 2020).

Fourth, it may be that high unemployment conditions changes individuals' perceptions of the importance of luck compared to effort (Giuliano & Spilimbergo, 2014; Piketty, 1995). As more people in their local area and social network are unemployed, it may be that these individuals think this is due to 'bad luck' and that the role of effort is limited. In turn, these individuals reduce their effort, which may impact adulthood earnings. Similarly, these individuals would rationally demand more redistribution as they demand insurance given the perceived prominent role of 'bad luck' in labour market outcomes.

Finally, across many countries – and in the UK in particular, a large proportion of individuals are immobile. 32% of individuals within our sample always live in the same district as they were born (authors' calculations). To the extent that unemployment is persistent from childhood to adulthood, it may be that those born in districts with high unemployment face limited prospects as adults. Areas with high unemployment tend to stay that way over time (Figures 1 and 2). Moreover, physically immobile individuals tend

to have different views than their mobile counterparts, including a higher tendency to vote for Brexit (Lee et al., 2018).

From this theoretical framework we formulate our hypotheses. Hypotheses H.1, H.2, and H.3 follow directly from the above causal mechanisms. Given these expectations, we would thus expect individuals born in high unemployment districts to:

H1: earn less;

H2: be more 'economically left-wing', that is, having a stronger belief in an obligation for the government to provide jobs;

H3: be less progressive on post-materialist cultural issues related to family life and individual freedoms;

H4: be less likely to vote for the Conservative Party than individuals born in low unemployment districts during adulthood.

3. Data

To test these hypotheses, we combine individual level data from the British Household Panel Survey (BHPS) with aggregate Local Authority level information from the Vision of Britain (VoB) dataset.[1] The BHPS is an annual panel survey of British households starting in 1991 and running for a total of 18 waves. The BHPS is a nationally representative sample survey with all adult (aged 16 +) household members being interviewed annually. As some panel members leave the sample (either through death, emigration, or other forms of attrition) new panel members were incorporated through the survey period. Our models include both these individuals who were involved at the BHPS's origination and new entrants. Whilst we track individuals through the waves of the BHPS, there is some limited attrition and respondents may not answer every wave, or every question within a wave. Our sample includes all those individuals born and residing in England or Wales. We discard Scotland and Northern Ireland because we are unable to link individuals to Local Authority-level information with sufficient accuracy.

We identify four key dependent variables, namely future earnings, economic attitudes, cultural attitudes, and voting preferences, and operationalise them as follows. First, we observe individuals' gross pay in every wave (individual annual pre-tax income in 1000s of British pounds sterling, deflated to 2005 levels). This is used as one of our dependent variables, and as a control for other dependent variables.[4]

[4] We use the variable *fivr* which includes all labour and non-labour income. We include only those with positive income, excluding those whose response is "proxy/missing" (6% of respondents) and "zero" (4%). We exclude those reporting zero income because we cannot tell for sure if theirs is a response bias or a genuine response. That said, our results differ only marginally when we include zero income responses. Results are available on request.

Our main dependent variable for 'economic values' is captured through respondents' views on the survey statement "Government has an obligation to provide jobs". This is answered on a 5-point Likert scale from 1 "Strongly Agree" to 5 "Strongly Disagree". We choose this as our measure of economic preferences for two reasons: first, it is closely aligned to our key independent variable, birthplace unemployment conditions. Second, and most importantly, attitudes towards welfare state support are conventionally treated as integral to left/right ideological divides. Furthermore, the other potential economic questions are somewhat dated and/or relate to social rather than economic values.[5]

We then measure post-materialist cultural attitudes through respondents' opposition to homosexuality and support for traditional gender roles (in a similar fashion to Langsæther et al., 2021). Both variables are again measured on a 5-point Likert scale. The questionnaire wording is respectively "Homosexual relationships are wrong", and "Husband should earn, wife stay at home". The homosexuality questions are available in six rounds, and the gender questions in nine rounds. To ease comparison, we re-order the scale of all value variables (i.e., some scales are flipped) so that 1 is the most 'left-wing' / 'tolerant' outcome.

Finally, we measure voting preferences as the party one supports. This is available in every round apart from wave 2. This is then coded as a binary variable, Conservative, the major centre-right party, versus any other party.[6] We choose the Conservatives as they were the dominant party in 1991 when the BHPS started, and use a binary outcome for clarity of analysis.

As will be explained in detail in the methodology section below, in the analysis we also include an array of individual-level controls available from the BHPS. Specifically, we consider gross income (when not the dependent variable), age, age squared, BHPS wave, occupation (NSSEC-8 categories), educational attainment (6 categories), parental background measured by father's occupation,[7] gender, year of birth, and ethnicity. The full sample within the BHPS consists of 32,380 individuals observed on average in 7.4 waves. However, after including only those for which we have information on birthplace, current residence, our full list of time-varying and time-variant controls, and participate in at least two waves we are left with a smaller sample. Our dependent variables are available in different rounds, and hence our sample size varies for each respective dependent variable. As an example, in the case of earnings, our main birthplace findings

[5] In the Appendix we provide results replacing our selected question with the other three available in the BHPS to capture economic variables (Heath et al., 1994). Overall, economic variables are available in 7 rounds of the BHPS (Waves 1, 3, 5, 7, 10, 14, and 17).
[6] In the Appendix we replace this coding, replacing Conservatives with Labour versus any other party. The binary party operationalisation allows simple interpretation using a linear probability model.
[7] Alternatively, in the appendix we provide results when replacing the measure of father's occupation with parental educational attainment. Also available in the appendix is a version with parental occupation, using the dominance approach i.e. the highest status of either mother or father. Results are substantively similar but there is more missing information for mother's occupation compared to father's occupation.

are based on 7,045 individuals observed an average of 8.3 times. For reasons of space, full descriptive statistics are presented in the Appendix.[8]

4. Measuring local level unemployment over time

Our key independent variable is birthplace unemployment. We use data from the VoB project, which reconstructed historical census data to be consistent with modern district boundaries. We use data for England and Wales and, in total, we have information for individuals in 347 Local Authority districts, which are the most meaningful tier of local government across the two nations. We consider each individual Local Authority as a separate spatial unit.[9]

In spatial economics literature, it is common to measure the effect of place on individual earnings by analysing functional spatial units, such as Britain's Travel-to-work areas (TTWAs. For an application, see Bosquet & Overman, 2019). It is important to stress however that, in our empirical setting, Local Authorities represent a spatial unit which is more consistent over time. For instance, TTWAs significantly change across censuses depending on changing commuting patterns, and attempts to overlap birthplace unemployment information on time-varying TTWAs would lead to distortions affecting the accuracy of our treatment measure.

VoB has unemployment data for every district at each census (which are 10 years apart) going back to 1931. (There is no available data for 1941.) Since we do not have reliable birthplace unemployment data prior to 1931, we exclude from the analysis those individuals born before 1926, in-line with our procedure in matching to other censuses. Importantly, the BHPS provides, for each respondent, their current residence (by Census Area Statistics Wards, which we map onto Local Authorities) as well as their place of birth.[10] We are hence able to input both the unemployment rate for one's current place of residence and birthplace. We use the unemployment rate from the closest census available in VoB. For example, to an individual born in Tonbridge and Malling in 1957, we input the unemployment rate for that locality from the 1961 census.[11]

[8] For some birthplaces there are relatively few individuals. We check for this in the appendix by including only those birth regions with more than 20 respondents. Our results remain robust (see the appendix).
[9] The appendix includes a version of our main findings where we treat London as one single district. The results are similar.
[10] In some cases, nearby birthplaces are merged in the BHPS – presumably to preserve anonymity. There are also some boundary inconsistencies between birthplace districts and VoB due to boundary changes – details are available on request.
[11] As a robustness check, we also use Norman's (2017) alternative method for constructing consistent-boundary unemployment statistics. Whilst their data are only available back to the 1971 census, results (available on request) are substantively similar.

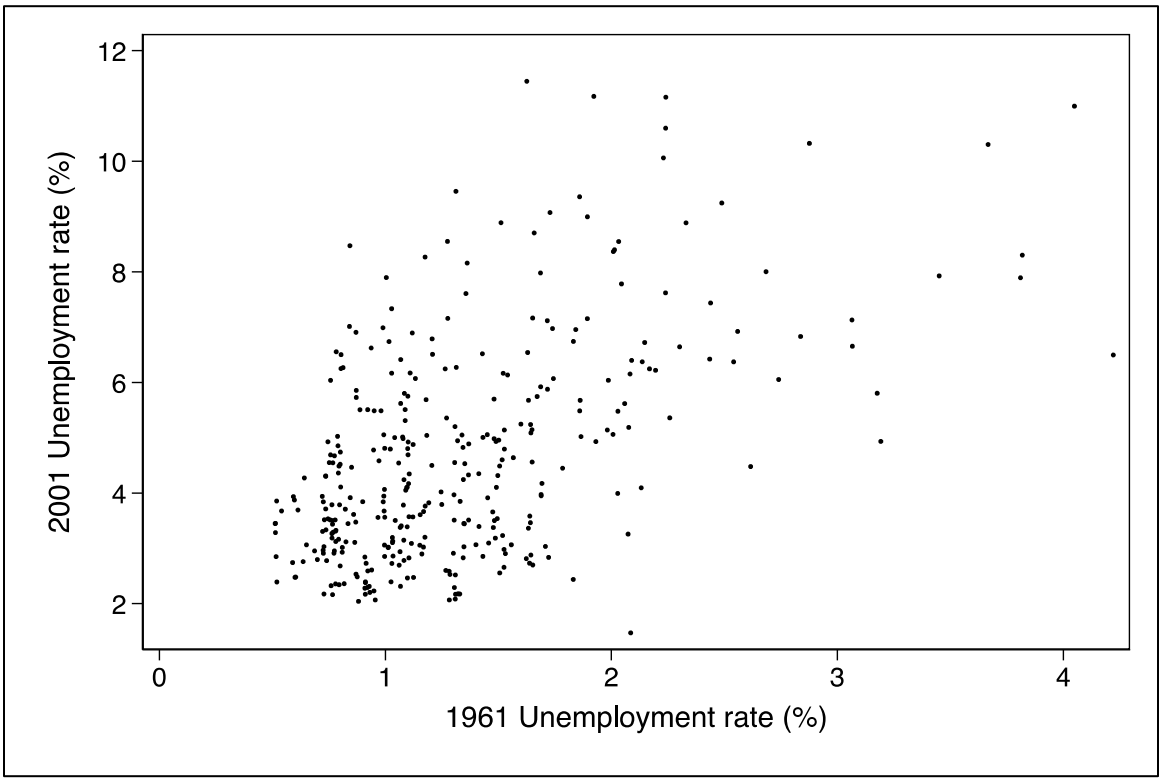
The VoB provides us with a relatively long-term perspective on UK regional disparities. Local unemployment rates have varied over time. The 1950s and 1960s were decades of virtually full employment, when the average unemployment rate averaged just 1.6% (Crafts, 1995). Moreover, the range of unemployment rates across the Local Authorities within England and Wales was small. At the 1961 Census, the highest rate of unemployment in any Local Authority was 4.22% and only 10 Local Authorities had unemployment rates of over 3%. By contrast, in 1971 the mean unemployment rate across the Local Authorities was 3.66%, with Liverpool experiencing an unemployment rate of over 10%. The situation further worsened in 1981 and 1991 (although, for our empirics, the sample size of individuals born in these latter cohorts is much smaller – as they would be too young for wave 1 of the BHPS). Table 1 provides a summary of these unemployment statistics, while Figures 1 and 2 show how some of the unemployment rates correlated over time.

Table 1: Summary of unemployment rates, %, by Local Authority, 1931-2011.

Census Year	Mean	Std.	Min	Max
1931	9.62	5.09	3.35	33.32
1951	1.85	1.01	0.51	6.91
1961	1.33	0.62	0.51	4.22
1971	3.66	1.29	1.80	10.14
1981	7.80	3.11	3.21	22.17
1991	9.47	3.79	3.04	24.73
2001	4.64	1.97	1.47	11.45
2011	5.77	1.94	1.35	12.00

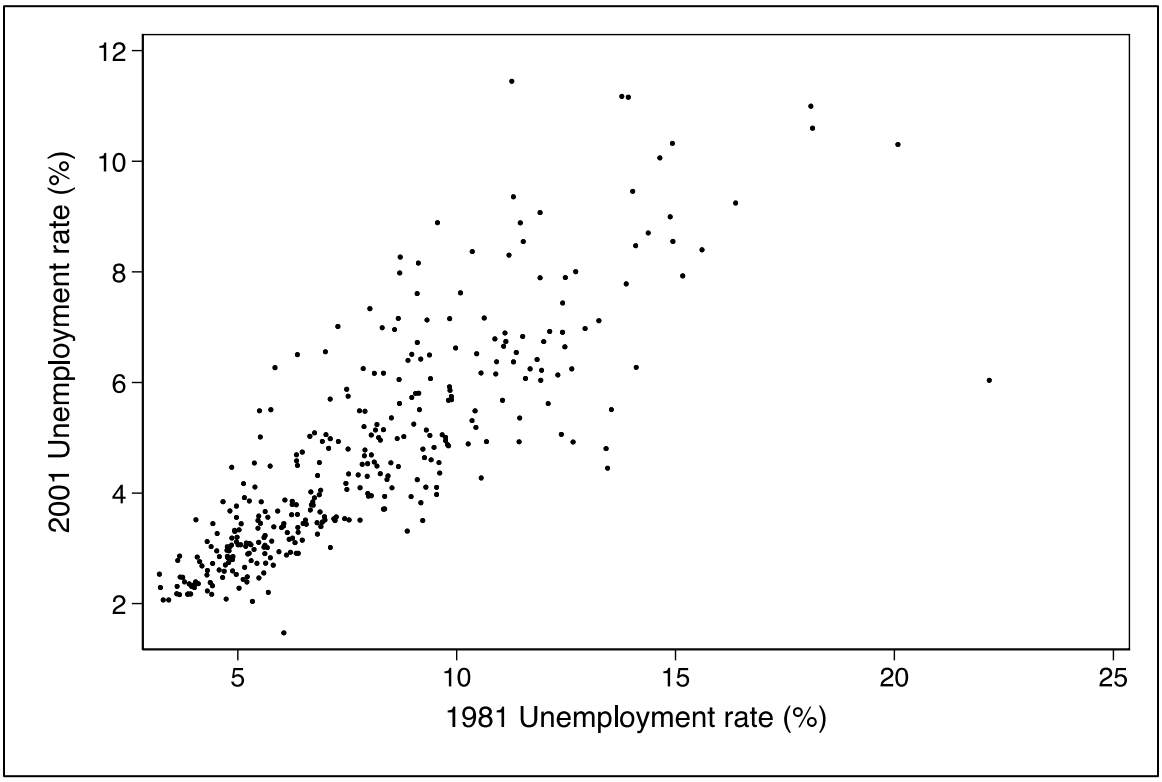
Notes: Based on 347 Local Authorities in England and Wales. Source: VoB.

Figure 1: 1961 vs 2001 Unemployment rates, by Local Authority.



Source: our elaboration on VoB data.

Figure 2: 1981 vs 2001 Unemployment rates, by Local Authority.



Source: own elaboration on VoB data.

The existing literature highlights that the underlying macro environment may be important for political socialisation (Alesina & Fuchs-Schündeln, 2007; Grasso et al., 2019). Neundorf and Soroka (2018) show that redistributive preferences are influenced not only by the economic backdrop during childhood but also by the national welfare-policy context at the time (see also Hansen & Stutzer, 2021). In our case, the effect of unemployment may differ depending on the macro situation. Our main empirical findings include periods, specifically the years close to the 1961 census, when Britain experienced nearly full employment and low regional inequality. In our main empirical section, we account for this by cross-sectionally controlling for birth year. In the robustness checks, we will then consider how results vary across the decades.

5. Empirical strategy

5.1. Main analysis

We follow the urban economics literature (Combes & Gobillon, 2015) and use a two-step approach, which allows us to estimate the impact of both current residence and birthplace

on our outcomes, while controlling for composition effects based on observables *as well as* unobservable individual characteristics.[12]

In the first-step we regress each of our dependent variables (part of the vector *E*) for individual *i*, currently living in area *a*, at wave *t*, on our vector of individual time-varying characteristics *X*, a wave dummy *W*, the unemployment rate in their current area *U*, an individual fixed-effect (FE) *I* – which, importantly, allows us to control for individual heterogeneity based on unobservable traits, and an error term *e*. We use a fixed value for current residence district unemployment, from the 2001 census (that is, the most recent census before the end of our panel). Thus, the effect of current unemployment is for 'movers' only. We include only those individuals in the regression who have participated in at least two waves, to have estimates of individual fixed-effects for the second-step regression. We regress:

$$E_{it} = \beta' X_{it} + \beta_1 U_{a(i)t} + W_t + I_i + e_{it} \quad (1)$$

This is followed by the second-step regression, where the predicted individual fixed-effects components $\hat{I}$ estimated from equation 1 (net of time-variant individual observables, including current place of residence characteristics) are regressed on the array of individual time invariant variables *T* (parental characteristics, gender, year of birth, and ethnicity), and unemployment at the time of birth in the individual's birthplace *Z*:

$$\hat{I}_i = \beta'^{T_i} + \beta_2 Z_{ai} + e_i \quad (2)$$

The coefficient β_2 is our main objective of interest, and it can be interpreted as the effect of a one percentage point increase in birthplace unemployment on our dependent variables. It's important to stress that including individual fixed-effects in the first step is essential to disentangle sorting effects based on unobservable characteristics, a process widely established in the urban economics literature (Combes & Gobillon, 2015). In fact, regressing current outcomes on current place of residence and birthplace would lead to biased estimates, since people sort across space depending on unobserved traits. Even if those traits were uncorrelated to place of birth – e.g. conditioning on parental characteristics, correlation between birthplace and current residence would make the estimation of β_2 inconsistent (Bosquet & Overman, 2019).

Whereas the effect from current Local Authority unemployment rate is derived from 'movers' only (to control for sorting), the effect of birthplace is estimated from all individuals. We use linear OLS regression for each dependent variable, even for voting, despite its binary nature. We do so, rather than using logistic or conditional logistic

[12] Should we run a single regression with both current local authority and birthplace unemployment, the coefficients from our main analysis are substantively similar, and are reported in the Appendix. However, the current residence coefficients increase in magnitude compared to the main results, which is in-line with the compositional reasoning for the two-step approach.

specifications, due to the inherent problems with logistic models with fixed-effects. See Gomila (2021) arguing that linear models are the best strategy in these circumstances.

5.2. Cohort analysis

The analysis above aggregates all individuals within the BHPS sample if they are born after 1925. Within these models we include a continuous age control in the first-step regression and a continuous birth year control in the second step. This allows us to control for any idiosyncratic time effect linked to cohort differences, or for cross-sectional common shocks potentially biasing our main coefficient β_2. However, as outlined above, the macroeconomic context in which people are born may be important, and it may hence be useful to explore the heterogeneity of results across different cohorts. Absolute levels of unemployment, and ranges of unemployment between Local Authorities changed significantly depending on the time one was born. For example, the 1930s witnessed relatively high unemployment levels, followed by a "Golden Age" of low unemployment in the 1950s and 1960s, then followed again by a regionally-heterogenous increase in unemployment since the 1970s (Major & Machin, 2020).

We argue that those born around 1971 represent the most relevant cohort for our analysis, because they grew up a period when, in comparison to the earlier decades of full employment, unemployment rates started showing a consistent geographical heterogeneity. Besides, given the structure of the BHPS – that is, the fact that it ran between 1991 and 2008 – those born around 1971 constitute a large sample and will have reached their earning peak during the survey. Finally, the 1970s are also more representative of the macroeconomic structural conditions and regional inequality experienced in the following two decades, that is, by those individuals who were born in the late 1970s through to the mid-1990s.

We hence nuance our second-step analysis to individual cohorts. We do this by dropping the year of birth from the list of control variables and, instead, introducing a dummy equal to one for the census year.[13] We then interact this dummy with the unemployment rate in the appropriate Local Authority. The second-step regression equation becomes:

$$I_i = \beta' T_t + \beta_3 Z_i + \beta_4 Z_i * Census_t + e_{it} \quad (3)$$

Where: *I* is the individual fixed-effect, *T* are the time invariant variables (not including birth year but, instead, the nearest census year), *Z* is the unemployment rate at the nearest census year in one's birthplace, and *Z*Census* is the interaction between birthplace unemployment rate and the nearest census year.

[13] Importantly, we still control for cross-sectional common shocks by keeping survey wave fixed-effects in the first-step.

5.3. Addressing endogeneity in unemployment rates

The empirical approach discussed in Section 5.1 – and, specifically, the inclusion of individual fixed-effects – allows us to control for sorting dynamics. Yet, along with endogeneity in the heterogenous distribution of workers with different 'qualities', a second potential source of concern in the identification of coefficient β_2 relates to the 'quantity' of workers, which may affect labour supply in local labour markets and, hence, unemployment rates. To address this issue, we instrument local unemployment levels. In search of a valid instrument, we revert to historical data. Exploring the clustering of entrepreneurship across Great Britain, Stuetzer at al., (2016) show that the levels of employment share in large-scale industries in the 19th Century are closely linked to proximity to coalfields – once the main energy source for large-scale industrial activities. We draw on their work, and use (log) distance to coalfields to exogenously predict unemployment rates in the current place of residence. Building on the literature on entrepreneurship, Stuetzer at al., (2016) suggest that the presence of large-scale industries such as mining, iron and steel hamper entrepreneurial opportunities, key sources of economic dynamism in the 'post-Fordist' era. Relatedly, since the 1960s most of Britain's traditional large-scale industries have dramatically declined. First-stage estimates confirm our priors (cf. the first-stage F-tests in the appendix). This instrument works through its effect on local economic conditions, rather than a partial effect such as impacting directly on attitudes, so we argue it is plausibly exogenous from our dependent variables.

6. Results

6.1. Main findings

This section presents the first-step results. These regressions (Table 2) have an indirect effect on birthplace, as the individual fixed effects form the basis of the second-step regression.

Table 2: First-step regression, effect of current residence unemployment rate: robust OLS results.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Current LA unemployment	-0.189***	-0.0114	-0.00698	-0.00829	-0.00131
	(0.0568)	(0.00768)	(0.00727)	(0.00576)	(0.00172)
Time varying controls	Y	Y	Y	Y	Y
Wave dummy	Y	Y	Y	Y	Y
Observations	84,516	29,309	27,708	40,184	58,677
Number of individuals	10,223	7,296	6,894	8,258	8,087

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The five dependent variables are: Gross income measured in £1000s per year; Government provides jobs; Homosexuality and Gender roles captured on 5-point Likert scale; Voting is binary 1=Conservative, 0=Any other. Unemployment rate is measured by 2001 Local Authority rates. Time varying individual controls include age, age squared, occupation, education (degree, other higher degree, A-Levels, GCSEs, other qualifications, none), income. Data source: Authors' calculations based on BHPS and VoB.

In and of themselves, the results have implications for the 'people' versus 'place' literature. An increase in 1 percentage point in the level of unemployment where one currently resides is associated with a reduction in £189 in earnings. However, confirming our priors, according to which any impact of local unemployment on individual attitudes would play through early-life impacts, current residence unemployment does not reach statistical significance at a threshold of p<0.05 for any of our other dependent variables.

That is, once we control for an array of individual controls, the level of unemployment within one's residence does not affect economic and cultural views, nor the propensity to vote for the Conservative Party. Supporting this, many of the individual controls do reach statistical significance in the direction expected. These full results are reported in Appendix Table 1.

Table 3: Second-step regression, effect of birthplace unemployment rate: robust OLS results.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.0904***	-0.00982**	0.000714	0.0164***	-0.00458**
	(0.0240)	(0.00389)	(0.00407)	(0.00259)	(0.00196)
Father's occupation (base "high")					
"Mid"	-2.702***	-0.177***	0.164***	0.121***	0.00111
	(0.286)	(0.0304)	(0.0329)	(0.0238)	(0.0131)
"Low"	-4.441***	-0.384***	0.258***	0.150***	-0.104***
	(0.299)	(0.0306)	(0.0341)	(0.0251)	(0.0143)
Other time invariant controls	Y	Y	Y	Y	Y
Observations	7,045	5,423	4,873	5,976	5,883

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Dependent variables: Earnings measured in gross earnings in £1000s per year; Government provides jobs, Homosexuality and Gender roles captured on 5-point Likert scale. Voting is binary 1=Conservative, 0=Any Other. Other time invariant individual controls: Sex, birth year, ethnicity. Standard errors are clustered at the birthplace level. Data source: Authors' calculations based on BHPS and VoB.

The second-step results are then presented in Table 3. The outputs suggest that birthplace unemployment has a wider effect when compared to unemployment levels at the current place of residence. Birthplace local labour market conditions affect a wide array of life-outcomes. These include earnings, but also economic and cultural attitudes,

and political behaviour. Along with birthplace unemployment, in Table 3 we report father's occupation, another key regressor, to allow comparison in magnitude of effect size. The variable includes three categories: "High" are management and professional occupations; "mid" intermediate-level, self-employed and technical occupations; and "low" semi-routine, and routine jobs.[14] (The full regression results, reporting all covariates are available in Appendix Table 2.)

First, a one percentage point increase in the birthplace unemployment rate is associated with a £90 decrease in adulthood earnings ($p<0.01$). To take an example, the model predicts that an individual born in Liverpool in 1971 (unemployment rate 10.1%) would earn £741 less than that same individual born in East Hertfordshire (unemployment rate 1.9%), accounting for current residence and our other individual level controls.

Importantly, birthplace unemployment also affects economic attitudes, as growing up in a district with higher levels of unemployment is associated with a greater belief in the government's obligation to provide jobs ($p=0.012$). The effect size is 0.0098 for each one percentage point change, on a 5-point scale. To put this effect size in context, if one was to use the Liverpool versus East Hertfordshire comparison above, the effect size would be approximately half of the difference between "high" and "mid" level father's background.

The evidence towards cultural views is mixed. On average, an individual born in an area with high unemployment believes less in gender role equality ($p<0.001$), but we do not detect a statistically significant impact on views towards homosexuality. Regarding gender roles, the effect size of birthplace unemployment compares again, approximately, to the impact of father's occupation.

Finally, we analyse the effect on political party preferences. An additional percentage point in the unemployment rate is associate with a 0.46% reduction in the support for the Conservative party ($p=0.02$). Again, this effect is substantial and is comparable, in magnitude, to father's occupation.

In summary, our second-step regressions show that increased birthplace unemployment has a negative effect on individuals' life earning outcomes, and it also impacts their attitudes, making these individuals more 'economically left-wing' and culturally more traditional with respect to gender roles. Potentially, these factors mediate their political preferences as well, considering how higher birthplace unemployment is associated with lower levels of support for the Conservative Party.

[14] Alternatively, in Appendix Table 3 we replace father's occupation with a variable capturing parental educational attainments. Results are overall qualitatively similar.

6.2. Robustness checks

6.2.1. Cohort effects

In this section we test the robustness of our main results. First, we introduce an interaction term between birthplace unemployment and the closest census year, to analyse if the macro-economic backdrop in which people were born impacts our main findings. Step one regression results are unchanged with respect to the main analysis (cf. Table 2). The new second-step results including the additional interaction terms, instead, are shown in Table 4.

Regarding the effect on earnings, in 1971 a 1 percentage increase in birthplace unemployment is associated with a reduction of gross earnings in adulthood of £309 (p=0.014). This is statistically significant but also large in magnitude. Returning to our East Hertfordshire and Liverpool comparison, this implies a difference in gross earnings over £2,500. In 1931 and 1981, the other eras of widespread unemployment, we also see negative coefficients, albeit not significant. (This is not surprising for 1981, given the small sample size within the BHPS.) By contrast, in 1951 and 1961 – the decades with low levels of unemployment and limited inter-regional variation – the association is no longer there. In fact, in 1961 the coefficient is positive, but this is in the context of very limited variation and a mean unemployment rate of 1.33.

Table 4: Second-step regression, effect of birthplace unemployment rate – testing for cohort effects: robust OLS results.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.0230	-0.0159*	-0.00542	0.00169	-0.0102***
	(0.0429)	(0.00822)	(0.0105)	(0.00616)	(0.00351)
Closest census year (1931 base)					
1951	-0.169	-0.513***	-0.0426	0.135	0.0500
	(0.699)	(0.116)	(0.155)	(0.0854)	(0.0512)
1961	-0.458	-1.031***	-0.0368	0.379***	0.0226
	(0.788)	(0.119)	(0.162)	(0.0944)	(0.0587)
1971	2.919***	-1.383***	-0.170	0.675***	0.168***
	(0.756)	(0.114)	(0.162)	(0.0882)	(0.0517)

1981	1.160	-1.774***	-0.247	1.238***	0.0920
	(1.306)	(0.205)	(0.235)	(0.160)	(0.0755)
1991	-8.745***	-0.314	-0.982	2.519**	0.630**
	(2.503)	(1.453)	(1.039)	(1.054)	(0.262)
Unemployment rate * Census interaction					
1951 * Unemployment rate	0.318	-0.0263	0.00468	0.0102	-0.0373***
	(0.208)	(0.0227)	(0.0306)	(0.0199)	(0.00997)
1961 * Unemployment rate	0.712**	-0.0379	-0.0337	0.00940	-0.0364*
	(0.322)	(0.0360)	(0.0432)	(0.0336)	(0.0211)
1971 * Unemployment rate	-0.286**	-0.00789	0.0149	-0.00440	-0.0235***
	(0.128)	(0.0153)	(0.0200)	(0.0126)	(0.00751)
1981 * Unemployment rate	-0.0821	0.00486	0.0176	-0.00915	0.00875
	(0.116)	(0.0192)	(0.0212)	(0.0144)	(0.00719)
1991 * Unemployment rate	0.252	-0.270	0.0664	-0.0743	-0.0239
	(0.203)	(0.220)	(0.105)	(0.0943)	(0.0172)
Other time invariant ctrls	Y	Y	Y	Y	Y
Observations	7,045	5,423	4,873	5,976	5,883

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Dependent variables: Earnings measured in gross earnings in £1000s per year; Government provides jobs, Homosexuality and Gender roles captured on 5-point Likert scale. Voting is binary 1=Conservative, 0=Any Other. Other time invariant individual controls: Sex, birth year, ethnicity. Standard errors are clustered at the birthplace level. Data source: Authors' calculations based on BHPS and VoB.

The coefficients are broadly similar across the census years for the effect of unemployment on attitudes towards "government's obligation to provide jobs". The magnitude of this effect is generally greater than in our aggregated model. For 1971, this equates to a 0.019-point left-wing shift on the 5-point scale for every 1% increase in unemployment, albeit it does lose significance when including the interaction term.

Interestingly, attitudes towards homosexuality and gender roles show no trend and are not significant in any census year.

Birthplace unemployment is associated with a decreased tendency to vote for the Conservative Party in every time-period (not significant in 1981, when the wave sample size is smallest). In 1971, our birth wave of most interest, a 1 percentage point increase in unemployment is associated with a 3.4 percentage point decrease in votes for the Conservatives. We would once again highlight the economic impact of birthplace unemployment and the change in economic views as a potential mediating mechanism behind this finding.

6.2.2. 2SLS Findings

As we discuss in section 5.3, we use a Two-stage-least-squares estimator (2SLS) and the (log) distance to coalfields in 1891 as an instrument to predict levels of unemployment in respondents' current place of residence. This is to address the potential endogeneity of unemployment rates from one's birthplace to current residence. Results are reported in Table 5. (First-stage regressions for the 2SLS analysis and the first-step regression as in the main empirical strategy are respectively available in Appendix Tables 4 and 5.) The results provide support for our main analysis. The earnings, economics, gender roles, and voting models are substantively similar to our main analysis. Unlike in our main model, where there was not a statistically significant relationship between birthplace unemployment rate and homosexuality values, we find that increased unemployment rates in one's birthplace are associated with an increased intolerance in attitudes towards homosexuality ($p<0.01$).

Table 5: Second-step regression, effect of birthplace unemployment rate: 2SLS estimates.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.0915***	-0.00850**	0.0145***	0.0139***	-0.00484**
	(0.0240)	(0.00388)	(0.00498)	(0.00264)	(0.00196)
Father's occupation (base "high")					
"Mid"	-2.705***	-0.174***	0.190***	0.115***	0.000471
	(0.286)	(0.0301)	(0.0341)	(0.0238)	(0.0131)
"Low"	-4.447***	-0.376***	0.330***	0.134***	-0.106***
	(0.300)	(0.0306)	(0.0359)	(0.0249)	(0.0144)

Other time invariant controls	Y	Y	Y	Y	Y
Observations	7,045	5,423	4,873	5,976	5,883

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. See main analysis for dependent variables and controls. Standard errors clustered by birthplace. We use the transformation ln (distance to coalfield + 1) in the first-stage to handle zeroes (i.e., those areas where a coalfield is in the district). Data source: Authors' calculations based on BHPS and VoB. Distance to coal mine from Stuetzer et al. (2016).[15]

6.2.3. Analysis on 'Movers'

In our main model, the second-step includes both 'movers' and 'non-movers' (the first-step is from 'movers' only). We also address potential endogeneity through the separate analysis of lifetime 'movers' in the second-step, that is, individuals who at any point during our sample live in a separate place compared to their birth district. Comparing this group with those from non-movers gives a good indication of the extent to which sorting is driving the results. Appendix Table 6 shows the second-step regression outputs. With the exception of the voting outcome – where the coefficient is now -0.00296 and loses significance, results are all of similar magnitude. In short, our results indicate that birthplace is as important for both 'movers' as 'non-movers'.

6.2.4. Birthplace population size

We have argued that birthplace unemployment affects later life chances and attitudes. We accept that the unemployment rate is one of several indicators that could be used to indicate the profile of the area in which one grows up. However, we view this as distinct from work on population sizes, as in Bosquet and Overman (2019). The mechanisms through which birthplace unemployment and birthplace population may affect later life views and attitudes are different. To test this empirically, we include (log) population in the second-step regression along with birthplace unemployment rate (see Appendix Table 12 for details). The unemployment coefficient remains similar to the main results. Interestingly, we also see a separate effect for population size, confirming the results from Bosquet and Overman (2019), whereby increased birthplace population size is associated with higher income. Higher birthplace population is also associated with more tolerance towards homosexuality and greater acceptance of gender equal roles, aspects which could be described as 'cosmopolitan' views. The implications of this 'population effect' clearly go beyond the aims of this current paper.

[15] We are grateful to Michael Stützer for providing access to the historical coalfield data.

7. Conclusion

In our view, the debate as to whether place has a causal or compositional effect on outcomes and preferences fails to engage at the right point in an individual's life. Drawing on individual-level panel data from England and Wales, we show that birthplaces with large unemployment decrease adulthood earnings, as well as making one more 'left-wing' on economic issues related to the redistributive role of the state, and less likely to vote for the Conservative Party. There is also evidence that high birthplace unemployment is associated with more traditional views about gender roles, although we find no evidence that birthplace conditions are associated with views towards other post-materialist values, such as views towards homosexuality.

Overall, our findings complement a growing body of work interested in understanding the effects of 'place-based socialisation', and led by empirical investigations carried out in the United States by Chetty et al (2014; 2018). In particular, recent research has shown how place of birth and the context where individuals spend their 'impressionable years' – i.e., the period of late adolescence and early adulthood during which people form durable political attitudes (Jeannet & Dražanová, 2019) – have a significant influence in moulding both observable characteristics such as education (Bosquet & Overman, 2019) and unobservable cognitive characteristics and capacities (Rentfrow et al., 2008).

We add to this body of work by showing that the effects of early-life socialisation – which, due to data availability, we proxy with birthplace – extend to different types of social attitudes and to political party support. Furthermore, we broaden the understanding of place beyond city-size or urban-rural typologies, to encompass key local socio-economic conditions. We conclude that where individuals are born and grow up is one of the most important determinants regarding adulthood outcomes and attitudes of any citizen. Theoretically, we offered several explanations as to why birthplace unemployment matters. These included the influence of social networks on attitudes in formative years, the availability of public services and infrastructure in more deprived areas, the importance of perceptions of luck compared to effort, and regional immobility. However, we have not been able to differentiate between these mechanisms. Future work may want to focus on exactly why birthplace matters.

The findings of our analysis have direct implications for the longstanding debate on local and regional development policy. While the stark contraposition between proponents and critics of place-based policy interventions has recently reduced (cf. Ehrlich & Overman, 2020; Iammarino et al., 2019), a dominant narrative primarily driven by urban economists has argued, over the last 20 years, against the need for such type of policies (cf. Austin et al., 2018; World Bank, 2009). A precondition for the need of place-sensitive policies is to show that, in absence of interventions, general spatial equilibria may lead to sub-optimal outcomes (Kline & Moretti, 2014; Partridge et al., 2015). Our analysis contributes

to such debate, by showing how being born in an area of high unemployment has life-long individual scarring effects.

There are also stark political implications from our findings which, in the current British political landscape, seem to have been recognised by the current Prime Minister Boris Johnson and the ruling Conservative Party. Those areas that have been 'left behind', have often been so for generations. As we have seen, many individuals tend to stay in these areas despite their relative underperformance. With the electoral realignment in British politics (Cutts et al., 2020; Sobolewska & Ford, 2020), this has created an opportunity for the Conservative Party to shift tacks with more 'authoritarian values' and persuade voters they are the party of public investment. This is embodied in the politics of 'levelling up', offering voters living in neglected places a perception that the Conservative party have the solution and will restore their 'place' to its former glories (W. Jennings et al., 2021). From a more cynical perspective, if 'levelling up' turns out to be little more than photo opportunities and symbolic political gesturing (W. Jennings et al., 2021), then political policy has done little to tackle the underlying issue of regional inequality highlighted by this research. Instead, those individuals growing up in those 'economically lagging-behind areas' areas will continue to be plagued by their past for the next generation. They will earn less than their peers and have different attitudes and political preferences than those who are born in places with low levels of unemployment.

References

Abreu, M., & Jones, C. (2021). The shadow of the Pithead: Understanding social and political attitudes in former coal mining communities in the UK. *Applied Geography*, *131*, 102448. https://doi.org/10.1016/j.apgeog.2021.102448

Adler, D., & Ansell, B. (2020). Housing and populism. *West European Politics*, *43*(2), 344–365. https://doi.org/10.1080/01402382.2019.1615322

Alesina, A., & Fuchs-Schündeln, N. (2007). Good-Bye Lenin (or Not?): The Effect of Communism on People's Preferences. *American Economic Review*, *97*(4), 1507–1528. https://doi.org/10.1257/aer.97.4.1507

Austin, B., Glaeser, E., & Summers, L. (2018). Jobs for the Heartland: Place-Based Policies in 21st-Century America. *Brookings Papers on Economic Activity*, *2018*(1), 151–255. https://doi.org/10.1353/eca.2018.0002

Barca, F., McCann, P., & Rodríguez-Pose, A. (2012). THE CASE FOR REGIONAL DEVELOPMENT INTERVENTION: PLACE-BASED VERSUS PLACE-NEUTRAL APPROACHES*. *Journal of Regional Science*, *52*(1), 134–152. https://doi.org/10.1111/j.1467-9787.2011.00756.x

Bartels, L. M., & Jackman, S. (2014). A generational model of political learning. *Electoral Studies*, *33*, 7–18. https://doi.org/10.1016/j.electstud.2013.06.004

Baum-Snow, N., & Pavan, R. (2012). Understanding the City Size Wage Gap. *The Review of Economic Studies*, *79*(1), 88–127. https://doi.org/10.1093/restud/rdr022

Bell, B., Bludell, J., & Machin, S. (2019). Where is the Land of Hope and Glory? The Geography of Intergenerational Mobility in England and Wales. *CEP Discussion Paper No 1591*.

Bishop, B., & Cushing, R. G. (2009). *The big sort: Why the clustering of like-minded America is tearing us apart* (1st Mariner Books ed). Mariner Books.

Blanden, J., Goodman, A., Gregg, P., & Machin, S. (2004). Changes in intergenerational mobility in Britain. In M. Corak (Ed.), *Generational Income Mobility in North America and Europe* (1st ed., pp. 122–146). Cambridge University Press. https://doi.org/10.1017/CBO9780511492549.007

Bolster, A., Burgess, S., Johnston, R., Jones, K., Propper, C., & Sarker, R. (2007). Neighbourhoods, households and income dynamics: A semi-parametric investigation of neighbourhood effects. *Journal of Economic Geography*, *7*(1), 1–38. https://doi.org/10.1093/jeg/lbl013

Bosquet, C., & Overman, H. G. (2019). Why does birthplace matter so much? *Journal of Urban Economics*, *110*, 26–34. https://doi.org/10.1016/j.jue.2019.01.003

Botton, A. de. (2005). *Status anxiety*. Vintage international.

Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Routledge and Kegan Paul.

Buscha, F., Gorman, E., & Sturgis, P. (2021). Spatial and social mobility in England and Wales: A sub-national analysis of differences and trends over time. *The British Journal of Sociology*, 1468-4446.12885. https://doi.org/10.1111/1468-4446.12885

Carneiro, P., Cattan, S., Dearden, L., Erve, L. van der, Krutikova, S., & Macmillan, L. (2020). *The long shadow of deprivation: Differences in opportunities across England*. Social Mobility Commission.

Chetty, R., & Hendren, N. (2018). The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects*. *The Quarterly Journal of Economics*, *133*(3), 1107–1162. https://doi.org/10.1093/qje/qjy007

Chetty, R., Hendren, N., & Katz, L. F. (2016). The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment. *American Economic Review*, *106*(4), 855–902. https://doi.org/10.1257/aer.20150572

Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014). Where is the land of Opportunity? The Geography of Intergenerational Mobility in the United States*. *The Quarterly Journal of Economics*, *129*(4), 1553–1623. https://doi.org/10.1093/qje/qju022

Colantone, I., & Stanig, P. (2018). Global Competition and Brexit. *American Political Science Review*, *112*(2), 201–218. https://doi.org/10.1017/S0003055417000685

Colantone, I., & Stanig, P. (2019). The Surge of Economic Nationalism in Western Europe. *Journal of Economic Perspectives*, *33*(4), 128–151. https://doi.org/10.1257/jep.33.4.128

Combes, P.-P., Duranton, G., & Gobillon, L. (2008). Spatial wage disparities: Sorting matters! *Journal of Urban Economics*, *63*(2), 723–742. https://doi.org/10.1016/j.jue.2007.04.004

Combes, P.-P., & Gobillon, L. (2015). The Empirics of Agglomeration Economies. In *Handbook of Regional and Urban Economics* (Vol. 5, pp. 247–348). Elsevier. https://doi.org/10.1016/B978-0-444-59517-1.00005-2

Cotofan, M., Cassar, L., Dur, R., & Meier, S. (2021). Macroeconomic Conditions When Young Shape Job Preferences for Life. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3759877

Crafts, N. F. R. (1995). The Golden Age of Economic Growth in Western Europe, 1950-1973. *The Economic History Review*, *48*(3), 429. https://doi.org/10.2307/2598175

Cutts, D., Goodwin, M., Heath, O., & Surridge, P. (2020). Brexit, the 2019 General Election and the Realignment of British Politics. *The Political Quarterly*, *91*(1), 7–23. https://doi.org/10.1111/1467-923X.12815

D'Costa, S., & Overman, H. G. (2014). The urban wage growth premium: Sorting or learning? *Regional Science and Urban Economics*, *48*, 168–179. https://doi.org/10.1016/j.regsciurbeco.2014.06.006

Dijkstra, L., Poelman, H., & Rodríguez-Pose, A. (2020). The geography of EU discontent. *Regional Studies*, *54*(6), 737–753. https://doi.org/10.1080/00343404.2019.1654603

Dinas, E. (2014). Why Does the Apple Fall Far from the Tree? How Early Political Socialization Prompts Parent-Child Dissimilarity. *British Journal of Political Science*, *44*(4), 827–852. https://doi.org/10.1017/S0007123413000033

Durlauf, S. N. (2004). Chapter 50 Neighborhood effects. In *Handbook of Regional and Urban Economics* (Vol. 4, pp. 2173–2242). Elsevier. https://doi.org/10.1016/S1574-0080(04)80007-5

Ehrlich, M. v., & Overman, H. G. (2020). Place-Based Policies and Spatial Disparities across European Cities. *Journal of Economic Perspectives*, *34*(3), 128–149. https://doi.org/10.1257/jep.34.3.128

Evenhuis, E., Lee, N., Martin, R., & Tyler, P. (2021). Rethinking the political economy of place: Challenges of productivity and inclusion. *Cambridge Journal of Regions, Economy and Society*, *14*(1), 3–24. https://doi.org/10.1093/cjres/rsaa043

Fetzer, T. (2019). Did Austerity Cause Brexit? *American Economic Review*, *109*(11), 3849–3886. https://doi.org/10.1257/aer.20181164

Fortin, N. M. (2005). Gender Role Attitudes and the Labour-market Outcomes of Women across OECD Countries. *Oxford Review of Economic Policy*, *21*(3), 416–438. https://doi.org/10.1093/oxrep/gri024

Friedman, S., & Laurison, D. (2020). *The class ceiling: Why it pays to be privileged*. Policy Press.

Gallego, A., Buscha, F., Sturgis, P., & Oberski, D. (2016). Places and Preferences: A Longitudinal Analysis of Self-Selection and Contextual Effects. *British Journal of Political Science*, *46*(3), 529–550. https://doi.org/10.1017/S0007123414000337

Garcilazo, E., & Oliveira Martins, J. (2015). The Contribution of Regions to Aggregate Growth in the OECD: The Contribution of Regions to Growth. *Economic Geography*, *91*(2), 205–221. https://doi.org/10.1111/ecge.12087

Gimpel, J. G. (1999). *Separate destinations: Migration, immigration, and the politics of places*. University of Michigan Press.

Giuliano, P., & Spilimbergo, A. (2014). Growing up in a Recession. *The Review of Economic Studies*, *81*(2), 787–817. https://doi.org/10.1093/restud/rdt040

Glaeser, E. L. (2012). *Triumph of the city*. Pan Books.

Glaeser, E. L., & Ward, B. A. (2006). Myths and Realities of American Political Geography. *The Journal of Economic Perspectives*, *20*(2), 119–144.

Gomila, R. (2021). Logistic or linear? Estimating causal effects of experimental treatments on binary outcomes using regression analysis. *Journal of Experimental Psychology: General*, *150*(4), 700–709. https://doi.org/10.1037/xge0000920

Goodwin, M., & Heath, O. (2016). Brexit Vote Explained: Poverty, Low Skills and Lack of Opportunities. *Joseph Rowntree Foundation*. https://www.jrf.org.uk/report/brexit-vote-explained-poverty-low-skills-and-lack-opportunities

Graham, B. S. (2018). Identifying and Estimating Neighborhood Effects. *Journal of Economic Literature*, *56*(2), 450–500. https://doi.org/10.1257/jel.20160854

Grasso, M. T., Farrall, S., Gray, E., Hay, C., & Jennings, W. (2019). Thatcher's Children, Blair's Babies, Political Socialization and Trickle-down Value Change: An Age, Period and Cohort Analysis. *British Journal of Political Science*, *49*(1), 17–36. https://doi.org/10.1017/S0007123416000375

Great Britain Historical GIS Project. (2017). Great Britain Historical GIS. *University of Portsmouth*.

Hansen, K., & Stutzer, A. (2021). *Experiencing Booms and Busts in the Welfare State and Support for Redistribution*. *IZA DP No. 14327*.

Heath, A., Evans, G., & Martin, J. (1994). The Measurement of Core Beliefs and Values: The Development of Balanced Socialist/Laissez Faire and Libertarian/Authoritarian Scales. *British Journal of Political Science*, *24*(1), 115–132. https://doi.org/10.1017/S0007123400006815

Holbein, J. B. (2017). Childhood Skill Development and Adult Political Participation. *American Political Science Review*, *111*(3), 572–583. https://doi.org/10.1017/S0003055417000119

Huijsmans, T., Harteveld, E., van der Brug, W., & Lancee, B. (2021). Are cities ever more cosmopolitan? Studying trends in urban-rural divergence of cultural attitudes. *Political Geography*, *86*, 102353. https://doi.org/10.1016/j.polgeo.2021.102353

Iammarino, S., Rodriguez-Pose, A., & Storper, M. (2019). Regional inequality in Europe: Evidence, theory and policy implications. *Journal of Economic Geography*, *19*(2), 273–298. https://doi.org/10.1093/jeg/lby021

Inglehart, R. (1971). The Silent Revolution in Europe: Intergenerational Change in Post-Industrial Societies. *American Political Science Review*, *65*(4), 991–1017. https://doi.org/10.2307/1953494

Iversen, T., & Soskice, D. W. (2019). *Democracy and prosperity: Reinventing capitalism through a turbulent century*. Princeton University Press.

Jaime-Castillo, A. M., & Marqués-Perales, I. (2019). Social mobility and demand for redistribution in Europe: A comparative analysis. *The British Journal of Sociology*, *70*(1), 138–165. https://doi.org/10.1111/1468-4446.12363

Jeannet, A.-M., & Dražanová, L. (2019). *Cast in the same mould: How politics during the impressionable years shapes attitudes towards immigration in later life*.

Jennings, M. K. (2007). *Political Socialization*. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199270125.003.0002

Jennings, W., Mckay, L., & Stoker, G. (2021). The Politics of Levelling Up. *The Political Quarterly*, 1467-923X.13005. https://doi.org/10.1111/1467-923X.13005

Jennings, W., & Stoker, G. (2019). The Divergent Dynamics of Cities and Towns: Geographical Polarisation and Brexit. *The Political Quarterly*, *90*(S2), 155–166. https://doi.org/10.1111/1467-923X.12612

Kenny, M., & 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, rsab012. https://doi.org/10.1093/cjres/rsab012

Keuschnigg, M., Mutgan, S., & Hedström, P. (2019). Urban scaling and the regional divide. *Science Advances*, *5*(1), eaav0042. https://doi.org/10.1126/sciadv.aav0042

Kline, P., & Moretti, E. (2014). People, Places, and Public Policy: Some Simple Welfare Economics of Local Economic Development Programs. *Annual Review of Economics*, *6*(1), 629–662. https://doi.org/10.1146/annurev-economics-080213-041024

Kriesi, H. (2010). Restructuration of Partisan Politics and the Emergence of a New Cleavage Based on Values. *West European Politics*, *33*(3), 673–685. https://doi.org/10.1080/01402381003654726

Langsæther, P. E., Evans, G., & O'Grady, T. (2021). Explaining the Relationship Between Class Position and Political Preferences: A Long-Term Panel Analysis of Intra-Generational Class Mobility. *British Journal of Political Science*, 1–10. https://doi.org/10.1017/S0007123420000599

Lee, N., Morris, K., & Kemeny, T. (2018). Immobility and the Brexit vote. *Cambridge Journal of Regions, Economy and Society*, *11*(1), 143–163. https://doi.org/10.1093/cjres/rsx027

Lipset, S. M., & Rokkan, S. (1967). *Party systems and voter alignments: Cross-national perspectives*. Free Press; /z-wcorg/.

Liu, L., Kuo, A., & Fernandez-Albertos, J. (2020). Economic crisis, social networks, and political preferences. *Socio-Economic Review*, mwaa024. https://doi.org/10.1093/ser/mwaa024

Lupu, N., & Pontusson, J. (2011). The Structure of Inequality and the Politics of Redistribution. *American Political Science Review*, *105*(2), 316–336. https://doi.org/10.1017/S0003055411000128

Major, L. E., & Machin, S. (2020). *Social mobility*. http://www.vlebooks.com/vleweb/product/openreader?id=none&isbn=9781529733204

Malmendier, U., & Nagel, S. (2016). Learning from Inflation Experiences *. *The Quarterly Journal of Economics*, *131*(1), 53–87. https://doi.org/10.1093/qje/qjv037

Maxwell, R. (2019). Cosmopolitan Immigration Attitudes in Large European Cities: Contextual or Compositional Effects? *American Political Science Review*, *113*(2), 456–474. https://doi.org/10.1017/S0003055418000898

Maxwell, R. (2020). Geographic Divides and Cosmopolitanism: Evidence From Switzerland. *Comparative Political Studies*, *53*(13), 2061–2090. https://doi.org/10.1177/0010414020912289

McCann, P. (2008). Globalization and economic geography: The world is curved, not flat. *Cambridge Journal of Regions, Economy and Society*, *1*(3), 351–370. https://doi.org/10.1093/cjres/rsn002

McCann, P. (2017). *The UK regional-national economic problem: Geography, globalisation and governance*.

McCann, P. (2020). Perceptions of regional inequality and the geography of discontent: Insights from the UK. *Regional Studies*, *54*(2), 256–267. https://doi.org/10.1080/00343404.2019.1619928

McLennan, D., Noble, S., Noble, M., Plunkett, E., Wright, G., & Gutacker, N. (2019). *The English Indices of Deprivation 2019*. Ministry of Housing, Communities and Local Government.

Moretti, E. (2013). *The new geography of jobs* (1st Mariner books ed). Mariner Books/Houghton Mifflin Harcourt.

Neundorf, A., & Smets, K. (2017). *Political Socialization and the Making of Citizens* (Vol. 1). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199935307.013.98

Neundorf, A., & Soroka, S. (2018). The origins of redistributive policy preferences: Political socialisation with and without a welfare state. *West European Politics*, *41*(2), 400–427. https://doi.org/10.1080/01402382.2017.1388666

Norman, P. (2017). *Area characteristics: Great Britain 1971 to 2011* [Data set]. Mendeley. https://doi.org/10.17632/389SCNNDJY.1

Norris, P., & Inglehart, R. (2019). *Cultural Backlash: Trump, Brexit, and Authoritarian Populism* (1st ed.). Cambridge University Press. https://doi.org/10.1017/9781108595841

O'Grady, T. (2019). How do Economic Circumstances Determine Preferences? Evidence from Long-run Panel Data. *British Journal of Political Science*, *49*(4), 1381–1406. https://doi.org/10.1017/S0007123417000242

Oreopoulos, P. (2003). The Long-Run Consequences of Living in a Poor Neighborhood. *The Quarterly Journal of Economics*, *118*(4), 1533–1575. https://doi.org/10.1162/003355303322552865

Partridge, M. D., Rickman, D. S., Olfert, M. R., & Tan, Y. (2015). When Spatial Equilibrium Fails: Is Place-Based Policy Second Best? *Regional Studies*, *49*(8), 1303–1325. https://doi.org/10.1080/00343404.2013.837999

Piketty, T. (1995). Social Mobility and Redistributive Politics. *The Quarterly Journal of Economics*, *110*(3), 551–584. https://doi.org/10.2307/2946692

Puga, D. (2010). The Magnitude and Causes of Agglomeration Economies. *Journal of Regional Science*, *50*(1), 203–219. https://doi.org/10.1111/j.1467-9787.2009.00657.x

Reeves, A., & Gimpel, J. G. (2012). Ecologies of Unease: Geographic Context and National Economic Evaluations. *Political Behavior*, *34*(3), 507–534. https://doi.org/10.1007/s11109-011-9167-8

Rentfrow, P. J., Gosling, S. D., & Potter, J. (2008). A Theory of the Emergence, Persistence, and Expression of Geographic Variation in Psychological Characteristics. *Perspectives on Psychological Science*, *3*(5), 339–369. https://doi.org/10.1111/j.1745-6924.2008.00084.x

Roca, J. D. L., & Puga, D. (2017). Learning by Working in Big Cities. *The Review of Economic Studies*, *84*(1), 106–142. https://doi.org/10.1093/restud/rdw031

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. https://doi.org/10.1093/cjres/rsx024

Rosenthal, S. S., & Strange, W. C. (2004). Chapter 49 Evidence on the nature and sources of agglomeration economies. In *Handbook of Regional and Urban Economics* (Vol. 4, pp. 2119–2171). Elsevier. https://doi.org/10.1016/S1574-0080(04)80006-3

Salomo, K. (2019). The residential context as source of deprivation: Impacts on the local political culture. Evidence from the East German state Thuringia. *Political Geography*, *69*, 103–117. https://doi.org/10.1016/j.polgeo.2018.07.001

Shorrocks, A., & Townsend, P. (1980). Poverty in the United Kingdom. A Survey of Household Resources and Standards of Living. *The Economic Journal*, *90*(360), 954. https://doi.org/10.2307/2231776

Sobolewska, M., & Ford, R. (2020). *Brexitland identity, diversity and the reshaping of British politics*. https://doi.org/10.1017/9781108562485

Stuetzer, M., Obschonka, M., Audretsch, D. B., Wyrwich, M., Rentfrow, P. J., Coombes, M., Shaw-Taylor, L., & Satchell, M. (2016). Industry structure, entrepreneurship, and culture: An empirical analysis using historical coalfields. *European Economic Review*, *86*, 52–72. https://doi.org/10.1016/j.euroecorev.2015.08.012

University Of Essex, I. F. S. (2020). *United Kingdom Household Longitudinal StudyUnderstanding Society, 2008-: Special Licence AccessUnderstanding Society: Waves 1-10, 2009-2019 and Harmonised BHPS: Waves 1-18, 1991-2009: Special Licence Access* (12th Edition) [Data set]. UK Data Service. https://doi.org/10.5255/UKDA-SN-6931-11

University Of Essex, I. F. S. (2021). *United Kingdom Household Longitudinal Study; UKHLSUnderstanding Society, 2008-: Special Licence AccessUnderstanding Society: Waves 1-10, 2009-2019 and Harmonised BHPS: Waves 1-18, 1991-2009: Special Licence Access, Census Area Statistics Wards* (12th Edition) [Data set]. UK Data Service. https://doi.org/10.5255/UKDA-SN-6669-12

van Ham, M., & Manley, D. (2012). Neighbourhood Effects Research at a Crossroads. Ten Challenges for Future Research Introduction. *Environment and Planning A: Economy and Space*, *44*(12), 2787–2793. https://doi.org/10.1068/a45439

Wilson, W. J. (2012). *The truly disadvantaged: The inner city, the underclass, and public policy* (Second edition). University of Chicago Press.

World Bank. (2009). *World Development Report 2009: Reshaping Economic Geography* [World Development Report 2009].

Appendix

Table of Contents

Appendix Table 1: Main analysis – full first-step regression table.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Current LA unemployment	-0.189***	-0.0114	-0.00698	-0.00829	-0.00131
	(0.0568)	(0.00768)	(0.00727)	(0.00576)	(0.00172)
Age	1.000***	-0.0175	-0.0149	0.0511***	0.00663
	(0.148)	(0.0220)	(0.0177)	(0.0155)	(0.00453)
Age squared	-0.0104***	-0.000238***	0.000320***	-0.000102***	2.39e-05*
	(0.000393)	(5.10e-05)	(5.54e-05)	(3.93e-05)	(1.24e-05)
Wave (Base 1 for income/economics/vote/gender; Base 8 for homosexuality)					
2	0.764***				
	(0.251)				
3	1.288***	-0.00118		-0.138***	-0.0917***
	(0.354)	(0.0456)		(0.0333)	(0.0105)
4	1.629***				-0.137***
	(0.480)				(0.0144)
5	2.448***	-0.0278		-0.189***	-0.152***
	(0.616)	(0.0879)		(0.0626)	(0.0186)
6	3.409***				-0.144***
	(0.749)				(0.0227)
7	4.027***	0.106		-0.265***	-0.202***
	(0.889)	(0.130)		(0.0919)	(0.0269)
8	4.377***				-0.192***
	(1.029)				(0.0312)
9	5.210***			-0.343***	-0.189***
	(1.163)			(0.121)	(0.0353)

10	6.403***	0.225	-0.117***		-0.168***
	(1.306)	(0.193)	(0.0357)		(0.0397)
11	7.551***			-0.412***	-0.218***
	(1.461)			(0.152)	(0.0444)
12	8.688***		-0.185***		-0.221***
	(1.604)		(0.0699)		(0.0488)
13	9.889***			-0.446**	-0.219***
	(1.751)			(0.183)	(0.0532)
14	11.14***	0.554**	-0.224**		-0.232***
	(1.895)	(0.281)	(0.104)		(0.0576)
15	12.60***			-0.503**	-0.228***
	(2.040)			(0.213)	(0.0620)
16	13.56***		-0.284**		-0.210***
	(2.183)		(0.138)		(0.0664)
17	15.21***	0.679**		-0.545**	-0.213***
	(2.329)	(0.346)		(0.244)	(0.0708)
18	17.32***		-0.338**		-0.164**
	(2.475)		(0.172)		(0.0753)
Occupation (Base: Large employers & higher management)					
Higher professional	-3.614***	-0.0738*	-0.0338	-0.0462	0.0175**
	(0.289)	(0.0400)	(0.0334)	(0.0296)	(0.00836)
Lower management & professional	-3.044***	-0.0325	-0.0353	0.00798	0.00852
	(0.237)	(0.0328)	(0.0274)	(0.0241)	(0.00686)
Intermediate	-4.229***	-0.0566	-0.0198	-0.0156	0.00578
	(0.262)	(0.0365)	(0.0306)	(0.0268)	(0.00772)
Small employers & own account	-5.496***	-0.0376	-0.0308	0.00865	-0.000962
	(0.304)	(0.0418)	(0.0367)	(0.0309)	(0.00908)

Lower supervisory & technical	-3.532***	-0.0264	-0.0418	-0.0235	-0.00569
	(0.280)	(0.0388)	(0.0330)	(0.0285)	(0.00835)
Semi-routine	-4.667***	-0.0430	-0.0196	-0.0202	0.00206
	(0.273)	(0.0380)	(0.0320)	(0.0278)	(0.00815)
Routine	-4.532***	-0.0243	-0.0156	-0.00334	0.00226
	(0.288)	(0.0401)	(0.0342)	(0.0294)	(0.00868)
Education (Base: Degree)					
Other higher degree	-1.097**	0.0230	-0.0182	0.0496	0.0417***
	(0.495)	(0.0658)	(0.0675)	(0.0495)	(0.0148)
A-level etc	-1.717***	-0.157***	0.0369	-0.00806	0.0186*
	(0.345)	(0.0482)	(0.0430)	(0.0353)	(0.0105)
GCSE etc	-1.001***	-0.0988*	0.1000**	-0.0356	0.00923
	(0.376)	(0.0522)	(0.0487)	(0.0388)	(0.0120)
Other qualification	0.593	-0.143**	0.197***	-0.0208	0.00860
	(0.525)	(0.0710)	(0.0692)	(0.0531)	(0.0173)
No qualification	1.435***	-0.0822	0.214***	0.0588	-0.0156
	(0.522)	(0.0713)	(0.0685)	(0.0529)	(0.0170)
Income (£1000s)		-0.000193	0.000564	6.57e-05	-8.26e-05
		(0.000566)	(0.000440)	(0.000339)	(0.000113)
Constant	-8.365*	4.034***	2.723***	0.798*	0.189
	(4.448)	(0.698)	(0.604)	(0.476)	(0.141)
Observations	84,516	29,309	27,708	40,184	58,677
Number of individuals	10,223	7,296	6,894	8,258	8,087

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The table reports the full results of Table 2 in the main text. Standard errors are clustered at birthplace level.

Appendix Table 2: Main analysis – full second-step regression table.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.0904***	-0.00982**	0.000714	0.0164***	-0.00458**
	(0.0240)	(0.00389)	(0.00407)	(0.00259)	(0.00196)
Birth year	0.0258***	-0.0433***	-0.00357***	0.0252***	0.00438***
	(0.00805)	(0.000902)	(0.00118)	(0.000764)	(0.000457)
Father's occupation (base "high")					
"Mid"	-2.702***	-0.177***	0.164***	0.121***	0.00111
	(0.286)	(0.0304)	(0.0329)	(0.0238)	(0.0131)
"Low"	-4.441***	-0.384***	0.258***	0.150***	-0.104***
	(0.299)	(0.0306)	(0.0341)	(0.0251)	(0.0143)
Female (Male base)	-6.989***	-0.203***	-0.513***	-0.302***	-0.0335***
	(0.242)	(0.0238)	(0.0286)	(0.0198)	(0.0108)
Race (White base)					
Mixed	-0.389	-0.346**	-0.252	0.186	-0.122**
	(1.511)	(0.174)	(0.157)	(0.171)	(0.0615)
Asian	-0.815	-0.350*	0.375	0.427**	-0.126*
	(1.116)	(0.199)	(0.283)	(0.184)	(0.0703)
Black	2.291**	0.0349	0.0735	-0.212	-0.216***
	(1.050)	(0.119)	(0.214)	(0.131)	(0.0439)
Constant	-44.58***	85.23***	7.127***	-49.48***	-8.523***
	(15.89)	(1.773)	(2.304)	(1.497)	(0.897)
Observations	7,045	5,423	4,873	5,976	5,883

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The table reports the full results of Table 3 in the main text. Standard errors are clustered at birthplace level.

Appendix Table 3: Second-step regression, replacing father's occupation with parental educational attainment.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.189***	-0.00924***	0.000592	0.0142***	-0.00348*
	(0.0265)	(0.00338)	(0.00388)	(0.00258)	(0.00205)
Parental Education (base: did not go to school)					
No qualifications	-1.235	-0.146	-0.105	-0.282	-0.206*
	(2.711)	(0.228)	(0.250)	(0.172)	(0.105)
Some school qualifications	1.079	0.0549	-0.141	-0.329*	-0.113
	(2.708)	(0.228)	(0.254)	(0.170)	(0.106)
Post school qualifications (non-degree)	1.615	0.121	-0.136	-0.317*	-0.124
	(2.743)	(0.228)	(0.254)	(0.170)	(0.107)
University	2.655	0.240	-0.399	-0.438***	-0.144
	(2.814)	(0.233)	(0.254)	(0.167)	(0.106)
	(17.92)	(2.029)	(2.481)	(1.476)	(1.050)
Other time invariant controls	Y	Y	Y	Y	Y
Observations	5,588	4,750	4,784	5,171	4,895

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Parental education is the highest of either parent. Standard errors are clustered at birthplace level.

Appendix Table 4: First stage regression for the 2-stage-least-squares (IV analysis).

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender roles	Vote
	Current dis. unemp.	Current dis. unemp.	Current dis. unemp.	Current dis. unemp.	Current dis. unemp.
(ln) 1891 distance to coal mine	-0.0994***	-0.121***	-0.0530***	-0.122***	-0.0950***
	(0.005)	(0.0094)	(0.0103)	(0.0080)	(0.0064)
Time varying controls	Y	Y	Y	Y	Y
Observations	84,516	29,309	27,708	40,184	58,677
F-stat of instrument in the first stage	350.99	162.38	26.52	230.99	218.12
Number of individuals	10,223	7,296	6,894	8,258	8,087

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. This is the first stage regression for the 2-stage-least-square estimates. It is the basis for the table below (Appendix Table 5), which in turn is the basis for the second-step IV analysis in the main text (Table 4). Current dis. Unemp = 2001 unemployment rate in district of residence. Distance to coal mine based on 1891 census – data from Stuetzer et al. Standard errors are clustered at birthplace level.

Appendix Table 5: First-step regression for the 2SLS analysis.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.177	-0.0272	-0.147	0.0216	0.00195
	(0.828)	(0.0897)	(0.205)	(0.0680)	(0.0263)
Time varying controls	Y	Y	Y	Y	Y
Observations	84,516	29,309	27,708	40,184	58,677
Number of individuals	10,223	7,296	6,894	8,258	8,087

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. First-step regression, upon which the second-step, Table 4, in the main text is based. Standard errors are clustered at birthplace level.

Appendix Table 6: 'Movers' only - second-step regression.

Second-step

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.115***	-0.0120**	-0.00564	0.0179***	-0.00296
	(0.0336)	(0.00464)	(0.00444)	(0.00323)	(0.00231)
Time invariant controls	Y	Y	Y	Y	Y
Observations	4,893	3,835	3,425	4,202	4,165

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Individuals who have not moved from their birthplace for at least 1 wave are not included. Standard errors are clustered at birthplace level.

Appendix Table 7: Second-step regression removing birthplaces with small sample size.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.0956***	-0.00830*	-0.00276	0.0165***	-0.00338
	(0.0259)	(0.00437)	(0.00446)	(0.00278)	(0.00217)
Time invariant controls	Y	Y	Y	Y	Y
Observations	5,821	3,955	3,220	4,490	4,527

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Any individuals who were born in a birthplace where the sample is fewer than 20 individuals (in the main analysis) are excluded. Standard errors are clustered at birthplace level.

Appendix Table 8: Second-step 'vote' regression – Labour versus 'any other'.

	Vote
Birthplace unemployment	0.00203
	(0.00150)
Time invariant controls	Y
Observations	5,833

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Labour coded as '1', any other '0'. Standard errors are clustered at birthplace level.

Appendix Table 9: Second-step regressions – both parents' occupational background.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.140***	-0.0120**	0.00842	0.0201***	-0.00302
	(0.0334)	(0.00525)	(0.00597)	(0.00393)	(0.00270)
Parents' occupation (base "high")					
"Mid"	-1.949***	-0.141***	0.203***	0.156***	-0.00459
	(0.280)	(0.0322)	(0.0376)	(0.0267)	(0.0149)
Low"	-3.781***	-0.337***	0.290***	0.195***	-0.113***
	(0.352)	(0.0386)	(0.0474)	(0.0335)	(0.0194)
Other time invariant controls	Y	Y	Y	Y	Y
Observations	4,083	3,106	2,941	3,435	3,446

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. In the table we only include respondents where data for both parents is available. Standard errors are clustered at birthplace level.

Appendix Table 10: Second-step regressions – other economic variables.

	Private enterprise solves probs	Public services	Gov. provide jobs	Trade unions	Economics combined
Birthplace unemployment	-0.00171	-0.00320	-0.00982**	-0.00961**	-0.00629**
	(0.00288)	(0.00290)	(0.00389)	(0.00413)	(0.00265)
Time invariant controls	Y	Y	Y	Y	Y
Observations	5,345	5,349	5,423	5,416	5,278

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Economic variables are all answered on a 5-point Likert scale from 1 “Strongly agree” to 5 “Strongly disagree”. Scales are flipped in the case of ‘Private enterprise solve probs’ to make ‘1’ the most ‘left-wing’. Full statements to which survey respondents respond: 1. Private enterprise solves economic problems; 2. Public services ought to be state owned; 3. Government has an obligation to provide jobs; 4. Strong trade unions protect employees. The ‘Economics combined’ variable is a simple arithmetic mean of the 4 economic variables. Standard errors are clustered at birthplace level.

Appendix Table 11: Second-step regression – removing parental background.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.211***	-0.0119***	-0.000135	0.0149***	-0.00517***
	(0.0212)	(0.00278)	(0.00351)	(0.00212)	(0.00148)
Time invariant controls	Y	Y	Y	Y	Y
Observations	9,840	7,102	6,668	7,997	7,852

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Standard errors are clustered at birthplace level.

Appendix Table 12: Second-step regression – including (log) district population size.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.101***	-0.0100**	0.00184	0.0174***	-0.00417**
	(0.0250)	(0.00388)	(0.00402)	(0.00259)	(0.00199)
Birthplace (ln) population	0.475**	0.00904	-0.0438*	-0.0479***	-0.0194
	(0.204)	(0.0162)	(0.0233)	(0.0161)	(0.0120)
Time invariant controls	Y	Y	Y	Y	Y
Observations	7,045	5,423	4,873	5,976	5,883

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Population data from VoB. Standard errors are clustered at birthplace level.

Appendix Table 13: Second-step regression – all London Boroughs as one district.

	Income (£1000s)	Gov. provide jobs	Homosexu-ality	Gender roles	Vote
Birthplace unemployment	-0.0952***	-0.0100***	0.00113	0.0160***	-0.00466**
	(0.0296)	(0.00384)	(0.00400)	(0.00253)	(0.00192)
Time invariant controls	Y	Y	Y	Y	Y
Observations	7,045	5,423	4,873	5,976	5,883

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. We calculate total London unemployment rates for both birth period and current period from VoB, then amalgamate all the Boroughs and effectively count them as one district. Standard errors are clustered at birthplace level.

Appendix Table 14: Including both current residence and birthplace unemployment in one regression.

	Income (£1000s)	Gov. provide jobs	Homosexuality	Gender Roles	Vote
Birthplace unemployment	-0.0738***	-0.0101***	0.00494	0.0159***	-0.00663***
	(0.0266)	(0.00325)	(0.00448)	(0.00284)	(0.00172)
Current LA unemployment	-0.236***	-0.0365***	-0.00960	-0.0194***	-0.0314***
	(0.0575)	(0.00553)	(0.00695)	(0.00466)	(0.00316)
Time varying and invariant controls	Y	Y	Y	Y	Y
Observations	64,532	25,038	21,798	32,790	47,515
Clusters	8,372	7,522	6,339	7,922	7,540

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Controls: Age, age-squared, wave, occupation, education, birth year, father's occupation, sex, race. Standard errors are clustered at individual level.

Appendix Table 15: Second-step regression – interactions with father's unemployment at age 14.

	Income (£1000s)	Gov. provide jobs	Homosexu-ality	Gender Roles	Vote
Birthplace unemployment	-0.187***	-0.0104***	-0.00104	0.0163***	-0.00336**
	(0.0231)	(0.00319)	(0.00377)	(0.00240)	(0.00168)
Father's status (base: working)					
Father not working	-0.750	-0.0607	-0.0907	-0.00296	-0.0567
	(0.749)	(0.108)	(0.0990)	(0.0752)	(0.0444)
Father deceased	-2.113**	-0.0923	-0.139	0.110*	0.0569
	(0.833)	(0.0820)	(0.0903)	(0.0660)	(0.0386)
Father not living with respondent	-3.566***	-0.251	-0.0813	-0.0574	-0.0981
	(1.070)	(0.202)	(0.197)	(0.141)	(0.0869)
Interactions (Birthplace unemployment*father's status at 14)					
Unemp*father not working	-0.114	-0.0113	0.0265**	0.00738	-0.00411
	(0.0779)	(0.0135)	(0.0126)	(0.0106)	(0.00479)
Unemp*father deceased	0.280***	-0.00904	0.0386*	-0.0173	-0.0159***
	(0.102)	(0.0127)	(0.0222)	(0.0110)	(0.00571)
Unemp*father not living with	0.260**	0.00384	0.0128	0.0176	0.00561
	(0.129)	(0.0298)	(0.0302)	(0.0194)	(0.0130)
Other time invariant controls	Y	Y	Y	Y	Y
Observations	8,632	6,395	5,980	7,187	6,977

Notes: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Father's occupation control has been removed and replaced with father's activity status at age 14 (coded as working, not working, deceased, not living with the respondent). We also introduce an interaction with birthplace unemployment to test if there are separate effects depending on father's status. Whilst only the

'homosexuality attitudes' interaction is statistically significant, the others all show that the magnitude of the effect we observe is greater for those with unemployed fathers. That is, higher birthplace unemployment impacts earnings, economic attitudes, gender attitudes, and voting to a greater extent for those whose father was not working. We note that only 3.6% of the sample had a father who was not working at age 14, potentially explaining the lack of significance of the interaction terms. Standard errors are clustered at birthplace level.

Appendix Table 16: Descriptive statistics from first-step regression of income dependent variable.

Sex	
Male	51.03%
Female	48.97%
Age (mean)	38.49
Income (£1000s) (Mean)	15.05
Occupation (NS-SEC 8)	
Large employers & higher management	3.66%
Higher professional	6.53%
Lower management & professional	25.57%
Intermediate	15.35%
Small employers & own account	8.92%
Lower supervisory & technical	10.63%
Semi-routine	16.79%
Routine	12.55%
Highest qualification	
Degree	14.37%
Other higher degree	8.88%
A-Level	23.48%
GCSE	29.61%
Other qualification	11.37%
No qualification	12.29%
Race	
White	98.43%
Mixed	0.35%

Asian	0.46%
Black	0.76%
Father's occupation	
"High" (NSSEC 1-3)	25.97%
"Mid" (NSSEC 4-6)	41.96%
"Low" (NSSEC 7-8)	32.06%