



Inequality

The IFS Deaton Review

Intergenerational mobility in the UK

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Key findings

National estimates of intergenerational earnings mobility

- Previous work has shown that intergenerational income mobility in England was lower for those born in 1970 than those born in 1958. Using administrative data on the most recent birth cohorts for whom earnings data are available, we find no evidence of recovery from that decline. National estimates of mobility of cohorts born in the late 1980s looks very similar to those of the 1970 cohort and education inequalities continue to be the dominant mediator.
- However, these estimates paint an incomplete picture for two reasons.

Differences in income mobility across areas and across ethnic groups

- First, there is a significant amount of heterogeneity in income mobility within England. We find important differences in mobility rates across different neighbourhoods and different ethnic groups for young people from disadvantaged backgrounds. Due to data limitations, our analysis is restricted to studying upward mobility among individuals who grew up in disadvantaged households. For men, the difference between the least and most mobile groups (Black Caribbean and Indian, respectively) is around 15 percentiles – equivalent to £8,000 or 54% of mean earnings at age 28 for men who were eligible for free school meals (FSM) in these cohorts – while between the most and least mobile Local Authorities (LAs; Nottingham in East Midlands and Havering in London), it is 17 percentiles. The difference between White and Indian women (the least and most mobile ethnic groups, respectively) is also 17 percentiles (equivalent to just over 82% of mean earnings at age 28 for FSM women in these cohorts); this is also the gap between Kingston upon Hull in Yorkshire and Redbridge in London, which are the least and most mobile LAs for women.
- More research is required to understand what is driving these differences. While, nationally, education is a key mediator of intergenerational persistence, differences in educational attainment are not the dominant force driving differences in mobility between geographical areas or ethnic groups.

While there are large differences in educational mobility across ethnic groups, these do not follow the pattern of earnings differences. While the educational attainment of ethnic minorities growing up in families eligible for FSM is often higher than that of their White majority peers, their earnings outcomes show no such advantage. Furthermore, education accounts for only a quarter of the variation in mobility across LAs for men, and just under a half of the variation across LAs for women. These gender differences are stark: for women, education can account for twice the amount of differences in upward mobility across LAs compared with men. Looking beyond education, our analysis points to several specific groups of local area characteristics that warrant further investigation in future research, including local labour market conditions and inequality (for women) and ethnic make-up and immigration status of the local population (for men).

The growing importance of 'unearned' sources of income

- Second, existing research on intergenerational mobility has tended to focus on income from earnings. We find that 'unearned' sources of income, here meaning returns to wealth and wealth transfers received, look to be an important driver of the persistence across generations in total lifetime income (i.e. the sum of earnings and returns to wealth and wealth transfers received). These 'unearned' sources of income are likely to be of growing importance over time.

- Rank–rank measures of intergenerational *wealth* persistence for the UK are substantially higher than that for earned income and only around half of intergenerational wealth persistence at age 30 can be explained by differences in education and earnings between those with more or less wealthy parents. This implies that other factors are important in driving intergenerational wealth persistence and these factors are also likely to drive intergenerational persistence in lifetime income.
- In addition to the intergenerational persistence in education and earnings, the intergenerational persistence in wealth is driven in part by those with wealthy parents saving their income at a higher rate. But also important is that those with wealthy parents attain higher returns to wealth and receive larger amounts of intergenerational financial transfers (including both gifts and inheritances).
- While inheritances are much larger in value than intergenerational transfers made during life, the latter may have important indirect impacts on career and investment decisions. Indeed, over half of the flow of during-life transfers is reported as being used for property purchase.
- The growing size of household wealth is resulting in a rise in inherited wealth as a share of national income and this trend is set to continue. Consequently:
 - Reliance on earned income as a proxy for total lifetime income is resulting in a growing downward bias in the national rank–rank persistence estimates. Once accounting for the contributions of inheritances to total lifetime income, lifetime income mobility is likely to continue to decline between the 1970s and late 1980s cohorts but earned income mobility estimates will increasingly mask this decline.
 - Differences across ethnic groups and geographical areas in wealth and intergenerational transfers will be of growing importance in driving overall lifetime income mobility. The differences in parental wealth between those whose parents live in London and the South East and those whose parents live elsewhere has grown across generations, and rates of parental homeownership are much lower among Black young people than for other ethnic groups. All else equal, the rising importance of wealth should act to move those in London and the South East further up the lifetime income distribution and make it more difficult for Black people to move up the lifetime income distribution.

New directions for intergenerational mobility research

- Our overview provides strong motivation for important new directions in research on intergenerational mobility in the UK:
 - First, it is critical to learn more about what is driving the big differences that we find in intergenerational transmission across groups with different 'ascribed' characteristics, such as ethnicity and location. Without a better understanding of these drivers, it will be challenging to design policies that improve social mobility and reduce inequalities for all.
 - Second, we cannot continue to ignore the components of lifetime income not captured by earnings measures in the study of social mobility. Otherwise, we risk generating increasingly misleading estimates that significantly understate the degree of intergenerational persistence, overlooking important drivers of it, and focusing on the wrong policy levers.
 - Finally, there is significant room to improve data and methods for integrating more sophisticated measures of lifetime income that account for important unearned components.

Introduction

Intergenerational mobility is a subject of a large body of literature in social science. It focuses on the association between parents' and children's economic well-being and receives significant attention because it speaks to the question of equality of opportunity (Torche, 2015), which many consider an important goal for society. Intergenerational mobility is a cross-cutting theme in the IFS Deaton Review, which is touched upon in several of the core chapters, including on education, early childhood, and race and ethnicity. Therefore, our aim is not to provide a comprehensive overview of this topic but rather to spotlight some of the newer directions in intergenerational mobility research within economics driven by changes in some key trends in the recent decades, as well as by the growing availability of administrative data.

We start by providing an overview of the different ways in which intergenerational mobility has been measured, including the transmission across generations of class, occupation, education, joblessness and welfare receipt. We then narrow our focus to earned-income-based measures of intergenerational mobility, which dominate the economics literature in this area, review existing evidence for the UK and present some new estimates for England using novel administrative data. We find that the national trend for England in intergenerational income mobility for cohorts born in the late 1980s look very similar to those of the cohort born in 1970. Sons from the most affluent families were on average around 19 percentiles higher in the adult earnings rankings than sons from the most disadvantaged families, while for daughters this figure was significantly higher at 27 percentiles. In line with existing evidence, we find that for these cohorts most of the association between income of children and their families (71%) is accounted for by education due to a combination of educational inequalities (higher educational attainment among children from better-off families) and returns to education (higher wages among those with higher educational attainment).

The remainder of this commentary focuses on considering the two important ways in which these estimates paint an incomplete picture of intergenerational mobility trends, beyond the well-documented concerns about measurement of lifetime income. These include within-country heterogeneity, as well as the role of income sources not captured by earnings.

Until recently, the intergenerational mobility literature focused on studying national trends and drawing lessons on drivers either across all individuals (but typically sons) within countries (see Blanden, Gregg and Macmillan, 2007) or from international comparisons (see Corak, 2013). Recent studies have started to show, however, that the national picture masks important and informative differences in experiences of people within countries with similar institutional settings and policy levers (Chetty et al., 2014a, b; Li and Heath, 2016). The recognition, documentation and understanding of these differences are, as such, relevant, critical for the design of effective policies, and may help uncover a richer broad understanding of drivers of social mobility. The ability to study within-country heterogeneity in intergenerational mobility in the UK context has been greatly boosted by newly available administrative data. We summarise the handful of existing studies on this topic for the UK and present new evidence using these administrative data. We demonstrate the high degree of heterogeneity in earnings mobility that exists between individuals of different ethnicities and those living in different parts of the country, which is masked by national estimates.

Another dominant feature of the intergenerational mobility literature in economics is its focus on earned income, assuming that it is a good proxy for lifetime total income and ignoring sources of lifetime income other than earnings – including returns to wealth (i.e. capital income and capital gains) and intergenerational wealth transfers received – which we refer to as 'unearned income'. This may be because these sources of income were relatively less important in past decades. It may also reflect the fact that they are less well documented in standard economic datasets. High-quality data containing information on these outcomes, which are also linked across generations, are rare. However, in light of the dramatic rise in the ratios of private wealth to income observed over the last 50 years across many advanced economies, a focus on earned income alone may increasingly be missing an important part of the picture. In the UK, household wealth compared to national income has more than doubled over that period (Advani, Bangham and Leslie, 2021). This growing size of wealth has come alongside a growth in the capital share of income and the size of intergenerational wealth transfers as a share of national income (Alvaredo, Garbinti and Piketty, 2017). In this commentary, therefore, we explicitly consider unearned sources of income, namely returns to wealth and wealth transfers received, as potentially important components of

total income. We do this by examining the data that are available on these outcomes, albeit limited, by considering persistence in wealth as potentially informative about persistence in a wider measure of income, and by making simulations of the impact of intergenerational wealth transfers on lifetime income mobility.

Clearly, the interpretation of the trends we document and the role for policy depend crucially on the mechanisms underlying the observed associations and differences between groups. We review the large literature, which considers the role of education as a driver of earned income mobility, and we provide some new estimates – leveraging high-quality administrative data on pupil attainment at different points in their schooling – on the mediating power of education in the national estimates as well as in explaining differences across groups within England. We then consider what patterns of heterogeneity in earned income mobility across groups may be able to tell us about a wider set of drivers of intergenerational mobility beyond education. Turning to drivers of 'unearned income' persistence, we consider the role of intergenerational wealth transfers and returns to wealth. This analysis clearly demonstrates that drivers beyond earned income, including inheritance, are playing an increasingly important role in driving persistence of lifetime income across generations. This suggests that in the current context a focus on earned income mobility and its drivers is not enough to paint a complete picture of intergenerational persistence in lifetime income. Before concluding, we present a simulation exercise that demonstrates this.

We conclude by drawing out key policy implications of the discussion and analysis presented.

Measurement and findings in intergenerational mobility research

Non-economics literature

Long before economists began to study intergenerational income mobility, there was a sustained interest in the way in which social class, broadly defined as changes in occupational status alongside levels of job autonomy and security, was passed across generations. This literature typically focuses on two types of mobility: absolute mobility, the proportion of individuals ending up in different class destinations from their origins (upwards or downwards); and relative mobility, the relative chances of individuals of difference class origins arriving at different class destinations, net of changes in occupational structure. Early studies by Duncan and Hodge (1963) and Blau and Duncan (1967) measured the persistence in occupational status across generations between fathers and sons using newly available data from the United States.

Studies of intergenerational social class mobility in Britain and other industrial societies by Robert Erikson and John Goldthorpe culminated in the publication of their book, *The Constant Flux: A Study of Class Mobility in Industrial Societies* (Erikson and Goldthorpe, 1992), which was noted to be 'without a doubt [...] the most extensive comparative study of social mobility to date' at the time of publication (Hachen, 1994). Focusing on the relationship between the social class of fathers and sons from nine European countries, Australia, Japan and the US, the research presents cross-country comparisons in absolute and relative mobility, emphasising the similarities in patterns of intergenerational class mobility across different contexts. This finding of stability in class mobility also comes through strongly in Goldthorpe's work on changes over time within Britain (Goldthorpe and Jackson, 2007, Erikson and Goldthorpe, 2011, Bukodi et al., 2015), although more recent findings have suggested that, at least in terms of absolute mobility, younger cohorts are experiencing more downward and less upward mobility than their predecessors (Bukodi and Goldthorpe, 2018).

Economics literature

The economics literature has predominantly focused on lifetime income in measuring intergenerational mobility. Original estimates of intergenerational mobility from Solon (1992) and Zimmerman (1992) focused on attempting to measure the relationship between the lifetime or permanent earnings of fathers and the lifetime or permanent earnings of sons. Therefore, standard estimates of earned income mobility focus on estimating the intergenerational elasticity, represented by the coefficient from a regression of log earnings of adult sons or daughters, on the log earnings or income of their parents, as shown in the following equation:

$$y_a = \alpha + \beta y_p + u_i.$$

Issues of attenuation bias in the measurement of lifetime or permanent earnings of parents (usually fathers) led to understating the extent of intergenerational persistence, while approaches such as averaging across multiple periods of parents' earnings were shown to increase estimates of intergenerational persistence by reducing attenuation bias. Concerns also arise over the measurement of lifetime or permanent earnings of children (usually sons), with non-classical measurement error arising from life-cycle bias leading to researchers typically underestimating the extent of intergenerational persistence if earnings are measured too early in the life cycle of sons (Jenkins, 1987; Böhlmark and Lindquist, 2006; Grawe, 2006; Haider and Solon, 2006).

An alternative metric of intergenerational persistence is the rank–rank association, represented by the coefficient from a regression of the rank of earnings of adult sons and daughters, on the rank of earnings or income of their parents:

$$\text{rank}(y_a) = \alpha + \delta \text{rank}(y_p) + e_i.$$

The rank–rank association measures the extent of re-ranking between generations, removing scale elements, including both measurement issues and genuine differences in inequalities between generations (for a full discussion of the relative merits, see Gregg, Macmillan and Vittori, 2017). The weakness of such metrics is that while they capture changes in mobility due to re-ranking of individuals within a uniform distribution, they may miss changes in mobility over time or place that are driven by changes in inequalities, or the scale of the distribution. Their strength, as shown by Nybom and Stuhler (2017) and Gregg et al. (2017), is that rank–rank estimates are more stable across the life course from earlier ages, as life-cycle bias predominantly works through changes in the scale of earnings after around the age of 30 for sons. An additional benefit of these types of metrics is that they allow for the inclusion of zero earnings, or non-participation, in the sample, which is predominantly a problem for estimation of intergenerational persistence for women due to the differential timing of fertility decisions by family background. Both metrics should be considered to get a complete picture of both inequality-driven mobility and the role of re-ranking.

More recently, studies have considered measures of absolute mobility, in terms of incomes. Here, the cleanest measure of absolute mobility is that used by Blanden, Machin and Rahman (2021), who focus on whether children earn more or less than their parents. Chetty et al. (2014b) look at measures of upward or downward mobility by focusing on the earnings outcomes of those from the 25th or 75th percentile of the parental income distribution. While this is a relative metric of directional mobility at the national level, they argue that these equate to absolute measures at the small-area subnational level, as incomes in these small areas have little impact on the national distribution of incomes.

Intergenerational income persistence in the UK

There are several comprehensive overviews of the large literature in economics on intergenerational income persistence, including, for example, Black and Devereux (2011). We restrict our focus to studies of the UK. These have typically used the national birth cohort studies, such as the National Child Development Study (NCDS) and the Birth Cohort Study (BCS) – cohorts born in 1958 and 1970, respectively – to track the relationship between parental income in childhood and sons' earned incomes in adulthood. There has been relatively little reference to women within the intergenerational income mobility literature to date. This is due, in part, to the fact that '[it] is frequently the case [...] for "income" to be family income in the parental generation and to be earnings in the offspring generation' (Jäntti and Jenkins, 2013). By definition, earned incomes are only measured if individuals are working. This raises issues with regards to women's labour force participation, particularly at the time that earnings are typically measured, around age 30–40, when women are more likely to be out of the labour force for family reasons. To avoid the problem of differential participation in the labour force by men and women, which, furthermore, varies by family background, studies often restrict themselves to only considering men.

Existing work has shown that intergenerational mobility declined by around 50% between the 1958 and 1970 birth cohorts using the standard intergenerational elasticity (Blanden et al., 2004; Blanden and Gibbons, 2006). This was in direct contrast to estimates from the sociology literature which found remarkable stability in relative class mobility over the same period

(Goldthorpe and Jackson, 2007; Erikson and Goldthorpe, 2011). A few papers have attempted to reconcile the findings across disciplines using data from the UK and the US (Blanden, Gregg and Macmillan, 2013; Breen, Mood and Jonsson, 2016). Both conclude that there is no paradox to these findings: intergenerational income persistence can be increasing while class persistence remains stable, due to increasing persistence in within-class inequality across generations.

Looking across the distribution of earnings, this persistence across generations is particularly pronounced for those with the lowest and the highest pay – this resonates with the literature on intergenerational joblessness for low earners (Johnson and Reed, 1996; Macmillan, 2014). For high earners, this suggests that there is particularly strong persistence among those working in the top jobs, with those from more advantaged backgrounds securing particularly high returns, even conditional on education (Gregg, Macmillan and Vittori, 2019). In an international context, the UK has been shown to have one of the lowest intergenerational income elasticities, rivalled only among developed nations by the US (Corak, 2013; Jerrim and Macmillan, 2015).

New work on absolute income mobility has shown that the proportion of children earning more than or equal to their fathers fell dramatically around the time of the last Great Recession, from a stable trend of around 60%–65% earning more than or equal to their fathers from 1995 up to 2008 to only around 44% experiencing this type of absolute mobility since 2010 (Blanden, Eyles and Machin, 2021).

One way that the literature has tried to deal with the challenges of measuring mobility of women is by focusing on rank–rank estimates, as mentioned in the previous subsection. Another approach is to move the focus of intergenerational income mobility from the individual to the family. Papers that have taken this approach and have estimated income mobility for women based on family earnings or incomes find very similar mobility estimates for men and women (Chadwick and Solon, 2002; Lee and Solon, 2009; Chetty et al., 2014a, b). Previous studies from the UK that look at women and men also suggest little difference in intergenerational income mobility between genders in the 1958 and 1970 birth cohorts (Dearden, Machin and Reed, 1997; Blanden et al., 2004).

While studies of intergenerational income mobility have predominately focused on those in employment, and therefore receiving earned incomes, there is a small body of literature on the transmission of joblessness and welfare receipt across generations, capturing persistence in deprivation and poverty for those typically found towards the bottom of the income distribution. This relatively small literature tends to measure the relationship between the jobless status of sons in adulthood and their fathers during childhood. Macmillan (2014) shows that intergenerational joblessness has increased over time in the UK, with sons born in 1970 who grew up with a jobless father significantly more likely to be out of work for a year or more in early adulthood, compared with sons born in 1958 from a similar background. This echoes the findings on income mobility and is consistent with trends in the persistence of poverty over the same period (Blanden and Gibbons, 2006). This study highlighted for the first time the importance of local labour market conditions in driving the employment opportunities of those from jobless backgrounds, with sons with jobless fathers experiencing a disproportionate penalty in bad labour markets in adulthood, relative to sons whose fathers worked when the son was in childhood. More recent studies by Zwysen (2016) and Gregg and Macmillan (2020) find similar findings in the German context and across Europe, while Gregg and Macmillan (2020) further show that countries with more generous welfare provision and greater education expenditure typically have lower associations in intergenerational joblessness.

A parallel literature focused on the association between welfare receipt across generations, with the focus here typically being on the relationship in welfare receipt between mothers and daughters (men are far less likely and able to claim welfare receipt in the US, where much of this literature originates, unless they have made significant prior contributions). Gottschalk (1996) and Levine and Zimmerman (1996) show a moderate association between welfare receipt across generations, with Levine and Zimmerman (1996) concluding that this association is predominantly driven by a poverty trap rather than a welfare trap. Dahl, Kostøl and Mogstad (2014), using administrative data from Norway, in contrast show that welfare receipt in one generation causes welfare receipt in the next generation.

Studies of intergenerational education mobility typically focus on the relationship between the levels of education of parents and children across generations. These studies face fewer methodological challenges compared with studies of income or class – completed education status is often observed relatively early in the life course and is stable thereafter. It is also often regarded as easier to report, as a broad category of educational achievement or the age at which an individual finished full-time schooling will suffer from less recall bias than retrospective questions around careers or incomes. Additional benefits include completed education levels often being regarded as more comparable across contexts, at least in comparison with occupations. The study of intergenerational education mobility often lends itself more favourably than to international comparisons, where education metrics can be more easily aligned across multiple data sources. Some examples of this include the work of Blanden (2013), Chevalier, Denny and McMahon (2009) and Hertz et al. (2007). All these studies show similar trends of low education mobility, or high persistence, in South America, the US and Southern Europe, and higher mobility, or low persistence, in Scandinavia. These studies argue that although Britain does relatively well internationally, at least in terms of education mobility measures, and considerably better than the US on this metric, this picture is likely to have worsened over time with increasing educational inequality (as described in the next subsection for those born in late 1950s compared with the 1970s). They also find that countries with high persistence tend to have higher levels of inequality, or higher returns to education, while countries with low persistence typically have higher levels of expenditure on education.

But education in the intergenerational income literature is also commonly framed as a key mechanism through which lifetime or permanent income is transmitted across generations, rather than an outcome in itself (Becker and Tomes, 1986; Solon, 2004). In simple terms, parents choose between consumption or investment in their children's education (or more broadly human capital) during childhood, with this investment offering a return in the labour market for their adult children. Empirical studies, such as Blanden et al. (2007), used these theoretical foundations to develop applied frameworks for analysing the contribution of human capital to the transmission of incomes across generations. The applied approach to estimating the role of human capital as a driver of earned income (mobility) focuses on three important components: (i) educational inequality, or the relationship between family childhood circumstances and educational achievement; (ii) returns to education, or the labour market pay-off to investing in education; and (iii) the direct association between family childhood circumstances and adult earned income, conditional on educational achievement.

Blanden et al. (2007) found that human capital could account for around 50% of the transmission of earned incomes across generations for the UK birth cohorts, and for 80% of the decline in mobility between the 1958 and 1970 cohorts. While returns to education and the direct association between family circumstances and adult earned incomes remained stable across cohorts, the main reason for this increased immobility or persistence was primarily due to an increasing relationship between family incomes in childhood and educational attainment, or an increase in educational inequality.

Some new estimates for England

Recent advancements in administrative data linkages have meant that we are able to generate new estimates of intergenerational mobility at the national level for more recent cohorts. For this, we use the new Longitudinal Education Outcomes (LEO) data, which link school records from the National Pupil Database (NPD) and university records from the Higher Educational Statistics Agency (HESA) with HMRC earnings and employment data. A big drawback of the data currently available is that they do not contain measures of parental income. However, these data do include data on individual-level FSM status and detailed measures of the very local area of residence at 16. In our cohorts of analysis, 12.5% of students were eligible for FSM at age 16. Given that FSM eligibility is heavily dependent on benefit receipt among non-working parents, this therefore broadly identifies the 12.5% of individuals in the data from the lowest-income families. In addition, information on the local area of residence at age 16 (local super output area) makes it possible to construct a measure of parental socio-economic status (SES) by combining several local area deprivation measures from 2001 (around the time when the child was living there). These include housing tenure (percentage of individuals who own their home; percentage of individuals who are council tenants), occupation (percentage of those in work in higher and lower professional and managerial occupations; percentage working in routine occupations; percentage long-term unemployed), education (percentage with at least Level 4 qualifications; percentage with no formal qualifications) and poverty (proportion of children aged 0–15 living in income-deprived

households from the Income Deprivation Affecting Children Index). These are combined into a single index of SES using principal component analysis.¹

Carneiro et al. (2020) present the first individual-level estimates of intergenerational mobility for England for three cohorts of state-educated boys who were born in the years 1986–88, using these data. They estimate relative and upward mobility based on: the rank–rank estimates of sons' earnings at age 28 on parental SES at age 16; and the rank earnings at age 28 of sons from families eligible for FSM at age 16. In Figure 1 and Table 1, we reproduce the estimates for sons, adding those for daughters. Individuals with no earnings are included and assigned the average rank of individuals with zero earnings.²

Figure 1. Relationship between family background and age 28 earnings rank by gender

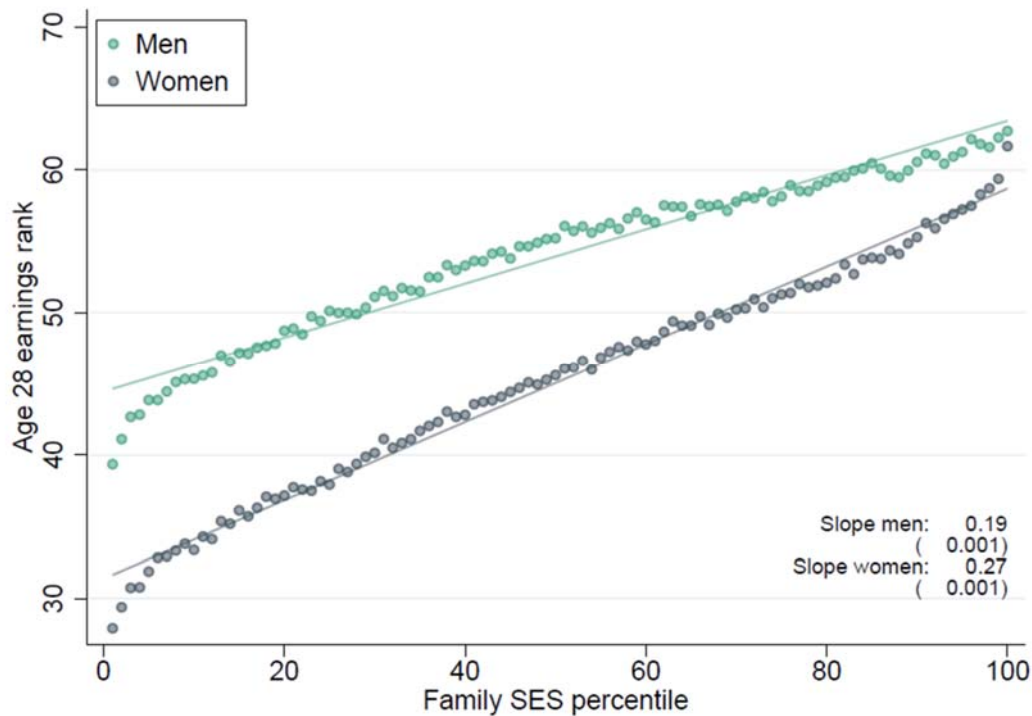


Table 1. Mobility at age 28 for young people in England born in the years 1986–88

	Men	Women
Rank–rank slope	0.19	0.27
Average rank of FSM children	42	32
Median earnings of FSM children	£13,500	£6,600
Median earnings of non-FSM children	£21,200	£16,000

¹ In new analysis, Jerrim (2020) studies the association between this type of measure and observed permanent childhood income in the longitudinal Millennium Cohort Study (MCS). He finds that this type of measure closely tracks the relationship between permanent family income and children's educational achievement across the entire distribution of family circumstances, which suggests that this is a valuable resource for tracking socio-economic gaps in outcomes, as it is used here.

² To give an example of how this works, let us assume 20% of individuals have no earnings. All individuals with zero earnings will be assigned to the 10th percentile rank, while the lowest-earning individual with positive earning will be assigned to the 21st percentile.

Sons from the most affluent families were, on average, around 19 percentiles higher in the adult earnings rankings than sons from the most disadvantaged families. Although measures of family childhood circumstance vary across surveys, this is broadly in line with estimates for men only from the BCS cohort (born in 1970) where rank–rank estimates of relative mobility for sons in England are around 0.22 at age 26 (Gregg et al., 2017). This suggests that, at least in terms of re-ordering individuals within a distribution, earned income mobility has remained relatively stable over time.

Estimates can also be presented for women at the same age, where, as discussed before, we include individuals with zero earnings in the ranking. Estimates indicate that daughters from the most affluent families on average end up around 27 percentiles higher in the adult earnings rankings than daughters from the most disadvantaged families. Note that the LEO data only include annual earnings and so no adjustments can be made here for part-time work. These estimates therefore capture inequalities in annual earnings between daughters from different backgrounds, including the potential consequences of differential fertility patterns leading to more part-time work among those from more disadvantaged backgrounds at age 28. To the extent that women from more disadvantaged backgrounds are more likely to work part-time at age 28 and hence have lower pay, this will inflate our estimates of intergenerational persistence for women, relative to one based on hourly wages.

Table 1 also shows estimates of relative upward earnings mobility for those sons and daughters who were eligible for FSM at age 16. Those eligible for FSM are broadly equivalent to the bottom 12.5% of individuals in our sample nationally. The results suggest that there is a fair degree of relative upward mobility for both sons and daughters: sons from families that were from the 6th percentile on average (given that eligibility for FSM equates to the bottom 12.5%) reach the 42nd percentile of earnings on average by age 28 and daughters the 32nd percentile. While again there are differences between measures of family childhood circumstances, we can get some sense of how this compares internationally by using findings from Acciari, Polo and Violante (2022) for Italy, and from Chetty et al. (2014a) for the US. These findings suggest that someone from the bottom 12% in Italy is expected to reach the 39th percentile of earnings while in the US, the corresponding individual is expected to reach the 35th percentile. Combining across genders for England places a similar individual at the 38th percentile, meaning that the estimates of upward mobility for England lie between those from Italy (more mobile) and closer to the US (less mobile).

Taken together, these findings suggest that women may be less mobile in terms of their earned income than men at this given point in their life cycle (age 28), albeit with the important caveat that our results for women will be inflated if women from disadvantaged backgrounds are more likely to work part-time at this age.

One of the strengths of the newly linked administrative LEO data, relative to other countries, is that they contain very detailed information on educational achievement from school records, including grades across subjects studied in the national General Certificates of Secondary Education (GCSEs) taken at age 16, and similar information from the Advanced General Certificates of Education (A levels) taken at age 18. There is also information on individuals' assessments at the end of primary school (Key Stage 2 Assessments), which are standardised externally set and marked tests, and on the university course attended, including the subject studied and institution attended post-18 for those who continue into higher education.

We can use this detailed information to assess the role of educational achievement in accounting for the intergenerational rank–rank association, following on from Carneiro et al. (2020) who report findings for men only. Using detailed information of individuals' educational achievement, Table 2 shows that 71% of the rank–rank association between children's and their families' income ranks could be accounted for by education for both men and women, with the remaining 29% unaccounted for potentially picking up differences in unmeasured skills and wider inequalities in the labour market that persist for people with similar levels of education. These can include things such as wider social networks, access to internships, and broader cultural differences between people from different backgrounds (Friedman and Laurison, 2019).

Table 2. Contribution of education to relationship between family circumstances and children's earnings rank

	Men		Women	
	Rank–rank slope	% of total explained	Rank–rank slope	% of total explained
No controls	0.190		0.273	
Controlling for education:				
up to age 11	0.126	33%	0.179	34%
up to age 16	0.057	70%	0.089	67%
up to age 18	0.055	71%	0.081	70%
up to age 21	0.056	71%	0.080	71%

Interestingly, these findings are relatively consistent whether measures of education up to age 16 are used, or whether further measures of achievement up to age 18 or 21 are added, suggesting that achievement at age 16 is a key predictor of intergenerational transmissions (consistent with previous findings, such as Blanden et al., 2007). These estimates are higher than those found in the cohort studies, although the cohort studies estimates focus on men only. This could potentially be driven by the greater level of detail and smaller amount of measurement error found in the administrative data in terms of educational achievement. It should also be noted that there are important differences in the sample and the measurement of family circumstances across studies, hence caution is urged when interpreting these differences in findings across studies.

The contribution of education to the overall rank–rank association between parents and children's incomes works through two channels. It depends on both the relationship between family circumstances and educational achievement (education inequality) and the expected earnings that that educational achievement brings in the labour market (returns to education). The first part of this, the educational inequality, is illustrated in Figure 2. There is very little difference in the gradient of educational inequalities between men and women, suggesting that girls and boys typically get similar inputs by SES. The figure shows that someone from the most affluent of families on average scores around 40 percentiles higher in the age 16 achievement distribution than someone from the most deprived of families.

Figure 3 then shows the second part of this, the association between educational achievement at age 16 and the adult earned income ranking of sons and daughters – or the average earnings rankings of those at each point in the educational achievement distribution. We can see that, for sons, the highest achieving are expected to end up 36 percentiles higher on average than the lowest achieving in terms of earned incomes at age 28. For daughters, the picture is more stark, with the highest achieving expected to end up 49 percentiles higher than the lowest achieving in terms of earned incomes at age 28. Note that, in a similar vein to our rank–rank estimates, the use of annual earnings rather than hourly pay may mask the important role of part-time work for women in these estimates. The extent to which women from different backgrounds sort into different levels of education (as seen in Figure 2), and how this translates into differential fertility patterns and part-time work at age 28, could be an important driver of these higher returns to education for women.

Figure 2. Educational achievement by family circumstances at age 16

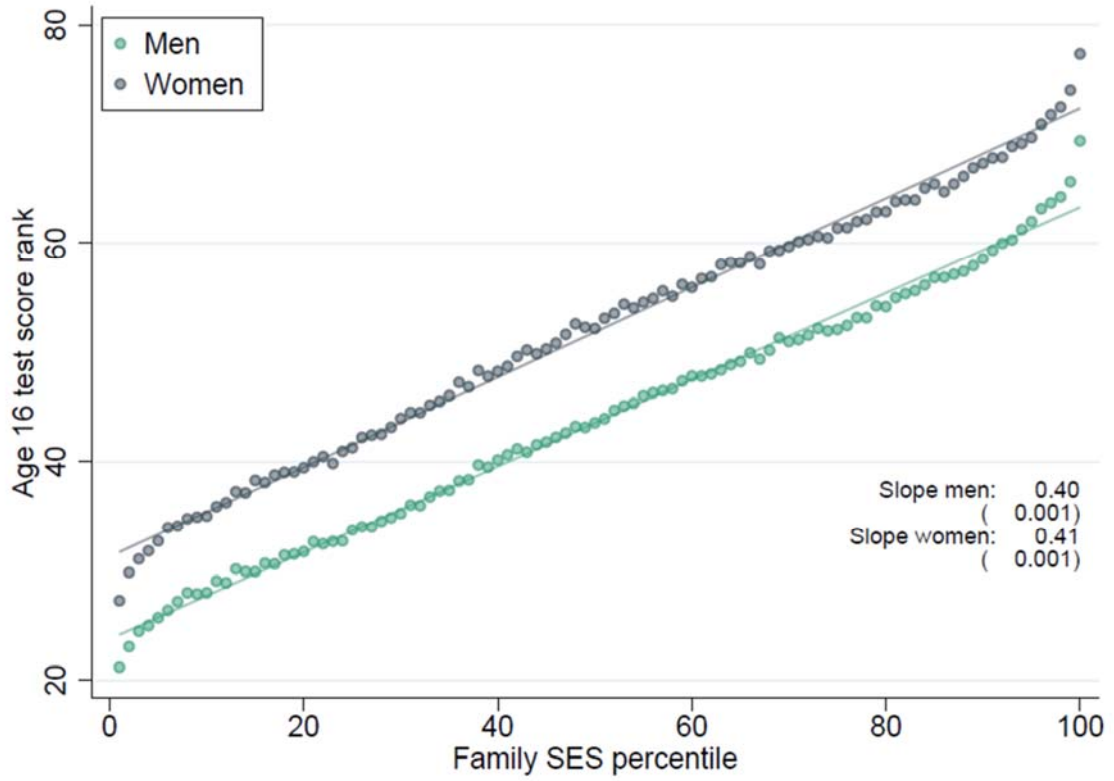
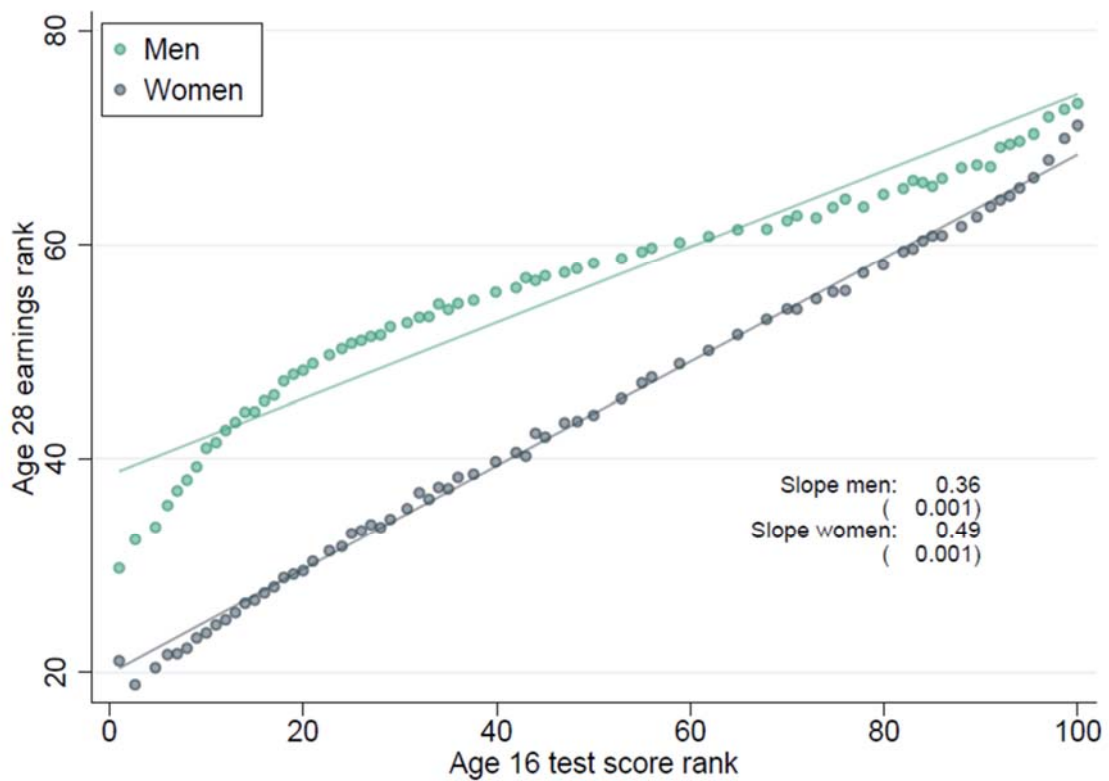


Figure 3. Labour market earnings at age 28 by educational achievement at age 16



Our review and estimates so far have focused on documenting the association between earnings of parents and children at the national level and the role of education as a mechanism, in line with much of the existing literature on intergenerational mobility in economics.

The improving availability of data has, however, opened up opportunities for new promising directions of research in this area. This is what we focus on in the remainder of this commentary. In the next section, we hone in on the issue of the degree to which national estimates mask important differences in life chances of different groups within one country. Then, in the following section, we examine the degree to which intergenerational persistence is in fact mis-measured as a result of the omission of sources of income beyond earnings from the analysis in traditional intergenerational mobility literature.

New directions: within-country heterogeneity

While we can learn a lot from national estimates of intergenerational mobility that are commonly estimated across time or country (see Blanden, 2013; Corak, 2013; Jerrim and Macmillan, 2015), the scale of the newly available administrative data means that we can now push the research agenda even further by estimating differences in mobility rates for different groups or places within countries with the same policy and institutional settings. Recognising and documenting these differences are important to understanding whether current policies and institutions provide opportunities to achieve upward mobility in the same way to individuals in different groups. If not, then national social mobility estimates will only inform our thinking for the average person in the population, and may miss important nuances in policy design required across groups or places. Presenting a more accurate picture of the degree of inequality of opportunity that different groups face and leveraging the fact that this is the same institutional setting allow us to better understand drivers and inform potential policy response.

We focus on differences in social mobility in England by ethnicity and geography. The chapters in the IFS Deaton Review by Mirza and Warwick (2022) and Overman and Xu (2023) document just how significant the inequalities between different ethnic groups and individuals living in different parts of the country are in the UK. We study whether differences in the process of the intergenerational transmission of income persistence may play a role in generating these inequalities. We review existing literature and exploiting the newly available NPD-LEO administrative data (described above) to advance existing analysis. In this analysis, we focus on the degree of upward mobility among those coming from the poorest families using the rank of earnings at age 28 of individuals from families eligible for FSM at age 16 as our main measure of mobility. The data we have at present are not suitable for studying mobility among those coming from less disadvantaged households or differences in relative mobility. This is because we find that the measure of parental SES, which we would have to rely on in the absence of data on parental income, is not suitable for cross-group comparisons because it does not map to family lifetime income in the same way for each group.³

Ethnicity

The chapter on Race and Ethnicity (Mirza and Warwick, 2022) provides a comprehensive overview of racial and ethnic inequalities in the UK. It highlights the rapid improvement in educational outcomes of many ethnic minority groups and patterns of stronger educational upward mobility than among the White British population, alongside some progress in narrowing of the employment gap with White British students. However, it also emphasises several ways in which many ethnic minority groups continue to lag behind the White majority: significant and hard to explain employment and earnings gaps persist; poverty rates continue to be much higher; higher educational mobility does not translate in the way that we may expect into occupational advantage. All of this is contextualised within projections of rapid progression to a much more ethnically diverse Britain over the coming decades – the success of which will become

³ For example, in the LEO data we can see that while among the Bangladeshi ethnic group, nearly 40% of those in the 70th percentile by parental SES index are also eligible for FSM, among White British and British Indians this proportion is less than 10%. Similarly, we see that the measure performs differently in the North West and Outer London than in other areas of the country. For example, while among those living in the North West, just over 30% of those in the 50th percentile by parental SES were also eligible for FSM, this proportion is around 15% among those living in outer London and 10% in the other regions (supporting analysis available on request).

increasingly dependent on addressing and resolving the persistent ethnic inequalities we continue to see today.

While the chapter by Mirza and Warwick touches on social mobility, like the wider literature on ethnic and racial inequalities, it focuses on the intragenerational rather than intergenerational perspective. However, inequalities will persist in spite of any attempts to equalise outcomes within a single generation if, in part, these inequalities are driven by differences in patterns of intergenerational persistence. Existing research on differences in intergenerational persistence across ethnic groups has primarily been in the sociological literature, focusing on the link between parents' class of occupations and own educational, employment and occupational outcomes. Opportunities for analysis of differences in intergenerational income mobility across ethnic groups have to date been severely restricted by lack of suitable data. For example, the British cohort studies commonly used to estimate intergenerational income mobility do not have large enough samples to reliably estimate differences across ethnic groups.

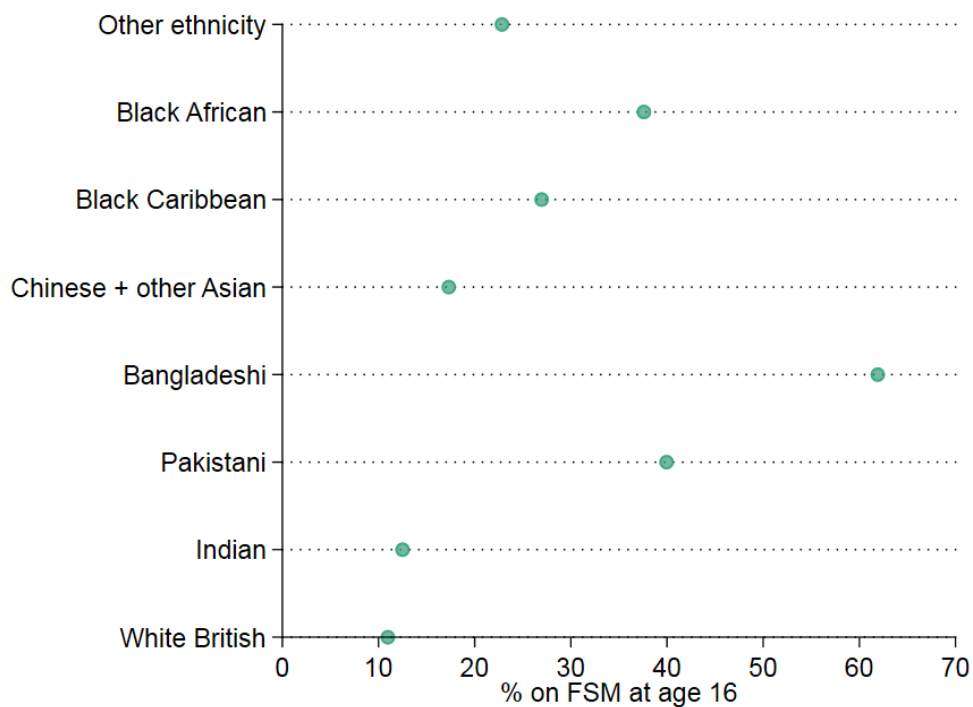
The headline finding from the sociological literature is that there are significant differences in the way that class origins influence outcomes of ethnic minority and majority groups in the UK. However, while in most European countries social origins serve as more of a disadvantage to ethnic minority groups than the majority, the UK stands out as an exception where, on the one hand, the educational outcomes of most ethnic minority groups are persistently better and less sensitive to social origins than those of the White Majority, but, on the other, social origins do not offer ethnic minorities the same kind of advantage in employment outcomes, especially in access to employment (Zuccotti and Platt, 2021).

We build on this analysis in several ways. First, we focus on intergenerational persistence of income rather than social class. As highlighted in the previous section, these are qualitatively distinct measures which can yield different findings. Second, we utilise administrative data which give us access to a large enough sample size to study trends in one cohort of individuals who were raised in the same broader institutional, economic and political environments. Key features of the cohort we study include: (i) all of the individuals were in the UK by age 16 and took their exams here; and (ii) we focus on recent cohorts – those born in the second half of the 1980s – the youngest cohort for whom we can reasonably look at labour market outcomes. Thus, our analysis yields an up-to-date snapshot of the degree to which current institutions provide opportunities to achieve upward mobility in the same way to individuals in different groups.

As in the analysis presented in the final subsection of the previous section, we use LEO data for three cohorts of state-educated children, born in the years 1986–88. We identify eight ethnic groups based on data on ethnicity for all state pupils in the school census. The eight groups include: White British, Indian, Pakistani, Bangladeshi, Chinese and other Asian, Black Caribbean, Black African, and 'Other ethnicity'. The latter group is a relatively small share of pupils and includes any other ethnicity including mixed.⁴ Importantly, unlike some previous analysis, we can disaggregate between ethnic groups that might commonly be grouped together in smaller samples, such as Black African and Black Caribbean, and Indian, Pakistani and Bangladeshi groups.

Due to limitations of the parental SES information available in the NPD–LEO data, we focus on individuals who, at age 16, were living in families that were eligible for FSM. As we note above, nationally, in this cohort, FSM eligibility broadly identifies the 12.5% of individuals who were coming from the lowest income families. However, Figure 4 shows that while this is approximately the proportion of individuals encompassed by this category among White British and British Indian groups, those eligible for FSM make up a higher proportion of the total for the other ethnic groups; this is especially so for the Bangladeshi group, among whom those eligible for FSM make up nearly two-thirds of the whole cohort, and for the Pakistani and Black African groups, among whom those eligible for FSM make up two-fifths of the group.

⁴ While this categorisation is consistent with that used across key UK survey and census datasets, categorisation of ethnic and minority status is plagued with challenges. See Mirza and Warwick (2022) for an in-depth discussion of these challenges and the way in which chosen definitions may influence any analysis of socio-economic inequalities.

Figure 4. Proportion of children eligible for FSM by ethnicity

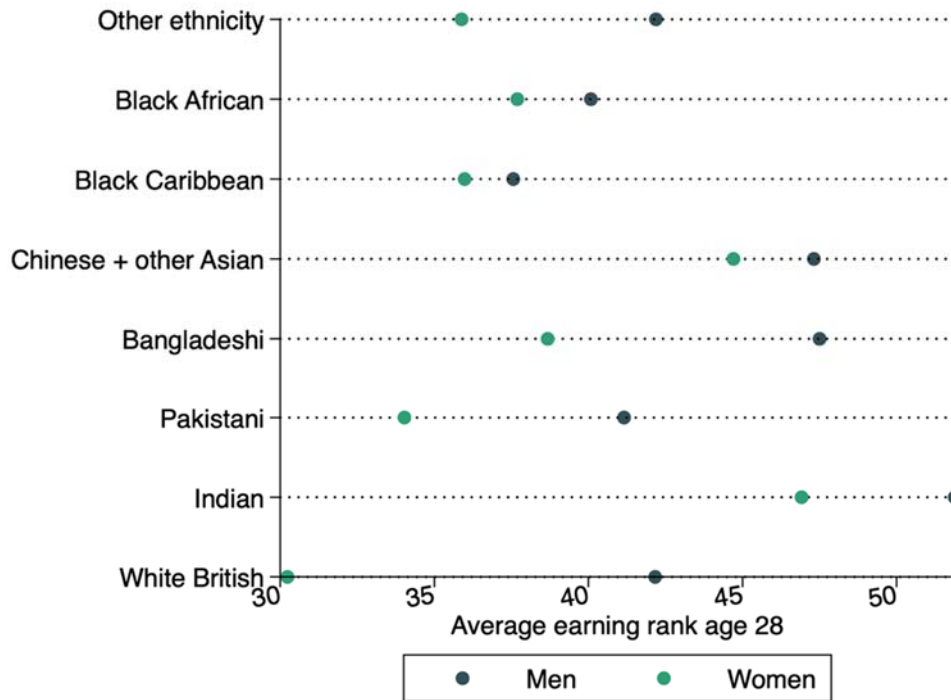
In order to compare upward intergenerational mobility across these ethnic groups, we disaggregate by ethnicity the age 28 earnings rank of young people who were eligible for FSM at age 16 in the national earnings distribution for these cohorts. This is the same as the upward mobility measure that we present in Table 1.

The results are presented in Figure 5. They clearly show that for both men and women, national estimates of upward mobility mask significant differences across ethnic groups. Nationally, women born in these cohorts from families in the bottom 12.5% of the income distribution on average achieved earnings in the 32nd percentile of the earnings distribution. Figure 5 shows that this is representative of the situation of White British and Pakistani women, but that women in the remaining ethnic groups, in fact, have higher upward mobility and substantially so in some of the groups. In particular, women in the Indian and the Chinese and other Asian groups from FSM-eligible families on average reach an earnings rank of 45th and 47th percentile, respectively. There is a difference of 17 percentiles between the least upwardly mobile group (White women) and the most upwardly mobile group (Indian women). This is a very large difference – equivalent to just over £8,000 in earnings or over 80% of the average age 28 earnings of FSM women in this cohort, and is significantly higher than the median earnings.

Similarly, we see that the national average age 28 earnings rank for men from families in the bottom 12.5% of the income distribution – 42nd percentile – reflects the situation of men from Pakistani, Black African, White British and 'Other ethnicity' groups – but masks significantly lower mobility among Black Caribbean men and higher mobility among Indian, Bangladeshi, and Chinese and other Asian men. The gap between the lowest and highest mobility groups (Black Caribbean and Indian, respectively) is about 15 percentiles, which translates into an earnings gap of around £8,000, or 54% of mean earnings of FSM men in these cohorts.

The fact that the ethnic group with lowest upward mobility differs for men and women highlights a striking pattern of gender gaps across ethnic groups in Figure 5. By far the largest gap of 12 percentiles is seen for White British men and women, with White British women doing particularly poorly in terms of labour market outcomes. In contrast, the gap between Black Caribbean men and women – the group with the smallest gender gap – is only 2 percentiles. The differences in gender gaps translate into different ordering of ethnic groups by upward mobility for men and women. For example, while White British women have by far the lowest upward mobility of all ethnic groups, White British men are in the middle of the distribution.

Figure 5. Age 28 earnings rank for children eligible for FSM at age 16

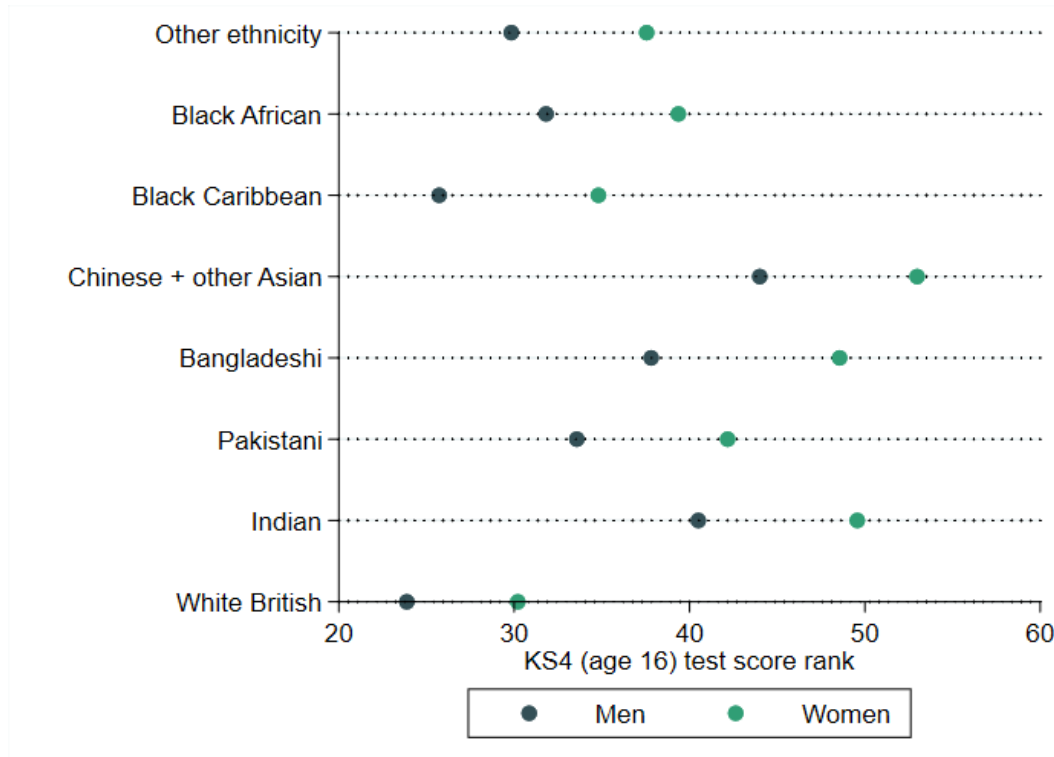


This is an important set of findings for policy as it suggests that at least part of inequalities observed between ethnic minority and majority groups in England are due to intergenerational gaps – differences in the way that incomes are transmitted intergenerationally. Therefore, narrowing inequalities will take more than policies that are equalising in the cross-section; there is a need to also target the differences in intergenerational transmission mechanisms. But what are these mechanisms?

We showed earlier that, on average, compulsory education mediates a very substantial proportion of the intergenerational income persistence in these cohorts (Table 2). We therefore ask whether the upward mobility differences we document can also be traced to differences in earlier educational attainment. Existing evidence, including that presented in the Race and Ethnicity (Mirza and Warwick, 2022) and Education (Farquharson, McNally and Tahir, 2022) chapters of this Review, establishes that there are indeed large differences in educational performance across ethnic groups especially at older ages and among children from poorer backgrounds. This is what we see in Figure 6 for our sample. It shows mean test score rank at age 16 for each of the eight ethnic groups, split by gender. It clearly shows significant variation across ethnic groups; for both men and women, there is a gap of around 20 percentage points between ethnic groups with highest and lowest mean scores. However, it is also immediately clear from Figure 6 that these educational differences do not follow the same pattern as the earnings differences in Figure 5. First, unlike for earnings, girls outperform boys across all ethnic groups. But the size of the gap does not vary significantly by ethnicity. Next, clearly the White British majority has the lowest educational attainment of all ethnic groups. Indeed, White British men are lowest ranked in terms of educational attainment across all groups, one of the reasons for recent policy interest in ‘White working-class boys’.⁵ Yet while the low attainment of White British women translates into very low earnings ranks in Figure 5, the low attainment of White British men does not appear to hold them back in the labour market – they end up at around the middle rather than the bottom of the distribution of mean earnings ranks by ethnicity. Similarly, while the educational attainment of Bangladeshi women is comparable to that of Indian women at age 16, their earnings at age 28 are significantly lower, more comparable to those of Black African women who perform significantly worse than them at school.

⁵ See, for example, a report by the Education Committee, ‘The forgotten: how White working-class pupils have been let down, and how to change it’, <https://publications.parliament.uk/pa/cm5802/cmselect/cmeduc/85/8502.htm>.

Figure 6. Age 16 educational attainment by ethnicity and gender among children eligible for FSM at age 16



Figures 5 and 6 suggest that the mapping between education and earnings is different for different ethnic groups. This is confirmed in Figure 7, which shows the missing piece of information from Figures 5 and 6 – the expected earnings rank at age 28 by educational attainment (or returns to education) across groups. This shows the average earnings rank for individuals from different ethnic groups conditional on quartile of age 16 test score. We see that, especially at lower levels of attainment – for example, the age 16 score in the second quartile of attainment – education translates into much lower earnings for White British women than for Indian women. In fact, Indian women and men achieve on average the highest level of earnings of all ethnic groups at all points in the achievement distribution. Unlike White British women, White British men achieve higher earnings for their level of attainment than most of the other ethnic groups in all but the top quartile of educational attainment.⁶ British Pakistani women and men, as well as Black African and Black Caribbean men, achieve on average lower earnings at all levels of attainment than their counterparts in other ethnic groups.

Figure 8 focuses on the relationship between age 16 test scores and university attendance. This shows that these differences in returns are unlikely to be straightforwardly explained by patterns in post-compulsory education. For any given age 16 score, White British men and women are much less likely to attend university than other groups, while Black African, and Chinese and other Asian children much more likely to attend university. These differences are very large, with fewer than 5% of FSM-eligible White British young people with test scores in the bottom quartile attending university, compared with around 30% for those of Chinese and other Asian background, and just under 40% for Black African young people.

⁶ Note that the majority of White British men are in the bottom two quartiles of educational attainment at age 16.

Figure 7. Labour market earnings rank at age 28 by education attainment at age 16 among individuals eligible for FSM at age 16, for women (left) and men (right)

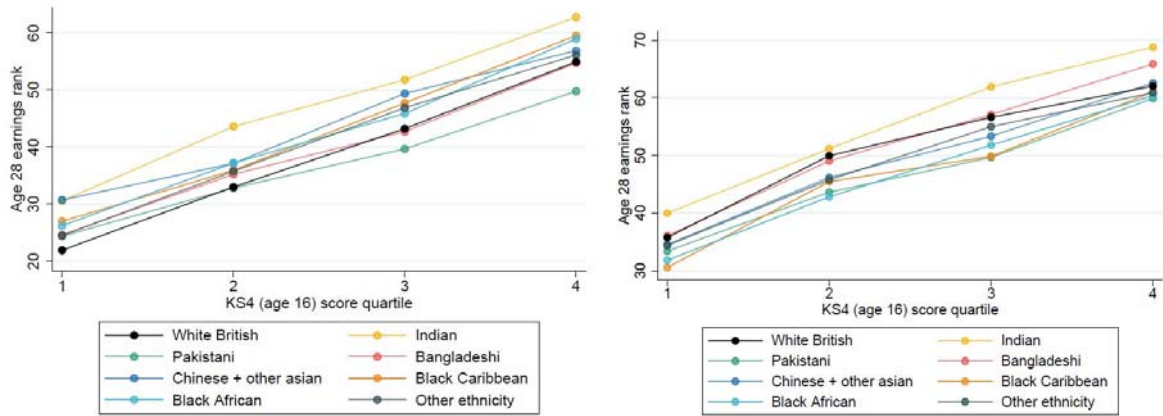
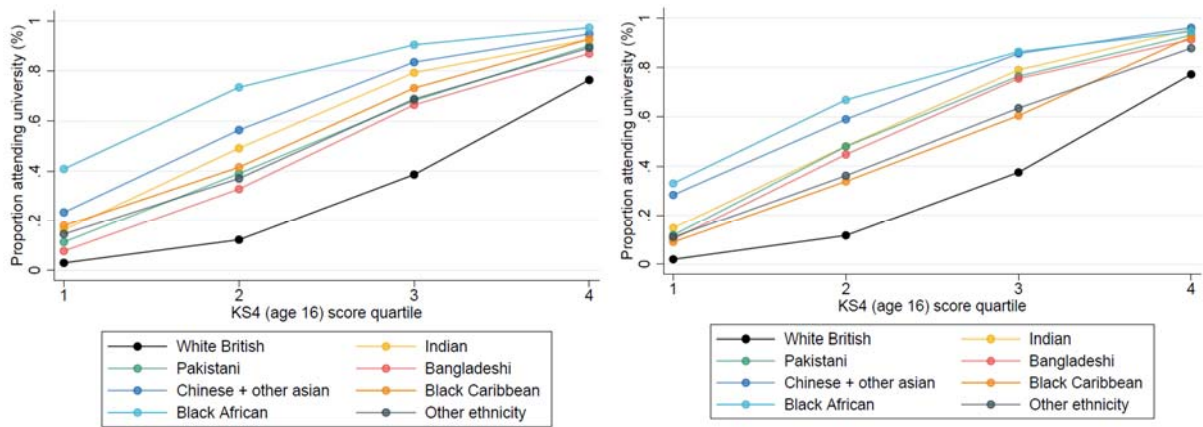


Figure 8. University attendance by educational attainment at age 16 among individuals eligible for FSM at age 16, for women (left) and men (right)



To re-cap, we show significant differences in upwards earnings mobility across ethnic groups – childhood disadvantage seems to translate into adult earnings outcomes differentially across ethnicities. We examine whether this is explained by differences in the way that childhood disadvantage affects educational attainment across ethnic groups. We show that while there are indeed also large differences in educational mobility across ethnic groups, they do not follow the pattern of earnings differences. There are thus differences in the way that childhood disadvantage translates into educational attainment and earnings across ethnicities but it does not play a consistent role across these two outcomes: while it is less detrimental to the education of ethnic minorities compared with the majority, it offers no such relative advantage for earnings outcomes, with several ethnic minority groups achieving higher levels of attainment in compulsory education as well as higher tertiary education attendance rates but lower mean earnings rank.

Our analysis suggests that a key lever for equalising opportunities across ethnic groups is policies that target the mechanisms through which educational attainment translates into earnings, as well as non-education channels of intergenerational transmission. The design of such policies requires an understanding of what explains this high educational mobility among ethnic minorities from poor households relative to the White majority and why it does *not* translate into an advantage in upward income mobility.

Much of the existing literature speaks to reasons for why ethnic minorities experience high educational mobility. Zuccotti and Platt (2021) put forward two mechanisms. The first is 'immigrant advantage'; it relates to differences in expectations, aspirations and investment in children between minority groups and the majority, which work in favour of the children in the former group. These differences are explained by positive selection into migration, which results in immigrants being assumed to have greater motivation, determination and resilience than non-

immigrants. The second is 'social class misallocation'. This refers to the possibility that immigrants are more likely to be in occupations for which they are overqualified so that migrant socio-economic status in a destination country is associated with a higher social and cultural capital of immigrant than native groups. Their analysis is consistent with both of these mechanisms being at play.

Existing evidence also suggests that place-based disparities may play a role. As discussed by Mirza and Warwick (2022), ethnic minorities are concentrated in a few areas in England, including London, which raises the possibility that some of the educational advantage is driven by variation in quality of education available across areas of the country. For example, ethnic minority children likely disproportionately benefit from the 'London effect' – the strong positive trend in attainment and progress of students (especially disadvantaged ones) in London schools and several other cities, compared with the rest of the country.

Why the educational advantage does not translate into labour market advantage remains a puzzle. Existing evidence points to several promising directions to explore. First, in spite of evidence of educational advantage in post-compulsory education that we present in Figure 8 and has been found in other studies, differences in some dimensions of post-compulsory education patterns may be relevant for explaining differences in the labour market. Within tertiary education, while we see a positive entry effect, it is less clear-cut in progression and attainment at university. Conditional on going to university, factors that have been documented include lower likelihood of attending selective universities among ethnic minorities, systematic differences in choice of subjects, and significantly lower attainment that is only partially explained by the higher likelihood of attending university among lower attaining ethnic minorities than the White British majority (Britton, Dearden and Waltman, 2021; Mirza and Warwick, 2022).

There are also likely to be some important differences in post-compulsory-education trajectories of ethnic minorities compared with the White British majority who do not go into higher education, although this remains an under-researched area. For example, MacNally and co-authors highlight the under-representation of ethnic minorities among those who start apprenticeships, especially among those aged 19–24. This is especially significant as some of these apprenticeships have been shown to be an education pathway with high returns in the labour market (Cavaglia, McNally and Ventura, 2022).

Clearly then, differences in post-compulsory-education trajectories in both higher and vocational education do play some role in explaining why the relative educational success of ethnic minorities in compulsory schooling does not necessarily translate into labour market advantage. But this is not the whole story. In the case of higher education, for example, existing analysis shows that even controlling for background, prior attainment, university and subject choice, large unexplained earnings gaps remain among graduate men from the White British majority compared with non-White ethnic groups (Britton et al., 2021).

The big, largely missing, piece of the puzzle is why the characteristics that benefit low-SES ethnic minority children in compulsory and, to a degree, post-compulsory education relative to the White British majority do not benefit them in the labour market. The differences in earnings patterns in our analysis encompass both differences in access to jobs as well as wages conditional on having a job. Other work suggests that ethnic minorities face particular difficulties in accessing jobs compared with their White British counterparts (Platt and Zuccotti, 2021; Mirza and Warwick, 2022). Broadly, the literature offers two sets of hypothesis that require significant further exploration. The first is that there may be important differences in the types of capital that are valued in education and in the labour market and the second is that ethnic minorities are at an advantage relative to the White British majority in having the capital important for educational success but at a disadvantage with respect to the capital rewarded in the labour market. Examples of the latter types of capital may include class- and status-based attributes such as quality of social networks (Platt and Zuccotti, 2021). Furthermore, the capital that ethnic minorities do have may be undervalued in the labour market as a result of discrimination which, as robust existing evidence shows, exists and does play a role (Heath and Di Stasio, 2019).

The discussion and analysis in this section highlight the following: first, that national estimates of intergenerational mobility mask the fact that the life chances of disadvantaged children in England differ substantially depending on the ethnic group that they are born into; and, second,

that earnings-based social mobility measures using precise administrative data on entire cohorts in England align well with analysis using measures of social mobility based on occupational status and samples of several cohorts, showing that differences in occupational mobility translate into differences in income mobility. The patterns we document suggest that:

- addressing ethnic inequalities in the cross-section will require tackling the intergenerational transmission channels;
- education is often the policy focus when considering levers for boosting social mobility – our analysis suggests that if education were equalised across ethnic groups, all other factors remaining unchanged, some of these inequalities would *increase* as currently some of the lower-earning ethnic groups outperform some of the higher ones at school;
- understanding how and why socio-economic background plays a different role in mediating transitions from education to the labour market and early labour market trajectories is key to identifying relevant policy levers.

Geography

Having shown that the life chances of disadvantaged children in England differ significantly depending on the ethnicity that they are born into, we now ask whether and how much it also matters where children grow up. These questions are motivated by recent evidence from several countries suggesting that within-country geographical variation in intergenerational mobility – even across small, neighbouring areas – can be very substantial. This strand of work was pioneered by Raj Chetty and his collaborators, who first showed this for the US using administrative tax data. Their estimates had a profound impact for several reasons.

There was already an established literature in sociology and economics, among others, documenting the importance of schools and neighbourhoods for child development. Linking this to adult earnings, and leveraging the coverage in administrative data to produce analysis at the small-area level, Chetty's estimates brought under a bright spotlight just how geographically unequal the distribution of life chances is in the US. Most strikingly, they showed that these differences exist between adjacent neighbourhoods. The significance of these findings for policy and public debate about equality of opportunity in the 'Land of Opportunity' was one reason why the work attracted significant attention and has since been replicated for many countries, including, for example, Sweden (Heidrich, 2017) and Italy (Acciari et al., 2022).

Another motivation for this approach is that, from a scientific perspective, Chetty's findings offered a treasure trove of new avenues to explore in trying to disentangle the key mechanisms underlying intergenerational mobility estimates. Prior to Chetty's work, the intergenerational mobility literature focused on leveraging cross-country variation in order to tease out potential mechanisms. A notable example of this is work by Corak (2013) showing the relationship between intergenerational income persistence and income inequality, later coined as the Great Gatsby Curve by Alan Krueger. Yet the challenge in this work was that even the most similar countries differ in many cultural, institutional and policy dimensions which present significant challenges in trying to tease out drivers of cross-country differences in intergenerational mobility. The demonstration in Chetty's and subsequent work – that variation within countries can be as substantial, if not more so, than that between countries – opened up possibilities for studying drivers of differences while holding many more contextual factors more constant than was possible in cross-country analysis. Of course, this type of analysis still does not address the issue that people are not allocated across places randomly within countries, which presents serious challenges to causal identification of drivers of spatial within-country differences in intergenerational mobility. Nevertheless, several studies have provided interesting estimates of associations between within-country geographical variation in intergenerational mobility and neighbourhood characteristics that, at the very least, help motivate new hypotheses regarding potential drivers of social mobility (Chetty et al., 2014b; Guell et al., 2018; Acciari et al., 2022).

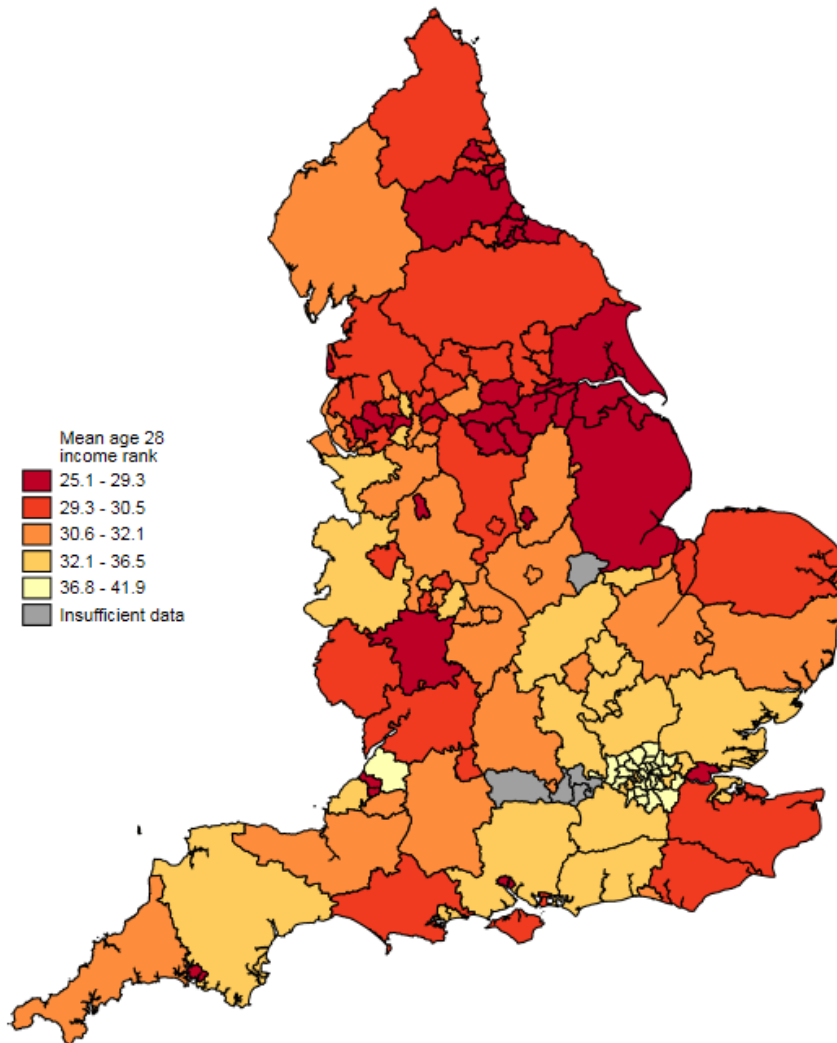
Until recently, researchers working on intergenerational mobility in the UK have had to rely on birth cohort studies with samples that are too small to estimate how mobility varies across the country (e.g. Blanden et al., 2004; Gregg et al., 2017). A more recent paper (Bell, Blundell and Machin, 2023) uses a 1% sample of the linked census to estimate mobility across broad areas in England in terms of occupation, education and homeownership. The NPD-LEO data that we have

been using here provide a unique new opportunity to study geographical variation in intergenerational mobility in England at a more granular level and using precisely measured earnings as the outcome.

This is what we are doing in ongoing work with additional co-authors (Carneiro et al., 2022) and we reproduce some of this analysis here. Figures 9 and 10 show upward mobility, measured in the same way as in the previous subsection,⁷ calculated separately for each of the 152 LAs in England.⁸ Local authorities are divided into quintiles and colour-coded so that the 20% of LAs with the highest mobility are the lightest colour and the 20% with the lowest are the darkest colour.

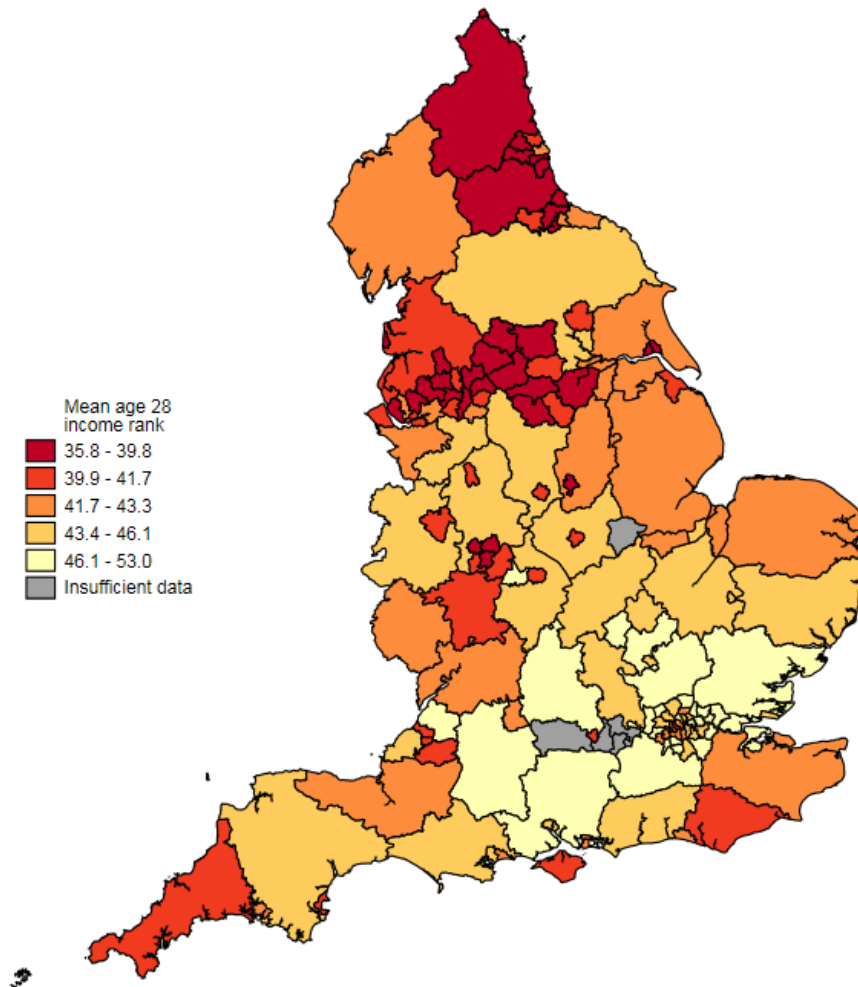
First, it matters where disadvantaged children grow up in England: the difference between the lowest and highest mobility LAs is around 17 percentiles of earnings at age 28 for both women and men (Figures 9 and 10). This is equivalent to £8,081 for women (or 82% of the national mean for women from FSM families in these cohorts) and £8,692 for men (or 59% of the national mean for men from FSM families in these cohorts).

Figure 9. Mean age 28 earnings rank of children eligible for FSM: women



⁷ Mean earnings rank at age 28 among those born in the mid- to late-1980s and eligible for FSM at age 16.

⁸ The analysis is at the level of upper-tier LAs as defined in the 2011 census. The average population of an upper-tier LA is just over 320,000 individuals, though there is significant variation in size.

Figure 10. Mean age 28 earnings rank of children eligible for FSM: men

Second, especially for women, the least mobile areas are not all clustered in one part of the country; instead they are spread out across broad areas of Yorkshire including Hull, East Midlands such as Nottingham, and the North East, including Middlesbrough. The most mobile areas for women include the Inner London boroughs, and some parts of Outer London.

For men, we see a North to South East gradient. Mobility among men is consistently low in the North of the country, particularly in the major Northern cities, and highest in the South East. The areas around London and Outer London boroughs – though interestingly not Inner London – account for virtually all of the 20% highest mobility areas for men. These findings align closely with those of Bell et al. (2023). Using a slightly younger cohort (born in 1974–83) and looking at occupational mobility, they find a similar North to South East gradient, and a strong difference between Inner and Outer London, with the former being among the least mobile areas, while the latter is among the most mobile. Looking at men and women separately in our analysis, we highlight that while this is the case for men, Inner London includes some of the most mobile LAs for women.

Finally, there is not a clear urban–rural pattern to mobility for women and men. While some parts of London have very high mobility, the urban areas around northern cities such as Manchester, Leeds and Newcastle are among the areas with the lowest mobility in the country.

Having established the degree and pattern of geographical variation in upward social mobility in England, Carneiro et al. (2022) examine how important variation in education attainment is as a driver of these differences. They implement a decomposition of the variance in upward income mobility across areas into a component that can be explained by differences in educational attainment and the return to education in the labour market and a remainder that is due to other

differences. They find that for both men and women less than half of the variation across LAs in upward income mobility of individuals from disadvantaged backgrounds can be explained by variation in educational achievement (accounting for achievement from age 11 to university). Furthermore, a much larger proportion of variation in mobility across LAs is explained by variation in education for women than for men, at 46% and 25%, respectively.

These findings suggest that although differences in education are an important driver of geographical variation in upward mobility in England, non-education factors also play a key role. Carneiro et al. combine several data sources to construct measures of a range of socio-economic characteristics at the LA level, including: labour market; demographic composition; family stability; income inequality; urbanity; degree of educational, socio-economic and ethnic segregation in schools; and school quality.

Figures 11 and 12 plot correlations between area-level upward income mobility and measures of local area characteristics controlling for regional fixed effects. The area effects exclude the component explained by educational attainment. We see broadly similar patterns with respect to labour market characteristics for men and women. A larger share of the economically active population and a lower share of unemployed are correlated with higher upward mobility. In contrast, the demographic composition of an area is more closely related to mobility rates for men than women. The share of the White British population is not significantly correlated with area mobility for women but is strongly and positively correlated with the area mobility for men. In contrast, the share of Asian, Black and foreign-born population is negatively correlated with area mobility for men. Although going in the same direction, family stability is also more strongly correlated with area mobility for men than women. There is little to suggest the relationship between area inequality and mobility that has been found in the wider literature. But there is a positive correlation between mobility and how rural an area is – again, for men only.

Finally, considering education institutions, segregation within schools in the area is not associated with area mobility for either men or women. However, there is a positive relationship between school quality (measured by average school value added) and area mobility for men.

Figure 11. Correlation of area characteristics with mean earnings rank for FSM women

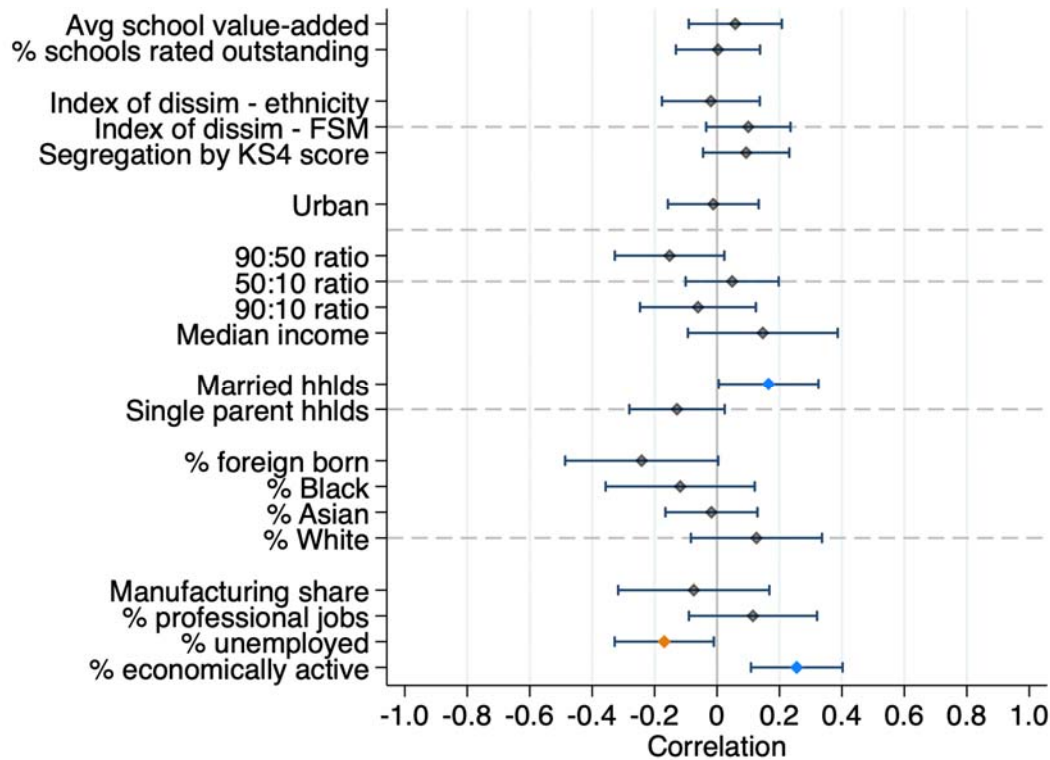
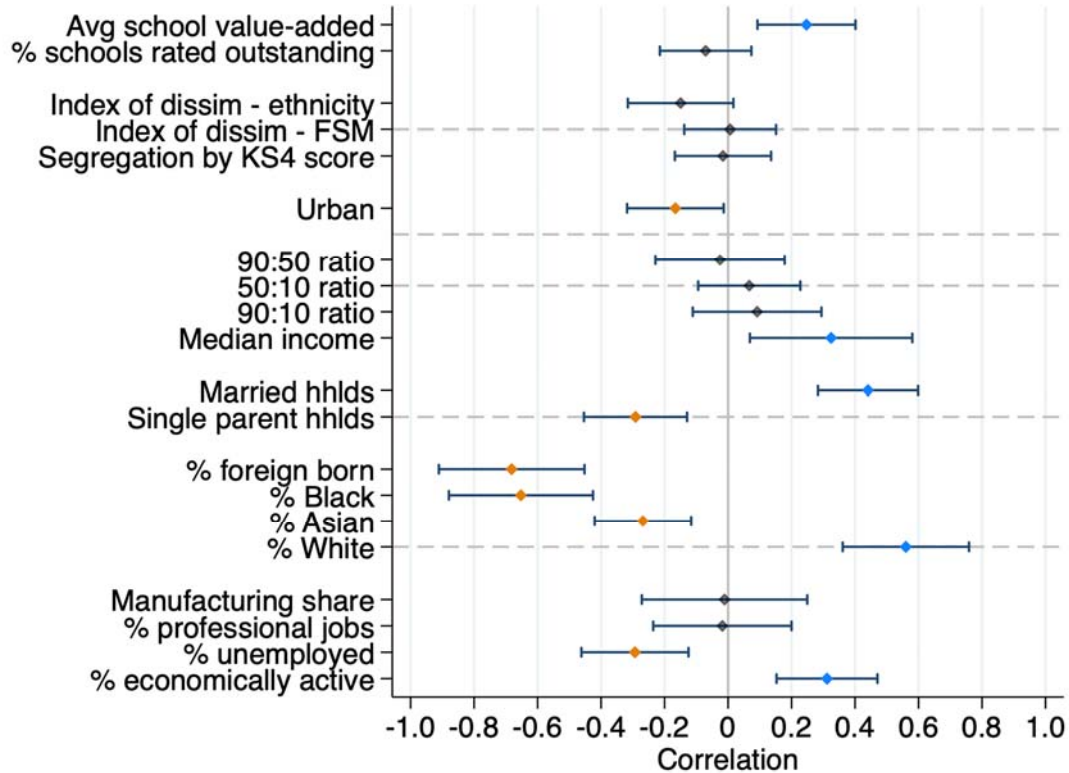


Figure 12. Correlation of area characteristics with mean earnings rank for FSM men



Overall, we see stronger and more wide-ranging associations between area characteristics and area mobility for men than women. For women, only the associations between area mobility and labour market characteristics persist once we control for education. However, for men, there are also significant correlations between area mobility and rurality, ethnic make-up and immigrant status of the area population, as well as the quality of local schools. This is consistent with our finding that education explains nearly twice as much of the variation in mobility for women compared with men.

Many of these area characteristics are highly correlated with each other. When we combine them in multivariate analysis, we find that while, for women, stronger labour market markers continue to be significantly associated with mobility, for men the association with this set of factors is no longer significant. However, the stronger negative association with immigration persists. Finally, for women, we see a negative association between area mobility and earnings inequality in these conditional models – consistent with the Gatsby Curve discussed in the literature (see the tables in Carneiro et al., 2022).

While this analysis is purely descriptive, it suggests first that, especially for men, differences in local area characteristics beyond education might be of first-order importance for explaining variation in social mobility. Second, the heterogeneity in which area characteristics are correlated with area mobility across men and women suggests that there might be some important differences in the factors that promote mobility for men and women. While education plays a more important role for women, patterns of immigration, rurality of the area, ethnic composition and school quality appear to be more important for men. Finally, this analysis points to several specific groups of local area characteristics that warrant further investigation in future research, including local labour market conditions, inequality and the role played by ethnic make-up and immigration status of the population.

Conclusions

In sum, we find similar magnitude differences in social mobility across geographical areas in England as across ethnic groups. In both cases (variation in mobility across ethnicities and geography), equalising education would not be sufficient to equalise the opportunities. In fact, across some ethnic groups, equalising education would exacerbate the differences in mobility.

A lot remains unknown about the mechanisms underlying these differences. Exploratory descriptive analysis suggests some directions for future research into this.

Finally, there are likely to be important intersections between geography and ethnicity which play an important role in explaining the differences in mobility that we see in these two dimensions. Children from ethnic minorities are likely to grow up in distinct parts of the country while White British children are spread across the country. As documented in Mirza and Warwick (2022), ethnic minorities are much more likely to live in large urban centres, including Birmingham, Leicester, Manchester and London, than smaller cities and rural areas. This means that some of the differences in mobility across areas might be driven by the different characteristics of the children living there; or, inversely, some of the differences between different ethnic groups may be driven by the areas where they live. Furthermore, growing up in a certain place might be more advantageous for some ethnic groups than others. A better understanding of these intersections is key for a more complete understanding of the patterns that we see.

New directions: the role of wealth transfers and returns to wealth

We are interested in differences in earned incomes, and how they differ by parental background, because they are used to fund spending and saving, and thus have an impact on people's current and future living standards. But earnings are not the only inflow of economic resources that people have over their lifetimes. Spending can be funded, and savings accumulated, also from returns to wealth and transfers received. We should, therefore, consider returns to wealth and transfers received as part of total lifetime income.

There is not an established terminology for the returns to wealth and transfers of wealth that contribute to lifetime income. Here, we refer to these other components of lifetime income as 'unearned income'. We focus on private transfers of wealth and not public transfers received. While public transfers are a large part of income for a significant proportion of individuals, they are not so clearly related to parental background, conditional on earned incomes, as private transfers are (though research on the intergenerational transmission of social security take-up does show that there are links here too).

The intergenerational persistence of total lifetime income depends on the persistence in earned income, the persistence in unearned income, the relative importance of earned and unearned income in total lifetime income, and the strength of association between these two components of total lifetime income.⁹ This means that if children's unearned income were more related to their parents' lifetime income than earned incomes, for example, then a shift whereby unearned income made up a greater share of children's incomes would mean that lifetime income mobility would fall.

Existing literature on social mobility tends to focus on earned income persistence, implicitly assuming that it is a good proxy for lifetime income persistence. This is equivalent to assuming either that unearned income is an unimportant component of total income or that it is highly correlated with earned income, or some combination of these assumptions. Earned income persistence would be a good proxy for lifetime income persistence in a situation where

⁹ We can show this formally. Denoting lifetime income of generation t as Y_t , and earned and unearned income as Y_t^e and Y_t^u , respectively, the intergenerational correlation in lifetime income can be decomposed as follows:

$$\text{corr}(Y_t, Y_{t-1}) = \frac{\text{cov}(Y_t^e, Y_{t-1}^e) + \text{cov}(Y_t^u, Y_{t-1}^u) + \text{cov}(Y_t^e, Y_{t-1}^u) + \text{cov}(Y_t^u, Y_{t-1}^e)}{\sqrt{\text{var}(Y_t^e) + \text{var}(Y_t^u) + 2\text{cov}(Y_t^e, Y_t^u)} \sqrt{\text{var}(Y_{t-1}^e) + \text{var}(Y_{t-1}^u) + 2\text{cov}(Y_{t-1}^e, Y_{t-1}^u)}}$$

From this, we can see that the overall correlation is the weighted sum of the intergenerational covariances of earned and unearned income, as well as the cross-terms of the covariance of earned child and unearned adult income, and vice versa. This gives us that the overall correlation depends on the strength of persistence in each component, as well as their association. Note, further, that for both components of income c ,

$$\lim_{\text{cov}(Y_t^c, Y_{t-1}^c) / \text{corr}(Y_t^c, Y_{t-1}^c) \rightarrow \infty} \text{corr}(Y_t, Y_{t-1}) = \text{corr}(Y_t^c, Y_{t-1}^c).$$

This says that in the limit, as the amount of variation in one of the two elements of lifetime income increases, holding its intergenerational correlation fixed, the intergenerational correlation in lifetime income tends towards the intergenerational correlation of that component of income.

intergenerational wealth transfers were small and returns to wealth were either small or unrelated to someone's parental background.

Unearned income sources may have been overlooked in the social mobility literature in the past because these sources of income were indeed relatively less important in past decades. Additionally, intergenerational wealth transfers and returns to wealth are less widely and less well recorded in standard economic datasets. High-quality data containing information on these outcomes, which are also linked across generations, are rare. However, as noted in the introduction, continued focus on earned income alone in the study of intergenerational mobility may provide an increasingly misleading picture in light of the growth in the size of household wealth compared to incomes in the UK, as in many advanced economies over the past 40–50 years, which has been accompanied by a growth in the size of returns to wealth and intergenerational wealth transfers, as a share of national income.

A comprehensive assessment of the contribution of unearned income to the persistence of lifetime income across generations would need to employ measures of lifetime income, including both earned and unearned components, for multiple linked generations. Data that would allow such an analysis for the UK do not exist and we are not aware of any such studies from other countries.¹⁰

One way of assessing whether there is an important role for unearned income in driving lifetime income mobility is to examine intergenerational *wealth* mobility. Examining intergenerational wealth mobility is informative about overall lifetime income mobility because wealth is accumulated from both unearned as well as earned income and, as a stock, is influenced by income over all of the preceding years of someone's life.¹¹ One test of whether there appears to be a role for unearned income is as follows. If earned income persistence were the only driver of lifetime income persistence and saving rates conditional on level of earnings were not persistent across generations, then rank–rank measures of wealth mobility would be the same as rank–rank measures of earned income mobility. The reason for this is that in this case the only systematic driver of wealth differences between those with richer and poorer parents would be differences in earnings. The persistence in wealth ranks would be driven by the persistence in earnings ranks and could not exceed the level of persistence in earnings. Alternatively, if a rank–rank measure of the intergenerational persistence of wealth is higher than that for earned income, then this suggests a role for direct transfers of wealth from wealthy parents to their children, or that returns to wealth or savings decisions vary by parental background and lead to greater wealth accumulation for those with higher-earning and wealthier parents. We can, therefore, assess whether there looks to be a role for unearned income by assessing whether position in the wealth distribution is more persistent across generations than position in the distribution of earnings.

Relatedly, we can assess what factors might be important in driving the persistence of lifetime income by examining which factors look to be driving the persistence of wealth. Consider the following thought-experiment. Among a group of children, we compare those with more and less wealthy parents. We would find that those with wealthy parents are themselves wealthier than those with poorer parents. We then ask whether, among a group of children with the same level of earnings, we find any differences in those children's wealth when comparing those with wealthier and poorer parents. If we do not find any such differences, we may think it likely that earnings are the main channel through which differences in lifetime income persist from one generation to the next. If we do find that wealth is higher for those children with wealthier parents, even when comparing those with the same level of earnings, then we might think it likely that some other channels such as transfers of wealth or returns to wealth are playing a role. We could directly assess this by examining whether, among those with the same level of earnings, those children who were wealthier and had wealthier parents had received more in intergenerational transfers or were more likely to hold high-return assets. Examining which

¹⁰ Justman and Stiassnie (2021) make estimates of the intergenerational persistence in lifetime income but it is not clear that their measure of lifetime income would capture intergenerational wealth transfers. Adermon, Lindahl and Waldenström (2018) employ data that link multiple generations and include data on inheritances, but their focus is in explaining intergenerational wealth mobility rather than lifetime income mobility. Boserup et al. (2016) set out conditions under which the intergenerational correlation in 'lifetime resources' (the sum of earned income and transfers from previous generations) can be inferred from the intergenerational correlation in wealth and they make such an estimate for Denmark.

¹¹ See Boserup et al. (2016) for a simple model setting out relationships between earned income, wealth transfers and lifetime income.

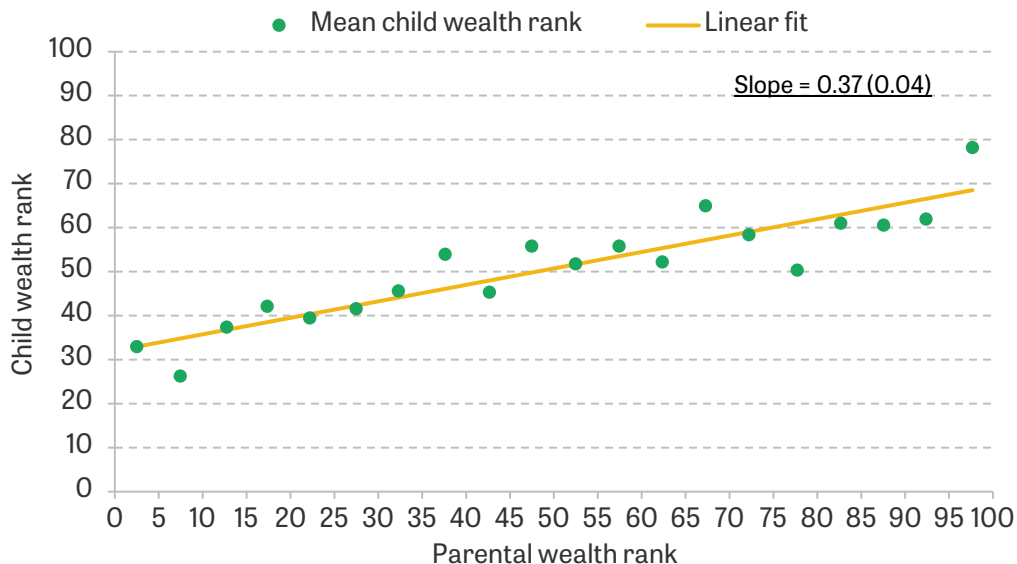
factor 'explained' wealth gaps, in a statistical sense, would be indicative of which factors are likely to be important drivers of lifetime income persistence.

These tests are not perfect. The first shortcoming is that wealth persistence that is driven by persistence in saving rates across generations does not reflect a role for unearned income persistence. This is because differences in saving rates are driven by differences in the *time* in life when people choose to spend their income, not differences in the *level* of lifetime income. However, the two other factors that could drive wealth persistence – returns to wealth and intergenerational wealth transfers – do represent additions to lifetime income. The second shortcoming is that quantifying wealth persistence and its drivers does not mean that we have quantified lifetime income persistence and its drivers, just that we have strongly suggestive evidence of which factors are likely to be important in driving lifetime income persistence. This means that while the extent and drivers of wealth mobility can be strongly suggestive of the extent and drivers of lifetime income mobility, we cannot simply infer the latter from the former.

Intergenerational wealth mobility has been studied using similar metrics to those employed in the study of income mobility. There are a number of methodological issues involved with the estimation of intergenerational wealth persistence. Most of these are analogous to the issues involved in measuring earnings mobility and discussed above, such as life-cycle bias, treatment of zero and negative values, and attenuation of estimates due to measurement error (see Boserup, Kopczyk and Kreiner, 2016, for a discussion).

Recent work has measured intergenerational wealth mobility in the UK. Figure 13., reproduced from Davenport, Levell and Sturrock (2021), shows an estimate of the rank–rank relationship between parents' and their children's wealth for those children born in the UK between 1974 and 1986. Children's wealth was measured between ages 30 and 42. This employs data from the British Household Panel Study and its successor, Understanding Society (BHPS/USoc), to construct a measure of wealth that is the sum of housing wealth and financial assets, such as savings accounts, stocks and shares, and ISAs, net of debts including mortgage debt and unsecured debts such as loans and credit card debt. Davenport et al. (2021) estimate a rank–rank slope for wealth of 0.37 and an intergenerational wealth elasticity, also equal to 0.37. The results shown in the figure use a child's individual wealth. If using the child's household wealth instead, the rank–rank estimate is 0.36 and the elasticity estimate is 0.39.

Figure 13. Rank–rank relationship in wealth for those born between 1974 and 1986 in the UK



Note: Child wealth is measured between ages 30 and 42. Parents' wealth is an average of observations from 2000 and 2005. Rankings are made within age groups (and within year of observation in the case of children).

Source: Davenport et al. (2021).

There are two other recent estimates of intergenerational wealth persistence in the UK. Blanden, Eyles and Machin (2021) used the intergenerational correlation in homeownership (measured in various datasets) and the relationship between homeownership and wealth rank (estimated using the Wealth and Assets Survey) to estimate a rank–rank slope for wealth of between 0.38 and 0.46. These estimates use a definition of wealth that includes pension wealth, which is measured in the Wealth and Assets Survey (WAS) but not BHPS/USoc. Blanden, Eyles and Machin (2021) also find that the relationship between parents' and children's homeownership strengthened between 2000 and 2015, and they infer that wealth mobility, therefore, declined over this period. Gregg and Kanabar (2021), using a two-stage estimator and data from the WAS, find a wealth elasticity of 0.35 and a rank–rank slope of around 0.3, but also find that intergenerational wealth persistence is higher for younger generations (with an elasticity of 0.4 for those in their 30s in recent years, i.e. primarily those born in the 1980s) than older generations. Despite slightly varying definitions of wealth persistence and the use of different methods and different datasets, these three existing UK estimates of wealth persistence are consistent with each other and with rank–rank and elasticity measures for those in their 30s or early 40s in recent years of around 0.4.

How should we interpret these measures of intergenerational wealth persistence in the UK? One way of putting these into context is to make international comparisons. In the US, Charles and Hurst (2003) estimated an intergenerational elasticity of household wealth of 0.37, with Pfeffer and Killewald (2018) and Gayle and Hincapié (2016) finding similar results. This is substantially higher than the estimated elasticities of 0.24 for Denmark (Boserup et al., 2016) and 0.23 for Norway (Fagereng, Mogstad and Rønning, 2021). Using individual-level wealth, Adermon et al. (2018) and Black et al. (2020) estimated elasticities for Sweden of 0.32 and 0.25, respectively.¹² Wealth persistence, therefore, appears to be higher in the UK than in Scandinavian countries and, like earnings persistence, to be comparable to that in the US.

The intergenerational persistence in homeownership is closely related to the intergenerational persistence of wealth, given that housing wealth is the largest part of non-pension wealth. Homeownership and its persistence over generations is also an outcome of interest in its own right. Using the Longitudinal Study of Linked Censuses (LS), Bell et al. (2023) estimate the intergenerational persistence in homeownership. Because the LS has a large sample size and links the censuses from 1971 onwards, Bell et al. (2023) can measure differences in homeownership mobility between regions and over time, measuring the homeownership status of children when they are aged 30–36. They find that the correlation between parents' and children's homeownership status increased from 0.18 for those children born in the years 1955–61 to 0.31 for those children born in 1975–81. Mobility fell in all areas of England and Wales but fell most in London. The correlation is highest in London, at 0.38, and lowest in Wales, at 0.25.

A key question, given our focus, is whether the intergenerational persistence in wealth can be explained simply by the intergenerational persistence in earnings, suggesting no additional role for unearned income in driving the persistence of lifetime income, or whether wealth persists from generation to generation over and above that which is explained by earnings persistence. A consistent finding in the literature calculating the intergenerational persistence of wealth is that a minority of wealth persistence can be attributed to persistence in earnings. For example, in the US context, Charles and Hurst (2003) find that the intergenerational elasticity of wealth decreases by around a quarter to a half when conditioning on earnings, and the equivalent figure from Adermon et al. (2018) is a quarter.¹³ Consistent with this, Boserup et al. (2016) report a significantly higher rank correlation of wealth (0.27) than of income (0.20) for Denmark, suggesting a potentially substantial role for unearned income in driving wealth persistence.

For the UK, Davenport et al. (2021) find that around half of the intergenerational persistence in wealth can be explained by the intergenerational persistence of education and earnings. This means that the transmission of human capital and earnings potential is an important driver of wealth persistence but that other factors also play a key role. The fact that the rank–rank measure of wealth persistence is higher than that we have seen for earned income is also strongly suggestive of a role for factors other than earnings persistence in driving wealth

¹² The estimated wealth rank correlation in Adermon et al. (2018) is 0.39, suggesting that life-cycle bias may attenuate their elasticity estimate. This compares to a rank–rank estimate of 0.35 in Black et al. (2020).

¹³ Also using Swedish administrative data, Black et al. (2020) find a negligible effect on the estimated relationship between parents' and children's wealth of including controls for parents' earnings.

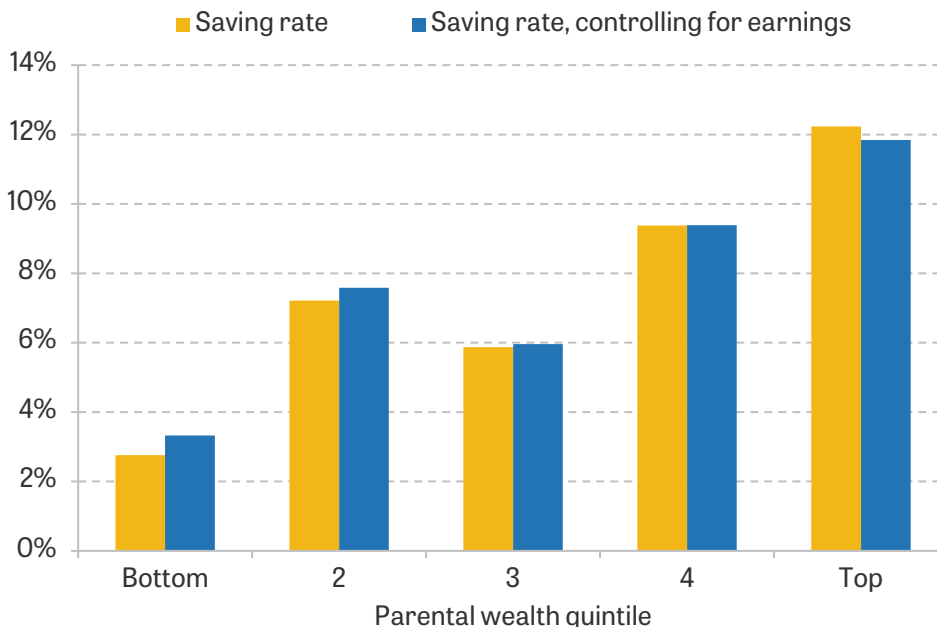
persistence.¹⁴ This stronger persistence of wealth ranks than earnings ranks is found also within the sample of Davenport et al. (2021), where the rank–rank persistence measure for earnings is 0.27 (compared to 0.37 for wealth). There is, therefore, strong evidence that the persistence of wealth is not simply driven by the persistence of earnings. The findings that the persistence of earnings does not fully explain the persistence of wealth across generations raise the following questions. What does explain the additional persistence of wealth, compared with earnings? Is this additional persistence of wealth indicative of a role for unearned income in driving lifetime income persistence? Alternatively, is the additional persistence of wealth attributable to persistence in saving rates across generations? Again, no data exist that can give a comprehensive answer to these questions, but there is evidence that goes some way to answering them. We now consider, in turn, the evidence on the roles of saving rates, returns to wealth and intergenerational transfers.

Is intergenerational wealth persistence driven by saving rates?

Davenport et al. (2021) examine differences in saving rates by parental wealth level, using the BHPS/USoc sample described above. Figure 14 reproduces their findings. While the measure of saving used is based on self-reports of active saving and is, therefore, likely to miss some saving, such as that through mortgage principal repayments or passive saving of capital gains, it nevertheless strongly suggests that those with wealthier parents save a higher fraction of their earnings. Davenport et al. (2021) also show that this is true even when comparing those individuals with similar levels of earnings, and so this finding is not simply driven by the fact that wealthy parents tend to have higher-earning children and that higher earners tend to save at a higher rate. Furthermore, the higher saving rates of children with wealthy parents do not appear to be explained by their parents having higher saving rates (and perhaps passing on this behaviour implicitly or explicitly).

Black et al. (2020) use Swedish administrative data to estimate the association between children's savings rates and the wealth and savings rates of their parents. In contrast to the findings of Davenport et al. (2021) for the UK, they find a slightly negative association between parental wealth and a child's savings rate. The authors interpret this as suggesting that children of wealthy parents save slightly less, all else equal, perhaps because they anticipate receiving wealth transfers in future.

Figure 14. Average active saving as a proportion of average earnings, by parental wealth quintile for those born between 1974 and 1986 in the UK



Source: Davenport et al. (2021).

¹⁴ If savings rates are, on average, increasing in earned income, and there were no intergenerational persistence in unearned income, then we would expect the rank–rank slope measures of earnings and wealth persistence to be equal.

This evidence suggests that, in the Swedish setting, the persistence of wealth is not driven by saving behaviour, but that in the UK a substantial amount of wealth persistence could be driven by the children of wealthy parents saving more. This is significant because to the extent that intergenerational persistence of wealth is driven by savings behaviour, this means that it is not evidence of intergenerational persistence in lifetime income.

Is intergenerational wealth persistence driven by persistence in rates of return?

Black et al. (2020) examine the association between portfolio allocation and returns to wealth of children and the wealth, savings rates, portfolio allocation and returns of their parents in the Swedish context. They also use adopted children to assess whether intergenerational relationships are stronger between children and their biological or adopted parents, suggesting, respectively, roles for genes or innate ability and preferences, versus environmental factors. They find that those with wealthier parents hold a higher share of their wealth as risky financial assets and as real estate, and a lower share as safe assets. They also estimate that those with wealthier parents gain a higher return on their wealth. Finally, they find that, among adoptees, the intergenerational persistence of investment decisions and returns is generally stronger between a child and their adopted parents than with their biological parents. This suggests that it is the childhood environment that drives the transmission of these outcomes, rather than heritable traits. Together, child earnings, savings rates and rate of return are found to explain, in a statistical sense, 50% of the persistence in wealth across generations.

Evidence on the intergenerational correlation in returns to wealth from Norwegian administrative data (Fagereng et al., 2020) suggests a positive but relatively modest intergenerational elasticity in returns of 0.16. This persistence is not itself driven only by the fact that wealthy people tend to get higher returns and that there is persistence of wealth across generations. Even when conditioning on wealth, there is persistence in returns across generations. In line with this, Benhabib, Bisin and Luo (2019) find that a modest intergenerational correlation of returns to wealth is consistent with patterns in US wealth inequality and wealth mobility.

In the UK, Davenport et al. (2021) find that those with wealthier parents are more likely to hold riskier, potentially higher-return assets such as stocks and shares and housing wealth. The propensity of those with wealthier parents to hold riskier assets is largely explained by the higher earnings of those with wealthier parents. In the case of housing, however, there were significant gaps in the homeownership rate between those with wealthier and poorer parents, even after controlling for earnings. In so far as holding wealth as housing yields higher returns than the alternative use of that wealth, this could be a driver of wealth persistence. The idea that those with wealthy parents are able to get on to the housing ladder more easily and that this is to their financial advantage is prevalent in popular debates. Boileau and Sturrock (2023b) find that in the period 2018–20, the overwhelming majority of significant financial gifts were made from parents to children and that more than half of the value of gifts transferred were reported as being used for home purchase and improvement. The relationship between transfers received and movements into homeownership was found to be particularly strong for those with higher SES parents. Further research quantifying the importance of this channel in driving intergenerational wealth persistence in the UK would be valuable.

Is intergenerational wealth persistence driven by intergenerational financial transfers?

Other than earnings, existing literature finds intergenerational financial transfers to be the most important driver of intergenerational persistence of wealth. Given that the source of these is the previous generation of a family, it is perhaps not surprising that this source of income could play a substantial role in driving lifetime income and wealth persistence.

Two studies estimating intergenerational wealth mobility in Denmark and Sweden made direct estimates of the role of inheritances in driving the persistence in wealth. Examining a group of Danish individuals over the period in which their final living parent died, Boserup et al. (2016) found that the intergenerational rank correlation in wealth among this group increased from 0.29 to 0.37, a rise of over a third. This compared with an otherwise similar group whose parents did not die and who saw no change in this measure of wealth persistence. The interpretation given is that this increase in wealth persistence at the time when parents die shows the impact of inheritances on the persistence of wealth. In Sweden, by calculating measures of wealth with and

without the addition of inherited wealth, Adermon et al. (2018) found that around one-half of the intergenerational rank correlation in wealth could be explained by inheritances.

Boserup et al. (2016) also document that wealth persistence follows a U-shape in the child's age, being high when they enter adulthood, falling when the child is in their early 20s, and then rising again through the late 20s and 30s, before stabilising from around age 40. The interpretation of this finding is that *inter vivos* transfers from wealthy parents play a significant role in driving wealth persistence in early adulthood, before children have built up any significant wealth from their own earnings.¹⁵

These two studies therefore find that intergenerational wealth transfers explain a large share of the persistence in wealth that is not explained by the persistence in earnings. In turn, this is strongly suggestive of intergenerational transfers playing an important role in increasing the persistence of lifetime income. However, these findings alone cannot *quantify* the role of inheritances in increasing lifetime income persistence. The increase in the persistence of wealth attributable to inheritances could be different in size to the increase in the persistence in lifetime income attributable to inheritances. This is because wealth at any point in life represents only a fraction of lifetime income, depending on how much of income is saved, when it is saved, and the return to those savings. Unless we make further assumptions about the relationship between wealth and lifetime income, we cannot directly infer the impact of inheritances on the persistence of lifetime income from its impact on the persistence of wealth. But this evidence does suggest that wealth transfers look likely to be an important driver of lifetime income persistence.

For the UK, there has not been any direct quantification of the importance of intergenerational transfers in driving wealth or lifetime income persistence. Clark and Cummings (2015) used rare surnames in England and Wales to measure persistence in wealth at death over five generations (wealth at death being a close proxy for the intergenerational transfer of wealth through inheritance). They estimate higher intergenerational elasticities in wealth at death than are typically estimated for earnings. Their preferred estimates of 0.70–0.75 compare to elasticities of male earnings of around 0.3. This strongly suggests that inheritances increase overall lifetime income persistence, though these results cannot tell us *how much* of lifetime income persistence is driven by inheritances. However, we note that, given these estimates are of the persistence of bequests for those who died, at latest, in 2012, they may not be representative of the importance of inheritances for those in younger generations today. Furthermore, their paper has wealth data only for the minority of people whose estate was required to be probated so persistence of wealth transfers may be different over the whole population.

We now turn to our main focus when considering the role unearned incomes in social mobility in the UK today: intergenerational transfers of wealth (i.e. inheritances and *inter vivos* transfers). We first document the size of *inter vivos* transfers in the UK and their relationship with markers of parental lifetime income and with receivers' earned income. We then combine information from multiple datasets to make a simulation and estimate the contribution of inheritances to lifetime income persistence for today's working-age generations in the UK.

Intergenerational wealth transfers in the UK

To set the scene, Figure 15 shows the proportion of individuals in each age group who receive substantial intergenerational transfers over a two-year period. These data are from the WAS, which covers Great Britain over the period 2006–16. Here, we split transfers into inheritances, gifts and loans.¹⁶ Individuals are asked about whether they have received an inheritance of £1,000 or more in the past two years. For gifts and loans, the threshold amount is £500. In the case of inheritances, we exclude those transfers that are not intergenerational because they are

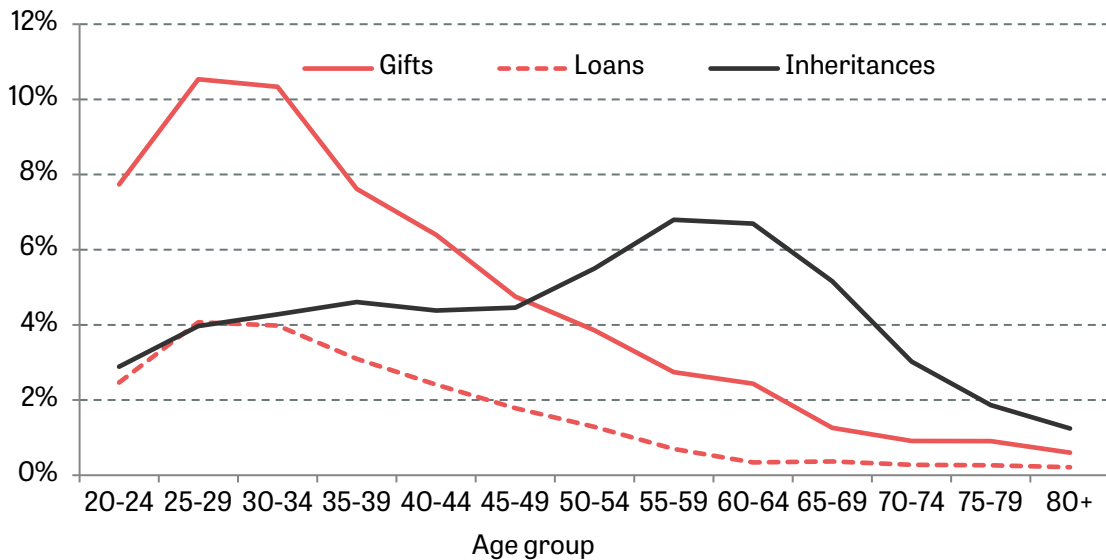
¹⁵ This is counteracted when children are in their early 20s and those with wealthy parents earn and save less than their peers with poorer parents (as the former are more likely to be in education in their early 20s, for example). But as working life goes on, the intergenerational persistence of earnings is established and drives an increase in the persistence in wealth.

¹⁶ While loans would not ordinarily be considered a financial transfer, if they are made on favourable terms, or are partially written off then they may be conceived as such. Further, a loan that is fully repaid could lead to higher income of the recipient if, for example, it enables them to develop a business, for example. As discussed below, these transfers could therefore be relevant to social mobility due to their effects on other income.

reported to be received from a spouse, sibling or non-relative. Boileau and Sturrock (2023a) show that the vast majority of the flow of *inter vivos* transfers is from parents to children.

Figure 15 shows that gifts are most commonly received by those in their 20s and 30s with just over one in ten people aged 25–34 receiving a gift in a two-year period. Loans are less frequently received but also most common amongst those in early adulthood. Around 4% of individuals aged 25–49 receive an inheritance in any two-year period, but this rises to 7% of those in their late 50s and early 60s before falling again with age. This timing is in line with the age that people tend to be when their parents die.

Figure 15. The proportion of individuals receiving a gift, loan or inheritance over a two-year period, by age group



Source: Wealth and Assets Survey, waves 1–5, 2006–16.

Despite their prevalence, gifts and loans are much smaller in size than inheritances. The mean value of inheritances amongst receivers rises from around £25,000 for those in their 20s to £60,000 for those in their 60s. Gifts and loans received have a mean value of around £5,000 at all ages. The distribution of all transfers is highly skewed, with many relatively small transfers and a small number of very large transfers.

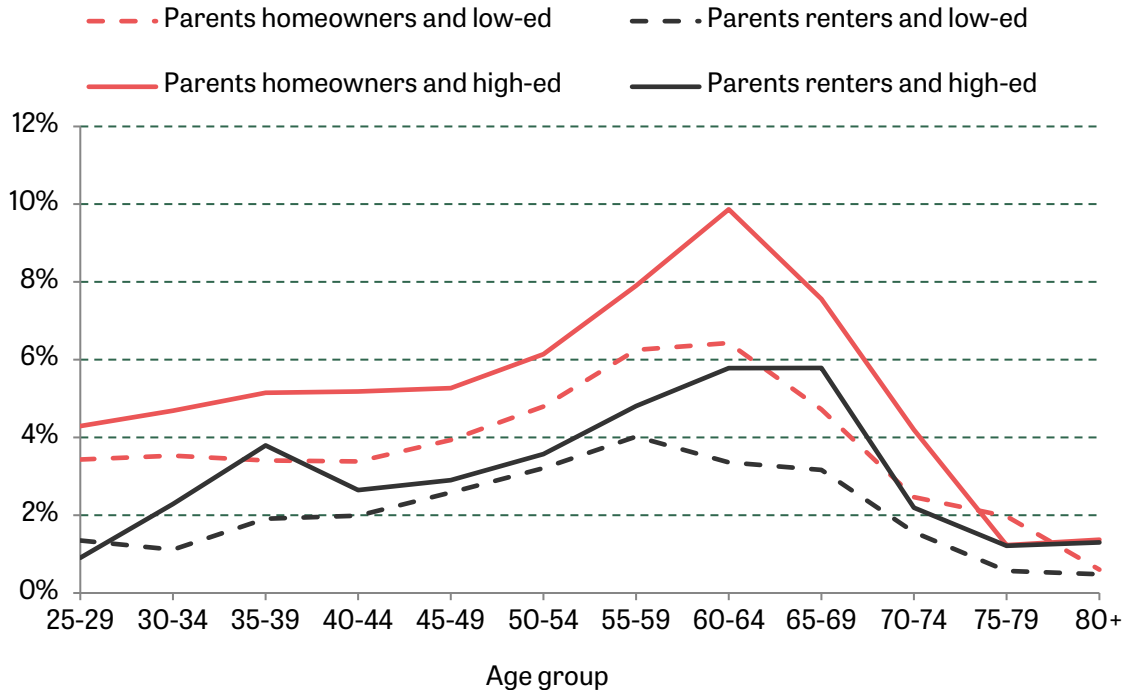
The association of *inter vivos* transfers with markers of parental wealth and child-earned income

The annual flow of *inter vivos* transfers is worth around one-fifth of the annual flow of inheritances (Boileau and Sturrock, 2023a). Transfers made during life are, therefore, a modest part of intergenerational wealth transfers and their *direct* impact on lifetime income mobility is likely to be relatively modest. Boileau and Sturrock (2023a) use the WAS to quantify the total value of *inter vivos* transfers received over an eight-year period in early life. Their study finds that when they were in their 20s and early 30s, the children of those who did not own their own home received on average £100 per year, or less than 1% of other annual income, in *inter vivos* transfers per year. This compared to £240 on average (or 2% of other income) for those whose parents owned their own home and did not have university-level education, and to £560 (or 3% of annual other income) for those whose parents were homeowners and who had at least one parent with a university-level education. Despite their relatively modest size compared to other income, these transfers might have important *indirect* effects on lifetime income if they interact with labour market choices or investment decisions, as discussed earlier.

The association of inheritances with markers of parental wealth and child-earned income

For those who have inherited in recent years in the UK, we show evidence of their association with markers of parental wealth and child earnings. First, perhaps unsurprisingly, inheritances are more commonly received and are larger for those whose parents have characteristics associated with high wealth and earned income. Figure 16 shows the proportion of individuals receiving an inheritance over a two-year period, split into four groups based on the individual's parents' level of education and housing tenure.

Figure 16. Proportion of individuals receiving an inheritance, by parents' housing tenure and education level



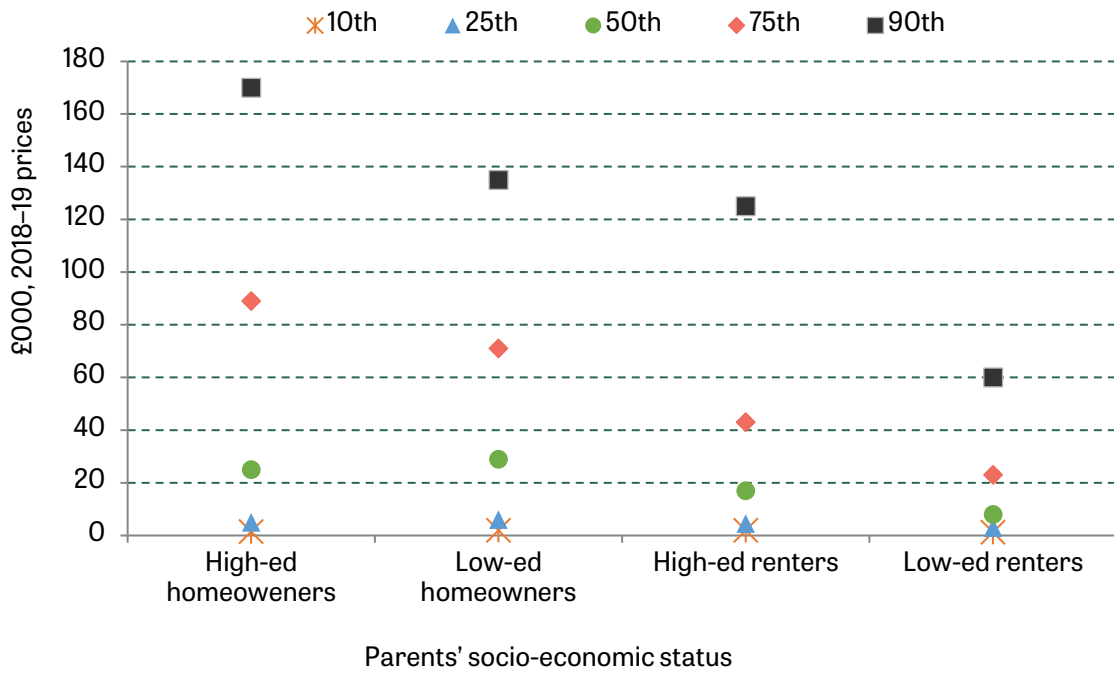
Note: Parents are defined as high-educated if the respondent reported that at least one of their parents attended university, and are low-educated otherwise. Respondents are asked to recall whether they lived in accommodation that was owned or rented when they were a teenager.

Source: Wealth and Assets Survey, waves 1-5.

Figure 16 shows that having highly educated parents or parents who are homeowners is associated with a higher probability of receiving an inheritance. For example, those with high-educated homeownership parents are around twice as likely to receive an inheritance at any given age than those whose parents are low-educated and renters. Figure 17 shows selected points of the distribution of inheritance for those who do receive an inheritance, demonstrating that inheritances differ in size between these groups. For example, while half of inheritors with high-educated homeownership parents inherited £29,000 or more, fewer than one in four inheritors with low-educated renting parents received a sum this large (the 75th percentile of inheritances for this group being £23,000). Education and homeownership are positively associated with lifetime income and wealth. Thus, these patterns are highly likely to mean that those with parents with higher lifetime income inherit substantially larger sums, and so inheritances act to increase the intergenerational persistence of incomes.

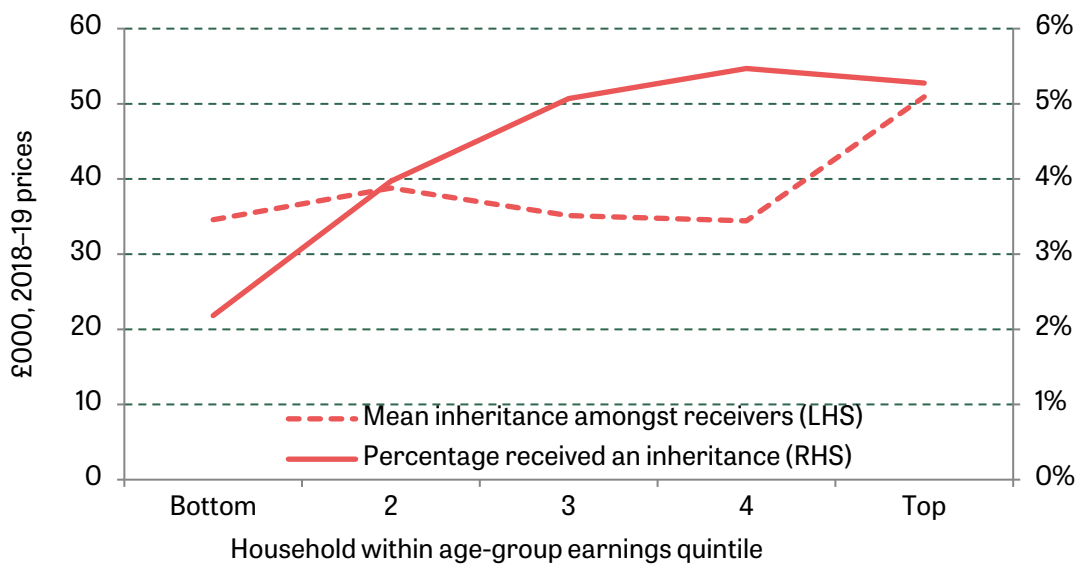
As noted earlier, the effect of inherited wealth on overall income mobility will be stronger if there is a close relationship between inheritances and earned income. The evidence here shows that these two income streams are positively related. Figure 18 shows the proportion of individuals who receive an inheritance and the mean inheritance amongst receivers, by quintile of earnings. Higher earners are more likely to inherit and to inherit larger sums.

Figure 17. Selected points of the distribution of inheritances, amongst those receiving an inheritance, by parents' housing tenure and education level



Source: Wealth and Assets Survey, waves 1-3.

Figure 18. Proportion inheriting and mean size of inheritance amongst receivers, by quintile of household earnings



Note: Earnings quintiles are defined within five-year age groups.

Source: Wealth and Assets Survey, waves 1-5, 2006-16.

Box 1. Inherited wealth and the very wealthiest

Recent years have seen considerable focus given to the very wealthiest, including both measurement of top wealth shares and debates over taxation of those at the top. Since the 1980s, the top 1% share of wealth has been growing in both the US and UK. What role does inherited wealth play in driving who is at the top?

Despite the increased focus on the wealth of the wealthiest, there is limited evidence on the role of intergenerational transfers in driving top-wealth shares. Data limitations are one likely reason for this. Survey data, which contain information on wealth and inheritances, do not have good coverage of the very wealthiest. Administrative data recording both receipt of inheritances and wealth of the receiver are rare and would likely be subject to concerns about tax avoidance for the very wealthiest. For measurement of top wealth shares, researchers have employed the income capitalisation method, which scales up flows of returns to wealth to infer assets held. This method cannot tell us about whether the wealth on which that income is received was received as an intergenerational transfer or not. More broadly, one might expect that the very wealthiest would have opportunities to transmit advantage across generations in a range of ways other than through direct wealth transfers, such as an ability to influence political processes to favour a family member's business. Such activities would not be captured by a standard analysis of survey or administrative data. For this reason, a full assessment of the role of family wealth for the very richest would face challenges, even with comprehensive data on wealth transfers.

The limited evidence on intergenerational transfers and the wealthiest that does exist comes from analysis of rich lists. Rich lists are compiled by collecting information on the wealth holdings of several hundred individuals and families identified as potentially having high net worth. The researchers compiling these lists draw on publicly available information from company records, probate records, court documents, etc., and also contact wealthy individuals and their employees to request information about wealth holdings directly. In some cases, the producers of these lists have published an assessment of the role of inherited wealth in top-wealth lists.

The most prominent rich list is the Forbes 400 list of the richest American citizens. Since 2013, Forbes has published a 'self-made score' for each person on their list. This scores each individual on the extent to which they established their wealth 'on his or her own'. Forbes report that the 2020 list is overwhelmingly 'self-made' according to their measure. They also claim the list has become more 'self-made' over time. Assigning scores to the first list, from 1984, they found that less than half of that list was 'self-made', whereas, in 2020, 70% were deemed to be 'self-made'.

In the UK, the *Sunday Times* produces a rich list of UK residents. One *Sunday Times* article discussing the rich list reported that there was a rise in the share of 'self-made' individuals on the list (Watts, 2018). The claim in this article is that 'when the Rich List was first published in 1989 just 43% of the entries had made their money themselves and the surest way to a fortune was to be a landowner – preferably with a title. Today 94% of those in the Rich List are self-made entrepreneurs behind some of Britain's game-changing businesses. [...] Landowners dominated the first Rich List, accounting for 57 of the 200 entries. Today land is the principal source of wealth for just 29 of the richest 1,000.'

Finally, a global rich list is compiled by Wealth-X, a company providing advice on high-wealth individuals. Their 'World Ultra-wealth Report 2020' classifies individuals into 'self-made',

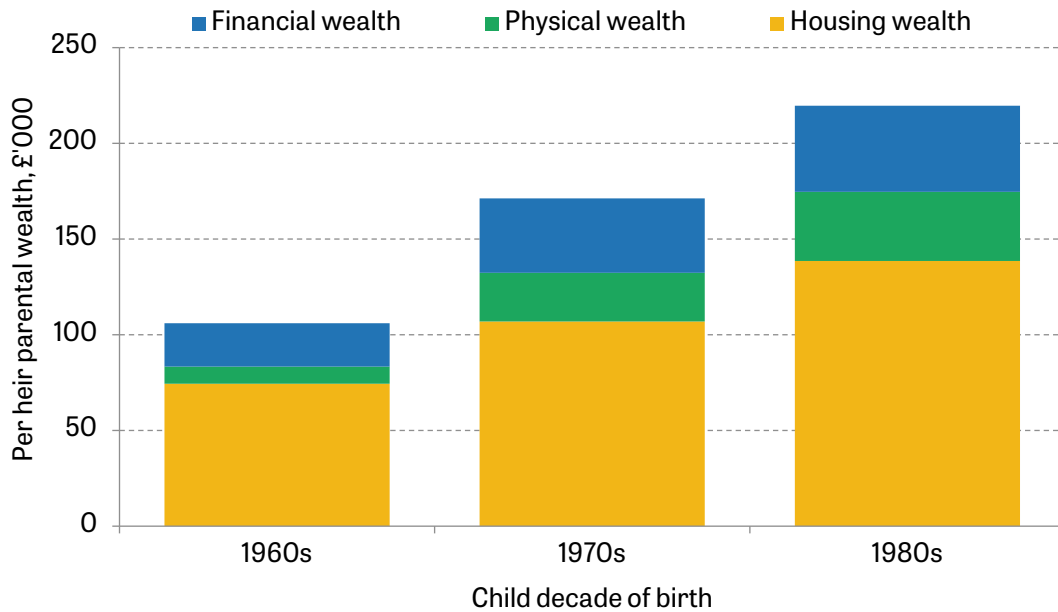
'inheritor' and 'part self-made, part inheritor' groups. They find that 72% of the ultra-wealthy are 'self-made' and that this proportion has increased over time. This report explains this rising share of 'self-made' individuals on the list as being due to the rise of opportunities to accumulate wealth in emerging economies, increased female labour force participation, and the role of technology companies in enabling large amounts of wealth to be accumulated quickly. They reach this conclusion in part based on the countries and main industries that those on the list are associated with.

While there is significant individual judgement involved with the classification of individuals on these rich lists, it seems that, in the narrow sense of whether their wealth is largely constituted of a transfer from a family member, the very richest few hundred individuals appear less likely to have largely inherited their wealth now than in decades gone by. This appears to be in contrast to trends over much of the wealth distribution where inherited wealth is becoming a more important determinant of lifetime income. However, several further points should be born in mind. First, the members of these rich lists constitute not the top 1% or top 0.1% but less than the top 0.01% of populations. Trends in this small but important group could be quite different even to the top 1%. Second, the increasing importance of technology companies at the top of the wealth distribution and in the economy more widely suggests that whether those fortunes are bequeathed, and who they are bequeathed to, will become an important determinant of top wealth shares – and who is at the top – in future decades. Finally, in a wider sense, family background is of course still closely related to an individual's chance of becoming part of that very wealthiest group, through the importance of the home environment, education and the ability of family to support the development of a career or business. However, quantifying how important these factors are for the wealth of the very wealthiest is beyond our scope here.

The contribution of inherited wealth to lifetime income mobility

While we have been able to give some indicative evidence on the impact to date of inherited wealth on lifetime income mobility in the UK, in the absence of data linking generations and covering all of lifetime income, we are unable to quantify their contribution. In part for this reason, we turn to look at younger generations. In these generations, the parents of most people are still alive and most inheritances have not yet been received. This means that we can use data that link generations of those alive today to try to estimate future trends in inheritances and their potential impact on social mobility. Independent of these data issues, there is reason to look towards the future both because inheritances look set to be a larger part of lifetime income for younger generations and because we may be more interested in trends in future inheritances where policy is more likely to be able to have an impact.

Several recent studies document that inheritances have been becoming more prevalent over time and larger as a share of national income (Hood and Joyce, 2017; Atkinson, 2018). Based on patterns in parental wealth holding and earnings of future heirs, inheritances look set to increase in size, compared to lifetime earnings, for those born in the 1960s, 1970s and 1980s. This is driven by several key trends: the increasing levels of wealth held by older generations (due to the large house price increases and shift of wealth from public to private ownership that took place in the 1980s to early 2000s), the slowing of earnings growth that has happened since the mid-2000s, and the declining number of children per person (Bourquin, Joyce and Sturrock, 2020). Figure 19 shows that the parents of those born in the 1980s hold about twice as much wealth (adjusting for age) as the parents of those born in the 1960s.

Figure 19. Per heir parental wealth, by child's decade of birth

Note: Wealth is adjusted to age-65-equivalent terms by using the estimated (within-cohort) growth in wealth with age.

Source: Bourquin et al. (2020).

Recent work by Bourquin, Joyce and Sturrock (2021) has made projections of inheritances that will be received by those born in the 1960s, 1970s and 1980s, and their distribution across the distribution of household lifetime income. These estimates are made by projecting forwards trends in parental wealth and household earnings, and using the relationship between parental wealth and child earnings estimated using the BHPS/USoc intergenerational linkage described in the second section. Whereas inherited wealth is projected to be worth 9% of lifetime income for those born in the 1960s, this rises to 16% for those born in the 1980s, a dramatic rise in the importance of inherited wealth.¹⁷ Unsurprisingly, those with higher levels of parental wealth are set to receive larger inheritances, compared to their lifetime income, meaning that inheritances increase inequalities by parental background. Treating parental position in the wealth distribution at older ages as a proxy for their position in the lifetime income distribution, this implies that inheritances are set to strengthen the link between parents' and children's lifetime income (i.e. to decrease lifetime income mobility).¹⁸

With these projections, we can explicitly quantify the projected contribution of inheritances to lifetime income mobility for the first time. We do this by simulating the change in the rank-rank slope attributable to inheritances. More precisely, taking the simulations of Bourquin et al. (2021), we assign households to percentile ranks according to their lifetime income within their generation and assign their parents similarly, based on their wealth when in their 50s. In doing this, we take parents' wealth rank as a proxy for their lifetime income rank. We estimate a regression of the child's household income rank on parents' wealth rank. We do this both including and excluding inheritances from the child's household lifetime income. The comparison of the two estimated coefficients tells us how much inheritances are projected to decrease lifetime income mobility. We estimate a rank-rank slope of 0.39 for the 1960s generation when

¹⁷ See Bourquin et al. (2021) for details of the methodology used to make these projections.

¹⁸ In so far as inheritances are a transfer of housing which has appreciated in price over time without providing a commensurately higher flow of housing consumption, this would mean that inheritances do not increase lifetime consumption as much as they increase wealth, if housing wealth that is inherited is not sold or is used to buy other housing. Indeed, it has been argued that much – or even all – of the growth in UK house prices over the past 40 years is attributable to the decline in returns on safe assets, which has increased demand for housing, as opposed to rising rental values (Miles and Monro, 2021). However, Bourquin et al. (2021) find that 19% of those receiving an inheritance in the WAS report inheriting property wealth (88% of those who inherit report inheriting money or savings). Therefore, the bulk of inheritances are either not in the form of housing, or, if they are, housing wealth is liquidated when inherited. Nevertheless, even if recent house price growth has been in excess of the growth of the flow of housing consumption, the real-terms increase in wealth would increase consumption possibilities and clearly does so differentially according to the amount inherited.

inheritances are excluded. This rises to 0.46 with the inclusion of inheritances, a rise of 19%.¹⁹ For those born in the 1980s, inheritances increase the rank–rank slope from 0.39 to 0.49, a rise of 26%. The projected effect of inheritances on social mobility is, therefore, almost a third larger for the 1980s generation than for the 1960s generation. We conclude therefore that the rising size of wealth is likely to mean that inherited wealth becomes a larger share of lifetime income for younger generations and that, consequently, lifetime income mobility is set to fall across generations.

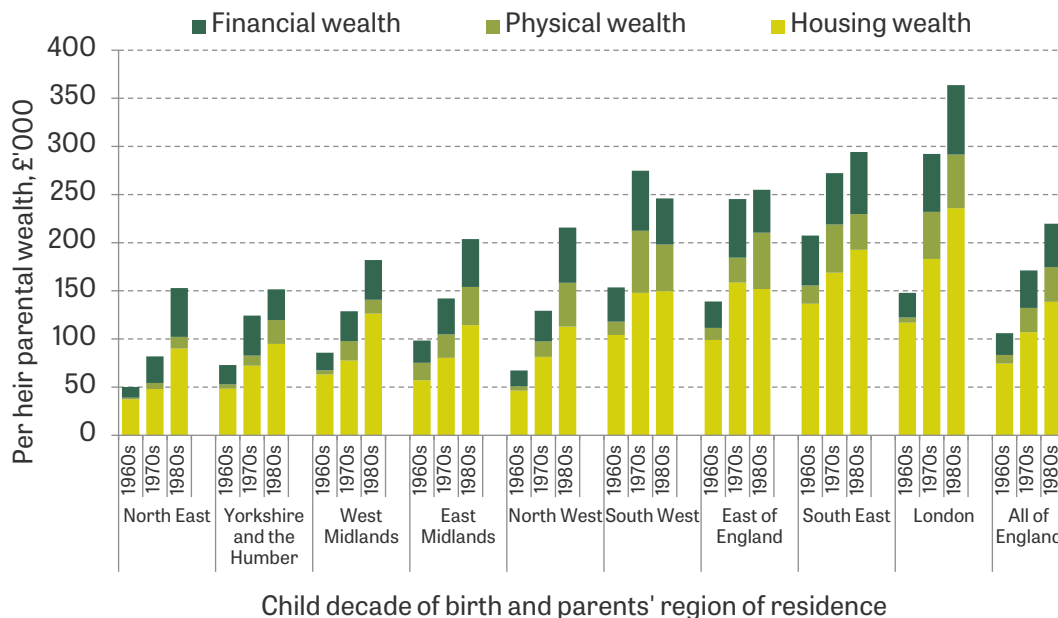
Heterogeneity in the role of intergenerational wealth transfers

Before concluding, we briefly turn to the issue explored in the previous section – geographical and ethnic heterogeneity in social mobility within the UK. Here we ask, how might intergenerational wealth transfers differ across regions and ethnicity and how might such differences drive inequalities and differences in mobility between those groups?

There are significant differences in parental wealth across regions. While we have documented a general increase in parental wealth across cohorts, Figure 20 shows that across the youngest cohorts of children, parental wealth for those whose parents live in London has accelerated most dramatically, pulling away from the South East and South West.

There are substantial differences in wealth across ethnic groups with average household wealth higher for households headed by White British individuals than households headed by those from other ethnic groups. These differences are not only due to the very different age distributions of different ethnic groups. Bangham (2020) documents that among those aged 50–64, Black African, Pakistani and Bangladeshi individuals have average family wealth per adult of under £200,000, compared to over £500,000 for White British individuals. Mirza and Warwick (2022) show that even after controlling for differences in age, education and other characteristics, households headed by those of Indian, Black African, Bangladeshi and Pakistani ethnicity have substantially less wealth than those headed by White British individuals.

Figure 20. Per heir parental wealth, by child's decade of birth and parents' region of residence

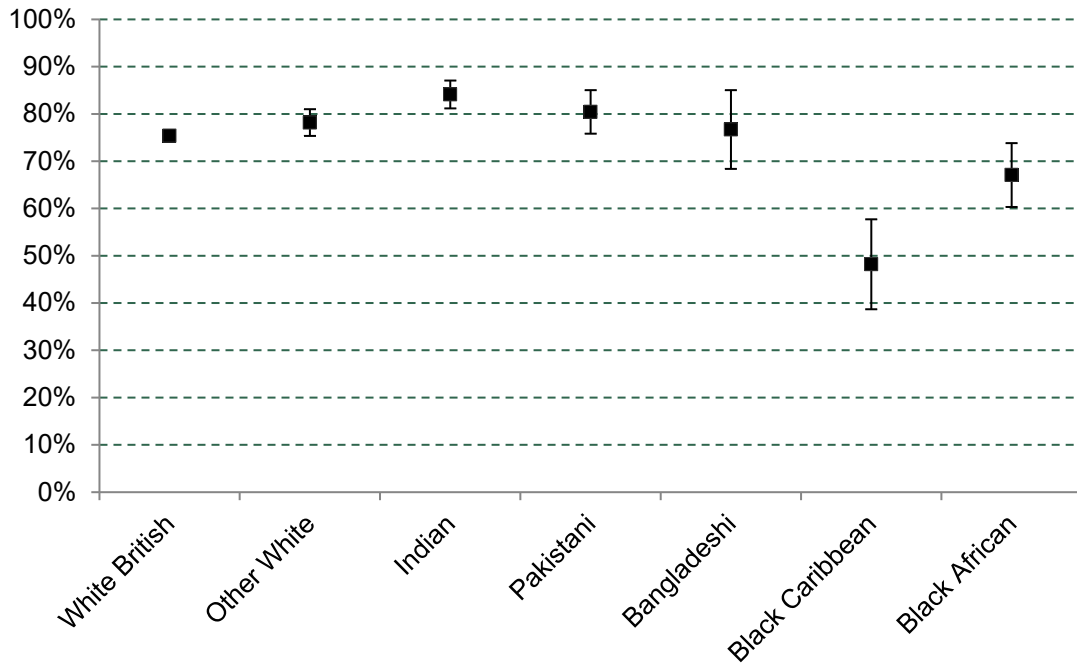


Source: Bourquin et al. (2021).

¹⁹ Our estimates of the rank–rank slope measure of income mobility are higher than those set out in the second section. The income estimates of that section do not capture intergenerational transfers and so are most comparable to our simulations of lifetime income excluding inheritances. There are still differences between these two measures as we here simulate household income, whereas in the earlier section we examine individual earnings. Therefore, a positive relationship between parental wealth and the probability of having a partner and with a partner's earnings (as fed into our simulations) could drive this additional persistence of income rank. There are likely to also be differences due to our use of parental wealth rank to proxy for parental lifetime income rank and the fact that our measure of income in the second section is from early adulthood, rather than being a measure of lifetime income rank.

In Figure 21, we show one measure of ethnic gaps in parental wealth: the parental homeownership rate for those of Indian ethnicity is 84%, significantly higher than the 75% for the parents of White British people. At the other end of the spectrum, 67% of Black African people have parents who are homeowners, and this is even lower for Black Caribbean people, with a parental homeownership rate of 48%. Whether an individual's parents own their own home gives only a partial picture of ethnic wealth gaps. Private pension wealth makes up a slightly larger share of household wealth than housing wealth and here there are also significant differences by ethnicity. Black African and Black Caribbean households hold a relatively greater share of their wealth in private pensions (Bangham, 2020). Pakistani, Bangladeshi, Black African and Chinese headed households all have relatively low levels of pension participation and pension wealth compared with households headed by White British individuals (Mirza and Warwick, 2022).

Figure 21. Parental homeownership rate, amongst those aged 25–39, by ethnicity



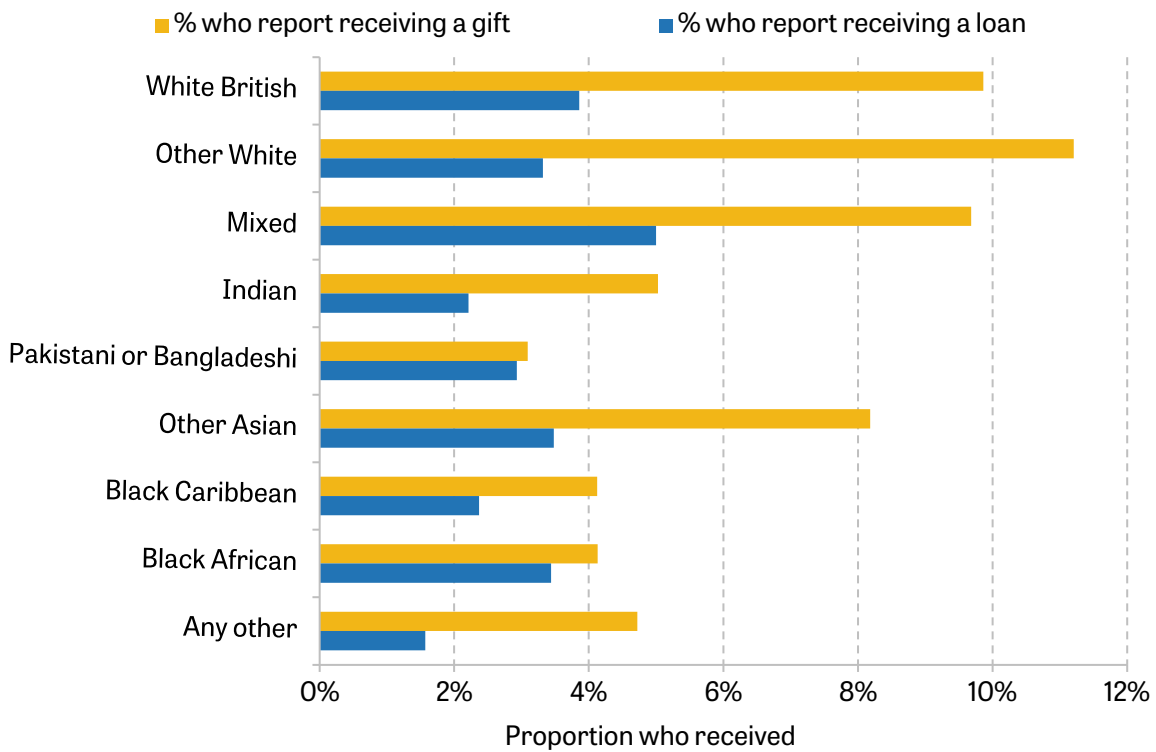
Note: Bars show 95% confidence intervals.

Source: Wealth and Assets Survey, waves 1–5, 2006–16.

These findings are significant because they suggest that as inherited wealth becomes more important in determining lifetime income, differences in parental wealth by region and ethnicity will play a greater role in determining differences in lifetime income. All else equal, the rising importance of wealth should act to move those in London and the South East further up the lifetime income distribution and make it more difficult for those from all ethnic minority groups to move up the lifetime income distribution. There are potentially particularly large consequences for the mobility of Black, Bangladeshi and Pakistani individuals given the low levels of wealth among those in these groups at older ages. Further research should examine the relationships between wealth, intergenerational mobility, geography and ethnicity.

We already observe differences in intergenerational wealth transfers received by those of different ethnicities. Figure 22, reproduced from Boileau and Sturrock (2023a), shows that the probability of receiving a substantial gift strongly varies by ethnicity and that White young people are substantially more likely to receive a financial transfer than Indian, Pakistani or Bangladeshi, or Black young people. It is likely that the well-documented ethnic differences in wealth at least partly explain these differences and that this will partly transmit these ethnic wealth gaps down to the next generation. Further research should assess how far differences in transfers by ethnicity do, and will, drive ethnic gaps in lifetime income for younger generations.

Figure 22. Proportion of those aged 20–39 who report transfer receipt in the past two years, by ethnic group



Source: Boileau and Sturrock (2023a).

Summary and discussion

Intergenerational mobility is the subject of a large literature in sociology and economics. It figures prominently in several chapters of the IFS Deaton Review of Inequalities. Our aim has been to make a contribution through providing an update of some of the key estimates of intergenerational mobility for England, as well as to highlight some new directions for research on this topic going forward, emphasising the importance and relevance of these for building a more accurate and comprehensive understanding of the issue – critical for the design of effective policies.

We have documented, using administrative data on earnings, that the national trend for England in intergenerational income mobility for cohorts born in the late 1980s look very similar to those of the cohort born in 1970. This suggests that there has been no recovery from the significant decline in intergenerational income mobility experienced by the cohort born in 1970 relative to the cohort born in 1958. In line with previous findings, we find that for these cohorts most of the association between income of children and their families is accounted for by education due to a combination of educational inequalities – higher educational attainment among children from better-off families – and returns to education – higher wages among those with higher educational attainment.

However, we have argued that analysis of national trends in intergenerational mobility using data on parent and child earnings – the dominant approach to the study of intergenerational mobility within the economics literature – paints an incomplete picture in at least two important ways.

First, because, as has been recently documented for several contexts, it can mask the substantial degree of heterogeneity that exists between groups within a country. We show that in the case of England there are large differences in intergenerational mobility across geographical areas and ethnic groups among those born into economically disadvantaged families. Furthermore, our findings suggest that non-education factors play a significant role in explaining these differences and highlight the many knowledge gaps that exist as to what these may be.

Second, because the existing literature focuses on persistence in the earned income, it is implicitly assumed that it is a good proxy for lifetime income. We argue that it is increasingly hard to justify this assumption in the context of growth in the size of household wealth compared to incomes in the UK, which has come alongside a growth in the capital share of income and the size of intergenerational wealth transfers as a share of national income. While data limitations render analysis of more complete measures of intergenerational income persistence challenging, we demonstrate that excluding inheritance – an important source of unearned income – from estimates of intergenerational mobility understates the degree of intergenerational persistence of lifetime income. Moreover, this is a growing issue: including inheritance decreases lifetime income mobility to a significantly larger degree for cohorts born in the 1980s than those born in the 1960s. And this trend is set to continue for younger generations.

Our discussion offers several important insights.

First, the significant spatial and ethnic differences that we find in intergenerational mobility of disadvantaged children in England suggest that in order to reduce the spatial and ethnic inequalities in earnings documented by Mirza and Warwick (2022) and Overman and Xu (2022), it is necessary to address *intergenerational* transmission channels. Policies that target only the inequalities within a generation will not be sufficient in the presence of differential patterns of intergenerational transmission.

Our evidence provides some insights into what key ingredients of policies that target intergenerational transmission might include. It points to a need for joined-up place-based programmes which link education policy to local industrial strategy through collaboration between multiple government departments. The large geographical differences in adult earnings of individuals raised in equally disadvantaged families that we find suggest that there is a need for place-based policies – ‘one-size-fits-all’ national policies alone are unlikely to achieve equality of opportunity across the different parts of the country. Furthermore, our findings that differences in education are an important but far from the only driver of geographical variation in intergenerational mobility across LAs and that local socio-economic conditions play an important role suggest the need for a joined-up approach.

There are several examples of government programmes which are consistent with a place-based approach linking several components of local industrial strategy. For example, the ‘Towns Fund’ is an initiative designed to use public investment, through Town Deals, to create the right conditions to encourage private investment through improving transport, labour force skills, and housing and commercial land availability in areas that need these improvements.

However, many questions remain about the roles that transitions from compulsory to post-compulsory education, and from education to the labour market, and that early labour market trajectories play in driving differences in mobility across areas, in order to know what the key ingredients of place-based programmes should be and what is the right bundle of programmes.

Second, two of the reports written by the Education Select Committee over the last eight years have focused on the underachievement of White working-class children relative to disadvantaged children from other ethnic groups. They have emphasised the need for policies which tackle not just deprivation but specific drivers of White disadvantage, especially among boys.²⁰ This narrative overlooks another important ethnic disparity – the fact that disadvantaged children, boys in particular, from ethnic minority groups face a larger penalty for underachievement than White working-class boys. Thus, while it is indeed the case that White working-class boys underachieve relative to disadvantaged children from all other ethnic groups in education, they outperform several of these groups in occupational and earnings outcomes later on.

An unintended consequence of policies that focus on White working-class disadvantage in education without at the same time tackling drivers of differences in earnings between most ethnic minority groups and White children conditional on education could further disadvantage ethnic minority groups in the labour market. A key challenge here is that we do not know what

²⁰ See the Education Committee news article, “‘Forgotten’ White working-class pupils let down by decades of neglect, MPs say”, <https://committees.parliament.uk/committee/203/education-committee/news/156024/forgotten-white-workingclass-pupils-let-down-by-decades-of-neglect-mps-say/>.

these drivers are. While, as we have discussed, several hypotheses exist, there is a clear need for further research to identify the differentiating factors in the educational trajectories of ethnic minorities compared with the White British majority, and to pinpoint the reasons why these do not seem to always translate into success and progression in the labour market.

Third, as intergenerational wealth transfers become a larger part of lifetime income, policies that redistribute inheritances may become an increasingly powerful tool for improving social mobility. This is especially so as within the current system inheritance tax can be avoided by holding assets in specific forms such as agricultural land. As a result, the effective rate paid on estates is not highest for the largest estates, as those with the greatest wealth hold a greater share of assets in these particular forms. Furthermore, the scope for tax avoidance looks likely to grow due to the fact that defined contribution pension wealth, which will make up an increasing share of household wealth going forward, can currently be passed on to heirs without inheritance tax being due. There is therefore significant scope for reforming the base for inheritance tax. Examples of ways in which this could be done include reducing or even eliminating many of the inheritance tax exemptions that exist currently. Proposals for reform of the inheritance tax treatment of private pensions were made in Adam et al. (2022). They suggest policies, such as bringing defined contribution pensions into the scope of inheritance tax, which can be beneficial for efficiency as they do not distort people's choices of which types of wealth to hold, and can also result in more equitable treatment of those who hold different types of assets. At the same time, by increasing effective tax rates, they could also make inheritance tax a more effective tool for redistribution.

Finally, our analysis demonstrates that the study of intergenerational mobility in the UK could be greatly strengthened through more investment in data resources. We have showcased the important new insights that are emerging as the result of growing availability of administrative data and higher-quality survey data. However, important weaknesses remain.

Turning first to the administrative data – currently the NPD–LEO data do not include information on non-earned income, for example, income from benefits, and hours worked. This is especially problematic for analysis of social mobility of women from disadvantaged background as these women are more likely to not be working or work part-time, especially at younger ages. While hours worked are not available in administrative data, information on non-earned income identifiers which allow linking individuals in households is. Adding this information to the LEO data would allow researchers to measure total family income, giving a richer measure of family resources and representing especially the living standards of women more accurately.

The data also currently do not allow linking parents and children. This means that it is not possible to measure parental income in childhood. As discussed above, this forces us to use proxies of income such as measures of family deprivation based on FSM eligibility and local area deprivation. However, these are characterised by some significant limitations that restrict the analysis that it is possible to do with these data in important ways. This is especially true when looking at differences in social mobility within the UK. As discussed above, while the local area deprivation measure is a good proxy for permanent family income nationally, it cannot be used in analysis comparing different groups within the UK (e.g. geographical, ethnic) because there is important variation across groups in how good a proxy it is for permanent family income.

FSM eligibility overcomes this challenge as it is a family-specific income indicator. However, it does not allow us to study relative mobility and to understand social mobility patterns at different parts of the earnings distribution. This restricts how much we learn from the analysis we are able to do – for example, we cannot answer key questions such as whether outcomes of disadvantaged individuals are poor in a particular area because everyone fares badly there or because opportunity is very unequally distributed. It is also a noisy measure of position in the income distribution as it includes individuals in approximately the first 12 percentiles. When studying differences between groups, this may be misleading if individuals in some groups are at systematically lower income levels than those in other groups.

The UK has neither administrative records of wealth nor a panel survey dataset that measures wealth and wealth transfers and is intergenerationally linked. The WAS does record transfers given and received but is not intergenerationally linked. Understanding Society follows individuals who leave initially sampled households, making it possible to follow the children of sample

members into adulthood. This survey does measure wealth periodically, although not in such detail as the WAS. It also measures wealth transfers, but it is not clear that the survey currently is set up to capture large irregular transfers of wealth, such as significant *inter vivos* gifts. Improving measurement of wealth and wealth transfers in Understanding Society seems most promising as it has a subsample of individuals who can be linked to their parents. Another possibility would be to add further questions to the WAS to elicit information about the individuals from whom wealth transfers were received. Currently, only very limited information is asked of individuals about the circumstances of their parents when they were a child.

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