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Parental homeownership and education: the implications for offspring wealth inequality in GB

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The rapid widening of wealth inequalities has led to sharp differences in living standards in Great Britain. Understanding whether and, separately, the rate at which individuals accumulate particular types of wealth by family background is important for improving wealth and social mobility. We show offspring wealth inequality is driven by housing wealth and holding such wealth is becoming increasingly associated with early life circumstances relating to parental housing tenure and education, even after controlling for adult offspring's own characteristics. Importantly, we find adult offspring whose parents hold a degree and are homeowners are no less likely to report homeownership and housing wealth compared to older cohorts from the same background. Our findings imply the intergenerational rank correlation in housing wealth is set to double in a little over five decades.

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Highlights

- We show the rapid change in intergenerational wealth persistence observed in Great Britain is driven by differences in offspring housing wealth.
- Using the Wealth and Asset Survey we show the increasingly important role parental characteristics play in explaining offspring wealth differences across different types of wealth and how this is rapidly changing over time.
- Our findings show offspring home ownership and housing wealth has become increasingly stratified by parental wealth even after controlling for individuals' own characteristics. Among individuals aged 35 whose parents owned their own home and are highly educated, home ownership is 3 times more likely, and conditional on having housing wealth the level reported is 10 times higher than that reported by individuals whose parents are from a low educated renter background.
- If current trends are maintained our results imply the intergenerational wealth correlation in housing wealth is set to double in approximately three decades. Our findings highlight the increasingly important role parental resources have for determining whether offspring hold, and the rate at which they accumulate, particular types of wealth, and the implications for intergenerational wealth correlations, wealth mobility and inequality now and in the future.

Why does this matter?

Understanding which components of wealth drive intergenerational wealth persistence is important if policymakers are to design effective policies which improve wealth and social mobility and individual living standards more generally, especially for individuals from less affluent backgrounds.

Parental homeownership and education: the implications for offspring wealth inequality in GB.

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Abstract

The rapid widening of wealth inequalities has led to sharp differences in living standards in Great Britain. Understanding whether and separately the rate at which individuals accumulate particular types of wealth by family background is important for improving wealth and social mobility. We show offspring wealth inequality is driven by housing wealth and holding such wealth is becoming increasingly associated with early life circumstances relating to parental housing tenure and education, even after controlling for adult offspring's own characteristics. Importantly, we find adult offspring whose parents hold a degree and are homeowners are no less likely to report homeownership and housing wealth compared to older cohorts from the same background. Our findings imply the intergenerational rank correlation in housing wealth is set to double in around three decades.

Keywords: Wealth, Housing, Inequality, intergenerational mobility, Great Britain.

JEL classification: D31, D63, I24

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1. Introduction

Wealth is an important determinant of individual living standards, for example it allows individuals to smooth consumption over the lifecycle and can help facilitate major lifecycle decisions. However, only recently has it been possible to show the extent to which wealth holdings, that is *wealth inequality*, differs across individuals at a point in time *and* how wealth accumulation varies over time for the same individual (Charles and Hurst, 2003, Boserup et al. 2017, Black et al. 2020). Understanding sources of inequality is important from a social policy perspective, especially if it is unearned for example as in the case of inheritances rather than due to individuals own efforts. Given the impact of wealth on individual's wellbeing, in some sense understanding wealth inequality is equal to or possibly even more important than understanding say, income inequality. Importantly, evidence suggests wealth holdings and inequality are increasingly stratified by family background in advanced economies and there is a rapid widening of wealth inequalities which is concerning from a policy perspective, for example in the context of improving social mobility and living standards more generally (Glennerster, 2012; Killewald et al. 2017; Gregg and Kanabar, 2022).

When considering wealth inequalities across individuals at a point in time and how these relate to family background it is important to note that certain *types* of wealth matter more than others. In Britain this is typically housing and pension wealth (ONS, 2019; Hamnett, 2009). Given the rapid increase in intergenerational wealth persistence in Britain (Gregg and Kanabar, 2022; Blanden et al. 2023) it is therefore crucial to understand whether parental characteristics are increasingly associated with specific *types* of offspring wealth holdings, even after controlling for individuals' own characteristics. Surprisingly, little research has focused on this issue. We address this gap in the literature using high quality British panel data from the Wealth and Assets Survey (WAS) covering a period post the Great Recession and prior to the Covid-19 pandemic.

We document several important and policy relevant findings. We show inequality in offspring wealth is related to access to homeownership and housing wealth and such wealth is increasingly stratified by parental characteristics. For individuals from the same family background but born six years apart, relative to the slightly older cohort, parental background is increasingly associated with offspring homeownership and housing wealth. We estimate that over the six-year period 2010/12-2016/18 the association between the intergenerational rank

correlation in housing wealth increases by 0.036 rank points. Given a base correlation of 0.18 our estimates imply a doubling in the rank correlation in approximately three decades.

We find that individuals from the most advantaged parental backgrounds (high educated homeowner parents) are *three* times more likely to report housing wealth by age 35 and the average level of housing wealth, conditional on holding, is roughly *ten* times higher on average compared to individuals from the most disadvantaged background (low educated renter parents). Moreover, on a cohort basis those from the most advantaged backgrounds are no less likely to report homeownership and housing wealth compared to older cohorts, whereas the opposite holds true for those from the least advantaged background even after controlling for individual factors including education and earnings, which have been shown to be important in determining wealth accumulation (Black et al. 2020; Davenport et al. 2021). Thus, we show the perceived notion that access to homeownership for cohorts born post 1980 is more nuanced than is generally understood.

Our findings highlight rapidly diverging fortunes for young people, the penalty for growing up in households with limited resources is growing rapidly in GB and is increasingly influencing major lifecycle events including homeownership and wealth accumulation and hence living standards. Indeed, our findings contribute to the debate on intergenerational fairness and the very fabric of the role and functions of society.

The rest of this paper is set out as follows, section two briefly reviews the role of parental characteristics for offspring outcomes with a focus on wealth from an intergenerational perspective. Section three considers data and our methodological approach. In section four we present our findings in two parts. Part one presents cross section estimates of the association between parental background and offspring wealth outcomes by wealth type. We define age groups by six-year age windows to match the panel analysis presented in the second part of the analysis, where we consider how intergenerational persistence which we define as the association between early life parental resources and offspring wealth, changes over the sample period for the same individuals and how rapidly this association is changing for individuals from the same parent background but born 6 years apart. Finally, we show how offspring housing wealth is largely responsible for the rapid change in intergenerational wealth persistence in Britain. Section five concludes.

2. Literature

A growing body of research has documented vast and growing inequalities in wealth across cohorts and especially in the second half of the twentieth century. Understanding the sources of such inequalities has come to the forefront of the policy agenda. In particular, the extent to which wealth inequalities in adulthood are related to family background versus arising from differences in individuals' own efforts (Hamnett, 2009). Evidence suggests that the former is important and moreover, that the effect of family background for explaining wealth inequality is growing over time (Charles & Hurst, 2003; Piketty, 2014, Black et al. 2020, Gregg and Kanabar, 2022; Blanden et al., 2023).

What is less well understood is which types of offspring wealth have become increasingly related to parental characteristics, a gap we address in this paper. Answers to such questions are important if policymakers and researchers wish to design effective policies to improve wealth and social mobility more generally. To understand wealth inequality, it is important to consider the components of total net wealth. In Britain total net wealth is typically dominated by housing and pension wealth. For example, based on the WAS among individuals aged 64, which corresponds to peaking wealth age 31% (50%) of average total net wealth measured in 2022 prices (£733,884 in 2016/18) was attributable to housing (pension) wealth, together accounting for over 80% of total net wealth. Whereas for individuals aged 30 the equivalent statistics are 18% and 31% respectively, and importantly, only 22% (51%) of individuals report homeownership (pension wealth). Estimates based on WAS show that even among individuals aged 64, 15% of individuals do not own their home (22% report pension wealth) and there is significant variation in housing and pension wealth holdings at older ages more generally. Therefore, to understand wealth accumulation by family background two issues need to be considered, first, having versus not having a particular type of wealth and second, conditional on having the level of wealth held.

Recent studies using British data show that the intergenerational persistence in home ownership has risen across successively younger cohorts and that there exists a strong correlation between the likelihood of offspring homeownership and parental wealth (Davenport et al. 2021 and Blanden et al. 2023). Notably, Davenport et al. (2021) find that the intergenerational persistence in wealth is higher than that of income.

Studies based on European microdata find similar results, Gritti and Cutulli (2021) document declining levels of homeownership across successively younger cohorts and find that housing wealth is increasingly important for explaining within-cohort inequality in total wealth. Their findings highlight the mechanisms by which wealth is transmitted from parent to offspring depend on parental characteristics. Offspring born to parents whose occupation is considered professional are more likely to receive direct financial transfers before, at the time of and after leaving the parental home to set up a new household. Whereas for those whose parents had low social class occupations this only occurred at the time of leaving the family home. Second, leaving the parental home was associated with a transfer of *housing* wealth from parents to children among the lowest social classes. Thus, parents transfer their own accumulated housing wealth at the time offspring leave the parental home. No such pattern was observed among those from the most advantaged backgrounds, whose parents instead provide more sustained levels of financial transfers without having to transfer their own housing wealth. Nevertheless, offspring from such backgrounds still receive housing wealth later in life in the form of inheritance. These findings separately underline the role of social and cultural norms for determining offspring wealth.

Pfeffer and Waitkus (2021) using the Luxembourg Wealth Study decompose country differences in wealth inequality and consider the composition of wealth portfolios. Their results show that cross national variation in wealth inequality and concentration is driven by housing equity. Given the returns from homeownership over the lifecycle, the fact homeownership has become increasingly stratified by family background has implications for future wealth inequalities both from an cross section, intergenerational and lifecycle perspective (Killewald, Pfeffer and Schachner, 2017; Gritti and Cutulli, 2021).

The channels by which parents' transfer resources from one generation to next are varied, for example investing in early life education either directly or indirectly by residing in certain neighbourhoods with high quality state schooling, both in turn influence future earnings and hence wealth accumulation. Such relationships are also important for explaining aggregate level cross country differences in wealth-income inequality ratios (Piketty, 2014; Pfeffer and Killewald, 2015; Black et al. 2020; Palomino et al. 2021). Measured on this basis the UK, Italy and France exhibit significantly higher wealth-income ratios than Norway and the US (Black et al. 2020). Alongside offspring's own education, higher levels of parental education are strongly correlated with offspring earnings, homeownership, and pension wealth (Card, 1999;

Goodman and Mayer, 2018; Girshina, 2019). Separately, comparative evidence shows a strong intergenerational persistence in education which in turn influences offspring earnings and wealth (Blanden, 2013; Lindahl et al. 2015). Taken together the evidence suggests family background is important for influencing the channels which determine wealth accumulation and will explain an increasingly larger fraction of wealth inequalities across successively younger cohorts in the future. We contribute to the literature by confirming this conjecture.

Studies have highlighted the importance of controlling for individual's own characteristics when analysing intergenerational wealth inequalities across cohorts (Killewald et al. 2017, Black et al. 2020, Davenport et al. 2021). Black et al. (2020) using Norwegian data show individual's own labour income and net capital gains on real assets such as housing play an important role when compared to parental transfers and inheritances in explaining wealth inequalities. Nevertheless, the authors show that offspring from the wealthiest backgrounds are more likely to have higher levels of wealth, receive greater levels of inheritance and accumulate a disproportionate amount of wealth from investments and capital income. Davenport et al. (2021) estimate roughly half of the intergenerational persistence in wealth in the UK can be explained by individual's own education and earnings, and thus parental transfers and savings play an important role in explaining wealth inequalities.¹ However, whilst research has shown an association between income and wealth particularly at the top of both respective distributions, at an aggregate level there exists a non-correlation between income and wealth inequality (Killewald, Pfeffer and Schachner, 2017; Pfeffer and Waitkus, 2021).

A common mechanism closely linked to social and cultural norms by which wealth is transferred is via lifetime transfers. Studies show the uneven nature of inheritance distribution in the UK and the growing importance of parental homeownership in this context (Hamnett, 2009). Palomino et al. (2021) show certain factors, predominantly inheritances, jointly explain between one-third and almost one-half of wealth inequalities in Great Britain and France respectively. Decomposing their findings, they show intergenerational transfers alone explain between 26% and 36%, whereas family background explains between 9% and 17% of inequality in France and the US respectively. Importantly, evidence suggests individuals from the most advantaged backgrounds tend to deplete inheritances at a slower rate and in long run

¹ When analysing the association between parent and offspring wealth it is important to note the correlation is not constant across the respective lifecycles. Studies based on Scandinavian data bear this out and show the relationship to be U-shaped (Boserup et al. (2016, 2018); Aderman et al. (2018)).

even in relatively egalitarian societies such as Sweden inheritances tend to increase wealth inequality (Nekoei and Seim, 2023). Boileau and Sturrock (2023) using WAS instead focus on inter-vivo transfers and like inheritances find these are stratified in terms of their prevalence and magnitude by parental characteristics.

3. Data and methodology

Our analysis uses the biennial Wealth and Assets Survey (WAS) representative of Britain and managed by the Office for National Statistics (ONS, 2012). In wave 1 WAS contained 30,000 households oversampling wealthier households (by a rate of between 2.5-3) compared to other postal addresses due to household surveys inadequately capturing the top of the wealth distribution (ONS, 2012; Advani et al. 2020a). Our study is based on secondary data and as such any ethical considerations regarding data collected was gained by the primary data collection and management team at the ONS.

WAS measures of derived individual total net wealth include contributions of housing, pension and savings plus durable assets. Black et al. (2020) exclude pension wealth from their measures of total net wealth (it is not available in their data) and argue such wealth should not be included when modelling wealth accumulation. However, our interest is understanding the components of offspring wealth driving the rapid change in the intergenerational persistence in wealth. Even if pension wealth is not transferable, consider the parent generation who can expect income from such wealth (and/or a lump sum as is the case in the UK). This could act as security, or alternatively, parents knowing this wealth is available to them in the future, can utilise/transfer other sources of wealth for example via equity release of their main residence to help provide financial support to their offspring, for example to purchase their first home. Turning to the offspring generation, given our aim is to understand which components of wealth are correlated with parental resources, and housing and pension wealth having been shown to be the two largest subcomponents of total wealth in GB (ONS, 2019), we also include offspring pension wealth in our measure of total wealth when analysing changes in intergenerational correlations over time. Pension wealth is strongly correlated with earnings/labour income and if the relationship between parental wealth and offspring pension wealth is changing over time this is informative for understanding potential transmission mechanisms, such as early life education investments and hence whether educational attainment and/or occupation is driving changes in wealth inequalities.

Definitions of each derived measure used in the analysis can be found in online Appendix A. Information of mortgage and non-mortgage debt is also captured. The inclusion of durable assets means that net wealth is never zero or negative for individuals in our sample.² Black et al. (2020) show total net wealth measures such as those provided in the WAS dataset which by construction account for individual consumption and spending/saving decisions act as good proxies for ‘potential wealth’, based on actual future wealth accumulation which are not affected by such issues. In addition to asset and debt information, WAS collects individual and household level socioeconomic and demographic data, including retrospective information relating to individual’s parent’s circumstances when they were teenagers (aged around 14).

Retrospective family background and early life questions

We seek to understand an offspring’s trajectory of holding certain housing, pension, financial and physical wealth as they age and their value by differing family origins. Whilst WAS does not collect information on parental wealth except in the case where adult children live in the same household as their parents, the survey does collect retrospective socioeconomic information relating to survey respondent’s parents which have been shown to be important determinants of household’s resources early in life and offspring’s future outcomes (Johnson and Schoeni, 2011; Bladen et al. (2013), Jerrim and Macmillan, (2015) and Gregg et al. (2017)). As wealth accrual will continue after a young adult has left home (Pfeffer Killewald (2017); Boserup, Kopczuk and Kreiner (2017); Aderman, Lindhal and Waldenstrom (2018); Black et al. (2020); Gregg and Kanabar, 2022), the age at which these were collected is not the focus but rather they are markers for assessing relative resources of the parents.

We utilise these data to construct a marker of parental resources in the form of a rank estimator described in the methodology section. Specifically, survey respondents in WAS are asked to recall circumstances in their early teenage years relating to:

- (1) their parents housing tenure,
- (2) their parent(s) education level,
- (3) employment status of parents,

² Of the 35,700 individuals in the raw underlying wave 3 sample only 447 (1.25%) report negative or zero total net wealth.

- (4) whether they lived with one or both parents or some other arrangement,
- (5) number of siblings.

Unfortunately, region of parents' residence and parental age were not asked.³ For the purpose of this study we focus on (1) and (2) to construct a measure of parental resources. We choose markers which can be thought of as being relatively stable given the point in the lifecycle at which they are measured and their correlation with available resources in the home. Indeed, both education and housing tenure have been shown to be important predictors of total wealth (Kass, Kocharkov and Preugschat, 2019; Pfeffer and Waitkus, 2021).⁴ Other retrospective markers collected in WAS such as economic status and whether an individual grew up in a single or two parent household whilst related to resources in the household could be considered as transitory due job loss and relationship breakdown respectively. Keister (2003) highlights the role of sibling status in determining the likelihood and size of wealth transfers from one generation to the next, and notes the effect is mitigated by parent education (& offspring education and income), providing further justification for basing our marker of parental resources on this variable. Given we interact our markers of parent characteristics to define groups on which our rank estimator is based, additional interactions (which creates a richer ordering) will lead to small parent groups and have non-trivial implications for what is feasible for analysis purposes.⁵ Thus, readers should interpret our estimation results keeping in mind the set of parental characteristics used to proxy early life resources in the household. However, to demonstrate the robustness of our findings, we control for the presence of siblings, offspring education and income in all the regression specifications in Table 5 and note our main findings hold.

To assess whether parental markers act as good proxy measures for resources early in life and the fact we construct a rank estimator (defined in the next section) based on these same

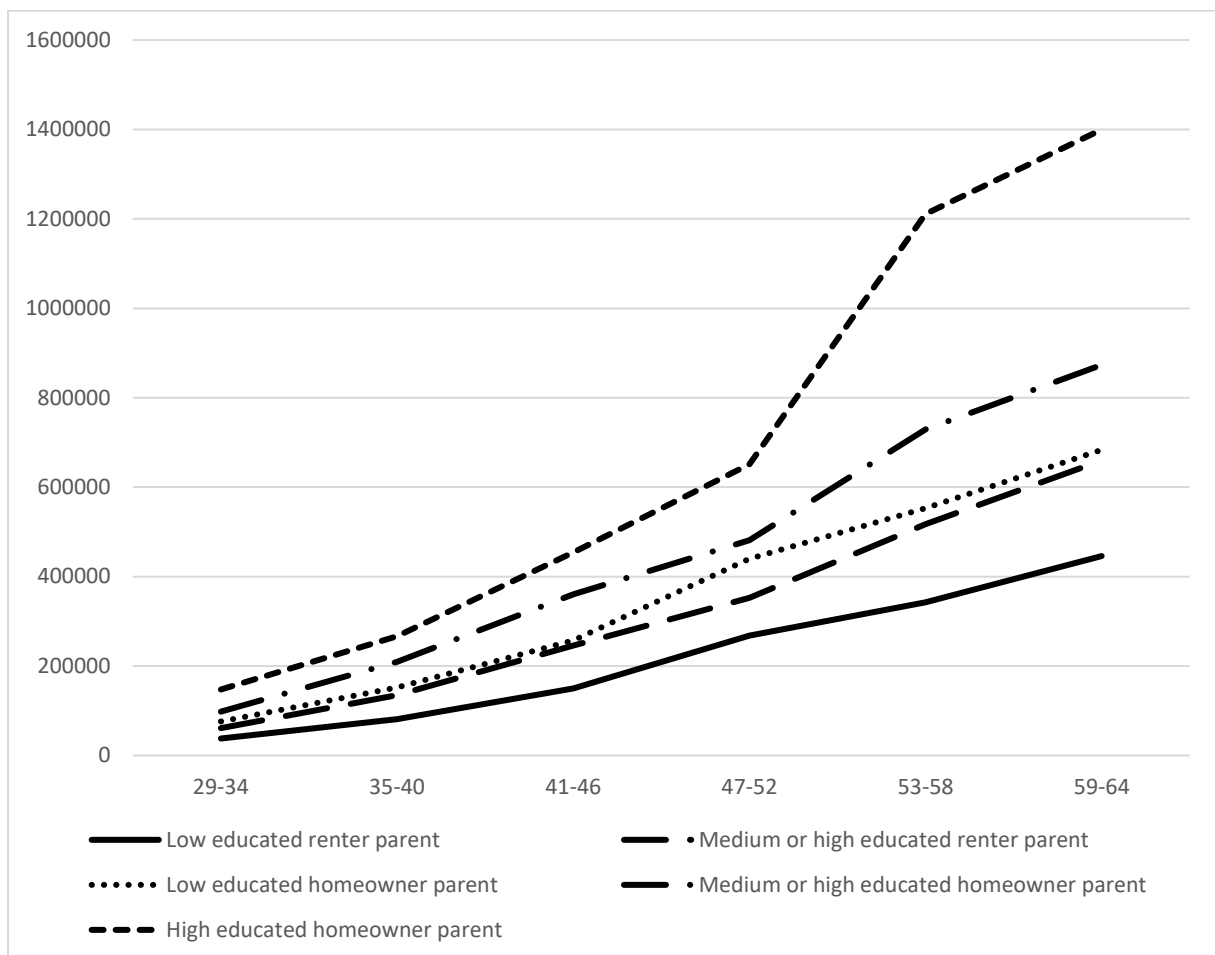
³ The questions of interest are asked if an individual is age 25 or above at wave 2 or turns 25 in subsequent waves of the survey. The questionnaire wording is as follows: "We are interested in how living standards compare across generations, so the following questions are about your family and parents. I'd like you to think back to when you were a young teenager, say between the ages of 12 and 16." An additional question also asked about presence of siblings which is not utilized for the purpose of this study.

⁴ Recent ONS data show housing and pension wealth are the two largest subcomponents of total household wealth (ONS, 2019).

⁵ In preliminary analysis we analysed wealth holdings among parents in WAS (so a cohort of parents younger than parents in our main analysis) and regressed different combinations of individual's own characteristics on their total net wealth and found parental housing tenure and education to be among the most important characteristics.

markers, we plot total offspring wealth, stratified by parental characteristics using the wave 3 cross section sample of WAS. Online Appendix B includes additional plots by wealth type stratified by parental characteristics. Figure 1 provides a description of wealth profiles across different individuals, belonging to different birth cohorts at a single point in time. We are implicitly assuming rank stability in parental resources, which, based on housing tenure and education is not an unreasonable assumption even if the parent cohorts experienced differing home ownership and educational attainment opportunities. Thus, in terms of the rank ordering and the relationship with respect to resources in the household it is reasonable to assume this remained unchanged. We separately verify this for a sample of parents in WAS which we discuss next.

Figure 1: Total net wealth by family background.



Notes: sample based on wave 3 of WAS (2010/12). N=13,330. Figures correspond to 2022 prices.

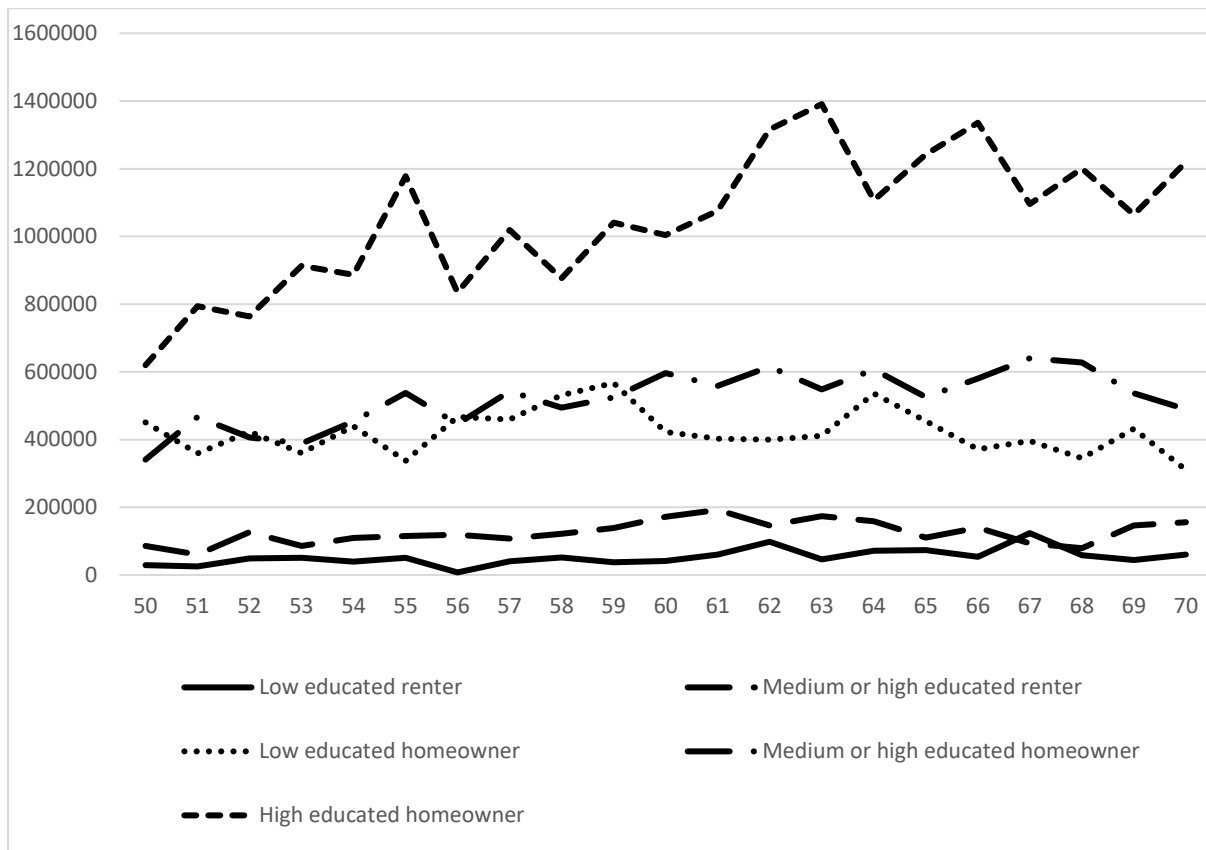
Figure 1 shows a clear ordering in total net wealth by family background. Offspring from relatively more advantaged backgrounds report higher levels of total net wealth across all age

groups up until peak wealth age. From a cross section perspective, the extent of wealth inequality is striking, offspring from the most advantaged background report levels of net wealth by age 41-46 of a similar level to that achieved by those from the least advantaged background at peak wealth (albeit relating to an older cohort). Importantly, we note this is prior to the age at which inheritances are received which typically occur when an individual is in their 50s and is clearly visible, particularly for the most advantaged groups in Figure 1.

The markers of household resources refer to characteristics of the parents when offspring are in their teens and parents aged around 40, given average age of first birth in the UK (ONS, 2022). Intergenerational correlations in wealth are usually measured when parents are at peak wealth age, around 64 in GB. So, our estimates of parental resources are measured before parents reach peak wealth age. Whilst we do not have data on parental wealth, we can at the minimum verify if the rank ordering we assume is consistent with the profile of wealth accumulated by individuals aged 50-70, *by their own housing and education characteristics* in wave 3 of WAS.⁶ Whilst this group of individuals is relatively young being born between 1940-1960 from a parent-perspective given the age of the offspring sample used in our analysis, it provides partial evidence that the choice of parental markers we use accurately reflects parental resources in the household an individual grew up in (the ‘parents’ in Figure 2 roughly correspond to the parent cohort for the youngest offspring in our sample born around 1980), and moreover, allows us to trace out the general pattern of wealth accumulation among these ‘pseudo parents’ who share these same characteristics in wave 3 of WAS.

⁶ One might consider these individuals ‘pseudo-parents’ or reflect the approximate wealth of parents in the relevant parent-cohort. We choose aged 50-70 to avoid the effect of differential mortality by socioeconomic group.

Figure 2: Total net wealth by single age year and own characteristics.



Notes: sample based on wave 3 of WAS (2010/12). N=9726. Figures correspond to 2022 prices.

Figure 2 shows a clear ordering by own housing tenure and education group in terms of total net wealth, across many ages considered, suggestive that the differences in household resources when raising children hold, at least from a cross section perspective among individuals who are of a similar age to the youngest parents in our sample.

In addition to providing a visual depiction between parental characteristics and wealth levels among pseudo parents we also create a rank ordering, based on the same covariates used in the main analysis, namely interacting own housing tenure and education to determine the correlation between pseudo parent characteristics in wave 3 of WAS and their own actual level of total net wealth which is measured in the survey. Undertaking such an exercise yields a correlation of 0.61, which is remarkably.

Methodology

Starting from wave 3 onwards (2010-12) WAS released consistent measures of individual total wealth and its subcomponents including housing wealth, pension wealth, financial and physical wealth (defined in online Appendix A). When using wealth data two issues need to be addressed (Pence, 2006). First, wealth data has a long thick right-hand tail where some very high values can lead to misleading conclusions when assessing at the mean such as with OLS, and so analysis across the distribution is important (Killewald, Pfeffer and Schachner, 2017). Second, individual total net wealth reported in WAS is not zero or negative except for a very small number of individuals at young ages because a wide range of assets including durable goods and physical wealth are included. However, subcomponents of wealth such as housing and pension wealth are zero especially at younger ages and this value is economically meaningful and should be accounted for in analysis.

We follow previous studies and estimate the intergenerational correlation in wealth using a rank estimator (Chetty et al. 2014). Parental rank, our independent variable of interest, is based on housing tenure (2 groups) and education (3 groups) interacted. In practice we use five groups due to small cell sizes for individuals whose parents were medium or highly educated renters. Parent's rank which then takes the value 1-5, is converted to a scale which runs from zero to one for estimation purposes. Our dependent variable is offspring wealth which can take the form of total wealth or one of the other derived measures of wealth available in WAS (defined in online Appendix A). We then derive the rank of offspring wealth and transform this to take a value between zero and one for estimation purposes.

Our estimating equation of interest is given by:

$$R_{offspring,current\ age} = \alpha + \gamma R_{parent} + \beta X_{offspring} + \epsilon \quad (1)$$

where $R_{offspring,current\ age}$ refers to the rank of wealth of the offspring for a particular derived net wealth measure (total, housing, pension, financial or physical) at their current age. γ refers to the intergenerational correlation which corresponds to the association between parental characteristics and offspring wealth, higher values implying a stronger relationship between resources during teenage years and wealth outcomes measured in adulthood. We also include

a vector of covariates which include additional individual and household level controls which may be correlated with offspring wealth. We do not include time subscripts in (1) however note that cross section analysis is undertaken at wave 3 (2010/12) and panel analysis uses waves 3 and 6 which corresponds to 2010/12-2016/18. The pooled sample also corresponds to waves 3-6. Standard errors are clustered at the individual level.

The main advantage of using a rank estimator for analysis purposes is that it doesn't require data on parental wealth, instead relying on the retrospective parental characteristics discussed in the previous subsection and informed by the literature review to proxy household resources during offspring's teenage years. An alternative approach to estimate the intergenerational association between parents and offspring wealth would be to use a two stage estimator (see *inter-alia* Dearden et al. 1997), which requires predicting a value of parental wealth, however such estimators suffer from various biases pertaining to correct estimation of the variance in the second stage of the regression, lifecycle bias and measurement bias (see Murphy and Topel, 1985; Wooldridge, 2002). Rank-Rank regression provides an accurate estimate of the intergenerational rank correlation and is more efficient but does not capture wealth inequalities within cohorts or generations, just the degree of re-ordering of individuals.⁷ Therefore our analytical approach cannot formally account for the size of wealth inequalities in the offspring and parent generation and how the association between these two quantities is changing over time from an intergenerational perspective.

Our estimates will be affected by the profile of lifecycle wealth accumulation, which typically exhibits a rapid divergence before and after peak wealth age (64) and this is attributable to both age and cohort effects. Whilst the absolute level of wealth differences expand as people move closer to retirement, wealth inequality as measured by the Gini has been shown to decline (within age group) across successively older age groups (Cowell et al. 2017). Gregg and Kanabar (2022) show the inequality in wealth at younger ages in GB is such that it is sufficient to overturn the lifecycle bias. Separately, Boserup et al. (2016, 2018) and Aderman et al. (2018) using Scandinavian data find the intergenerational persistence in wealth follows a U-shape,

⁷ A much more recent line of work has explicitly incorporated classical and non-classical forms of measurement error when estimating rank regressions, acknowledging the potential attenuation bias which may arise from using 'errors in variables' and noting the potential of using biased corrected estimators (see *inter-alia* Nybom and Stuhler, (2017); Kitigawa, Nybom and Stuhler, (2018)). These authors also note that potential biases are smaller for rank based estimators. The complexity of these new methods, data requirements mean we do not incorporate such estimators in our analysis though do emphasise careful interpretation of our findings in light of these works.

namely that the rank-rank measure is higher at younger ages, declines as individuals age up until their 40s and then increases following the death of their parents. Thus, the underlying ordering of people by own and parental wealth holdings is also heavily influenced by bequests and need not have the same age relationship as the amounts of wealth held. In Rank-Rank regression life-cycle biases are much smaller as inequalities have no influence, just the rank ordering. Indeed, as parental characteristics are observed even if deceased, this allows us to analyse the relationship between offspring and their parents without needing to adjust for the lifecycle bias and hence offers us a common approach to estimating the association between offspring wealth and parental characteristics for all ages. No adjustment to correct for lifecycle issues is required for the offspring generation as our central interest is understanding how inequality in *current* wealth holdings by wealth type (not peak) relates to parent's characteristics.

The estimates for different age groups reported in the next section will both reflect life-cycle differences across age but also differences across cohorts. Such cohort differences in wealth accumulation have been shown to be significant from an intergenerational perspective (Resolution Foundation, 2017) and we return to this issue by considering wealth accumulation by wealth type across cohorts and over time in the final part of section 4. We also utilise the short panel to explore life-cycle changes within cohorts. Over a 6-year period we show the evolution of the estimated Rank correlation, by wealth type, as people age and by a chain extension over the life-course. We pool wave 3 and round 6 of WAS to compare how the Rank correlation is changing for each wealth type across the 6-year period between survey waves (2010/12 and 2016/18) for individuals at the same age except born 6-years apart. We use an identical approach to assess whether parental wealth is becoming increasingly associated with homeownership across successively younger cohorts.

4. Estimation results

We present our findings in two parts. First, we analyse intergenerational associations between parent resources which proxy parental wealth for modelling purposes, and offspring wealth for different wealth types using wave 3 (2010-12) and round 6 of WAS (2016-18), the second part of the findings analyse changes for the *same* individuals over time. To match the panel length, we define age groups using six year age windows. By defining age groups in this way, we can compare cohort on cohort changes at the same age and by chain extension analyse the trend

across the lifecycle. This allows us to highlight the role parental background has in explaining the change in the intergenerational persistence in wealth, by wealth type, across time rather than drawing inference based on a single cross section. An important aspect to consider is offspring holding a certain type of wealth versus level differences conditional on holding, and we show parental wealth plays an increasingly important role when considering this distinction, both from a cohort and intergenerational perspective.

Cross section analysis

Table 1 reports intergenerational rank correlations for different wealth types. Importantly, zero holdings of certain wealth types, which are economically meaningful, can be accommodated for. Table 1 shows parental characteristics are strongly associated with all types of wealth measured in WAS. The magnitude of the estimated coefficients in Table 1 is remarkably stable across age groups in the case of housing, financial and physical wealth, irrespective of the wave/round of data considered. The estimates at wave 3 (2010/12) imply that increasing total parent wealth by one decile leads to offspring housing wealth (financial wealth, physical wealth) increasing by approximately 2.8-3.6 (2.1-3, 2-2.5) rank points. In the case of pension wealth, across successively younger cohorts the rank estimate increases, from 0.17 for those aged between 59 and 64 to 0.3 among individuals aged between 29 and 34, which is identical to the rank estimate calculated for housing wealth for the latter group.

Table 1: Cross section rank correlations at wave 3 and round 6 by wealth type.

Age group	29-34	35-40	41-46	47-52	53-58	59-64
Central birth years	1979-1980	1973-1974	1967-1968	1960-1961	1954-1955	1948-1949
Wave 3						
Total wealth	0.38*** [0.03]	0.37*** [0.02]	0.32*** [0.02]	0.30*** [0.02]	0.36*** [0.02]	0.33*** [0.02]
Housing wealth	0.28*** [0.03]	0.29*** [0.02]	0.30*** [0.02]	0.30*** [0.02]	0.36*** [0.02]	0.34*** [0.02]
Pension wealth	0.30*** [0.03]	0.28*** [0.02]	0.20*** [0.02]	0.19*** [0.02]	0.23*** [0.02]	0.17*** [0.02]
Financial wealth	0.21*** [0.03]	0.24*** [0.03]	0.22*** [0.02]	0.23*** [0.02]	0.30*** [0.02]	0.26*** [0.02]
Physical wealth	0.21*** [0.02]	0.23*** [0.02]	0.25*** [0.02]	0.20*** [0.02]	0.22*** [0.02]	0.20*** [0.02]
$N_{wave\ 3}$	1340	1938	2386	2442	2377	2847
Round 6						

Total wealth		0.44*** [0.04]	0.34*** [0.04]	0.33*** [0.03]	0.32*** [0.03]	0.33*** [0.03]
housing wealth		0.37*** [0.04]	0.33*** [0.04]	0.33*** [0.03]	0.36*** [0.03]	0.40*** [0.02]
pension wealth		0.32*** [0.04]	0.24*** [0.04]	0.23*** [0.03]	0.21*** [0.03]	0.20*** [0.03]
financial wealth		0.18*** [0.04]	0.23*** [0.04]	0.26*** [0.03]	0.26*** [0.03]	0.29*** [0.03]
Physical wealth		0.35*** [0.04]	0.21*** [0.04]	0.22*** [0.03]	0.19*** [0.03]	0.24*** [0.03]
<i>N_{round 6}</i>		579	899	1110	1270	1383

Notes: respective regressions model rank of offspring wealth level on age and rank of parent's total wealth.

Standard errors clustered at individual level. Grey boxes refer to age groups where sample size is too small for estimation purposes. Wave 3 of WAS corresponds to (2010-12) and wave 6 (2016-18). Wealth values adjusted for inflation prior to transformation and reflect 2022 prices.

The channels which determine the strength of the association between parental resources and offspring wealth types is unlikely to be the same for a variety of reasons including age, cohort, and time effects. Nevertheless, family background matters, as an illustration, consider the effect of early life investments on offspring education which have been shown to influence subsequent education attainment and earnings (Card, 1999). Such investments are more commonly made by parents who are relatively better off. In terms of the offspring generation, higher levels of educational attainment is associated with occupational choice and in particular accessing higher paying jobs which influence pension wealth accumulation. However, the intergenerational association between parent and offspring education, earnings and pension wealth accumulation need not be the same. Nevertheless, higher earnings, over and above direct transfers from parents mean offspring from more advantaged backgrounds are also more likely to report homeownership and conditional on owning property, accumulate housing wealth more rapidly compared to individuals from less advantaged backgrounds. A separate and related point is that certain wealth types will represent a greater proportion of total net wealth depending on when wealth is measured in the offspring lifecycle.

Table 1 documents trends across age groups at a single point in time. Arguably, a more informative approach is to compare groups at the same age to understand whether the intergenerational correlation has changed for individuals from the same parental background except born 6 years apart. We turn to this next.

Panel analysis

Table 2 reports rank correlations for the *same* individuals at wave 3 and 6 years later at round 6, allowing us to document the change in the intergenerational correlation of wealth, by wealth type, for the same individual. We report intergenerational correlations for total and housing wealth only as the latter is responsible for driving the change in the persistence in wealth (see Tables 4 & 5), for interested readers we report the intergenerational correlation coefficient for pension, financial and physical wealth in online Appendix C.

Table 2: Balanced panel intergenerational rank correlation estimates for total wealth by age group.

Age group at wave 3 Central birth years	29-34 1979-1980	35-40 1973-1974	41-46 1967-1968	47-52 1960-1961	53-58 1954-1955	59-64 1948-1949
wave 3	0.38*** [0.04]	0.33*** [0.04]	0.32*** [0.03]	0.31*** [0.03]	0.35*** [0.03]	0.34*** [0.02]
round 6	0.44*** [0.05]	0.33*** [0.04]	0.33*** [0.03]	0.32*** [0.03]	0.34*** [0.03]	0.37*** [0.02]
<i>N_{offspring}</i>	554	871	1052	1205	1329	1688

Notes: *** p<0.01, ** p<0.05, * p<0.1. Wealth values adjusted for inflation prior to transformation and reflect 2022 prices.

Table 2 shows the rank correlation is largely stable for older ages groups at the same age except born 6 years apart, whereas for the youngest age group parental characteristics are playing an increasingly important role in explaining offspring total net wealth outcomes.⁸ A key question then is to understand which types of wealth held by offspring are driving this change.

⁸ Whilst it is not possible to discern whether the changes observed in Tables 2 and 3 reflect purely age or time and age effects combined, and similarly cohort or cohort and time effects combined, our central interest is to understand changes in the rank correlation of individuals at the same age except born six years apart.

Table 3: Balanced panel intergenerational rank correlation estimates for housing wealth by age group.

Age group at wave 3 Central birth years	29-34 1979-1980	35-40 1973-1974	41-46 1967-1968	47-52 1960-1961	53-58 1954-1955	59-64 1948-1949
wave 3	0.30*** [0.04]	0.27*** [0.04]	0.30*** [0.03]	0.32*** [0.03]	0.36*** [0.03]	0.36*** [0.02]
round 6	0.36*** [0.05]	0.34*** [0.04]	0.33*** [0.03]	0.36*** [0.03]	0.40*** [0.03]	0.36*** [0.02]
$N_{offspring}$	554	871	1052	1205	1329	1688

Notes: *** p<0.01, ** p<0.05, * p<0.1. Specifications control for single year age dummies. Wealth values adjusted for inflation prior to transformation and reflect 2022 prices.

Table 3 reports rank estimates for net housing wealth. By comparing the diagonal cells in adjacent age groups, the general pattern is clear: the correlation is larger for successively younger cohorts *at the same age*. Thus, parental resources are increasingly associated with housing wealth. Two key issues need to be understood in this context (i) the role of parental characteristics on offspring reporting homeownership and conditional on having, the level of housing wealth. A related and important issue is to quantify the change in the intergenerational correlation over time. To explore each of these issues in turn, we pool waves 3-6 of WAS corresponding to the period 2010/12-2016/18. We report equivalent regressions for pension, financial and physical wealth in online Appendix D.

Table 4: Rate of change in the intergenerational rank correlation between 2010/12-2016/18 of total net wealth and net housing wealth and likelihood of reporting housing wealth.

Wealth type	Net total wealth	Net housing wealth	Likelihood of reporting housing wealth
Wave 4*Parent's rank	0.001 [0.006]	0.006 [0.007]	0.031 [0.041]
Round 5*Parent's rank	0.016* [0.007]	0.02** [0.008]	0.067 [0.052]
Round 6*Parent's rank	0.004 [0.01]	0.036*** [0.011]	0.16** [0.07]
Age*Parent's rank	0.003*** [0.001]	0.05*** [0.001]	-0.007 [0.005]

Parent's wealth	0.22*** [0.013]	0.18*** [0.014]	1.21*** [0.095]
N	36031	36031	36031

Notes: *** p<0.01, ** p<0.05, * p<0.1. Wealth values adjusted for inflation prior to transformation and reflect 2022 prices. All specifications also control for first and second order polynomial terms in age and wave dummies.

Rows 3 and 4 of column 2 in Table 4 show the joint interaction between the survey wave dummies and parental rank is positive and significant at conventional levels. Between 2010/12-2016/18 the rank correlation grew by 0.036 rank points on a base of 0.18. This implies a doubling in the intergenerational correlation between parental characteristics and offspring housing wealth in approximately three decades if this rate of change is maintained.

The final column of Table 4 reports estimated coefficients from a probit regression of the likelihood of offspring reporting homeownership. Consistent with the findings in column 2 which relate to housing wealth (that is, conditional on homeownership), our results suggest that over the relatively short sample period considered in this study and ending in 2016/18 the likelihood of reporting homeownership is increasingly related to parental resources as proxied by housing tenure and education for individuals of the same age except born 6 years later.

The ability to purchase a home is related to both individual and parental characteristics. To understand the relative importance of the latter we estimate similar regression specifications to those reported in Table 4, except now we control for offspring's own education, earnings, social class, economic status, presence of siblings, marital status, gender, and region. From a modelling perspective, adding individual levels controls to the regression will bias down the effect of parental characteristics on offspring wealth. Nevertheless, these have been shown to be important in explaining homeownership from an intergenerational perspective in Britain (Blanden et al. 2023; Davenport et al. 2021). Our interest is to document whether the findings reported in Table 4 regarding the increasingly important role family background plays over time and across successively younger cohorts still holds once we control for such characteristics.

Table 5: Homeownership and housing wealth controlling for individual's characteristics.

Covariates	Total net wealth (rank)	Net housing wealth (rank)	Likelihood of reporting homeownership
Age	0.0169*** [0.000914]	0.0117*** [0.000929]	0.0444*** [0.00720]
Age square	-9.78e-05*** [2.11e-05]	-6.39e-05*** [2.10e-05]	-0.000168 [0.000154]
Parent's wealth/rank	0.00141 [0.0143]	0.0115 [0.0150]	0.525*** [0.117]
Wave 4	-0.0580*** [0.00539]	-0.0448*** [0.00536]	-0.113*** [0.0396]
Wave 5	-0.0890*** [0.00667]	-0.0748*** [0.00657]	-0.182*** [0.0491]
Wave 6	-0.107*** [0.00823]	-0.105*** [0.00808]	-0.248*** [0.0595]
Wave 4* Parent's wealth/rank	0.0265*** [0.00828]	0.0207** [0.00845]	0.0287 [0.0677]
Wave 5* Parent's wealth/rank	0.0513*** [0.0101]	0.0426*** [0.0104]	0.126 [0.0830]
Wave 6* Parent's wealth/rank	0.0296** [0.0123]	0.0504*** [0.0126]	0.208** [0.0995]
Age* Parent's wealth/rank	0.00442*** [0.000636]	0.00542*** [0.000695]	0.00363 [0.00563]
Presence of sibling(s)	-0.0336*** [0.00591]	-0.0365*** [0.00662]	-0.164*** [0.0488]
Unemployed	-0.0425*** [0.0158]	-0.0257* [0.0135]	-0.312*** [0.0920]
Inactive	0.00582 [0.0111]	-0.00254 [0.00796]	-0.322*** [0.0567]
Cohabiting (inc same sex couples)	-0.0291*** [0.00562]	-0.0381*** [0.00644]	-0.502*** [0.0441]
Single	-0.0195*** [0.00634]	-0.0484*** [0.00719]	-0.974*** [0.0412]
Widowed	0.0358** [0.0180]	0.0419** [0.0196]	-0.578*** [0.102]
Separated/divo rced	-0.0470*** [0.00704]	-0.0610*** [0.00793]	-0.875*** [0.0440]
Other qual (below degree level)	-0.0761*** [0.00511]	-0.0685*** [0.00498]	-0.252*** [0.0363]

No qualification	-0.154*** [0.00671]	-0.111*** [0.00682]	-0.580*** [0.0460]
North West	-0.000761 [0.00980]	0.0138 [0.00925]	-0.141* [0.0767]
Yorkshire and The Humberside	0.0122 [0.00985]	0.0345*** [0.00939]	0.0775 [0.0807]
East Midlands	0.00795 [0.0101]	0.0284*** [0.00976]	-0.0971 [0.0800]
West Midlands	0.000375 [0.0102]	0.0439*** [0.00981]	-0.0369 [0.0802]
East of England	0.0325*** [0.00993]	0.0920*** [0.0100]	-0.119 [0.0807]
London	0.0386*** [0.0113]	0.139*** [0.0118]	-0.397*** [0.0833]
South East	0.0589*** [0.00957]	0.125*** [0.00954]	-0.134* [0.0767]
South West	0.0329*** [0.0105]	0.0840*** [0.0107]	-0.109 [0.0837]
Wales	0.012 [0.0116]	0.0329*** [0.0114]	-0.0416 [0.0916]
Scotland	0.0167* [0.00987]	0.0274*** [0.00940]	-0.0433 [0.0790]
Intermediate occupation	-0.0617*** [0.00628]	-0.0146*** [0.00565]	-0.182*** [0.0403]
Routine manual occupation	-0.164*** [0.00672]	-0.111*** [0.00565]	-0.576*** [0.0391]
Never worked & LT unemployed	-0.220*** [0.0129]	-0.156*** [0.0132]	-0.933*** [0.0908]
Not classified	-0.117*** [0.0153]	-0.0818*** [0.0158]	-0.545*** [0.0945]
Net earnings (all jobs, annual)	2.33e-06*** [5.14e-07]	1.33e-06*** [3.02e-07]	9.86e-06*** [2.52e-06]
Female	-0.0243*** [0.00574]	0.0138*** [0.00481]	0.028 [0.0345]
Constant	0.295*** [0.0202]	0.277*** [0.0177]	0.722*** [0.143]
Observations	28,562	28,562	28,562

Notes: Base groups: No siblings, employed, married, degree, North East, professional and male. Outcomes relating to offspring wealth measured in 2022 prices and converted to rank.

Column 2 & 3 of Table 5 show that after controlling for a rich set of individual characteristics, we observe no direct correlation between family background and total net (housing) wealth of offspring, nevertheless, there is a strong positive correlation between our

markers of parental resources when interacted with the survey wave dummies consistent with our previous results: that parental characteristics are increasingly associated with offspring wealth outcomes. In both regression specifications we also note individuals' characteristics are also important for determining offspring net (housing) wealth. Residing in certain regions such as London, South East, South West and East of England is strongly associated with having higher total (housing) net wealth. On the other hand, presence of siblings, being unemployed, having a lower level of educational attainment and working in lower skilled occupation is associated with lower wealth levels.

The final column of Table 5 reports estimated coefficients from a regression of whether offspring report housing wealth. In this case we find a strong positive correlation between parental resources and homeownership. We also find that this relationship is growing stronger over our sample period for individuals from the same parent background except born 6 years apart. *Ceteris paribus*, we find the probability of reporting homeownership is lower in London and the South East of England, consistent with the fact house prices are significantly higher than elsewhere in GB. We note, *ceteris paribus*, offspring with siblings are 16 percentage points less likely to report homeownership, consistent with the notion that parental resources are divided among a greater number of recipients (Keister, 2003). Similarly, we find individuals with lower levels of educational attainment and working in lower skilled occupations are less likely to report homeownership. We note age is positively correlated with homeownership which likely reflects lifecycle effects.

Taken together the findings in Tables 4 and 5 highlight that homeownership and housing wealth are becoming increasingly stratified by parental characteristics. To assess the extent of the divergence in homeownership and housing wealth we exploit the panel dimension of WAS to show the rate at which individuals accumulate housing and housing wealth by family background across successively younger cohorts.

Figure 3, based on short 6-year unbalanced panels plots the proportion of individuals reporting homeownership between 2010/12-2016/18 by family background. By matching the panel length with the age-range within cohort groups we can analyse the changes in homeownership at the same age. Figure 3 shows a clear trend in homeownership by family background. Around 1 in 3 offspring from the least advantaged group, those whose parents were low educated renters report homeownership between aged 31 and 37. Whereas the proportion increases from

around 60% at age 31 to roughly 85% by age 37 among those whose parents are high educated homeowners. Figure 3 shows a degree of convergence at older ages however this refers to older cohorts who had greater absolute housing mobility and a substantial gap of around 15-20% remains even in this cohort. Our findings suggest that homeownership opportunities are becoming increasingly unequal and stratified by parental wealth and based on current trends it is unlikely individuals born in the 1980s and onwards will experience the same homeownership opportunities as their parents.

Importantly, our findings suggest the lack of homeownership opportunities among cohorts born post 1980 is more nuanced than is often debated. Comparing the youngest (31-37) and second youngest (37-43) cohorts in Figure 2 clearly show individuals from the most disadvantaged backgrounds are less likely to report homeownership at the same age, however, no such pattern is found for the most advantaged groups. In fact, homeownership rates are *higher* based on this type of comparison. Among the latter group the proportion of individuals reporting homeownership at aged 37 in round 6 (2016/18) is roughly 10% *higher* than a slightly older cohort from the same family background. On the other hand, for cohorts whose parents are low educated renters there is a clear difference for the youngest group in the opposite direction, the proportion of individuals aged 37 in round 6 (2016/18) who report housing wealth is over 10% *lower* than a cohort slightly older from the same family background. Whilst this pattern is not evident at older ages, we note the most disadvantaged consistently report lower levels of homeownership relative to all other groups. Separately we note the levels of homeownership achieved by individuals from the most advantaged group by age 37 are comparable to the levels of homeownership reported by individuals from the least advantaged group in their early 60s.

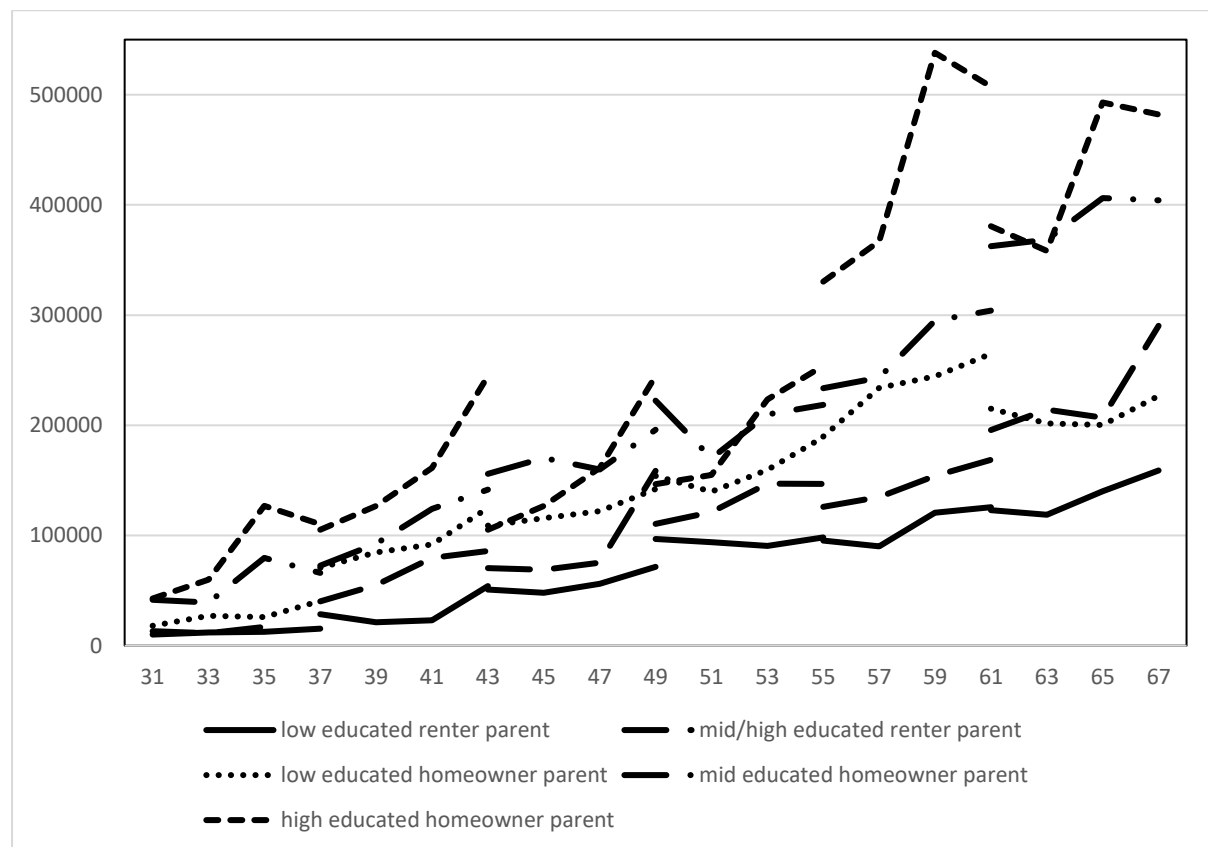
Figure 3: Home ownership by family background in WAS (2010/12-2016/18)



Notes: proportion corresponds to individuals reporting housing wealth by single age year, each group is defined by age and parent background. Based on unbalanced panel sample. N=6,328. Proportions reported over 6 years corresponding with wave 3 (2010/12)-round 6 (2016/18) of WAS.

Alongside homeownership, the rate at which the *same* individuals born to different cohorts accumulate housing wealth by parental background is relevant in understanding the drivers of wealth inequality in light of the findings in Table 4.

Figure 4: Housing wealth by family background unbalanced panel



Notes: proportion corresponds to individuals reporting housing wealth by single age year, each group defined by age and parent background. Based on unbalanced panel sample minimum of one observation per individual to be included in sample. N=6,328. Proportions reported over 6 years corresponding with wave 3 (2010/12)-round 6 (2016/18) of WAS.

Figure 4 highlights that in addition to homeownership, the rate at which housing wealth is accumulated varies by family background. Given the profile of housing wealth accumulation by age group and parental background shown in Figure 1, this difference holds across the lifecycle. Between age 31 and 37 average housing wealth among individuals from the least advantaged (most advantaged) backgrounds increased from £10,091 (£42,800) to £15,433 (£110,178), equivalent to an increase of 50% albeit from a low base. On the other hand, for those from the most advantaged background the average increase is over double the level reported at age 31, in absolute terms around £70,000 and over 35 times the absolute gain reported by individuals whose parents are low educated renters. Thus, even at relatively young ages there is vast inequality in housing wealth as demonstrated in Figure 3 which plots accumulation of housing wealth by family background across successively younger cohorts. We note that the average level of housing wealth achieved by individuals from the most advantaged group by age 37 *surpass* the levels of average housing wealth reported by

individuals from the least advantaged group in their early 60s, the latter having arguably better homeownership opportunities than their counterparts from the same family background at younger ages.⁹ Taken together the trends in Figures 3 and 4 suggest the cross-section differences in housing wealth reported in Figure 1 are set to widen in the future. Moreover, our results imply inequalities in housing wealth have been and are likely to continue driving the overall change in intergenerational wealth persistence in Britain.

5. Conclusion

Britain like many advanced economies has seen a rapid widening in wealth inequalities (Boserup, 2017; Black et al. 2020, Gregg and Kanabar, 2022). Wealth significantly affects an individual's living standards and is easily transferable, implying that inequalities early in adult life have profound implications for influencing major lifecycle events such as homeownership. Therefore, understanding which components of wealth drive offspring wealth inequality and how this is related to family background is of paramount importance if policymakers are to design effective policies to improve wealth and social mobility.

To our knowledge no studies have attempted to systematically study this question in GB and quantify how rapidly family background is affecting offspring wealth inequalities, a gap we address in this paper. We show that in the case of Britain the change is largely attributable to growing inequalities in offspring housing wealth. Between 2010/12 and 2016/18 we estimate the association between parental characteristics and offspring housing wealth increased by 0.036 rank points and if this rate is maintained implies a doubling in the intergenerational correlation in roughly three decades. This finding is consistent with studies who seek to understand the evolution of wealth inequalities in the UK over a longer time period (Blanden et al. 2023).

A second major finding is the divergence in homeownership and housing wealth *across successively younger cohorts*. By the time individuals born around 1980 reach their early 30s among those from the most advantaged background we find homeownership and housing wealth is being accumulated at a similar or even *faster* rate than slightly older cohorts. On the

⁹ We also note the sharp increase in the levels of housing wealth reported among individuals aged 55+ from the most advantaged background, which may reflect proceeds from inheritance.

other hand, individuals from the most disadvantaged backgrounds in their early 30s are not only *less* likely to report homeownership compared to slightly older cohorts but the rate at which housing wealth is being accumulated is also falling compared to individuals from the same parental background but who are slightly older. By age 35 homeownership levels are over *three* times higher among offspring whose parents are high educated homeowners compared to those whose parents are from a low educated renter background. In terms of housing wealth, the former group holds approximately *ten*-times the level reported by the latter. Such differences in housing wealth between the most and least advantaged persist between ages 30 and 64 and taken together with our findings imply they are set to widen further. Importantly, we show that our results hold even after controlling for a range of offspring's own characteristics which are likely to influence homeownership such as earnings, education, sibling status and region of residence. Our findings contribute to ongoing debate regarding the historic returns from wealth versus human capital and its implication for individual social mobility (Piketty, 2017).

Taken together our findings imply the penalty for being born to parents with relatively low resources is growing rapidly over time in GB, to the extent that it is influencing major lifecycle decisions such as the ability for offspring to access homeownership opportunities and hence the rate at which housing wealth can be accumulated. Our sample period corresponds to a period immediately following the Great Recession when the returns to housing were non-trivial: average house prices in Britain grew by over 37% between 2010 and 2018 (ONS, 2021). Indeed, except for the period relating to the Great Recession there has been a consistent upward trend in house prices, quintupling between January 1990 and May 2022 (Land Registry, 2022). Thus, the illustrative predictions of future changes in the intergenerational wealth correlation we estimate are likely to reflect longer term trends.

Despite various policies introduced to improve social mobility, such as the expansion of higher education which began in the 1960s in the UK, and more recently targeted policies to help young people access homeownership such as Help to Buy, our findings suggest family background has only become more important in determining offspring wealth. Researchers have recently reconsidered the role wealth taxes could play in improving wealth inequality, or alternatively reforming certain regressive or inefficient elements of a country's tax system, in the UK this includes inheritance, certain elements of capital gains and council tax (Glennester, 2012; Advani et al. (2020b); Advani et al. (2021), Prabhakar, 2021). A wealth tax, given its

inherent nature will draw strong opinion both in public and policy settings. There are various reasons why such ideas have not been taken forward or subsequently dropped in the past, this includes inter-alia behavioural effects but also due to political economy reasons. Separately, better data and further research and understanding is needed on the exact design a wealth tax would take given such an initiative has not been actively discussed in the UK for 50 years, since which numerous economic and sociodemographic changes have taken place. Nevertheless, at a time when the tax burden in the UK is set to rise to levels not seen for 70 years, the recent announcements in the British government's Spring 2023 Budget which starting April 2024 remove the lifetime allowance on pension contributions and ongoing ability to drawdown 25% of pension pots tax free irrespective of pot size, benefits the wealthiest in society and is only likely to worsen, not improve, wealth inequality.

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Online appendix

Appendix A: Definition of derived wealth measures in WAS

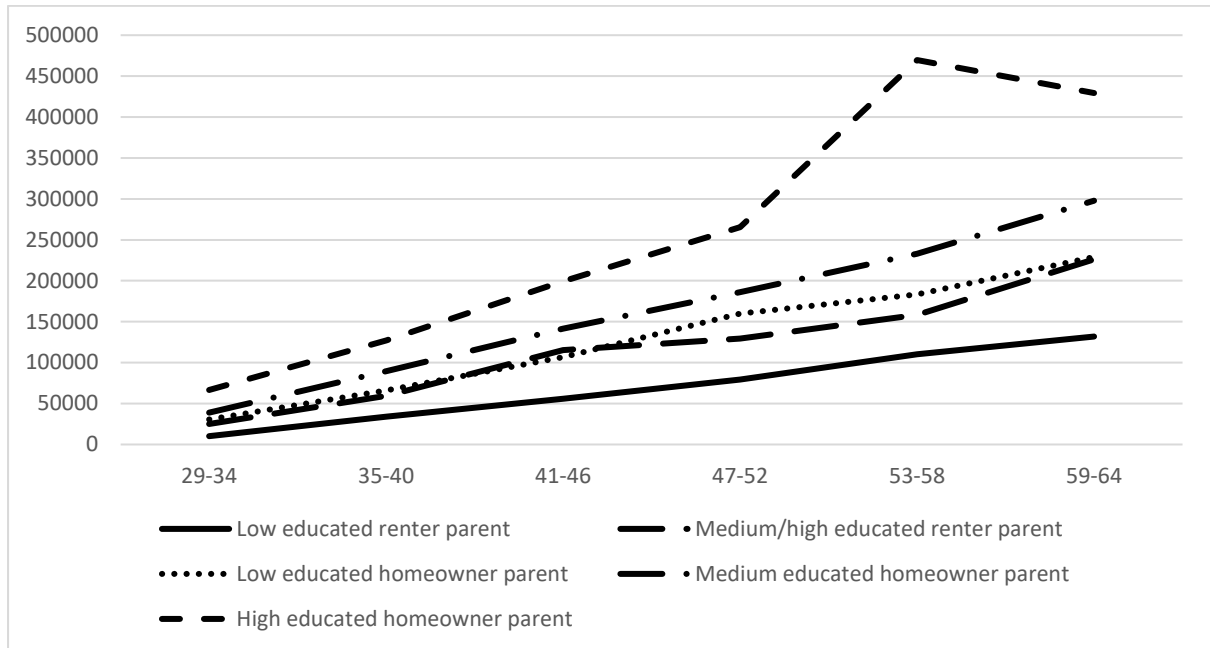
Table A1: Definition of derived variables.

Variable	Definition
Total net wealth	Total sum of: Individual net value of all (main and other) property, individual net financial wealth (includes endowment), individual physical wealth (including durable goods) and individual pension wealth.
Pension wealth	Total sum of occupational Defined Benefit (DB), occupational Defined Contribution, retained rights in DB schemes, retained rights in DC schemes, value of additional voluntary contributions (AVCs), value of personal pensions, value of retained rights in defined benefit pensions, value of retained rights in defined contribution pensions, value of retained rights in drawdown, value of pensions in payment and value of pension from former spouse of partner.
Net property wealth	Individual net value of all (main and other) property
Net financial wealth	Total value of all formal assets (current account, savings, ISAs, national savings product, shares, insurance, bonds, employee shares, unit and investment trusts, overseas

	shares, bonds/gilts (home and abroad), any other investments) PLUS total value of informational assets PLUS child trust funds, other children's assets, endowments. MINUS Total financial liabilities (total credit card balance, total value of store cards, mail order, hire purchase, total amount of all loans, mail order arrears, hire purchase arrears, loan arrears, total bill arrears, current account overdraft, total value of student loans).
Physical wealth	Total physical household level wealth shared equally amongst adults in main household (all aged 16 and over), plus physical personal wealth for all property other than main home.
Proportion reporting housing wealth	The proportion of individuals in sample who report having a strictly positive amount of net housing wealth.
Proportion with pension wealth	The proportion of individuals in sample who report having a strictly positive amount of pension wealth.
Proportion with financial wealth	The proportion of individuals in sample who report having a strictly positive amount of financial wealth.

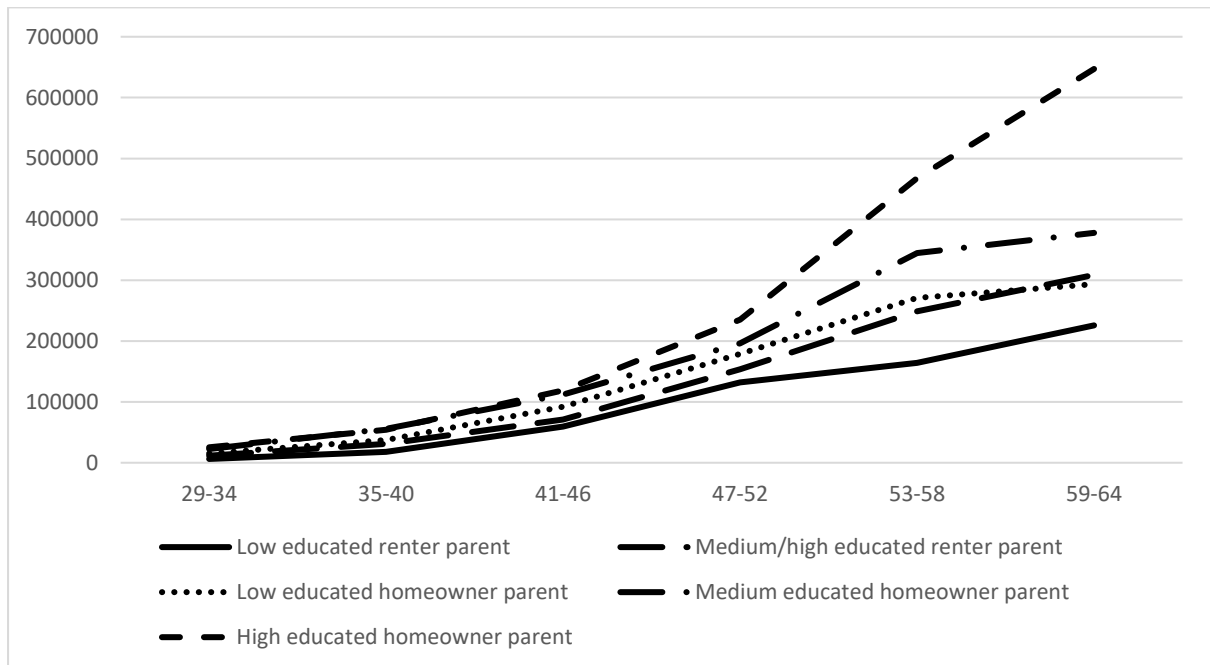
Appendix B: Wealth types by parental background

Figure B1: Total individual net housing wealth by parental background



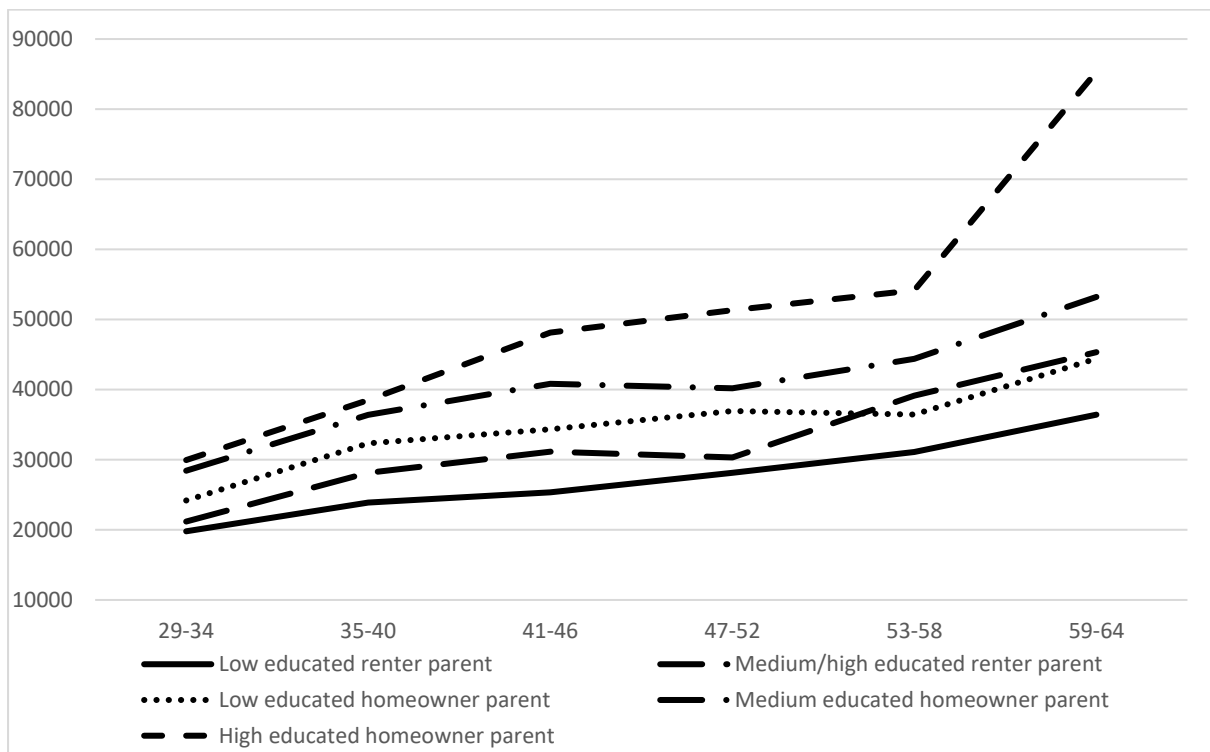
Notes: sample based on wave 3 of WAS (2010/12). N=13,330. Figures correspond to 2022 prices.

Figure B2: Total individual pension wealth by parental background



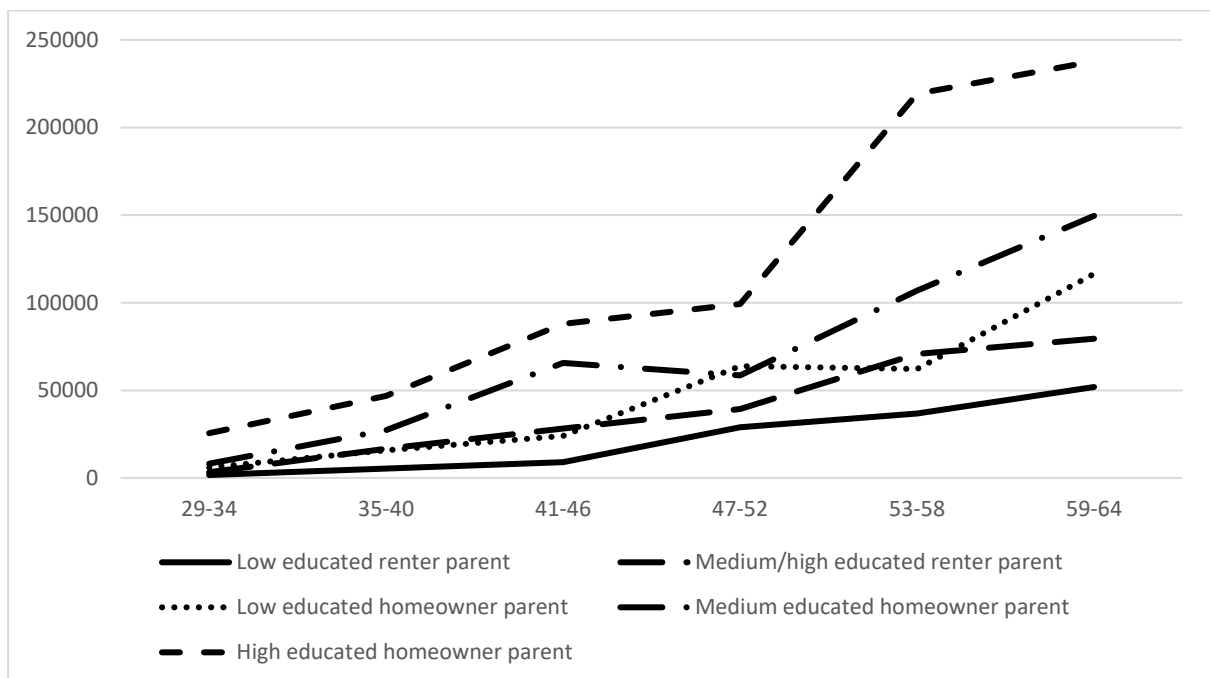
Notes: sample based on wave 3 of WAS (2010/12). N=13,330. Figures correspond to 2022 prices.

Figure B3: Total individual physical wealth by parent background



Notes: sample based on wave 3 of WAS (2010/12). N=13,330. Figures correspond to 2022 prices.

Figure B4: Total individual net financial wealth by parent background



Notes: sample based on wave 3 of WAS (2010/12). N=13,330. Figures correspond to 2022 prices.

Appendix C: Intergenerational rank correlation estimates by wealth type.

Table C1: Intergenerational rank correlation estimates for pension wealth by age group.

Age group at wave 3	29-34	35-40	41-46	47-52	53-58	59-64
Central birth years	1979- 1980	1973- 1974	1967- 1968	1960- 1961	1954- 1955	1948- 1949
wave 3	0.32*** [0.039]	0.23*** [0.036]	0.22*** [0.03]	0.20*** [0.03]	0.23*** [0.03]	0.18*** [0.03]
round 6	0.33*** [0.04]	0.24*** [0.04]	0.24*** [0.03]	0.22*** [0.03]	0.20*** [0.03]	0.19*** [0.03]
<i>N</i> _{offspring} balanced panel	554	871	1052	1205	1329	1688

Notes: *** p<0.01, ** p<0.05, * p<0.1. Specifications control for single year age dummies. Wealth values adjusted for inflation prior to transformation and reflect 2022 prices.

Table C2: Intergenerational rank correlation estimates for financial wealth by age group.

Age group at wave 3	29-34	35-40	41-46	47-52	53-58	59-64
Central birth years	1979- 1980	1973- 1974	1967- 1968	1960- 1961	1954- 1955	1948- 1949
wave 3	0.24*** [0.04]	0.25*** [0.04]	0.26*** [0.03]	0.22*** [0.03]	0.30*** [0.03]	0.28*** [0.02]
round 6	0.20*** [0.04]	0.23*** [0.04]	0.27*** [0.03]	0.27*** [0.03]	0.29*** [0.03]	0.33*** [0.02]
<i>N</i> _{offspring} balanced panel	554	871	1052	1205	1329	1688

Notes: *** p<0.01, ** p<0.05, * p<0.1. Specifications control for single year age dummies. Wealth values adjusted for inflation prior to transformation and reflect 2022 prices.

Table C3: Intergenerational rank correlation estimates for physical wealth by age group.

Age group at wave 3	29-34	35-40	41-46	47-52	53-58	59-64
Central birth years	1979- 1980	1973- 1974	1967- 1968	1960- 1961	1954- 1955	1948- 1949
wave 3	0.22*** [0.04]	0.19*** [0.04]	0.24*** [0.03]	0.23*** [0.03]	0.19*** [0.03]	0.20*** [0.03]
round 6	0.35*** [0.04]	0.21*** [0.04]	0.21*** [0.03]	0.20*** [0.03]	0.25*** [0.03]	0.25*** [0.02]
<i>N_{offspring}</i> balanced panel	554	871	1052	1205	1329	1688

Notes: *** p<0.01, ** p<0.05, * p<0.1. Specifications control for single year age dummies. Wealth values adjusted for inflation prior to transformation and reflect 2022 prices.

Appendix D: Rate of change in the intergenerational rank correlation between 2010/12-2016/18 by wealth type.

Wealth type	Pension wealth	Net financial wealth	Net physical wealth
Wave 4*Parent's rank	0.06 [0.07]	0.004 [0.01]	-0.01 [0.01]
Round 5*Parent's rank	0.03*** [0.01]	-0.01 [0.01]	0.002 [0.01]
Round 6*Parent's rank	0.06 [0.01]	0.004 [0.01]	0.01 [0.01]
Age*Parent's rank	0.01 [0.001]	0.003*** [0.001]	-0.001 [0.001]
Parent's wealth	0.17*** [0.01]	0.19*** [0.02]	0.25*** [0.02]
N	36031	36031	36031

Notes: *** p<0.01, ** p<0.05, * p<0.1. Wealth values adjusted for inflation prior to transformation and reflect 2022 prices. All specifications also control for first and second order polynomial terms in age and wave dummies.

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