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Intergenerational Persistence in Income and Social Class: The Impact of Increased Inequality

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Abstract
Sociologists and economists reach quite different conclusions about how intergenerational mobility in the UK compares for those growing up in the 1970s and 1980s. Persistence in social class is found to be unchanged while family income is found to be more closely related to sons' earnings for those born in 1970 compared to those born in the 1958. We investigate the reasons for the contrast and find that they are not due to methodological differences or data quality. Rather, they are explained by the increased importance of differences in income within social class for sons' earnings in the second cohort. When economists measure intergenerational mobility their ideal is to see how permanent income is transmitted across generations. Our investigations show that the importance of within-social class differences in income mean that a single measure of income is a better predictor of permanent income status than fathers' social class. We would not, therefore, expect the results for changes in intergenerational mobility based on income and social class to necessarily coincide.

Keywords: Intergenerational mobility, Earnings, social class

JEL Classification: J62, I2, D31

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1. Introduction

Intergenerational mobility is concerned with the links between parents' socio-economic status and their children's socio-economic position in adulthood. A strong association between social or economic status across generations indicates weak intergenerational mobility, and is often regarded as in violation of the norms of equality of opportunity.

Intergenerational mobility has moved to the forefront of government policy in recent years, with Government committing itself to "create a Britain that is economically successful because it is socially mobile" (Alan Milburn, 2005). It is without doubt that this policy interest has been reinforced by the picture of intergenerational income mobility in the Britain presented in papers by Blanden et al (2004, 2005, 2007) which reveal a decline in the intergenerational mobility of income when the 1970 birth cohort (British Cohort Study or BCS) is compared with one born 12 years earlier (the National Child Development Study, or NCDS).

However, this picture of a decline in intergenerational mobility in the UK over these years is not without contention. Sociologists have a long history of using the association of fathers' and sons' social class to measure intergenerational mobility (Erikson and Goldthorpe, 1992, and references therein). Using this alternative approach on the same two cohorts leads Goldthorpe and Jackson (2007) to conclude that there has been no change in the extent of social mobility measured by occupational classification.

Ermisch and Nicoletti (2007) use data from the British Household Panel Survey to consider trends in intergenerational earnings mobility for all cohorts born from 1950 to 1972. Their results point to no substantial trend in mobility up to 1960. From 1961 to 1972 there is a decline in mobility as measured by the elasticity of earnings across generations, but no change in the partial correlation (our preferred measure). It should be noted that due to the use of fathers' earnings predicted from social class and education, Ermisch and Nicoletti's methodology lies somewhere between the pure income and pure social class approaches.

The objective of this paper is to attempt to explain why the income and social class approaches lead to differing conclusions about what has happened to intergenerational mobility in the UK. We find that the differences cannot be explained

by the differing samples, statistical methods or measurement error. Björklund and Jäntti (2000) discuss how the economic and sociological approaches can diverge. Notably, Björklund and Jäntti show the most substantial differences between the two measures for the US, the developed nation with the highest levels of income inequality. They show that the US has low earnings mobility compared to most developed nations but has reasonably high occupational or class mobility. They suggest that the divergence in these results must be attributable to within social class inequalities in income which will be particularly pronounced when there is high inequality.

Our analysis finds that inequality rose both between and within social classes for the families of the BCS compared to the families of the NCDS and that this rise in inequality has been accompanied by an increasing impact of within-social class inequality on children's later outcomes. We use a decomposition approach to split income persistence into that part which is explained by the transmission of social class and the part that is associated with the transmission of inequalities in income within social classes. The fall in mobility that we find is attributable to an increase in the second component.

Analysis of the cohort data and other datasets from the same period indicate that social class can explain only around 20 percent of the variation in parental income. There is clearly substantial scope for within-group variation in income to matter for children's outcomes, and for its importance to change. As inequality increased in the Uk from the late-1970s onwards (Johnson and Webb, 1993) within social class inequality grew substantially, and from the late 1980s there is evidence that the share of income variance explained by father's social class fell. For cohorts beyond 1970 social class is likely to become an even poorer predictor of childhood economic status. Analysis of recent data from the British Household Panel shows that current income is a better predictor of permanent income in childhood than father's social class.

In the next section we present the evidence on changes in mobility in the UK based on the sociological and economic approaches. In Section 3 we consider if the differences between these results can be explained by differing samples or approaches to measurement. In Section 4 we use a decomposition approach to separate measured income mobility into between-social class mobility and within-social class mobility. In Section 5 we confront the possibility that our results are purely a reflection of

greater measurement error in family income in the NCDS. In this section we test, and reject, the notion that social class is a better measure of permanent income than one-shot income is. Section 6 concludes.

2. Results from Economics and Sociology

Income Mobility

From the economists' perspective Blanden, Goodman, Gregg and Machin (2004) find that mobility decreases for a cohort of sons born in 1970 compared to a cohort born in 1958. These results are based on parental income at age 16 and son's earnings in his early 30s. Before proceeding we provide more details on these crucial variables[1].

In the NCDS at age 16 parents were asked to place father's earnings, mother's earnings and other income into a category. Family income is obtained by taking the midpoints of the three measures within their category and summing. In the BCS parents are only asked about their total family income, and are asked to give one of eleven categories. We generate a continuous income variable for the BCS by fitting a Singh-Maddala distribution to the data using maximum likelihood estimation. This is particularly helpful in allocating an expected value for those in the open top category[2]. We also adjust the BCS to be net of tax and impute child benefit. This must be done to overcome differences in the way income is measured across the cohorts (see Blanden, Chapter 4 for full details). Adult earnings is obtained at age 33 (NCDS) and 30 (BCS), where individuals are asked to provide information on their usual pay and pay period. A limitation of the data is that information on self-employment income is poor; consequently, the self-employed are dropped from our analysis.

The simplest representation of the results from this data is transition matrices of origin family income and destination earnings by quintile. This is presented in Table 1 for the two cohorts; in a world of perfect mobility each cell would contain 4% of the sample. The stickiness by which people are more likely to remain in the income group they started in is apparent both in the leading diagonal and especially the top left and bottom right corners. The increase in this persistence across the two cohorts is also clear.

[1] We follow our other papers and to concentrate on sons here as this avoids the complications of women's labour supply decisions. Blanden (2005, Chapter 6) considers daughters in some detail.
[2] Singh and Madalla (1976). Many thanks to Christopher Crowe for providing his stata program smint.ado which fits Singh-Maddala distributions to interval data.

This extent of mobility within this data can alternatively be represented using a regression approach, with β from the following regression providing a simple average measure of intergenerational income persistence;

$$\ln Y_i^{son} = \alpha + \beta \ln Y_i^{parents} + \xi age_i^{parents} + \gamma age^2{}_i^{parents} + \varepsilon_i \quad (1)$$

The partial correlation, *r*, is also of interest in cross-cohort studies as this adjusts beta for any changes in variance that occur across cohorts.

$$r = Corr_{\ln Y^{parents}, \ln Y^{son}} = \beta\left(\frac{SD^{\ln Y^{parents}|age^{parents}}}{SD^{\ln Y^{sons}}}\right) \quad (2)$$

Table 2 reports β and *r* for our two data sets. As with the transition matrices there is clear evidence of more persistence in the BCS cohort compared with the NCDS, β has risen by 0.086 from .205 to .291 and *r* has increased even more strongly by 0.12. In both cases the change over time is statistically significant.

We will primarily use *r* to compare social class and income mobility, its advantage is that it can be easily decomposed to show the contribution made by different components of income. Here we will consider the part of income variation that can be explained because families are of different social classes (known as between-group variation) and the part that cannot be explained by these differences (within-group variation).

Social class mobility

Social class mobility is measured based on father's social class, here at age 11 (10 for the BCS) and son's social class at age 33 (30 for the BCS). In both cohorts, the origin social class measure is created from coding the father's Socio-Economic Groups (SEGs), into a seven-point Goldthorpe social class scheme (see Heath and McDonald, 1987). Details are provided in Goldthorpe and Jackson's Table 1. Destination social class in the NCDS is measured at 33 and is already available as a Goldthorpe schema. In the BCS there is no measure of the Goldthorpe schema at aged 30 so the individuals' SOC90 occupational codes and employment status are recoded to the same schema used in the NCDS.

The results for absolute social class mobility can also be easily summarised by transition matrices, and these are reported for the two cohorts in Table 3. The scales have been reversed from the usual reading of social class; one is now the bottom social class as opposed to the top social class. This is for ease of comparison with income and earnings measures. Again this matrix information can be summarised, and summary measures are shown in Table 4. Our statistics, like Goldthorpe and Jackson's, show little change across the cohorts.

The unadjusted proportions provide information on absolute mobility, but in contrast to our income groupings social classes are not a constant fraction of the population and can, and do, change across the cohorts. This 'structural change' means that a full consideration of trends in mobility also needs to look at 'relative fluidity' which measures the extent of mobility abstracting from overall shifts in the proportions in each social class. It is easy to consider this in a very simple way; for both cohorts just over 30% of children born into the two lowest social classes migrate to the top two as adults and likewise a constant 65% of those born with fathers in the top two social classes remain in these classes as adults. A near constant 2:1 ratio of chances of entering the top two classes is revealed.

Our results confirm Goldthorpe and Jackson's finding that when social class is used as the measure of status there is a little change in mobility. This is strong contrast to the unequivocal result that mobility has declined that is found when income and earnings are used. In the next section we will attempt to move these results closer together by adapting the samples and methods to a more comparable basis.

3. Reconciling the Two Approaches

This paper aims to understand why using income and social class measures lead to different conclusions about changes in mobility. We take a step-by-step approach to reconciling the two results. Our crucial first step is to 'transform' social class into income, so that we can measure the association in social class in the same units used to measure income persistence. To do this we first estimate the relationship between parental income and father's social class and use this estimation to predict income.

$\hat{inc}^{parents}_{ci} = \hat{\varphi}_{c1} + \sum_{j=2}^{7} \hat{\varphi}_{cj} I(soc_{ci}^{father} = j)$ where the $\hat{\varphi}$ are estimated in the equation

$inc^{parents}_{ci} = \varphi_{c1} + \sum_{j=2}^{7} \varphi_{cj} I(soc^{father} = j) + \varepsilon_{ci}$ and *c* represents the two cohorts.

This predicted income measure will capture variations in income that can be explained by social class, or to put it another way, it is a projection of social class into income units. This prediction can also be done for adult sons' earnings and social class. The regressions that predict income and earnings by social class are found in Appendix Tables 1 and 2.

Björklund and Jäntti (2000) write the covariance of father's and sons' income as $\sigma_{yf,ys} = \beta'_f \overline{X'_f X_s} \beta_s + \sigma_{af,as'}$ (5)

The matrix $\overline{X'_f X_s}$ gives the relative frequency of each combination of fathers' and sons' occupation, the βs provide the returns to occupation. By using income and earnings predicted on the basis of social class our approach includes the influence of the βs in the first term of the expression in equation (4). $\sigma_{af,as'}$ is the covariance of the parts of income not related to social class.

$\beta'_f \overline{X'_f X_s} \beta_s$ is equivalent to the association of the two predicted variables discussed above and it therefore reflects the 'returns' to social class as well as the association between social class across generations.

Table 5 reports mobility estimates measured as the partial correlations (*r*) across generations in this predicted data. In the top panel estimates are based on the sample that has information on social class, income and earnings. It is immediately clear that the rise in intergenerational persistence found for total income and earnings measures is not present; the partial correlations now show no change. In section 2 we showed that transition matrices based on income and social class showed quite different trends now we have shown that partial correlation measures also reflect this difference. The symmetry between these results indicates that changes in the 'returns' to social class (between group changes in inequality) are unlikely to be driving the difference.

The second panel of Table 5 expands the sample to all those who have social class information for fathers and sons, the sample used to generate the social class mobility results in Tables 3 and 4. This is possible because income and earnings can

be predicted for those who have missing values for these variables provided the relevant social class data is available. Comparing the results for these two samples acts as a test of whether differences in mobility between the measures are a result of differences in the samples used. The results for both samples used in Table 5 are very similar implying that the differences in patterns of mobility are not due to sample restrictions caused by missing earnings and income information.

There are two final steps to bring the social class and income approaches as close together as possible. The first is the inclusion of controls for average parental age and its square. This is done in the income mobility research to account for the correlation between parents' age and their income. This changes the results very little and these controls are included in all subsequent models in this paper. The second is to include those families who have missing father's social class information but who do give information on income and earnings; these observations will be excluded from the results in the top panel in Table 5 but are included in the income mobility sample used in Tables 1 and 2. This group will include sons with no father in the household at age 11/10 (lone parent families). Table 6 adds these individuals to the samples, indicating that they are slightly less mobile in the NCDS but rather more mobile in the BCS. In the second cohort those without a father figure (a larger group than in the earlier cohort) will have low income in childhood but have relatively higher earnings.

Our analysis so far has made it clear that differences between income and social class mobility are not a consequence of using different metrics or samples. It is apparent that we must look for other ways to explain the differences between the results.

4. A Between- and Within- Social Class Decomposition of Intergenerational Income Mobility

The partial correlation of parental income and children's earnings can be written in terms of variances and covariances, as follows.

$$r_{income} = Corr(\ln Y^{parents}, \ln Y^{sons}) = \frac{Cov(\ln Y^{parents}, \ln Y^{sons})}{\sqrt{Var(\ln Y^{parents}}\sqrt{Var(\ln Y^{sons})}} \qquad (2)$$

The purpose of this section is to gain insight into the difference between the income and social class results by decomposing this expression into the components of the covariance between parental income and sons' earnings.

In our reconciliation of the income and social class approaches we considered the partial correlation of income and earnings as predicted by social class. This can be written as

$$r_{socialclass} = Corr(\hat{inc}, \hat{earn}) = \frac{Cov(\hat{inc}, \hat{earn})}{\sqrt{Var(\hat{inc})}\sqrt{Var(\hat{earn})}} \quad (3)$$

where predicted log income is $\hat{inc}_{ci}^{parents}$ and predicted log earnings $\hat{earn}_{ci}^{son}$

We can link this measure to mobility in total earnings and income by noting that total parental income is made up of this predicted income plus the unexplained residual $\hat{\varepsilon}_{ci}$, similarly there is an unexplained residual for sons' earnings $\hat{u}_{ci}$. The covariance of income and sons' earnings (2) can be decomposed into the covariance of all these components, as below.

$$\begin{aligned} &Cov(inc_{ci}^{parents}, earn_{ci}^{son}) = Cov(\hat{inc}_{ci}^{parents}, \hat{earn}_{ci}) + Cov(\hat{inc}_{ci}^{parents}, \hat{u}_{ci}) \\ &+ Cov(\hat{earn}_{ci}, \hat{\varepsilon}_{ci}) + Cov(\hat{u}_{ci}, \hat{\varepsilon}_{ci}) \end{aligned} \quad (4)$$

In order to determine the contribution of each of these elements to the total partial correlation they must be scaled by $\sqrt{Var(\ln Y^{parents}}\sqrt{Var(\ln Y^{son}}$, the variance factor in equation (2). Notice that this is a different variance factor than the one in equation (3), as it includes all inequality in income and earnings, not just those parts that can be explained by social class in each generation. We would therefore expect it to be substantially greater.

This decomposition of intergenerational income mobility is similar to the model outlined in Björklund and Jäntti (2000). As has already been noted $Cov(\hat{inc}_{ci}^{parents}, \hat{earn}_{ci})$ is equivalent to Björklund and Jäntti's $\beta'_f \overline{X'_f X_s} \beta_s$ term. The other component of Björklund and Jäntti's model is $\sigma_{af,as'}$, the covariance of the parts of income not related to social class; the final term in the expression in equation (4). Björklund and Jäntti explicitly ignore the cross-correlation between the residuals and social class components across generations, which form the 2nd and 3rd components of our covariance expression. Our approach is therefore a slight extension of Björklund and Jäntti's.

Table 7 shows the covariances and variances that contribute to the partial correlation of income and earnings. This allows us to see why the trends in partial correlations for class predicted income/earnings and actual income/earnings are so different. The table reports that part of income predicted by social class in the first row as $\hat{inc}^{parents}$ and the first column reflects the earnings predicted by sons' social class $\hat{earn}^{sons}$, this is the covariance that drives the intergenerational mobility of income based on social class, it almost doubles across the cohorts. The other terms reflect the covariance of residual income with residual earnings (lower right quadrant), the covariance between income predicted by fathers' social class and sons' residual earnings (top right) and the reverse, between residual income and predicted earnings (bottom left). All the terms rise but the variance term also rises.

In Table 8 we show the contribution of each component more clearly by dividing by the relevant variances[3]. It is immediately obvious that the rise in intergenerational persistence is driven mainly by the rise in the covariance between the part of parental income which is not predicted by social class and both sons' predicted and residual earnings. It appears that it is the growing importance of variations in parental income within social class groupings in determining sons' later earnings that is the predominant explanation of the difference between Blanden et al's results based on income and Goldthorpe and Jackson's (2007) results based on social class.

5. Within- and between- social class inequalities in income

Our central hypothesis is that the difference between social class and income mobility trends over time can be explained by the rising intergenerational transmission of within-social class income variation.

Within-class family income variation has grown in recent years, this has occurred for several reasons. We know that earnings inequality has risen within education groups (Gosling et al 2000), and suspect this might also be true for social class. In addition the growth of women's participation and earnings may have reduced the role of father's social class as a predictor of family economic status.

[3] Notice that the variance used to scale the covariances changes between equation (3) and the full decomposition. It increases more for the NCDS as the variance of predicted income is relatively lower than the variance of all income. This means that Table 8 now reveals a fall in persistence based only on the predicted elements.

The General Household Survey allows us to explore this directly and consider the extent of within and between social class inequalities over time. We select households with at least one child aged 10 to 16 for comparability with the cohorts. Tables 9 and 10 focus in on 1974 and 1986; comparing within- and between- social class inequalities in the cohort data and the GHS. We consider the trend in within-group inequality by comparing the distribution of residuals from regressions of parental income on social class[4]. If anything, it appears that the birth cohorts understate the extent to which this occurred across families compared with the GHS; it is clear that within social class inequality was increasing between the mid-1970s and mid 1980s.

Figure 1 shows patterns for parental earnings over a broader time period[5], providing figures for within, between and total variance in log combined parental earnings. The first point to note is that within-group inequality is larger than between-group inequality with father's social class explaining only around 15-20 percent of the variance in log parental earnings. The results based on income predicted by social class are using a very limited amount of the total variance in income experienced by children; we should therefore not be surprised if they miss important parts of the story.

A recent paper by Weeden et al (2007) studies the role of social class in predicting wages in the US between 1973 and 2005. The aim of their investigation is to discover if the growth in wage inequality in the US is 'class strengthening' (the share of wage variation predicted by social class is growing) or 'class weakening' (it is falling). They find that 'the well-known takeoff in inequality has generated a "lumpier" earnings distribution with relatively stronger class and occupational distinctions' (Abstract). Figure 1 includes a series showing the share of between-group inequality as total inequality rises, this increases slightly between the 1970s and mid-1980s and then falls back. There is no evidence that the role of social class in predicting income weakens between 1974 and 1986, but there is evidence it does so in subsequent years.

[4] Parental income in the cohort studies includes unearned income; this is measured very poorly in the GHS so we restrict our analysis of these data to total gross parental earnings.

[5] Comparisons of trends in inequality between the General Household Survey and the Family Expenditure Survey in Figure A1 shows that the earnings data from 1979-1982 is not consistent with the rest of the series. We exclude these years.

The GHS also allows us to look at the evolution of between- and within- group inequalities for fathers and mothers separately. Figure 2 shows the pattern for fathers; notice that for fathers the share of variance that occurs between social classes is larger, and that total inequality is smaller. Once again both the between and within components of inequality are growing'; the two components move in parallel over the period and there are no consistent patterns in the share of within group.

For mothers the story is quite different. The extent to which fathers' social class will be a good predictor of mothers' earnings variations will depend on the degree to which a couple's earnings are correlated. Figure 3 shows that father's social class does a poor job at predicting mother's earnings with between-group components accounting for almost none of the inequality. Within-social class components grow over the period.

The impact of mothers' earnings on total household income inequality will of course depend on the size of her contribution. The GHS data reveals that over the period 1974-1993 mothers' share of combined earnings rose from 40 percent to 60 percent. This is due to the combination of more partnered mothers working, and higher earnings for those women and more single parent families (where mothers' earnings will, of course, account for all earned income).

To summarise: between the mid-1970s and mid 1980s earnings inequality rose substantially; this was a combination of within and between group changes. It is noticeable that mothers' earnings are very weakly explained by father's social class and this leads to a great deal of within social class variation in parental income. Owing to this, the social class approach to analysing intergenerational mobility is missing some important dimensions in the period under study. Our analysis suggests that while the share of between-group inequality kept pace with total inequality between the dates when family income was measured in the cohorts this may have changed in recent years, with an increase in the contribution mothers earnings to total income, potentially meaning that measures of social class and income mobility will move even further apart over time.

6. Measurement Error and Permanent Income

We have argued so far that the inconsistency between results based on income and social class are the consequence of real differences in what the two approaches tell us.

There is however, an alternative hypothesis; that the differences are due to measurement error.

Theoretical models which demonstrate links in economic status are always conceived in terms of a permanent measure of status for both generations (for example Becker and Tomes, 1986); it is parents' income throughout childhood that matters not income at a particular point in term. This means that when we use current parental income as the explanatory variable we are actually using this as error-prone proxy for permanent childhood variable, the variable of real interest.

It is a well known result that measurement error in an explanatory variable in a regression leads to attenuation bias. If for any reason measurement error in parental status is more severe in one cohort compared with the other then estimates of the change in intergenerational persistence will be biased. In particular if income is measured with more error in the NCDS than the BCS then this alone could be responsible for the higher intergenerational income persistence found in the BCS. In contrast, greater measurement error in social class in the BCS would bias against finding an increase in social class persistence.

In our earlier papers on changes in income mobility we are explicit about the difficulties that could be caused by measurement error in NCDS family income. Calibrations of the impact of measurement error are included in Blanden et al (2004) and Blanden (2005) and are reported here as Table 11. These results indicated that measurement error in the NCDS would have to substantially higher in the NCDS compared with the BCS to explain our results if there was no change in the true extent of income persistence.

It is therefore natural to ask if there is any evidence that NCDS family income is particularly error-prone. This question has two parts. First we need to ask if the current income measure in the NCDS is a particularly poor measure of current income, secondly we need to investigate if current income is a poorer measure of permanent income in the first cohort than the second.

Is current income measured with error?

The parental income question in the NCDS was asked, in part, during the period of the three-day working week. The concern is that the reported income is that of the three-day week rather than usual weekly income, if this was the case it could lead to unusually high measurement error and results biased towards finding a fall in

mobility. We check this by estimating the intergenerational coefficient and partial correlation for those families interviewed in January and February 1974 (definitely within the three-day-week period). We find that if anything intergenerational persistence is stronger for these families implying no substantial measurement error. This is in line with Grawe's (2004) study who finds no evidence of income misreporting in the NCDS due to the reduced working week.

In addition, we are able to compare the income reports from the cohorts with incomes given in a nationally representative survey over the same period. Figure 4 maps the cumulative distribution functions of log parental income in the cohorts alongside those for families with similar-aged children in the Family Expenditure Survey (FES) in the same years. It appears that in both datasets cohort parents tend to report lower incomes than parents in the FES. This is not surprising as questioning in the FES is a good deal more thorough so is likely to uncover more income sources. The categorical nature of the income data in the cohorts tends to lead to a more lumpy distribution (particularly in the BCS) and a truncated upper tail. For our purposes the most notable feature is that these aspects are certainly no more pronounced in the NCDS than in the BCS.

Erikson and Goldthorpe (2007) express concern about the parental income data in the NCDS because of the weaker link between social class and family income in the NCDS compared with the BCS. Referring back to Appendix Table 1 we see that social class can explain 9% of the variance in the NCDS and 23% in the BCS. Erikson and Goldthorpe infer from this that the income variable in the NCDS is a poorer measure of parental income than for BCS. There are three ways that we can check this. The first is to see if the pattern of increased association between family income and social class is found in other datasets that cover the same time period. The second is to examine if parental income is also more poorly correlated with other variables in the NCDS compared to the BCS. Finally, we can expand on the predicted income and earnings approach use so far for social class to include these alternative income proxies (akin to Ermisch and Nicolletti, 2007). All of these exercises are reassuring.

First we can compare the predictive power of father's social class in the cohorts with same periods in the GHS data. The data from Figure 1 revealed a slight increase in the share of the between social-class component between 1974 and 1986. We would therefore expect some increase in the R-squared between the cohorts.

Table 12 shows predictive power of social class in the cohorts and GHS does indeed increase over this period, albeit slightly more across the cohorts than in the GHS. In the NCDS the R-squared from a regression of combined earnings when both parents work is almost identical to the one from the GHS in the same period. As we look down the rows to those families in the NCDS with weaker labour market attachment the R-squared for social class reduces. This occurs when we use combined earnings as the parental income measure, it is not simply a consequence of the 'other income' component.

These findings could indicate that family incomes are less well measured for families with weak attachment to the labour market. This group-specific measurement error could be responsible for the lower intergenerational correlation in the NCDS and lead to the appearance of falling intergenerational mobility. Table 13 shows that this is not the case. The partial correlations between family earnings or income and sons' earnings (column 1 and 2) for the NCDS are almost unchanged when we consider different samples. Those families where Dad does not work have a weaker link between social class and family income but show no evidence of a low intergenerational association.

If family income in the NCDS is poorly measured we would expect that it would be more poorly predicted by all household characteristics, not just by social class. To test this we compare the predictive power of social class with regressions of income on other parental characteristics and 'income proxies'. These are parental education, employment at 16 and mother's employment at birth and 7 (5 in the BCS), lone parenthood at age 7 (5 in the BCS) and age 16, housing tenure at age 16, whether the child received free school meals at age 11 (10 in the BCS) and parent-reported financial difficulties at 16.[6]

The first column of Table 14 repeats the information at the bottom of Table 11 where income is predicted by father's social class. The first two rows of the second column show R-squareds for the cohorts when family income is predicted by the alternative set of parental characteristics. Our results show that not only do these variables account for substantially more of the variation in income compared to social class (indicating that they are better predictors of income), but that their explanatory

[6] It is important to note that these income proxies, other than education, are only likely to capture low income; measures for high income are not available within the data. However, that our particular concern about measurement error at the bottom of the distribution this is less of a handicap than it first appears.

power is unchanged across the cohorts. If measurement error was much more prevalent in the NCDS we would expect these results to also show lower explanatory power in that cohort.

The remaining two cells in the table report the results from a similar analysis on the GHS with a more limited range of variables; free school meals and financial difficulties variables are not available[7]. This more limited set of variables explains less of the variation, but the stability in the R-squareds mimics the results found for the cohorts.

The alternative predictors of income used in Table 14 can also be used as predictors (instruments) for parental income, and results are reported in Table 15. It is clear that the IV results using these income proxies indicate a rise in intergenerational persistence of a similar magnitude to our results based on income. This clearly suggests that the difference in results between social class and income based measures cannot be due to measurement error.

We have gathered several pieces of evidence to suggest that parental income in the NCDS is not measured with more error than the same variable in the BCS. First, income data collected within the 3-day week period in 1974 does not have a lower correlation with sons earnings. Second, comparison of income data collected in the cohorts with the same information from the Family Expenditure shows no evidence of more measurement error in the NCDS. Third, the low correlation between social class and parental income in the NCDS is largely mirrored in the GHS for the same period. Whilst there is some evidence that the low correlation between social class and parental income in the NCDS is more marked for parents with a weak connection to the labour market; there is no evidence that excluding these families changes the pattern of change in intergenerational persistence. Fourth, using alternative parental characteristics as instruments for parental income reinforces our finding that intergenerational mobility falls between the 1958 and 1970 cohorts.

Income and Social Class as Alternative Measures of Permanent Income

Having found reassuring evidence on the relative extent of measurement error in current income in the cohort studies we now investigate the relationship between current income and permanent income. If this is weaker in the NCDS this could

[7] Full regression results for the cohorts and GHS can be found in Appendix Table A4.

provide an alternative reason why the data we use would not pick up the genuine pattern of transmission in permanent income across generations. Difficulties in measuring current income and in using those measures as a proxy for permanent income mean that social class could be regarded as a superior measure of permanent economic status.

The final line of Table 11 investigates the impact of a changing relationship between permanent and transitory earnings for the years matching the cohorts on our estimates of intergenerational persistence. We used the New Earnings Survey to calculate the proportion of variance in earnings over a five year period that could be regarded as 'permanent' for men in the years around the age 16 income measures. We find that while for the 1986 men's transitory fluctuations account for 21 percent of the variance in any year, for men in 1974 this was 32 percent. Whilst changes of this magnitude could not be responsible for all of drop in persistence that we observe, Erikson and Goldthorpe note that if allowance were made for this problem, the fall in mobility would 'no longer appear as dramatic as it does when the data are taken at face value' p. 17.

This is a legitimate point; however two additional factors must be taken into account. The first is that using social class as the measure of economic status will not resolve this problem. As we have seen previously social class predicts a minority of the variance of income in a particular year. Further investigation using the NES reveals that class also predicts a minority of our permanent income measure (around 20 percent, compared to 12 percent of current income). It is also the case that more of the within-social class variation in income can be regarded as permanent over time, with the average residual of income from a social class regression predicting 62 percent of income variation in 1974 and 73 percent of income variation in 1986. It is not precisely clear what influence this would have on the relative ability of current income and social class to predict permanent income but it certainly makes Erikson and Goldthorpe's argument less clear-cut.

It should also be noted that the NES only allows us to investigate the permanent and transitory components of father's earnings, and do not take account of the influence of mother's and other income. As we have seen patterns in household earnings and father's earnings can differ quite markedly owing to the role of mother's earnings and unearned income.

Data from the British Household Panel Study (BHPS) makes it possible to test if this is the case explicitly. As the BHPS has been running since 1991, 14 years worth of income data are available for many families. Hence by aggregating across many years through childhood we can get a good measure of permanent income during childhood. We have 783 families with children under 16 who have more than 7 income reports selected into our data, 30% of these have reported income in the full 14 years of the study while 92% have income reports for 10 years or more. The BHPS also provides information on current income, social class and other parental characteristics to use as income proxies.

We consider the association of permanent income with social class, income proxies and current income, measured at the last period observed. Table 16 reports our findings. Of social class, a one-off measure of family income and a set of alternative income proxies (all based on a single year of data), the social class variables have the weakest relationship with permanent income. The correlation between social class measures and permanent income are around 0.5[8] whereas the income proxies explain 62% of the variation in permanent income. The best performer is the one year measure of income, explaining just over 70% of the variation in long-run income.[9] The results clearly suggest that one-off income measure is a better proxy for permanent income than father's social class.

Moreover, we might be concerned that the relationship between permanent income and social class may have fallen over time, given the large shifts in occupational composition that have affected the UK over the latter half of the 20th century (Marshall et al, 1988), the large increase in mothers' employment and earnings and the large increases in within class earnings inequality. In addition, social class itself might also be measured with error. Sullivan (2006) uses the BCS data at age 30 and shows that coding CASMIN social class on the basis of socio-economic group (as is done by Goldthorpe and Jackson, 2007) miscodes around 20 percent of observations compared to the Goldthorpe schema directly available in the data. Changes in the extent of this misclassification over time might also influence the validity of comparisons based on social class.

[8] When father's and mother's social class are both used, in units of current income, this correlation increases to 0.6.

[9] It should be noted that this is an annual measure of income compared with the weekly or monthly in the birth cohort studies.

In this sub-section we have challenged the hypothesis that social class is a better predictor of permanent income compared to current income. The changing relationship between permanent earnings and current earnings does not tell the full story here, as there is no indication that social class does better at predicting permanent income. Indeed, evidence from recent data shows that social class predicts permanent income rather poorly. Indeed permanent income is more weakly related to social class than it is to the alternative measures of family status that we find to be more strongly correlated to sons' outcomes in the 1970 cohort than in the 1958 cohort.

6. Conclusion

There are clear discrepancies between the results found when economists and sociologists use the same data to measure changes in intergenerational mobility in the UK between the 1958 and 1970 cohorts. It appears that the connection between social class across generations has remained constant while the link between parental income and son's earnings has risen substantially.

We have reviewed the possible explanations for this difference and find that they are not explained by differing methods, samples or differential measurement error in income. Rather, it seems that there are genuine differences in the trends in mobility by social class and income.

When we decompose intergenerational income persistence we find that these differences in mobility trends stem from income within social class groups, which is more strongly transmitted in the second cohort than the first. This within-class component includes 80 percent of the variation in current income, and it is therefore credible that it could be responsible for different trends in intergenerational transmissions. In particular we show that the within-group component will include all the variation in mother's income, a growing component of family income which has almost no correlation with father's social class. We also show that fathers social class is not a good predictor of permanent family income. A single point in time measure of income or alternative measures of family status such as education, housing tenure, free school meals and lone parenthood both reflect permanent income more closely than fathers social class and both show rising intergenerational income persistence over these periods.

Our analysis also reveals that from the late 1980s onwards father's social class is able to predict a falling share of parental earnings; this suggests that the prognosis

for father's social class as a measure of childhood economic welfare is not good. Indeed, this should not be a surprise in a society where women's labour market participation and single motherhood mean that mother's incomes are increasingly essential to children's economic wellbeing.

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Table 1: Transition matrices of family income and sons' earnings

NCDS						BCS					
	Destination						Destination				
Origin	**1**	**2**	**3**	**4**	**5**	**Origin**	**1**	**2**	**3**	**4**	**5**
1	5.4	4.7	3.5	3.8	2.6	**1**	6.5	4.6	3.1	3.5	2.4
2	4.7	4.5	4.2	3.5	3.2	**2**	5.5	5.1	4.1	3.3	3.0
3	4.3	3.9	4.6	3.5	3.6	**3**	3.4	4.1	4.4	4.1	2.8
4	3.4	3.8	3.8	4.7	4.5	**4**	3.0	3.4	4.3	5.1	4.3
5	2.3	3.1	3.9	4.6	6.0	**5**	1.6	2.8	4.0	4.0	7.5

Table 2: Changes in intergenerational mobility between family income and sons' earnings

	NCDS	**BCS**
β	0.205 (.026)	0.291 (.025)
Partial correlation (r)	0.166 (.021)	0.286 (.025)

Note: These figures are taken from Blanden, Macmillan and Gregg (2006) Table 4. Standard errors are given in parentheses.

Table 3: Distribution of origin and destination social class for men

NCDS								
	Destination							
Origin	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Σ**
1	6.1	4.9	1.7	0.9	0.9	2.0	2.6	**19.1**
2	6.9	7.3	2.0	1.8	2.1	4.4	6.2	**30.7**
3	1.4	1.4	0.4	0.5	0.3	1.0	1.2	**6.2**
4	1.3	1.0	0.3	1.5	0.2	0.6	1.1	**6.0**
5	1.4	1.5	0.6	0.6	1.1	2.1	2.7	**10.1**
6	1.5	2.4	1.0	0.8	1.5	3.7	6.0	**16.9**
7	1.0	1.0	0.4	0.4	0.8	2.4	5.5	**11.5**
Σ	**19.6**	**19.5**	**6.4**	**6.5**	**6.9**	**16.3**	**25.3**	**100**

BCS								
	Destination							
Origin	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Σ**
1	3.6	1.5	2.0	1.1	0.8	2.5	1.2	**12.7**
2	5.6	3.8	4.3	1.6	1.6	5.0	3.6	**25.5**
3	1.9	1.4	1.7	0.9	0.7	2.3	1.6	**10.5**
4	1.9	1.3	1.2	1.6	0.5	2.7	1.8	**11.0**
5	0.7	0.6	0.7	0.2	0.7	1.8	1.5	**6.2**
6	1.6	1.5	1.8	1.1	1.3	5.9	5.5	**18.7**
7	0.9	0.7	1.1	0.6	1.3	4.4	6.6	**15.6**
Σ	**16.2**	**10.8**	**12.8**	**7.1**	**6.9**	**24.6**	**21.8**	**100**

Table 4: Changes in mobility using our measures of social class

	NCDS	BCS
Total Mobility	74.9	76.3
Upward Mobility	44.3	42.4
Downward Mobility	28.1	29.7
Horizontal Mobility	2.5	4.2

Table 5. Partial correlation of intergenerational persistence using income and earnings predicted by social class from the NCDS and the BCS

Restricted Sample	**NCDS**	**BCS**
r	**0.320**	**0.298**
	(0.023)	(0.024)
Sample size	1759	1648
Social Class Sample		
r	**0.309**	**0.308**
	(0.015)	(0.015)
Sample size	3940	3813

Table 6. Partial correlation of intergenerational persistence using income and earnings predicted by social class from the NCDS and the BCS – restricted sample

Restricted Sample	**NCDS**	**BCS**
r	**0.333**	**0.265**
	(0.020)	(0.022)
Sample size	2163	1976

Table 7: Decomposition of the partial correlation of parental income and sons earnings

NCDS			**BCS**		
Covariances	$\hat{earn}^{sons}$	$\hat{u}$	**Covariances**	$\hat{earn}^{sons}$	$\hat{u}$
$\hat{inc}^{parents}$	0.0062	0.0059	$\hat{inc}^{parents}$	0.0118	0.0074
$\hat{\varepsilon}$	0.0028	0.0142	$\hat{\varepsilon}$	0.0153	0.0290
Variance component	0.175		Variance component	0.222	
r (ratio of sum of all convariances to variance)	0.167		***r*** (ratio of sum of all convariances to variance)	0.286	
Sample	2163		Sample	1976	

Table 8: Contributions of components of income and earnings to overall partial correlation

NCDS	$\hat{earn}^{sons}$	$\hat{u}$	**Total**	**BCS**	$\hat{earn}^{sons}$	$\hat{u}$	**Total**
$\hat{inc}^{parents}$	0.036	0.034	**0.070**	$\hat{inc}^{parents}$	0.053	0.033	**0.086**
$\hat{\varepsilon}$	0.016	0.081	**0.097**	$\hat{\varepsilon}$	0.069	0.130	**0.199**
Total	**0.052**	**0.115**	**0.167**	**Total**	**0.122**	**0.164**	**0.286**

Table 9: Within Class Residual inequality in the cohort studies

	NCDS	BCS
Standard deviation	0.369	0.421
Percentile ratios		
90-10	0.864	1.045
75-25	0.422	0.490
90-50	0.383	0.494
50-10	0.481	0.551
75-50	0.196	0.243
50-25	0.226	0.247
Observations	2163	1976

Note: Statistics are based on residuals from regressions of income on categorical social class measures.

Table 10: Within Class Residual inequality in the GHS

	GHS 1974/1975	GHS 1986/1987
Standard deviation	0.726	0.815
Percentile ratios		
90-10	1.593	1.956
75-25	0.708	0.738
90-50	0.637	0.636
50-10	0.956	1.319
75-50	0.331	0.324
50-25	0.378	0.414
Observations	4418	2603

Note: Statistics are based on residuals from regressions of income on categorical social class measures.

Table 11: Measurement Error Calibrations for the Cohorts

Assumptions on British Cohort Survey Error	Regression β From British Cohort Survey	BCS β Adjusted for Changes in Inequality	Implied adjusted β for NCDS if no statistically significant change	Implied NCDS Regression β	Implied NCDS Error
No error	.291	.286	.221	.273	26%
10%	.323	.318	.254	.314	35%
Solon 14.52%	.340	.335	.271	.334	38%
Mazumder 58%	.693	.684	.619	.764	73%
New Earnings Survey - 21%	.368	.363	.299	.369	44%

Notes:

1. No significant rise would require a difference in the adjusted coefficients of .063 or less.
2. The Solon figure is the difference between the average of the single-year estimates compared with the five year average in Solon (1992).
3. Empirical estimates of the permanent component of earnings in the New Earnings Survey panel indicate that in our worst case the transitory component of labour income can have only risen to 32% in the NCDS, well within the bounds in the Table.

Table 12: R-Squared for Father's Social Class Predicting Income or Earnings on Alternative Samples

	Including Observations with Missing Social Class				Excluding Observations with Missing Social Class			
	GHS 74/75	**NCDS**	**GHS 86/87**	**BCS**	**GHS 74/75**	**NCDS**	**GHS 86/87**	**BCS**
Combined earnings - both employed	0.150 [2655]	0.158 [1375]	0.280 [1707]	0.193* [943]	0.150 [2629]	0.178 [1210]	0.283 [1685]	0.242 [819]
Combined earnings – dad employed	0.145 [3932]	0.139 [1932]	0.270 [2260]	0.201* [1176]	0.144 [3900]	0.156 [1696]	0.273 [2229]	0.244 [1022]
Combined earnings – either employed	0.239 [4335]	0.094 [2067]	0.285 [2586]	0.192* [1256]	0.140 [3998]	0.115 [1787]	0.235 [2324]	0.222 [1424]
Income – full sample		0.090 [2163]		0.232 [1976]		0.103 [1863]		0.262 [1653]

Notes:

1. *These specifications have other income included in the dependent variable as it is not separable in BCS.
2. Sample sizes are given in square brackets.

Table 13: Intergenerational Partial Correlations for Alternative Specifications

	National Child Development Study		**British Cohort Study**
Explanatory Variable	Combined parental earnings	Total parental income	Total parental income
Both parents employed	0.197 (0.027) [1370]	0.163 (0.027) [1370]	0.281 (0.032) [928]
Dad employed	0.221 (0.022) [1917]	0.182 (0.022) [1917]	0.287 (0.028) [1176]
Either parent employed	0.186 (0.022) [2056]	0.170 (0.022) [2056]	0.292 (0.027) [1256]
Full sample		0.167 (0.021) [2163]	0.286 (0.023) [1976]

Notes:
Standard errors are in parentheses, sample sizes in square brackets.

Table 14: Proportion of log family income explained by alternative permanent income measures

	Proportion of family income variance explained	
	By fathers' social class	By parental education and income proxies
NCDS 1974	0.071	0.380
BCS 1986	0.196	0.403
GHS 1974-1975	0.143	0.211
GHS 1984-1989	0.213	0.223

Notes:

1. Sample sizes 2163, 1976, 4418 and 2603 for NCDS, BCS, GHS 1974-1975 and GHS 1986-1987 respectively.
2. Income proxies for the cohorts are measures of parental employment, lone parenthood, housing tenure free school meal status and financial difficulties.
3. Income proxies for the GHS are measures of parental employment, lone parenthood and housing tenure.

Table 15: 2SLS approach using parental education and income proxies

2SLS regressions	**NCDS**	**BCS**
Beta	0.331 (.044)	0.441 (.044)
R	0.165 (.022)	0.252 (.025)
Sample size	2163	1976

Notes:

1. Income proxies for the cohorts are measures of parental employment, lone parenthood, housing tenure free school meal status and financial difficulties.

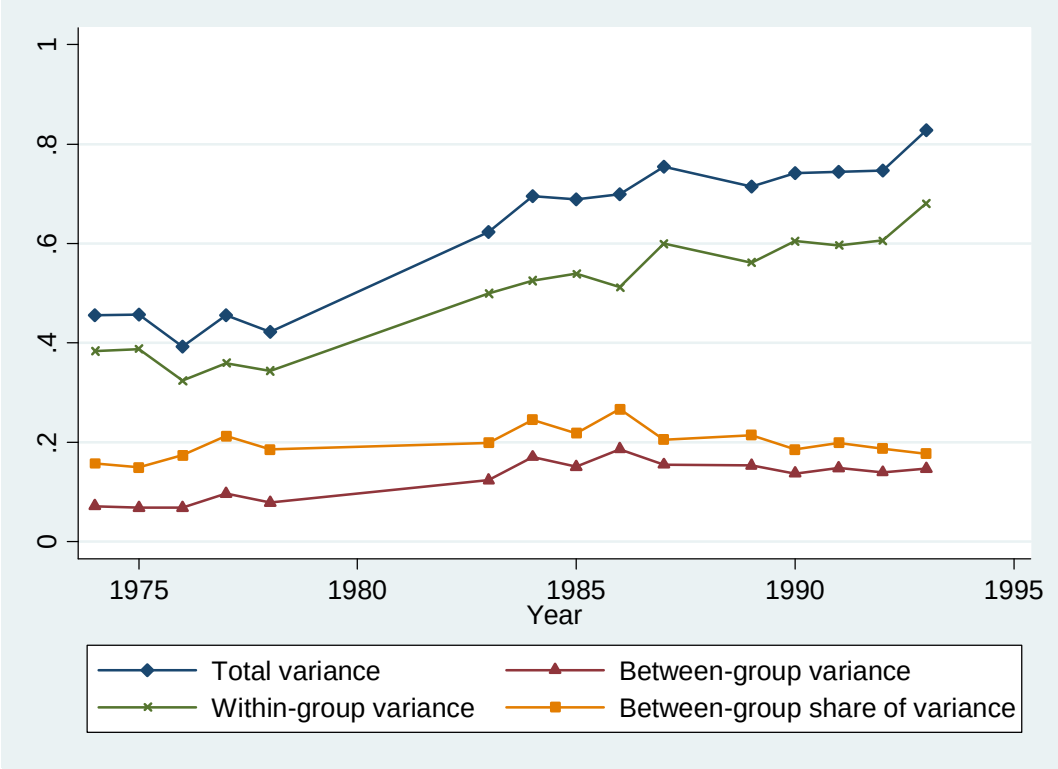
Table 16: Correlations between alternative permanent income proxies and measured permanent income in the BHPS

	Correlation with Permanent income
Father's social class	0.430
Famiy income predicted by father's social class	0.527
One-shot family income	0.709
Family income predicted by income proxies	0.619

Notes:

1. Results are for the 783 families who have one or more children aged under 16 for 10 or more years.
2. Social class correlations based on samples of 460 as they have the additional constraint of non-missing social class information.
3. Permanent income is income averaged across all the observations available.
4. Income proxies are parental education, employment, lone parent status, housing tenure and self-reported financial difficulties.
5. One-shot family income and income proxies are taken from the last observation that meets the criteria, this is generally when the child is aged 16.

Figure 1: Within and Between Fathers' Social Class Inequality in Parental Earnings: GHS Data



Note: Observations are included only if father's social class is observed.

Figure 2: Within and Between Social Class Inequality in Fathers' Earnings: GHS Data

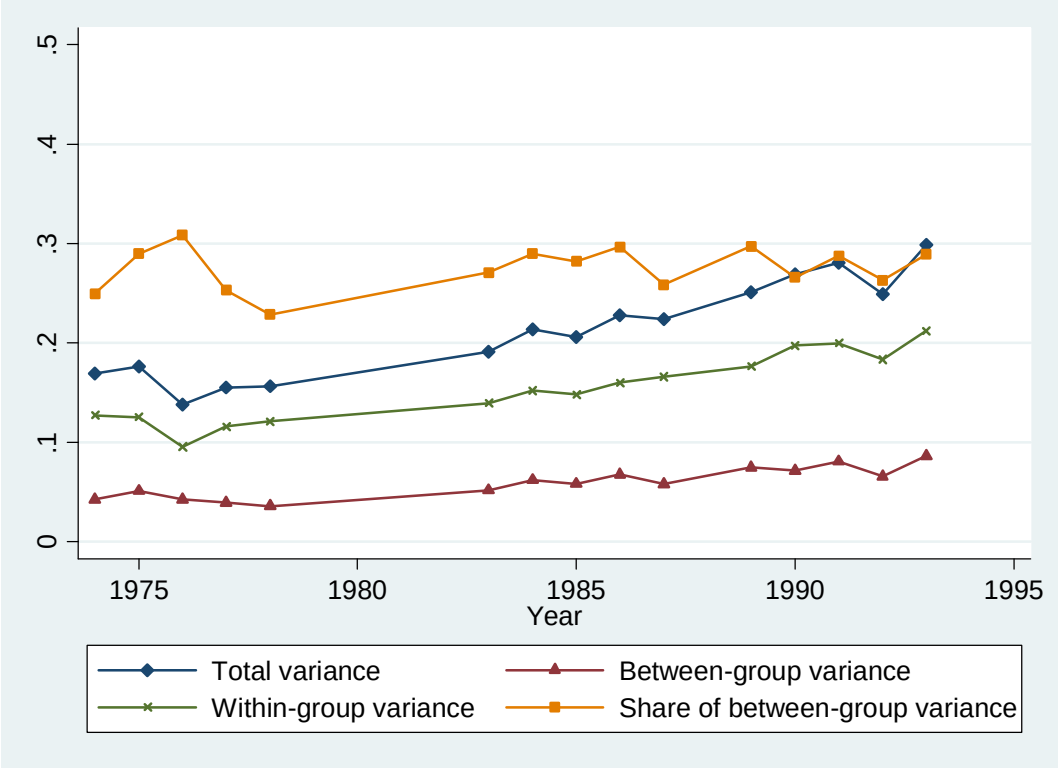


Figure 3: Within and Between Social Class Inequality in Mothers' Earnings: GHS Data

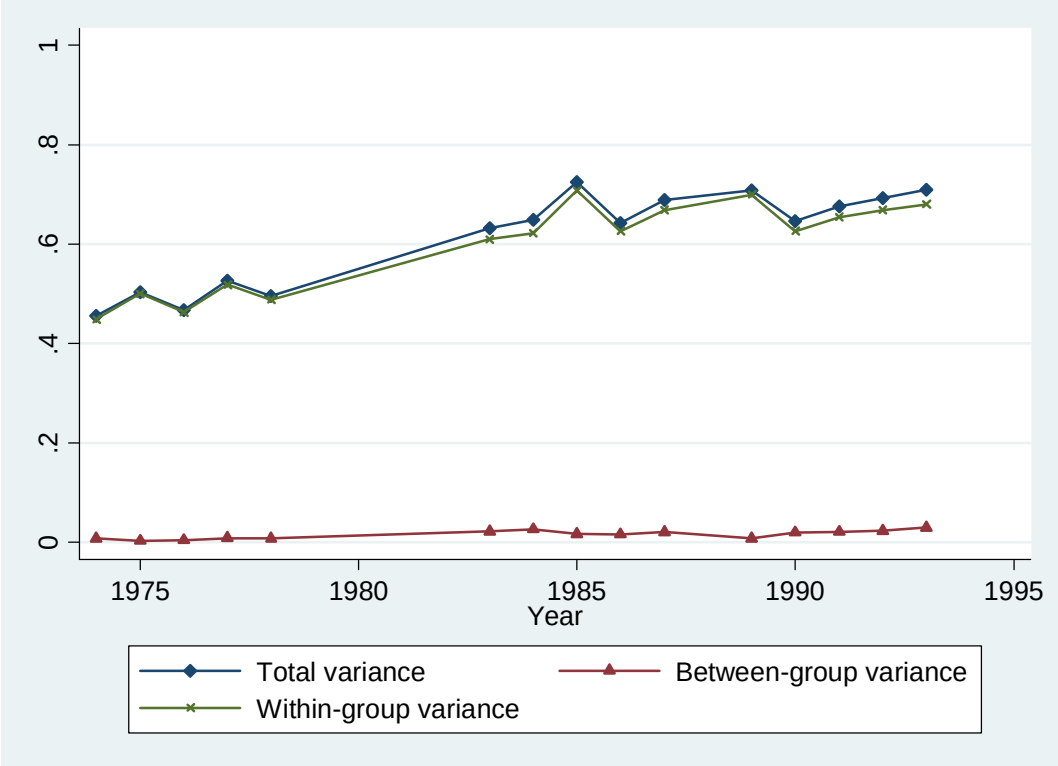


Figure 4: Cumulative Distribution Functions of Parental Income in the Cohorts and the Family Expenditure Survey

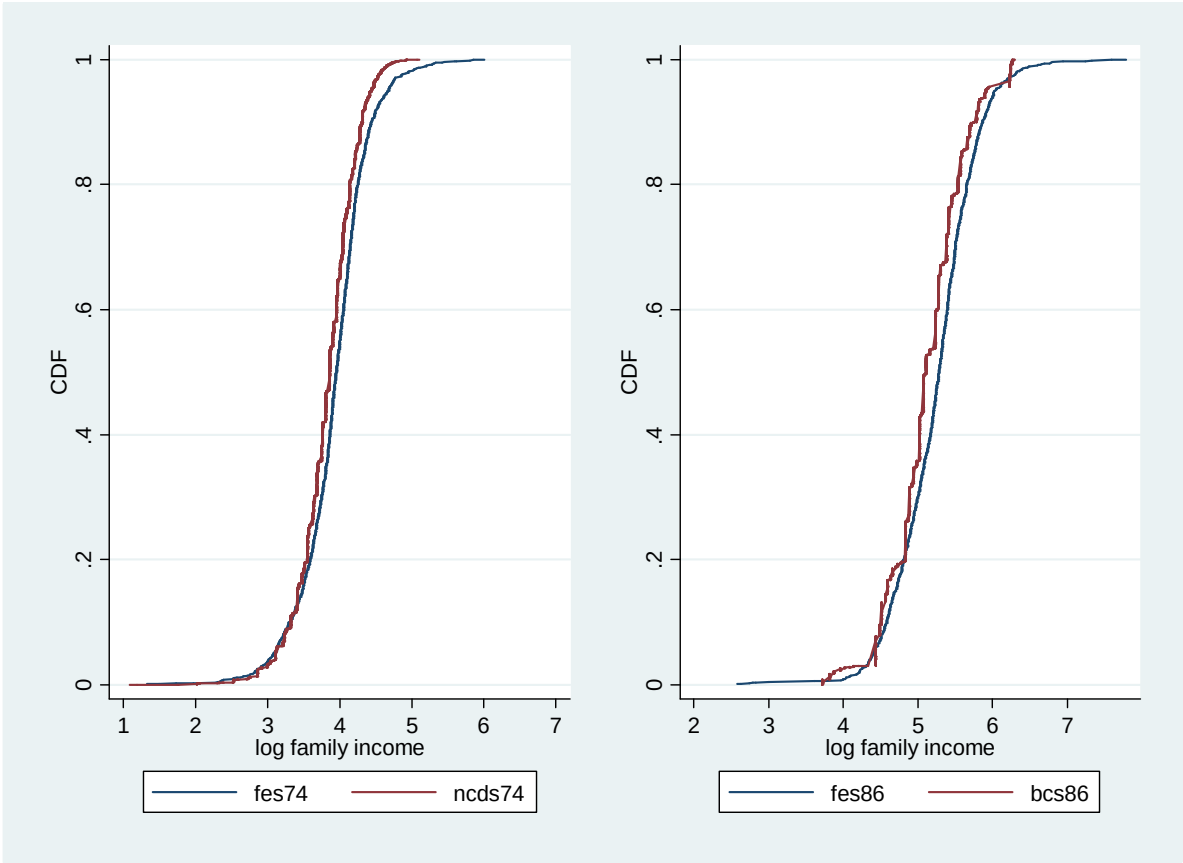


Figure A1: Inequality in Combined Parental Earnings in FES and GHS Data

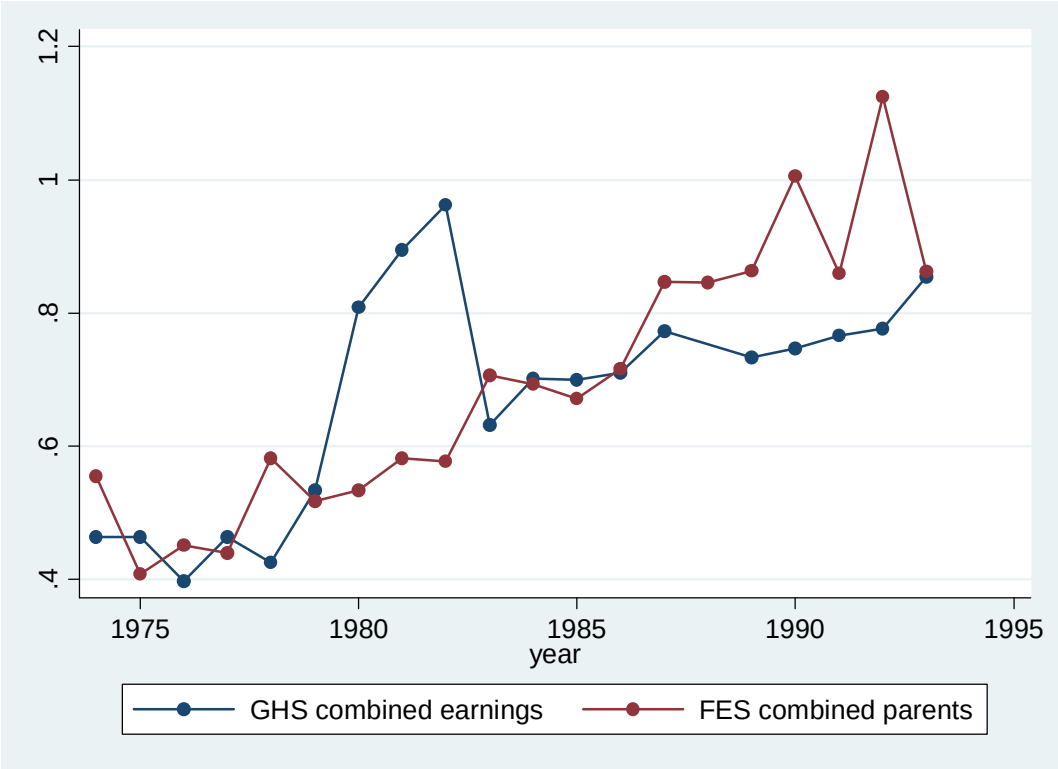


Table A1: Regression coefficients of fathers social class on family income for the NCDS and BCS – male only

	NCDS	BCS
Social class 1 – Non-skilled manual	7.040 [0.018]***	6.944 [0.028]***
Social class 2 – Skilled manual	0.112 [0.023]***	0.103 [0.034]**
Social class 3 – Lower grade technicians	0.134 [0.037]***	0.176 [0.041]***
Social class 4 – Self employed	0.053 [0.051]	0.226 [0.046]***
Social class 5 – Routine non-manual	0.149 [0.032]***	0.254 [0.044]***
Social class 6 – Lower grade managers	0.277 [0.028]***	0.452 [0.036]***
Social class 7 – Professionals	0.351 [0.033]***	0.670 [0.037]***
R-squared	0.093	0.232
Sample size	1759	1648

Table A2: Regression coefficients of sons' social class on earnings for the NCDS and BCS

	NCDS	BCS
Social class 1 – Non Skilled manual	7.167 [0.024]***	7.108 [0.025]***
Social class 2 – Skilled manual	0.120 [0.032]**	0.222 [0.040]***
Social class 3 – Lower grade technicians	0.192 [0.042]***	0.288 [0.036]***
Social class 4 – Self employed	0.074 [0.104]	0.353 [0.186]
Social class 5 – Routine non-manual	0.173 [0.040]***	0.164 [0.044]***
Social class 6 – Lower grade managers	0.316 [0.032]***	0.397 [0.033]***
Social class 7 – Professionals	0.556 [0.029]***	0.636 [0.033]***
R-squared	0.202	0.211
Sample size	1759	1648

Table A3: Regression Results for Income on Social Class

GHS, NCDS and BCS regressions	GHS 1974/1975 – combined parental earnings	NCDS – no other inc, one employed, no later controls	NCDS – our inc, one employed, no later controls	NCDS – our sample	GHS 1986/1987 – combined parental earnings	BCS – our inc, one employed, no later controls	BCS – our sample
Social class 2 – Skilled manual	0.197 [0.032]***	0.122 [0.018]***	0.091 [0.016]***	0.116 [0.018]***	0.235 [0.057]***	0.058 [0.031]*	0.072 [0.025]***
Social class 3 – Lower grade technicians	0.352 [0.048]***	0.168 [0.029]***	0.141 [0.025]***	0.157 [0.029]***	0.321 [0.066]***	0.144 [0.037]***	0.158 [0.031]***
Social class 4 – Self employed	-0.828 [0.063]***	0.025 [0.034]	0.001 [0.030]	0.073 [0.038]*	-1.024 [0.077]***	0.134 [0.039]***	0.189 [0.033]***
Social class 5 – Routine non-manual	-0.194 [0.041]***	0.152 [0.025]***	0.112 [0.021]***	0.139 [0.025]***	-0.352 [0.071]***	0.224 [0.040]***	0.237 [0.035]***
Social class 6 – Lower grade managers	0.105 [0.039]**	0.280 [0.022]***	0.228 [0.019]***	0.270 [0.022]***	0.230 [0.057]***	0.352 [0.031]***	0.392 [0.027]***
Social class 7 – Professionals	0.610 [0.040]***	0.433 [0.025]***	0.343 [0.021]***	0.371 [0.025]***	0.698 [0.057]***	0.583 [0.032]***	0.631 [0.028]***
Obs	4418	6317	6132	3962	2603	4279	3869
R-squared	0.143	0.063	0.056	0.073	0.213	0.132	0.194

Note:
The income measure for the cohorts includes 'other income' but the income measure used for the GHS is only combined income of parents. For the NCDS we can also show results for income with the 'other' component removed as a robustness check.

Table A4: Regression Results for Income on Education, Employment and Income Proxies

GHS, NCDS and BCS regressions	GHS 1974/1975 – combined parental earnings	NCDS – no other inc, one employed, no later controls	NCDS – our inc, one employed, no later controls	NCDS – our sample	GHS 1986/1987 – combined parental earnings	BCS – our inc, one employed, no later controls	BCS – our sample
Dad ed – school leaving age	0.095 [0.026]***	0.069 [0.010]***	0.057 [0.010]***	0.052 [0.012]***	0.086 [0.065]	0.062 [0.024]**	0.029 [0.030]
Dad ed – A-levels	0.265 [0.045]***	0.192 [0.017]***	0.172 [0.017]***	0.181 [0.021]***	0.346 [0.077]***	0.211 [0.030]***	0.168 [0.036]***
Dad ed – Higher ed	0.051 [0.119]	0.317 [0.023]***	0.275 [0.022]***	0.270 [0.027]***	0.450 [0.128]***	0.276 [0.031]***	0.215 [0.039]***
Mum ed – school leaving age	0.025 [0.026]	0.032 [0.009]***	0.013 [0.009]***	0.008 [0.011]	-0.009 [0.071]	0.028 [0.031]	0.036 [0.037]
Mum ed – A-levels	0.299 [0.048]***	0.131 [0.018]***	0.102 [0.017]***	0.091 [0.022]***	0.2329 [0.082]***	0.151 [0.035]***	0.160 [0.042]***
Mum ed – Higher ed	0.449 [0.207]**	0.225 [0.026]***	0.206 [0.025]***	0.177 [0.032]***	0.265 [0.201]	0.277 [0.038]***	0.290 [0.047]***
Dad employed	0.626 [0.051]***	0.479 [0.021]***	0.291 [0.026]***	0.306 [0.022]***	0.901 [0.079]***	0.254 [0.029]***	0.247 [0.027]***
Mum employed	-0.043 [0.024]*	0.258 [0.009]***	0.227 [0.009]***	0.234 [0.011]***	-0.134 [0.042]***	0.095 [0.015]***	0.073 [0.018]***
Lone parent	-0.109 [0.057]*	-0.572 [0.042]***	-0.347 [0.048]***	-0.337 [0.050]***	0.134 [0.108]	-0.309 [0.034]***	-0.225 [0.030]***
Rented accom.	-0.158 [0.038]***	-0.100 [0.019]***	-0.107 [0.019]***	-0.122 [0.022]***	-0.159 [0.076]**	-0.204 [0.041]***	-0.251 [0.044]***
Social Housing	-0.085 [0.023]***	-0.086 [0.009]***	-0.064 [0.009]***	-0.063 [0.011]***	0.268 [0.043]***	-0.289 [0.018]***	-0.329 [0.017]***
Obs	4418	6317	6132	3962	2603	4279	3869
R-Squared	0.211	0.449	0.301	0.390	0.223	0.292	0.317

Table A5: Regression Results for Income on Social Class Education, Employment and Income Proxies

GHS, NCDS and BCS regressions	GHS 1974/1975 – combined parental earnings	NCDS – no oth inc, one employed, no later controls	NCDS – our inc, one employed, no later controls	NCDS – our sample	GHS 1986/1987 – combined parental earnings	BCS – our inc, one employed, no later controls	BCS – our sample
Social class 2 – Skilled manual	0.091 [0.029]***	0.082 [0.014]***	0.065 [0.013]***	0.065 [0.015]***	0.091 [0.052]*	0.023 [0.028]	0.023 [0.022]
Social class 3 – Lower grade technicians	0.211 [0.043]***	0.109 [0.022]***	0.103 [0.021]***	0.095 [0.024]***	0.167 [0.060]***	0.071 [0.032]**	0.064 [0.028]**
Social class 4 – Self employed	-0.977 [0.058]***	-0.002 [0.026]	-0.007 [0.026]	0.043 [0.030]	-1.227 [0.071]***	0.029 [0.034]	0.090 [0.029]***
Social class 5 – Routine non-manual	-0.013 [0.039]	0.068 [0.019]***	0.046 [0.019]**	0.054 [0.021]***	-0.112 [0.067]*	0.113 [0.036]***	0.116 [0.032]***
Social class 6 – Lower grade managers	-0.056 [0.037]	0.147 [0.017]***	0.128 [0.017]***	0.129 [0.019]***	0.023 [0.054]	0.168 [0.028]***	0.216 [0.024]***
Social class 7 – Professionals	0.344 [0.040]***	0.229 [0.020]***	0.190 [0.020]***	0.185 [0.022]***	0.354 [0.057]***	0.350 [0.030]***	0.402 [0.027]***
Dad ed – school leaving age	0.086 [0.025]***	0.056 [0.010]***	0.046 [0.010]***	0.037 [0.012]***	0.015 [0.059]	0.053 [0.024]**	0.021 [0.028]
Dad ed – A-levels	0.176 [0.044]***	0.161 [0.017]***	0.145 [0.017]***	0.148 [0.021]***	0.111 [0.073]	0.139 [0.029]***	0.058 [0.035]*
Dad ed – Higher ed	-0.016 [0.113]	0.255 [0.023]***	0.221 [0.023]***	0.208 [0.028]***	0.240 [0.117]*	0.198 [0.031]***	0.093 [0.037]**
Mum ed – school leaving age	0.044 [0.024]*	0.031 [0.009]***	0.013 [0.009]	0.008 [0.011]	-0.031 [0.065]	0.028 [0.031]	0.041 [0.036]
Mum ed – A-levels	0.301 [0.046]***	0.120 [0.017]***	0.094 [0.017]***	0.082 [0.022]***	0.176 [0.075]**	0.131 [0.034]***	0.136 [0.040]***
Mum ed – Higher ed	0.464 [0.196]**	0.212 [0.026]***	0.195 [0.025]***	0.167 [0.032]***	0.260 [0.182]	0.252 [0.037]***	0.243 [0.045]***
Dad employed	0.598 [0.048]***	0.472 [0.021]***	0.286 [0.026]***	0.293 [0.022]***	0.898 [0.072]***	0.248 [0.028]***	0.222 [0.026]***
Mum employed	0.006 [0.023]	0.260 [0.009]***	0.229 [0.009]***	0.236 [0.011]***	-0.000 [0.038]	0.100 [0.015]***	0.083 [0.018]***
Lone parent	-0.127 [0.057]**	-0.581 [0.041]***	-0.354 [0.048]***	-0.349 [0.050]***	0.161 [0.106]	-0.313 [0.033]***	-0.243 [0.029]***
Rented accom.	-0.109 [0.036]***	-0.086 [0.019]***	-0.095 [0.019]***	-0.105 [0.022]***	-0.079 [0.071]	-0.171 [0.040]***	-0.208 [0.042]***
Social Housing	-0.076 [0.023]***	-0.068 [0.009]***	-0.048 [0.048]***	-0.040 [0.0111***	-0.237 [0.040]***	-0.260 [0.015]***	-0.276 [0.017]***
Obs	4418	6317	6132	3962	2603	4279	3869
R-Squared	0.294	0.463	0.315	0.403	0.3640	0.330	0.373