

Mobility has fallen

Jo Blanden looks at the evidence showing that social and economic mobility in Britain fell significantly in the last decades of the 20th century and estimates the part that the expansion of higher education may have played in this process.

Most people probably think that rising living standards and wider educational opportunities in the UK have increased the opportunities available to young people from all backgrounds. But how equally distributed have these opportunities been? To what extent has family background been a factor in determining who has benefited most? And has the influence of family background in this respect altered over time?

To attempt an answer to these questions, we looked at information from two very rich British cohort datasets on all people born in one week in 1958 and one week in 1970. The information recorded includes family circumstances and educational achievement during childhood and adolescence; and data on employment and wages in later life. In 2000 the first full survey was conducted of the 1970 cohort as adults, making possible, for the first time, comparisons across the full social range between people who grew up in the different environments of the 1970s and the 1980s.

Two reasons in particular make these interesting years for

comparison. First, it was a period when income inequality was growing rapidly, resulting in a dramatic rise in the number of children growing up in poverty. In the groups we are analysing here, those living at or below the poverty level at age 16 rose from 6% of those born in 1958 to 10% of those born in 1970 (see Table 1). Second, the 1970 group entered their teens just as the rapid expansion of the higher education system began. In 1980, 13% of young people entered higher education, rising by 1990 to 19% and by 2000 to 31%.

Our finding is that economic mobility between generations fell significantly between 1958 and 2000. The income levels achieved by the group born in 1970 were determined to a significantly higher extent by the income levels of their parents than was the case for those born in 1958.

Let us look at the figures. The data for parental income comes from the surveys done when our groups were 16 (i.e. in 1974 for those born in 1958 and in 1986 for those born in 1970). For the groups' earnings when adults, we took the data from the National Child Development Survey

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Table 1 Descriptive statistics

	1958	1970	1958	1970
	Males	Males	Females	Females
Weekly wage £ (NCDS Age 33; BCS Age 30)	312.28 (168.04)	330.77 (229.01)	161.35 (112.85)	222.26 (173.69)
Family income £ (NCDS Age 33; BCS Age 30)	384.29 (201.38)	437.17 (323.06)	383.29 (248.70)	430.70 (300.54)
Parental income £ (Age 16)	306.40 (124.41)	309.75 (152.03)	305.48 (134.19)	309.79 (148.19)
Proportion below poverty line (Age 16)	.06	.11	.07	.09
Proportion with degree	.17	.26	.14	.26
Sample size	2503	1969	2148	1916

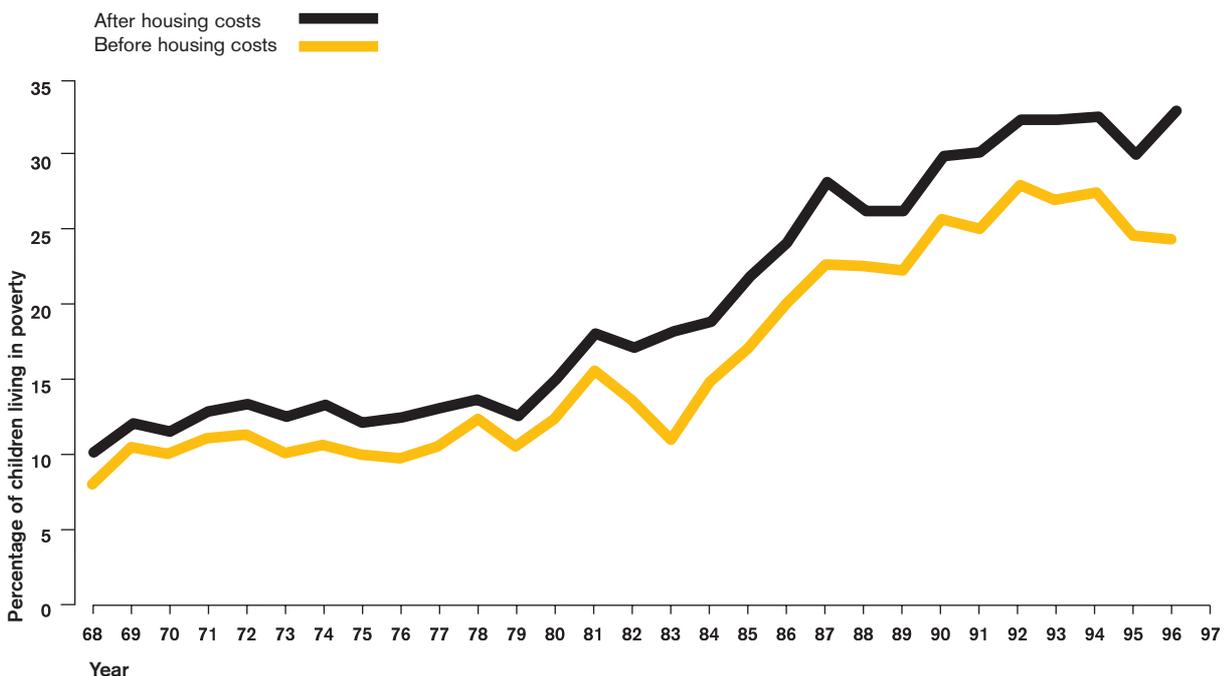
Notes:

1. Standard deviations in parentheses for wage and income measures.
2. Wage and income in January 2001 prices.
3. The sample sizes are as in the Table for all variables except for family income where they are: NCDS males 2348; BCS males 1930; NCDS Females 2438; BCS Females 2170.

for the 1958 cohort at age 33 and from the British Cohort Survey for the 1970 cohort at age 30. Given that these surveys are only done at certain points in time, we have restricted our sample to those who were in work when they were taken. But we also have information on the earnings of any partner in employment at that point, so we can measure the “family” income of the members of our two groups and can make comparisons of like with like across generations.

Table 1 gives a summary for our two samples. It draws out some of the key changes: family income inequality grew (as measured by the standard deviations); child poverty increased; the proportion of graduates rose, especially for daughters (as is also shown in Figure 1) where the proportion of those with degrees almost doubled in 12 years from 14% to 26%.

Figure 1 Rise in child poverty



Source: Gregg, Harkness and Machin (1999) 'Poor Kids: Child Poverty in Britain, 1966-96' Fiscal Studies, 20, pp. 163-187

Table 2: Regression estimates of the intergenerational mobility parameter

Earnings Regressions						
	Regression β		β Adjusted For Changes in Inequality		Change in Adjusted β	Sample Size
	NCDS	BCS	NCDS	BCS		
Sons	.098	.222	.120	.246	.126	NCDS: 2503
	(.017)	(.022)	(.020)	(.025)	(.032)	BCS: 1969
Daughters	.169	.293	.117	.217	.100	NCDS: 2148
	(.030)	(.031)	(.021)	(.023)	(.031)	BCS: 1916

Family Income Regressions						
	Regression β		β Adjusted For Changes in Inequality		Change in Adjusted β	Sample Size
	NCDS	BCS	NCDS	BCS		
Sons	.089	.272	.089	.252	.163	NCDS: 2348
	(.021)	(.025)	(.021)	(.023)	(.032)	BCS: 1930
Daughters	.120	.288	.095	.218	.123	NCDS: 2428
	(.025)	(.028)	(.020)	(.022)	(.029)	BCS: 2170

Notes:

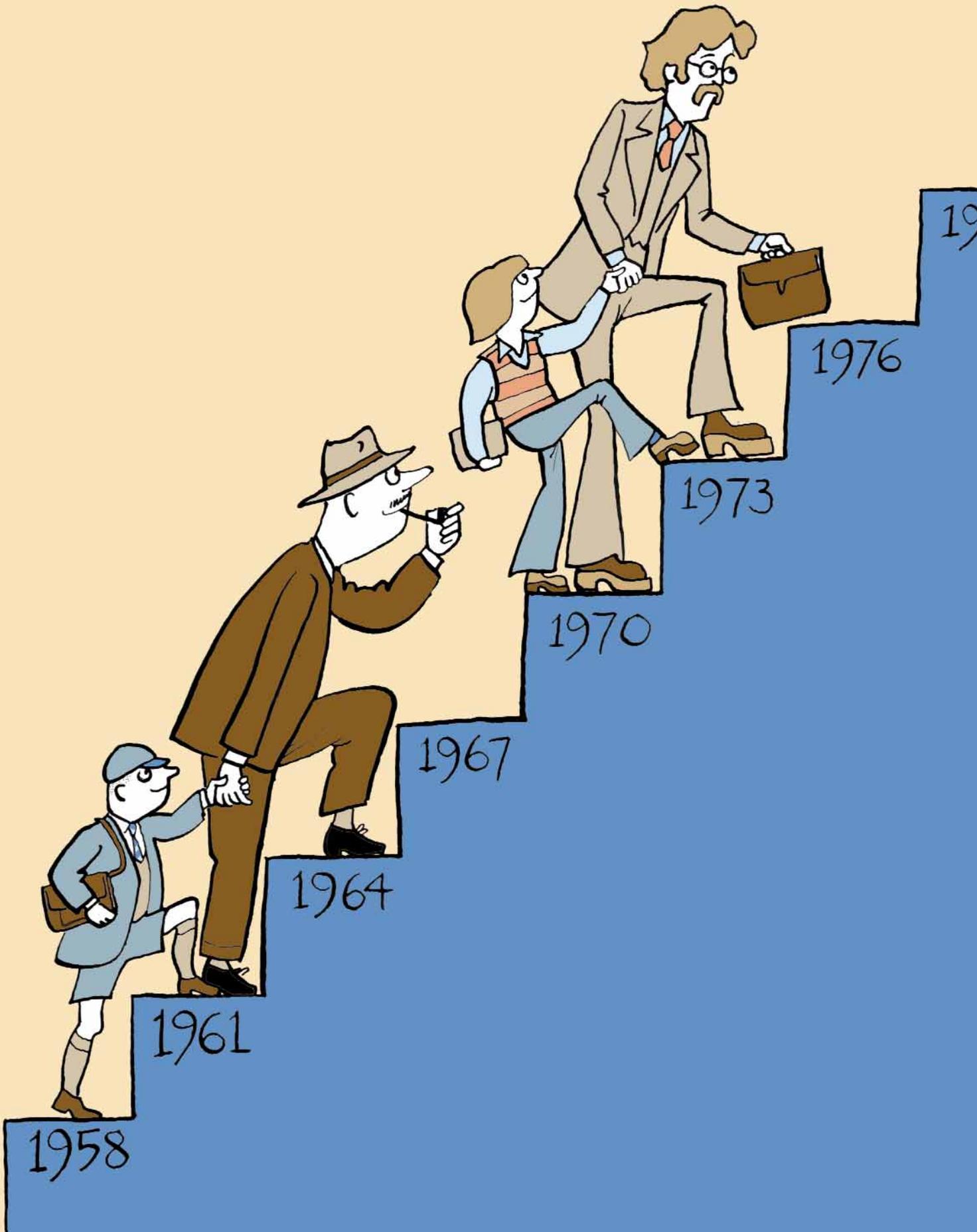
All regressions control for parents' average age and age-squared, as these may be linked to income through earnings growth and also to how well the child does.

We used two approaches to measuring the intergenerational links. The first was a statistical regression approach that provides us with a measure of how much more income we would expect the son of one family to have, compared with the son of a family with double the income. A regression coefficient here of .3 would imply that the son of a family with income £20,000 would earn 30% more than son of a family with an income of £10,000. The smaller this estimated coefficient, the weaker the link between the income of parents and their children and thus the greater the social mobility. Our second approach was to divide the data on family income and children's subsequent wages as adults into quartiles. We then compare quartiles across the generations to obtain the probability of children ending up in each quartile, given where they started.

We use the regression approach to measure the link between the income of our groups' parents and both son's and daughter's weekly earnings and for the weekly earnings of the cohort member and any partner. As one of our concerns here is the potential effects of the increases in income inequality on mobility, we also produce an estimate of mobility that accounts for the rises in inequality across both generations. (For a detailed account of the calculation of this estimate, see Blanden, Goodman, Gregg and Machin, "Changes in Intergenerational Mobility in Britain", Discussion Paper No. 517.)

In every case, the estimates of the association between parental income and their children's subsequent wages are higher for the second group than for the first, indicating that economic mobility has fallen. There are technical reasons for believing that the actual estimates within each cohort are understated, but our research indicates that the estimate of the change between cohorts is accurate. For sons, the regression coefficient rises from .098 to .222. Even when adjustments are made for inequality, the change is similar (.126 compared with .124). Using the previous example again, a son born in 1958 from a family earning £20,000 would in his early 30s be earning 12% more than a son born the same year from a family earning £10,000. But, for comparable sons born in 1970, the difference would be 22%. Results for daughters' earnings and for the family earnings of both sons and daughters show changes of similar size.

The association between parental income and their children's subsequent wages is higher for the second group



One of the most obvious transmission mechanisms is education

Table 3 Transition matrices for sons

1958 cohort		Sons' earnings quartile			
Parental income quartile	Bottom	2nd	3rd	Top	
Bottom	.30	.28	.23	.19	
2nd	.29	.25	.24	.22	
3rd	.25	.26	.25	.24	
Top	.17	.20	.29	.34	

1970 cohort		Sons' earnings quartile			
Parental income quartile	Bottom	2nd	3rd	Top	
Bottom	.38	.25	.22	.15	
2nd	.30	.29	.22	.19	
3rd	.19	.29	.27	.25	
Top	.13	.16	.28	.43	

The regression results only give a picture of changes in average mobility. We can get a more detailed picture from the transition matrices. Those for sons' earnings and parental income for the 1958 and 1970 groups are given below. (The matrices for daughters can be found in the Discussion Paper No. 517.)

Table 3 contains some interesting points. First, it is clear that there is less mobility at the top of the parental earnings distribution than there is at the bottom. In the 1958 group, 34% of those whose parents were in the top quarter of the distribution remained there, compared with 30% of those in the bottom quartile. This suggests that parents have some substantial means of ensuring the maintenance of the position of the next generation.

When it comes to changes over time, the transition matrices show the same trend as the regression results. In all cases, a higher proportion of sons born in 1970 remain within the same part of the income distribution as their parents and, for the second group, there are less extreme movements between generations. The results of the transitions matrices can be summarised by adding together the values of the cells in the diagonals and those adjacent to them. This "immobility index" also shows a sharp rise. For the 1958 cohort it is 2.74 and for the 1970 cohort it is 2.96.

So it is clear from these figures that economic mobility between generations has fallen in the UK in the last 40 years. The next step is to consider some reasons why. One of the most obvious mechanisms by which relative success and failure are transmitted between generations is education. We have already noted that there was a substantial increase in the opportunity for higher education for our second cohort. How far can differing educational achievements explain the reduction in mobility that we have observed?

A simple formal model can be used to think about how

changes in intergenerational mobility can be influenced by changes in educational opportunities and returns. The basic idea is that parents' income affects children's educational attainments, which in turn influence earnings. With this model one can explain falling intergenerational mobility, because either: a) parental income has a greater impact on educational achievement; or b) educational attainment generates greater rewards in the labour market. The British evidence indicates that returns to education have, if anything, risen in the 1990s despite the rapid increase in educational attainment. In addition, we are currently looking in detail at changes in the impact of family income on education (Blanden, Gregg and Machin, forthcoming from CEP). Here, however, we just look at the combination of these two effects.

To explore this question, we added measures of educational attainment to the regression models. This demonstrates the effect of parental income on the child's earnings, if educational achievements were fixed, by taking out the effect of education as a transmission mechanism. The difference between the falls in mobility measured in Table 2 and those in Table 4 are the part that can be explained by education.

It is clear from Table 4 that differences in educational achievements are partly responsible for the reduction in mobility. When the effect of education on subsequent earnings is removed from the figures, the fall in mobility for sons is reduced by 16 percentage points and for daughters by 27 percentage points. A similar analysis can be carried out using the transition matrix approach. This is done by subtracting the part of earnings that is explained by education and, then, dividing the children's earnings into quartiles as before. The resulting matrix then shows "mobility" with the effect of education netted out. Once again, the difference between this and the unconditional transition matrix shows the effect of education. Using this method we find that education explains around 30% of the change for both sons and daughters, as measured by the immobility index.

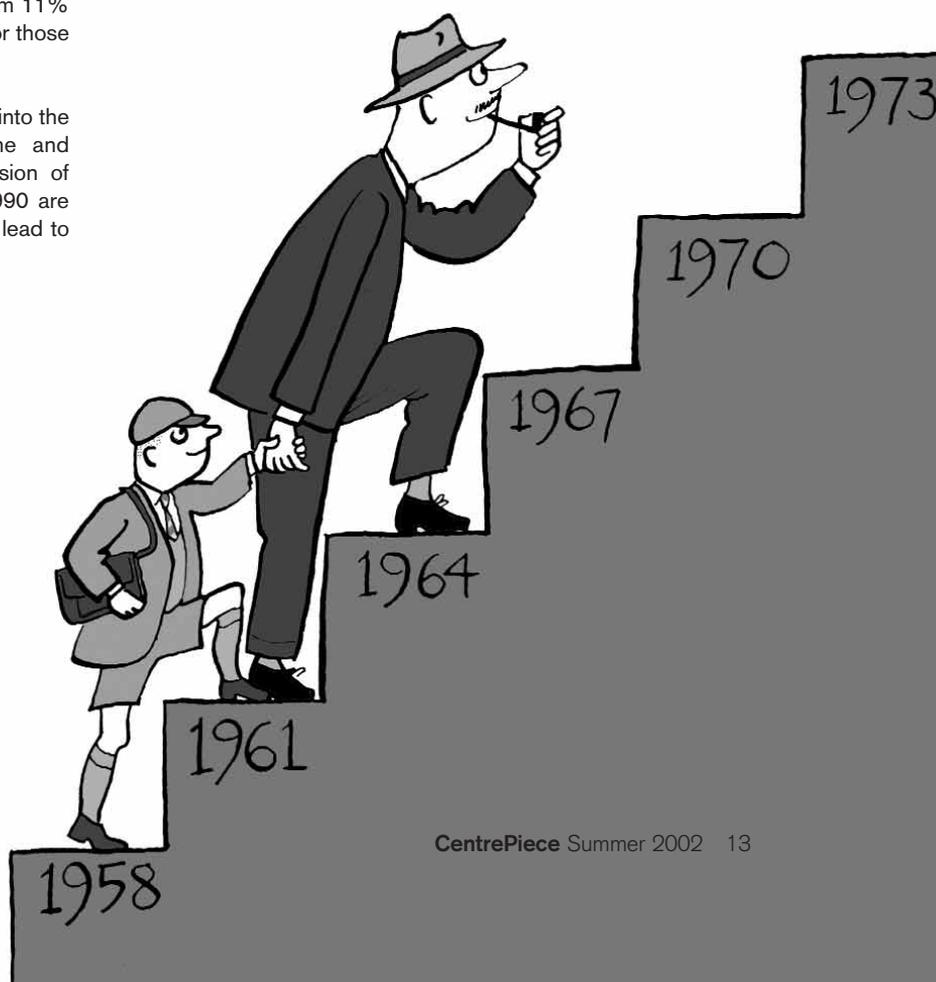
Table 4 Taking out the effect of cross-cohort differences in education

	Regression β		β Adjusted For Changes in Inequality		Change in Adjusted β	Sample Size
	NCDS	BCS	NCDS	BCS		
Sons						
Table 2 upper panel	.098 (.017)	.222 (.022)	.120 (.020)	.246 (.025)	.126 (.032)	NCDS: 2503 BCS: 1969
Plus son's education	.049 (.015)	.149 (.022)	.060 (.019)	.166 (.025)	.106 (.031)	NCDS: 2503 BCS: 1969
Daughters						
Table 2 upper panel	.169 (.030)	.293 (.031)	.117 (.021)	.217 (.023)	.100 (.031)	NCDS: 2148 BCS: 1916
Plus daughter's education	.057 (.027)	.152 (.030)	.040 (.019)	.112 (.022)	.073 (.029)	NCDS: 2148 BCS: 1916

So, the UK education system played a role in the falling mobility between the cohorts. The implication of the results presented here is that those who took advantage of the expansion in university places came, in general, from higher social backgrounds. Evidence produced by the then Department for Education and Employment suggests that this trend continued beyond the time frame captured by our cohorts. Its 1998 report, "Higher Education for the 21st Century" said: "The increase in participation in the 1990s amongst socio-economic groups A to C has been double that among groups D and E". Its figures showed an increase in the participation rate of those from socio-economic groups D-E of five percentage points (from 11% to 16%) and an increase of ten percentage points for those from groups A-C from (from 26% to 36%).

This suggests that there should be further research into the changing relationships between parental income and education. The conclusions here from the expansion of higher education in the UK between 1975 and 1990 are that rising graduate numbers in themselves did not lead to an improvement in equality of opportunity.

Those who took advantage of university expansion came in general from higher social backgrounds



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"Changes in Intergenerational Mobility in Britain", by Jo Blanden, Alissa Goodman, Paul Gregg and Stephen Machin (Discussion Paper No. 517) is available from the CEP.