Inter-generational Mobility and Job Polarization*

Cecilia García-Peñalosa† Fabien Petit‡ Tanguy van Ypersele§

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Abstract

Job polarization has been a major source of rising income inequality in high-income economies in recent decades. This paper argues that it has also resulted in reduced social mobility. We use data for two cohorts in the UK that entered the labour market at two points in time that differed considerably in terms of the structure of employment, with the younger cohort facing a more polarized environment. In this context, we examine the determinants of the probability of being in high-, middling- and low-paying occupations at age 42 and their relationship with parental income. The data indicates that the effect of the latter on those probabilities is stronger for the younger than for the older cohort. Moreover, the reduction in the availability of middling jobs for young individuals has been a major factor in this change. On the one hand, those who start their careers in middling jobs have a high probability to move to high-paying occupations, but with fewer entry jobs of this type, this source of upward mobility dried out. On the other, those who started in low-paying jobs experienced mobility mainly by moving into middling occupations. For the younger cohort this is less likely than for the older one, increasing the probability of them remaining in low-paying employment. The reduction in the availability of middling jobs has then implied that individuals from less well-off backgrounds are more likely to both start their careers in low-paying jobs and to stay there in the younger than in the older cohort.

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†Aix-Marseille University, CNRS, EHESS, AMSE, CEPR and CESifo. Email: cecilia.garcia-penalosa@univ-amu.fr.

‡Aix-Marseille University, CNRS, AMSE. Email: fabien.petit@univ-amu.fr. Website: fabienpetit.com.

§Aix-Marseille University, CNRS, AMSE. Email: tanguy.vy@univ-amu.fr.

1 Introduction

Starting in the 1980s, the labour markets of high-income economies have been witnessed an increase in job polarization, whereby the share in total employment of low- and high-paying occupations has increased at the expense of that in middling-paying occupations.[1] Although a large literature has examined the implications that such job polarization has had for wage inequality, the consequences for social and income mobility have been so far received little attention.[2] Yet, the disappearance of middle jobs can conceivably have an effect on social mobility if, for example, those from less well-off backgrounds used to enter the labour market with middling-paying jobs and then move up the occupational ladder, a career path that would become less likely as the labour market becomes more polarized. In this paper we use data on two British cohorts that entered the labour market at points in time that differed considerably in terms of the structure of employment to examine to what extent job polarization can account for the observed reduction in mobility.

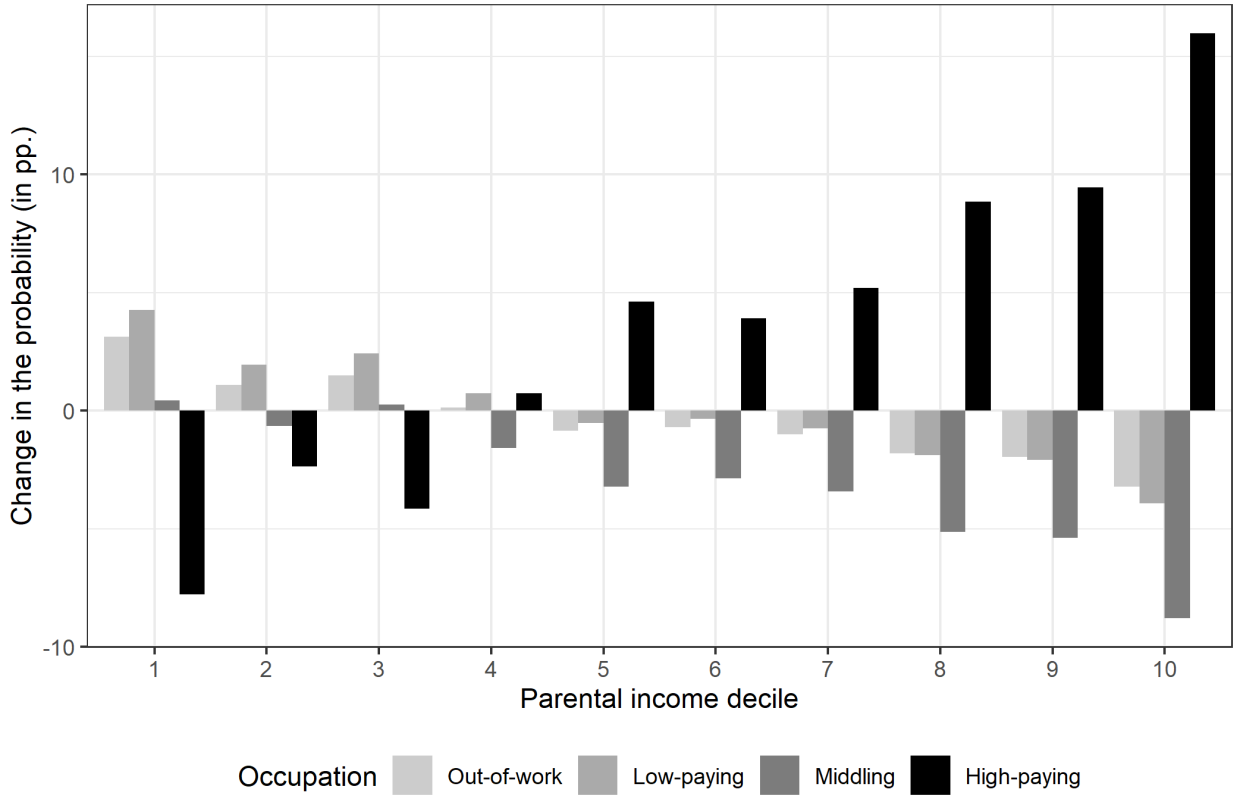
Income mobility is generally examined in terms of the correlation between the income of a father and that of his son at age (roughly) 40.[3] Yet mobility depends on both how parental income affects entry jobs and on the transition across job categories with different remunerations. Changes in the structure of employment can potentially affect these two aspects and hence the overall extent to which economic privilege is transmitted across generations. To examine this question we use data on two British cohorts. The data from the National Child Development Study and the British Cohort Study, focusing, respectively, on individuals born in 1958 and 1970, have been widely used to address the determinants of mobility, and existing work indicates that parent-child mobility declined for the second cohort as compared to the first one. In this paper we delve into understanding this decline in mobility and examine to what extent it is related to the structure of employment.

[1] See, amongst others, Autor et al. (2003) for the United-States, Goos and Manning (2007) for the United-Kingdom and Goos et al. (2014) for European countries.

[2] The notable exception is Hennig (2021)

[3] See for example Blanden et al. (2007) and Blanden et al. (2013).

Figure 1: Change across cohorts in the probability of being in each occupation at age 42 (in percentage points)



Notes: This figure shows the difference, expressed in percentage points, between the BCS70 and NCDS58 cohorts in terms of probability of being in each type of occupation (out-of-work, low-paying, middling, high-paying) at age 42 according to the decile of the parental income distribution. Probabilities are computed for males in both cohorts at each parental income decile, according to the multinomial logistic regression reported in columns (1) of the table C.4 in the appendix. See below for details.

In contrast to existing work, we focus on occupational categories using the groups that have been employed when analyzing job polarization to divide the data into low-paying, middling-paying and high-paying occupations.[4] These categories are strongly correlated with income for both cohorts. The focus of our work consists in computing the probability that a mature worker (aged 42 years in our data) is in each of these occupational categories and understand how it depends on parental income. To illustrate this, Figure 1 reports the *change* across the two cohorts in the probability to be in each occupational category. The

[4]The literature on social mobility rather focus on the analysis of socio-economic classes since Erikson and Goldthorpe (1992). See, for example, Chan and Goldthorpe (2007) and Erikson and Goldthorpe (2010) for recent discussions about the role of social classes on the inter-generational mobility in the United-Kingdom.

data have been split by decile of parental income, and hence indicate how the probability of being in, say, a high-paying occupation for the cohort born in 1970 has changed for a particular parental-income group relative to what that probability was for those born in 1958. Not surprisingly, for all parental-income categories the likelihood of being in a middling job has declined for the younger cohort. For high- and low-paying occupations, the sign of the change is highly dependent on parental income and the data indicate a greater effect of family background on occupations for those born later. Those in the lowest decile are 4 pp. more likely to be in a low-paying occupation and 7 pp. less likely to obtain a high-paying one in the younger than in the older cohort. For those in the top decile, there has been a moderate decrease in the probability of being in a low-paying job (4 pp.) and a large increase in the likelihood of being in a high-paying one (16 pp.). In other words, the impact of parental income on occupations became stronger for the 1970 cohort, a cohort that faced a reduced availability of middling jobs compared to those born 12 years earlier.

Our analysis proceeds in several steps. We first consider raw probabilities and focus on both initial jobs (those the individual held at age 23/26) and mature jobs (held at age 42). We find a considerable degree of occupational persistence –especially at the top- but also frequent transitions. For the older cohort, 20% of those initially in low-paying occupations move into middling ones and 31% of those in middling occupations move into high-paying ones. Two significant changes are identified in the data: first, the fraction of individuals who start their careers in middling occupations has fallen markedly across cohorts; second, the probability for those in low-paying occupations to move into middling ones has declined. Consequently, two sources of upward mobility have weakened.

We then examine how parental income affects the various steps that determine an agent's occupation when mature: education, which in turn affects initial occupation, both of which determine the occupation when mature. Our analysis focuses on the changes across the two cohorts. Three main results emerge. First, we find that the role of parental income in determining initial occupation has risen, with those in the younger cohort who came from

more wealthy backgrounds having a higher likelihood to be in middling and high-paying occupations relative to the older cohort. These differences are only partly due to an increase in the impact of parental income on educational attainment.[5]

Second, when we examine how initial occupation affects mature occupations across the cohorts the most striking result is the considerable improvement in the outcomes for those who started in a middling occupation, with the younger cohort having higher odds of moving into high-paying occupations. These two results together highlight the implications of the disappearance of middling jobs. On the one hand, fewer individuals have access to those jobs when young, and those who do tend to come from better-off backgrounds. On the other, because those in middling jobs are more likely to move to high-paying occupations, the overall outcome is an increase in the share of those in the latter occupations that come from high parental income households. That is, at the same time as the number of jobs in the middling category was falling, the advantage in terms of upward mobility of holding such a job as a young worker increased, reinforcing social transmission.

The third important pattern observed in the data is a dichotomy that appears for those who started in a low-paying occupation. For the older cohort, a considerable fraction moved into middling jobs, but this probability has fallen markedly for the younger cohort and led to two different patterns. The probability of remaining in the initial occupational category increased across cohorts, by 5 pp. for those from households with average parental income and by 7 pp. for those from low-income backgrounds. At the same time, the odds of moving into a high-paying occupation also increased, except for those from the bottom of the parental income distribution for whom it fell. These figures indicate that as middling jobs were eroded, the natural progression in which individuals would move from low-paying into middling-paying occupations weakened, and has been replaced by higher probabilities of either staying in the occupation of origin or jumping up to a high-paying one. These probabilities are, however, strongly dependent on parental income.

[5]Examples of studies on parental impact on education in the UK are Crawford et al. (2016) and Blanden and Gregg (2004).

Our paper bridges the gap between two literatures, that focusing on falling income mobility in high-income economies and the one establishing an increase in job polarization in those same economies. We argue that the simultaneity between those two patterns is not simple chance. Rather, we see the increase in polarization as one of the driving forces behind the observed reduction in mobility. The middling-paying jobs that have disappeared played a key role in reducing the impact of parental income on an individual's occupational category at age 42.

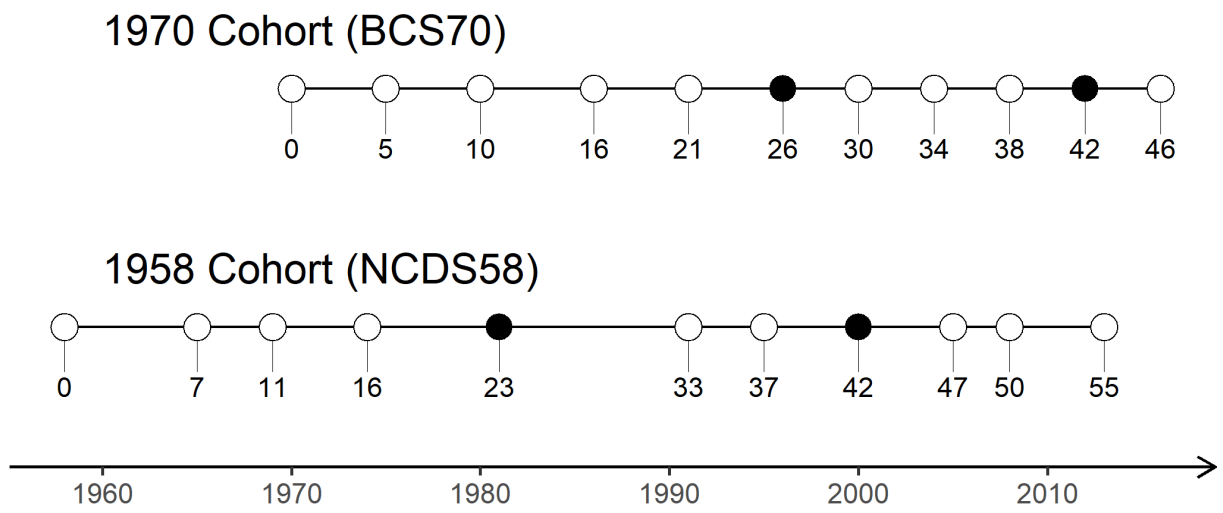
The paper is organised as follows. Section 2 presents a simple model of occupational mobility. Section 3 describes the data. Our empirical results are reported in section 4, starting with an analysis of the distribution of occupations amongst mature workers, which is then followed by a decomposition of the various stages. Section 5 concludes.

2 Theoretical framework

We start by developing a simple theoretical setup with three types of jobs requiring different levels of skills. Parents transfer their human capital to children and the latter's productivity is determined both by human capital and innate (and initially unobservable) skills. Children's entry jobs will be determined by parental human capital, but as their ability is revealed, they may move up and down the income scale. As the share of middle jobs disappears, the possibilities for mobility fall, thus leading to greater job persistence across generations.

Section to be written.

Figure 2: Dates of interviews



Notes: This figure presents the dates at which individuals in the BCS70 and NCDS58 cohorts may have been interviewed and the corresponding years. Black circles represent the first and second periods we consider in the analysis for both cohorts.

3 Data

3.1 Sample and variables

We use two mature British cohort studies that have been widely used by economists and sociologists in mobility-related works. The National Child Development Study (NCDS58) is a cohort of individuals born during a same week in March 1958. The British Cohort Study (BCS70) is composed of those born during a same week in April 1970. Cohort members were born in England, Scotland, Wales and Northern Ireland and participated to many interviews at different point in times in their life.

Figure 2 presents all the interviews at which cohort members may have answered and the corresponding year. We define the first period as the closer age to the majority at which both cohort have been interviewed. Hence, at the age of 23 years for the NCDS58 and 26 years for the BCS70. Both are considered at second period at the age of 42 years.

During these interviews, cohort members answered to many questions, notably about income, activity and individual's characteristics such as gender, education, etc. Both cohorts

studies provide the educational qualifications histories and the full activity histories to the nearest month. It includes occupations at the 3-digit level in the Standard Occupational Classification 1990 (SOC90) and the Standard Occupational Classification 2000 (SOC2000) along with the employment status.

Income and wages. We have information on both two variables. The first one is parental income which are provided at the age of 16 years (of the child) for both cohorts. For the BCS70 cohort, it is also available at the age of 10 years. Thus, when both are available, we take the average, otherwise the single one we observe. For the children, wages are reported at each wave. We consider child wages at two periods according to the availability of interviews. The first period is at the age of 23 for the NCDS58 cohort, and 26 for the BCS70 cohort; while the second one is at the age of 42 for both cohorts. We adjust for inflation using the consumer price index provided by the UK Office for National Statistics. The resulting monetary variables are all expressed in 1970 British pounds.

Job characteristics. There are two dimensions of job characteristics: occupations and employment status. A large body of literature on social mobility relies on the National Statistics Socio-Economic Classification (NS-SEC), starting with Erikson and Goldthorpe (1992) and Rose (1996). Socio-economic classes are constructed using three dimensions of employment: *i)* the occupation group; *ii)* the employment status; and *iii)* the number of employees in the workplace. However, such classification uses a definition of routine occupations that does not match that used in the job-polarization literature.[6] We hence cannot rely on the NS-SEC for our analysis and need to use another dimension of employment characteristics that focuses on the task content of occupations. Instead we follow the job-polarization literature and focus mainly on occupations derived from the SOC90 and SOC2000.

We classify ISCO-88 occupations into three categories: high-paying occupations, middling occupations and low-paying occupations. This classification is done according to the one of

[6]For instance, the NS-SEC considers that an employee in the 3-digit occupation *Bar staff (622)* has a routine occupation. However, it cannot be considered a routine job following the definition of Autor et al. (2003) who define this type of job as a non-routine interactive job.

Goos et al. (2014). Table A.1 in the appendix presents the classification. The ISCO-88 occupations are derived from the SOC90 and SOC2000 occupations that are available in our data using the CAMSIS project which provides files covering the occupational unit codes and translations.

The employment status variable defines individuals as employed or self-employed. We remove the self-employed from the analysis in order to focus on employees for whom it is easier to identify routinization.[7]

Education. We observe both child and parental education as time-invariant variables. To define the child education variable, we take the highest academic qualification ever obtained from the educational qualifications history.[8] For parental education such information is not available, hence we use the age at which each parent left full-time education as a proxy. All education variables are ranked at the cohort level in peer-inclusive downward-looking ranking.[9]

Family characteristics. A number of family characteristics are available in our data. Father's social class is provided at the age of 11 for the NCDS58 cohort and 10 for the BCS70 cohort. We refer to the Registrar General's Social Classes (RGSC) that are defined with five categories: professional occupations (I); managerial and technical occupations (II); non-manual skilled occupations (III-N); manual skilled occupations (III-M); partly skilled occupations (IV); and unskilled occupations (V). We then rank father's social class at the cohort level in peer-inclusive downward-looking ranking according to the aforementioned list.

[7]The data also provide information on the employment status of employees, which are divided into three categories according to their status: employee, foreman/supervisor or manager. This is an additional dimension that we intend to explore in future work.

[8]There are 11 categories which are (from the lowest to the highest): no qualifications; less than O-level; less than 5 O-levels; 5+ O-levels; 1 A-level and less than 5 O-levels; 1 A-level and 5+ O-levels; 2+ A-levels and less than 5 O-levels; 2+ A-levels and 5+ O-levels; Sub degrees; Degree - lower grade; Degree - first and upper second grade; and Higher degree.

[9]We refer to the Cowell and Flachaire (2017) peer-inclusive downward-looking definition of a variable. It corresponds to the rank within the sample of an individual on the variable's dimension divided by the number of individuals in the sample. Peer-inclusive means that when two individuals have the same value for this variable, they have the same rank; while downward looking means that we attribute the value of 1 to the individual with the highest value in the sample. Thus, the variable is bounded between 0 and 1. An observation with a value of 0.3 means that 30% of the sample has a lower or equal level (e.g. of education). See, for example, Jenkins (2020) for an application of this ranking.

We also consider the number of siblings at the age of 16 for both cohorts. We also create a dummy variable that equals one if the cohort member is the eldest child. An additional available variable is parents' interest in education. During interviews at the age of 11 (NCDS58) and 10 (BCS70), parents answered to a question on their interest in their own child's education with the following options: very interested; moderate interest; little interest; and cannot say.

Lastly, since individuals gave their address at each interview, we also have a location history according to the interviews' response. We focus our interest on the region at the age of 16 because it is the age at which the parental income variable is defined. The classification is prior to 1994 and thus the Government Offices Regions (GORs). We therefore rely on the Standard Statistical Regions (SSR).[10]

3.2 Summary statistics

Once we restrict the data to those individuals for whom we have the key characteristics, i.e. parental income, child education and occupations, our sample consists of 6761 individuals in the NCDS58 and 7795 in the BCS70. Table 1 provides summary statistics for time-invariant individual data. Table 2 shows summary statistics for time-variant variables for both cohorts in both periods.

Our focus will be on what determines occupational outcomes for the two cohorts. We hence starts by looking at the change in the distribution of occupations at age 42 between both cohorts, reported in Figure 3 separately for men and women in percentage points. For both genders there is an increase in the probability of working in a high-paying occupation and a decline in that of working in a middling-paying occupation across generations, with the change being particularly large for young individuals. The share of low-paying jobs exhibits much smaller changes, declining (increasing) slightly for young (mature) men and increasing

[10]The categories are (from the south to the north): South West, South East, Wales, East Anglia, West Midlands, East Midlands, North West, Yorkshire and Humberside, North and Scotland. We define a last region named Abroad regrouping people living abroad and in Northern Ireland.

Table 1: Summary statistics - Individual data

	N = 14556							
Variable	Mean	SD	Min	Q1	Median	Q3	Max	NA
Child								
BCS Cohort	0.54	0.50	0.00	0.00	1.00	1.00	1.00	0
Female	0.53	0.50	0.00	0.00	1.00	1.00	1.00	0
Education - Secondary	0.75	0.43	0.00	1.00	1.00	1.00	1.00	0
Education - Sub degree	0.03	0.16	0.00	0.00	0.00	0.00	1.00	0
Education - Degree	0.16	0.36	0.00	0.00	0.00	0.00	1.00	0
Education - Higher degree	0.06	0.24	0.00	0.00	0.00	0.00	1.00	0
Household								
Parental income	30.42	14.61	1.47	19.27	27.87	37.55	115.35	0
Sibling size	2.64	1.37	1.00	2.00	2.00	3.00	12.00	1692
Eldest child	0.56	0.50	0.00	0.00	1.00	1.00	1.00	1692
Mother								
Age	24.23	6.29	8.00	20.00	24.00	28.00	58.00	1525
Age left school	16.35	1.49	13.00	15.00	16.00	17.00	22.00	1560
Int. in educ. - Very interested	0.48	0.50	0.00	0.00	0.00	1.00	1.00	2257
Int. in educ. - Moderate interest	0.32	0.47	0.00	0.00	0.00	1.00	1.00	2257
Int. in educ. - Cannot say	0.11	0.31	0.00	0.00	0.00	0.00	1.00	2257
Int. in educ. - Little interest	0.09	0.28	0.00	0.00	0.00	0.00	1.00	2257
Father								
Age	27.20	7.07	11.00	22.00	26.00	31.00	67.00	1997
Age left school	16.42	1.79	13.00	15.00	16.00	17.00	22.00	2110
Int. in educ. - Very interested	0.37	0.48	0.00	0.00	0.00	1.00	1.00	2912
Int. in educ. - Moderate interest	0.24	0.43	0.00	0.00	0.00	0.00	1.00	2912
Int. in educ. - Cannot say	0.29	0.45	0.00	0.00	0.00	1.00	1.00	2912
Int. in educ. - Little interest	0.11	0.31	0.00	0.00	0.00	0.00	1.00	2912
Social class	3.02	0.93	1.00	2.00	3.20	3.20	5.00	2974
Occupation - High-paying	0.27	0.45	0.00	0.00	0.00	1.00	1.00	2665
Occupation - Middling	0.52	0.50	0.00	0.00	1.00	1.00	1.00	2665
Occupation - Low-paying	0.17	0.37	0.00	0.00	0.00	0.00	1.00	2665
Occupation - Out-of-work	0.04	0.20	0.00	0.00	0.00	0.00	1.00	2665

Notes: This table provides summary statistics for individual time-invariant data from the BCS70 and NCDS58 cohorts.

(declining) for young (mature) women. These changes are consistent with the literature on polarization in the UK that shows a considerable decline in middling jobs, and an increase in

Table 2: Summary statistics - Cohort data per period

	NCDS58 - N = 6761				BCS70 - N = 7795			
	First period		Second period		First period		Second period	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Activity - Employee	0.74	0.44	0.74	0.44	0.78	0.41	0.72	0.45
Activity - Self-employed	0.05	0.21	0.12	0.32	0.06	0.24	0.14	0.35
Activity - Unemployed	0.05	0.23	0.02	0.14	0.02	0.15	0.02	0.14
Activity - in Education	0.02	0.15	0.01	0.08	0.03	0.16	0.00	0.06
Activity - Inactive	0.14	0.34	0.12	0.32	0.11	0.31	0.11	0.32
Occupation - High-paying	0.24	0.42	0.39	0.49	0.36	0.48	0.44	0.50
Occupation - Middling	0.41	0.49	0.28	0.45	0.33	0.47	0.24	0.43
Occupation - Low-paying	0.14	0.35	0.19	0.39	0.15	0.36	0.18	0.39
Occupation - Out-of-work	0.19	0.39	0.14	0.34	0.13	0.34	0.13	0.34
Occupation - in Education	0.02	0.15	0.01	0.08	0.03	0.16	0.00	0.06
Pay	19.06	7.23	30.35	24.20	25.20	16.47	36.13	25.56

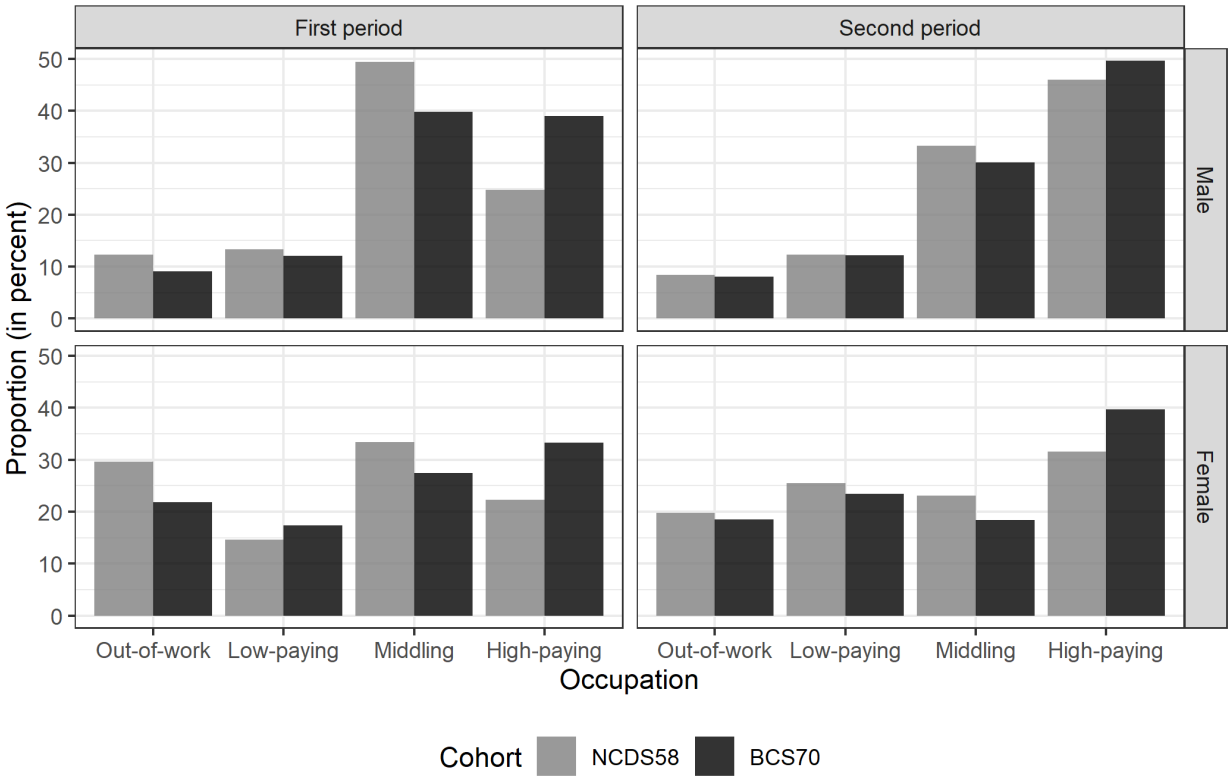
Notes: This table provides summary statistics for individual time-variant data from the BCS70 and NCDS58 according to the period.

the other two categories, which is much larger for high-paying jobs. For completeness sake, the figure also includes a fourth category - individuals who are out-of-work. This groups those out of the labour force, those who are unemployed, and those in full-time study.

As has been shown in previous work, occupational categories are closely related to remuneration levels. Table 3 reports the average weekly pay by occupation. Weekly pay is more concentrated for young individuals than for mature ones, as wages tend to grow faster with age for those in high-paying occupations. The table indicates that the average pay has increased for every type of occupation between both cohorts. The change across cohort of pay at age 42 is roughly the same for the three categories, lying between 14 and 15%. In contrast, for young individuals, the change has been much larger for those in high-paying occupations (50%) than for the other two groups (13 and 20%, respectively, in low-paying and middling occupations).

Occupations are also characterized by different educational requirements. Note, however, that a comparison across the two cohorts is not straight forward as the overall educational attainment of the population has increased. This is depicted in Figure 4, which presents the

Figure 3: Occupation distribution across generations



Notes: This figure describes the proportion of individuals in each type of occupation (out-of-work, low-paying, middling, high-paying) for the NCDS58 and BCS70 cohorts according to the period and gender.

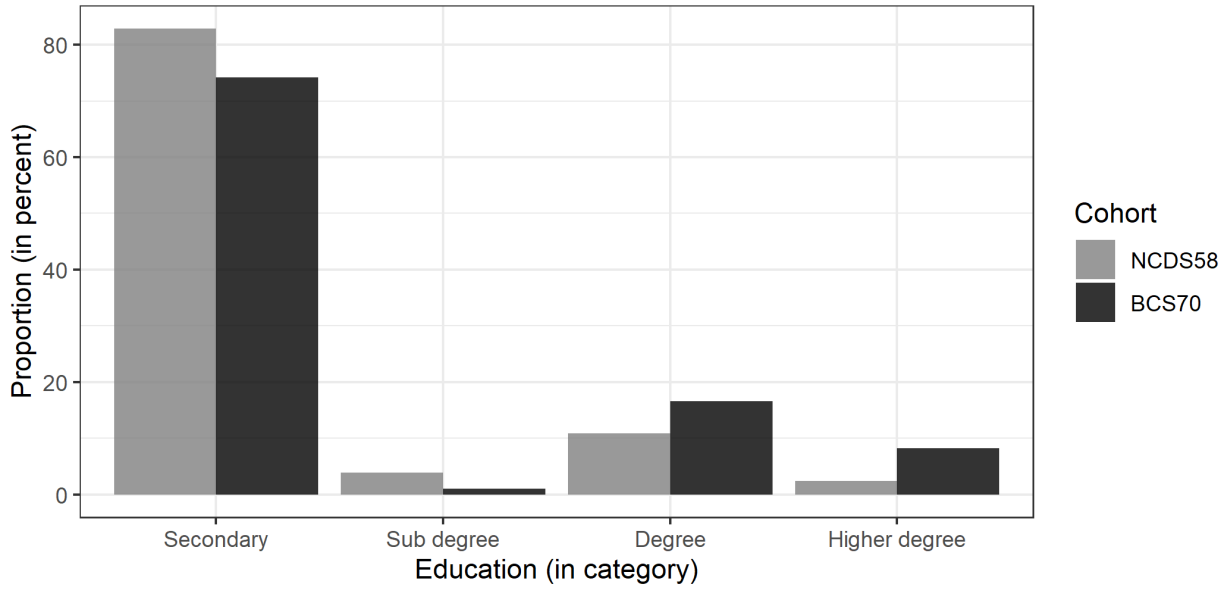
Table 3: Average weekly pay by occupation (in 1970£)

	First period		Second period	
Occupation	NCDS58	BCS70	NCDS58	BCS70
Low-paying	17.05	19.33	17.75	20.23
	(0.30)	(0.61)	(0.39)	(0.38)
Middling	19.59	23.43	25.26	29.11
	(0.16)	(0.34)	(0.45)	(0.40)
High-paying	19.51	29.23	40.82	46.72
	(0.17)	(0.40)	(0.64)	(0.55)

Notes: This table presents the average weekly pay, expressed in 1970£, in each first- and second-period occupations for the NCDS58 and BCS70 cohorts. Standard errors between parentheses. We exclude the very bottom and top of the pay distribution for each cohort, i.e. pay which are below £1 and above £300.

distribution of child's education for both cohorts. We have regrouped child education into

Figure 4: Child education distribution



Notes: This figure presents the distribution of child education for the NCDS58 and BCS70 cohorts. Education corresponds to the highest academic qualification obtained by the child. Education levels are grouped into four categories for readability.

four categories for ease of exposition.[11] As expected, educational attainment has increased across the cohorts. The proportion of individuals with a sub-degree has more than doubled, while the proportion of individuals with a higher degree has been multiplied by 1.58.

Because of these changes, Table 4 reports average education by occupation using the peer-inclusive downward-looking ranking. As well as our three employment categories we also report the educational attainment of those who are not in employment, splitting this category into those in full time education and the rest of those who are out-of-work (unemployed or not participating).[12] When we do not split this category we find that average education is rather high, this being the combination of the low attainment of those not participating or unemployed and the high attainment of those still in education.

The data are characterised by three features. First, as expected, those in high-paying

[11] Figure E.1 in the appendix presents the distributions of education for fathers and mothers. For parental education, we use the age at which each parent left full-time education.

[12] In our data, child education is time invariant because we consider the highest qualification ever obtained. Although some individuals may still appear in the occupational category full-time education, their educational level is the one they will obtain in the future.

Table 4: Average education by occupations

	First period		Second period	
Occupation	NCDS58	BCS70	NCDS58	BCS70
Out-of-work	0.55	0.51	0.54	0.54
	(0.01)	(0.01)	(0.01)	(0.01)
in-Education	0.89	0.79	0.84	0.62
	(0.01)	(0.01)	(0.03)	(0.05)
Low-paying	0.54	0.51	0.52	0.51
	(0.01)	(0.01)	(0.00)	(0.00)
Middling	0.58	0.54	0.55	0.53
	(0.00)	(0.00)	(0.00)	(0.00)
High-paying	0.74	0.72	0.73	0.70
	(0.01)	(0.00)	(0.00)	(0.00)

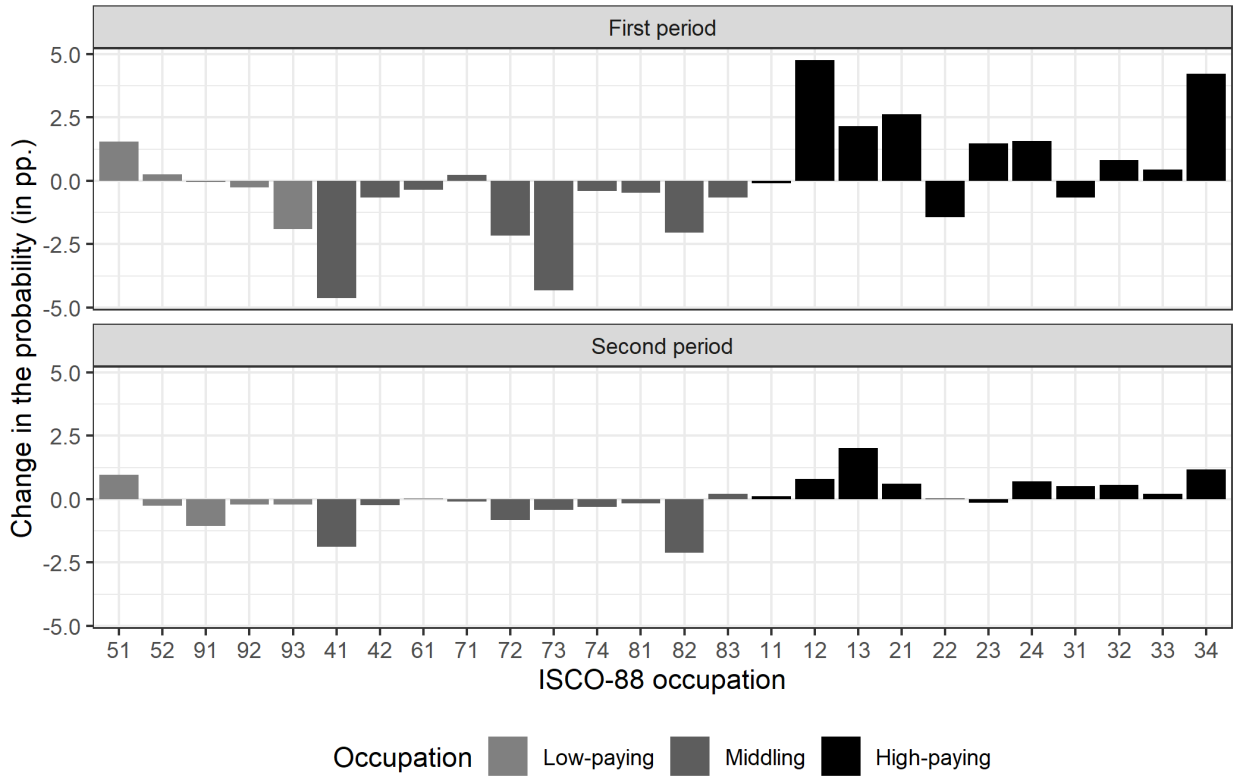
Notes: This table presents the average education, expressed in peer-inclusive downward-looking ranking, in each first- and second-period occupations for the NCDS58 and BCS70 cohorts. Standard errors between parentheses.

occupations have a high educational attainment, being in the top 25% of the educational distribution of their cohort. Second, the educational attainment of those in low-paying and middling occupations is much lower, and although the difference is statistically significant its magnitude is very small, specially for mature individuals. Lastly, there is a remarkable stability across cohorts on the average educational profile in the various categories.

3.3 The structure of employment

Figure 3 captures the polarization that has taken place in the UK due to the disappearance of middling jobs. To better understand these dynamics Figure 5 performs a similar exercise (for men and women together) using the ISCO-88 categories that we had grouped into our three broad categories. Occupations are depicted in light gray for those we place in the lo-paying category, in dark grey for those in the middling category, and in black for high-paying ones. Although differences within the three broad categories exist, a clear pattern emerges both when we consider young and mature individuals. Interestingly, the change has been particularly large for young individual's occupations, for whom the reduction in the share of

Figure 5: Change in the probability of being in each ISCO-88 occupation in both periods

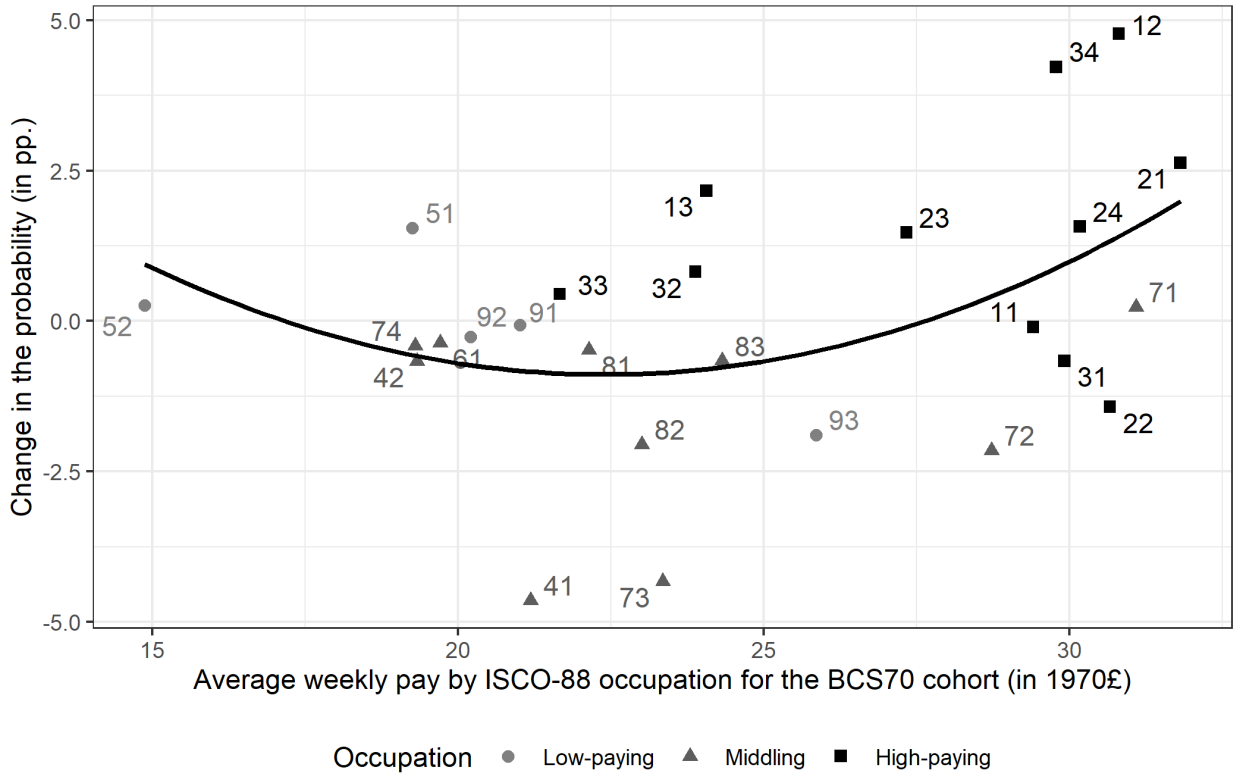


Notes: This figure presents the difference, expressed in percentage points, between the BCS70 and NCDS58 cohorts in terms of probability of being in each ISCO-88 occupation in both periods.

middling jobs has been particularly marked. For low paying occupations the changes have tended to be moderate -whether positive or negative- indicating that our results above of a small increase for the share of this broad category are not the result of averaging large positive and negative shifts.

A different way of thinking about polarization is to examine how occupations with different average pay have changed across the two cohorts. We hence compute the change in the share of individuals in each occupation when young and plot it against the average pay in that occupation (for young individuals of the 1970 cohort). The occupations are depicted by both their code and a geometric symbol, were the latter indicate whether they are in our category of low-paying (circle), middling (triangle) or high-paying (square) occupations. As can be seen from the fitted curve displayed in Figure 6 there is a U-shaped relationship

Figure 6: Change in the probability of first period occupation according to the average weekly pay

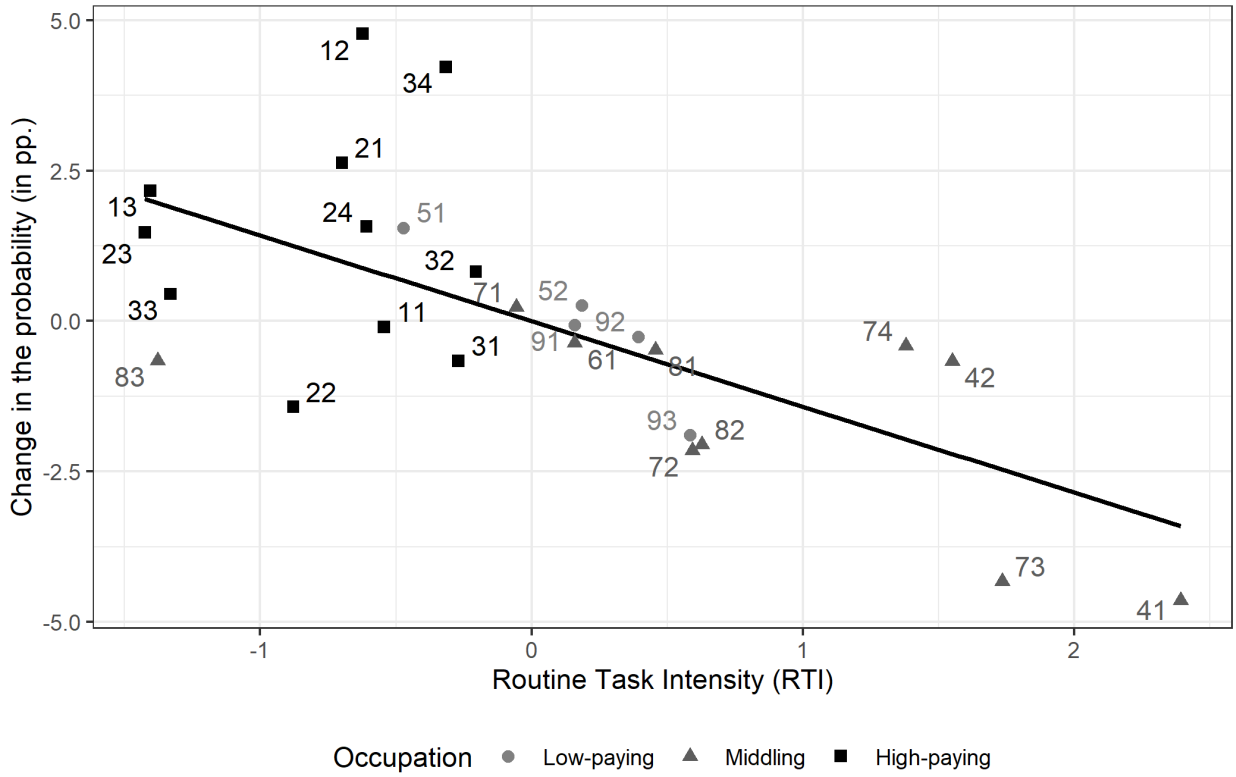


Notes: This figure presents the U-shaped relationship between the difference, expressed in percentage points, between the BCS70 and NCDS58 cohorts in terms of probability of being in each ISCO-88 occupation in first period and the average weekly pay, expressed in 1970£, in this occupation for the BCS70 cohort.

between weekly pay and the change in the share of the occupation, with both those with low and those with high remuneration gaining employment shares at the expense of those in the middle.

Lastly we perform the same exercise but plotting the change in the share of each occupation for young individuals against the index for "routine task intensity" or RTI scale provided by Mahutga et al. (2018). The downward slopping line in Figure 7 corresponds to the fitted curve implied by the data, and indicates that the change is negatively correlated with the degree of routinization. High-paying occupations (denoted with squares) tend to be at the bottom of the RTI scale, low-paying ones in the middle, and middling occupations at the bottom.

Figure 7: Change in the probability of first period occupation according to routine task intensity



Notes: This figure shows the negative relationship between the difference, expressed in percentage points, between the BCS70 and NCDS58 cohorts in terms of probability of being in each ISCO-88 occupation in first period and the Routine Task Intensity (RTI) index from Mahutga et al. (2018).

The various pieces of evidence in this section thus indicate that the strong polarization identified in cross-sectional data by previous work is also present when we focus on two specific cohorts. Routine intensity seems to be highly correlated with changes in the share of occupations, with low RTI ones having gained share and those with high RTI having lost it. In our data polarization appears whether we use the RTI index to categorize occupations or when we look at average weekly pay.

Table 5: Probability of being in each occupation at second period

	Binomial logit - Dep. var.: Second period occupation			
	Out-of-work	Low-paying	Middling	High-paying
Intercept	-2.39^{***}	-1.97^{***}	-0.70^{***}	-0.16^{***}
	(0.06)	(0.05)	(0.04)	(0.04)
BCS cohort	-0.08	-0.02	-0.15^{***}	0.13^{***}
	(0.09)	(0.07)	(0.05)	(0.05)
Female	0.98^{***}	0.89^{***}	-0.51^{***}	-0.61^{***}
	(0.08)	(0.07)	(0.05)	(0.05)
Female × BCS	-0.03	-0.11	-0.15^{**}	0.21^{***}
	(0.11)	(0.09)	(0.08)	(0.07)
Par. inc.	-0.09^{***}	-0.08^{***}	-0.06^{**}	0.17^{***}
	(0.03)	(0.03)	(0.03)	(0.03)
Par. inc. × BCS	-0.21^{***}	-0.18^{***}	-0.08^{**}	0.27^{***}
	(0.05)	(0.04)	(0.04)	(0.04)
Pseudo R^2	0.04	0.03	0.02	0.03
Log Likelihood	-5646.72	-6775.16	-8155.80	-9558.17
Num. obs.	14556	14556	14556	14556

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort in out-of-work occupation in first period is the referent group. Parental income in logarithm and child education in peer-inclusive ranking, both are standardized at the cohort level. The multinomial logistic regression is also reported in the appendix, see table C.4.

4 Empirical results

4.1 Where do mature individuals work?

We start by examining the probability of a mature (i.e. aged 42) individual being in each of the four occupational categories conditional exclusively on gender and whether he is a member of the older or the younger cohort. Table 5 reports the results obtained when running a binomial logit regression on each of the four categories we consider. Parental income has been standardized, so that the mean and variance are 0 and 1 for the two cohorts.

As expected, parental income matters, with a higher income making it more likely that the individual is in a high-paying occupation and less likely that he is either of the other three

Table 6: Probability of being in each occupation at both periods, for both cohorts (in percent)

	First period			Second period		
Occupation	BCS70	NCDS58	Δ	BCS70	NCDS58	Δ
Out-of-work	15.9	21.3	-5.4	13.6	14.3	-0.7
Low-paying	14.9	14.0	0.9	18.2	19.1	-0.9
Middling	33.2	41.2	-7.9	23.8	28.0	-4.2
High-paying	35.9	23.5	12.4	44.3	38.5	5.8

Notes: This table shows the probability, expressed in percent, of being in each first- and second-period occupation for the BCS70 and NCDS58 cohorts. Difference between both cohorts, expressed in percentage points, are reported in the last column of both periods. Probabilities with people in education as an occupation, hence not included in out-of-work, are also reported in the appendix, see table D.3.

categories. The effect of parental income increases considerably for the BCS70 cohort, with the coefficient more than doubling in absolute magnitude. While a one-standard-deviation increase in parental income used to raise the odds to be in a high-paying occupation by 18.5% for the older cohort, this same increase raises the odds by 76.8% for the younger one.[13] Conversely, a one-standard deviation increase in parental income reduces the odds to be in a low-paying occupation by 24.4% for the 1970 cohort against only 7.7% for their elders.

As discussed above, the change in parental effects can operate at different levels. Before examining in detail the mechanism behind these changes, let us consider the distribution of occupations for the two cohorts. Figure 3 above indicates a considerable change in entry occupations that could be behind the observed decline in mobility. To gauge this effect we consider a decomposition of the probability of being in a high paying occupation at age 42. Let $P_c^t(i)$ $\forall i \in \{H, M, L, O\}$ $\forall c \in \{A, B\}$ be the probability to be in occupation i at time t for an individual in cohort c.

Table 6 presents the probability to be in each occupation at both periods, for both cohorts. The first-period probabilities indicate that BCS70-cohort individuals are about 7.9 pp. less likely to start in middling occupations, while they are about 6 pp. more likely to

[13]These coefficients are obtained by taking the exponential of the change in log odds, i.e. $\exp(0.17) = 1.185$ and $\exp(0.13 + 0.17 + 0.27) = 1.768$.

Table 7: Conditional probabilities of changing occupations during the career (in percent)

	BCS70				NCDS58				Δ			
Occupation	Out	Low	Mid	High	Out	Low	Mid	High	Out	Low	Mid	High
Out-of-work	32.5	25.4	14.9	27.2	27.2	24.8	20.7	27.3	5.3	0.6	-5.8	-0.2
Low-paying	13.7	44.4	17.8	24.1	16.3	39.9	20.3	23.4	-2.6	4.5	-2.6	0.7
Middling	10.3	13.9	44.7	31.1	10.3	15.5	43.3	30.9	0.0	-1.6	1.4	0.2
High-paying	8.2	8.1	11.1	72.6	8.5	8.1	12.3	71.1	-0.2	0.0	-1.3	1.5

Notes: This table shows the probability, expressed in percent, of being in each second-period occupation (columns) conditional on the first-period occupation (rows) for the NCDS58 and BCS70 cohorts. Difference between both cohorts, expressed in percentage points, are reported in the four last columns.

start their careers in a high-paying occupation.

The probability to be in a high-paying occupation at age 42 for an individual in cohort c depends both on the share in each occupation when he is young, $P_c^t(i)$, and on the conditional probability to be in occupation j at time 2 conditional on being in occupation i at time 1, $P_c^t(j|i)$, where $i \in \{H, M, L, O\}$ is the first-period occupation. The probability for a mature individual to be in a high-paying occupation can hence be written as

$$P_c^2(H) = \sum_i P_c^2(H|i) \times P_c^1(i).$$

The change in the probability of being in a high-paying occupation can then be written as

$$\Delta P^2(H) \equiv P_B^2(H) - P_A^2(H) = \sum_i \Delta P^1(i) \times P_A^2(H|i) + \sum_i \Delta P^2(H|i) \times P_B^1(i). \quad (1)$$

There are hence two sources of variation in the probability to be in high-paying occupation when mature: changes in the distribution of first-period occupations, captured by the first term in equation (1), and changes in the conditional probabilities of changing occupations during the career, captured by the second term.

The conditional probabilities are reported in Table 7.[14]

As far as the probability levels are concerned, the table shows that there is a considerable

[14]Conditional probabilities with people in education as an occupation, hence not included in out-of-work, are also reported in the appendix, see table D.4.

degree of persistence, which is particularly large for high paying occupations, with those starting in high-paying occupations having a probability of remaining there of over 70% in both cohorts. Nevertheless, occupational mobility is high, with 24% of those initially in low-paying occupations and 31% of those initially in middling occupations having a job in high-paying occupations by age 42 for the 1970 cohort.

In terms of changes, the most significant differences come from the outcomes of those who start either out of work or in low-paying occupations. In both cases, those in the younger cohort face a lower probability of being in a middling occupation when mature (lower by 5.8 and 2.6 pp., respectively) which translate into higher odds of remaining in the occupation of origin. That is, the transition from the least desirable outcomes into middling occupations seems to have become less likely for those born in 1970 than it was for those born in 1958. There is also an increase in the likelihood of being in a high-paying occupation for all those who where in employment at age 23/26. However, as far as those starting in low-paying occupations are concerned, the probability of getting to the top occupation increased by only 0.7 percentage points while that of moving to a middling occupation fell by 2.6 points, indicating less upwards mobility.[15]

Table 8 presents the decomposition in equation (1) of the change in the probability of being in a high-paying occupation when mature. The overall change is 5.8 pp., of which 5.1 points (i.e. 88.3% percent) are due to the change in initial probabilities. The columns in the table compute the contribution to $\Delta P^2(H)$ of changes in each occupational category, whether because the share of individuals initially in that category has changed or because the probability of transiting to a high-paying occupation has changed. Three effects dominate. First, as far as the contribution of transition probabilities is concerned, most of its impact is due to a change of 0.5 pp. in the probability of those who started in high-paying occupations to remain in that category. The bulk of the effect is, however, due to a change in the initial

[15]Of course, from an expected income point of view, it is possible that an individual prefers to face a lower probability of moving to the middle of the distribution in exchange for a slightly greater one of moving to the top given the income differences between the two.

Table 8: Change in probability of being in a high-paying occupation when mature (in percent)

	Occupations				
	All	Out-of-work	Low-paying	Middling	High-paying
Overall change	5.8				
(in %)	15.0				
Contribution due to...					
Initial probabilities	5.1	-1.5	0.2	-2.5	8.8
(as % of total)	88.3	-25.3	3.6	-42.4	152.4
Transition probabilities	0.7	-0.0	0.1	0.1	0.5
(as % of total)	11.7	-0.4	1.7	1.3	9.1

Notes: This table quantifies the respective roles of initial and transition probabilities in the probability change of being in a high-paying occupation at the age of 42 between both cohorts. Coefficients are rounded to one digit.

distribution of occupations, with a strong negative impact from the fact that fewer individuals start their careers in middling occupations and a large positive effect due to more youngsters starting in high-paying ones.

Two mechanisms are thus in operation.The higher share of individuals in high-paying occupations is due to both more workers entering the labour market in a high-paying occupation and a greater likelihood of remaining in the occupation. These two mechanisms together would have increased the share of workers in high-paying occupations by 8.8 points. This effect is partially offset by the reduction in the fraction of young individuals employed in middling occupations, which reduces the share in high-paying occupations by 2.5 points. This is a large effect, almost a third of the positive effect, the reason being that those starting in middling occupations have a high probability of moving upwards (of over 30% as we saw above). In fact, if the distribution of initial occupations had remained the same and the only difference between the two cohorts had been the transition probabilities, we would have observed an increase in the share of individuals in high-paying occupations of 0.7 instead of the 5.8 pp. we actually observe.

Similar decompositions for low-paying and middling occupations are reported in the

appendix.[16] The results we report there indicate that the reduction by 4.2 pp. of the share of mature individuals in middling occupations is due, roughly, two thirds to changes in initial probabilities to be in that category and one third to changes in transitions, notably to a reduction in the likelihood that those out-of-work and in low-paying occupations move into middling ones.

Overall our results indicate that the reduction in the availability of middling jobs had two effects. First, an important source of upwards mobility - the transition from middling to high-paying jobs- has become less important as fewer individuals start in those jobs. Second, middling jobs were often the end-outcome for those starting in low-paying occupations or in unemployment, but as their number has shrunk this mechanism has also become weaker. The overall effect is that there is greater persistence of initial occupations. We turn next to what determines an individual's initial occupation and to what extent parental background matters.

4.2 Initial occupations and parental income

As we have seen, a key determinant of an individual's occupation when mature is her initial occupation. This, in turn, is to a large extent determined by her educational attainment. We hence start our analysis of initial occupations by estimating the impact of parental income and parents' education on child education, before looking at the determinants of first-period occupations.

We consider the following specification

$$E_i^c = \pi + \gamma Y_i^p + \phi_f E_i^f + \phi_m E_i^m + \psi X_i + u_i \tag{2}$$

where E^c is the child's education, Y^p parental income, and E^f (resp. E^m) is the father's

[16] See tables D.1 and D.2. Decompositions when we split those out-of-work into those in education and others are also reported in the appendix for low-, mid- and high-paying occupations, see tables D.5, D.6 and D.7.

(resp. mother's) education, all four measured in peer-inclusive downward-looking ranking. X_i are individual characteristics and u_i the error term. Parental income and education are also interacted with a dummy variable that equals one when an individual is in the 1970 cohort (BCS) and zero otherwise. Cross-term coefficients hence represent the change in the effect of the variable on the child's education.

Table 9 reports the coefficients obtained when we run various specifications for the determinants of education. The baseline column simply regresses educational attainment on parental income and gender. As expected, the effect of parental income is strong. Moreover, it almost doubles across the two cohorts, increasing from 0.13 for the older cohort to 0.24 for the BCS. The next four columns sequentially introduce other possible determinant of education such as parental education, father's social class and number of siblings. The effect of parental income is reduced as these controls are added to the regression; however, the doubling of the coefficient on parental income across cohort remains robust.

The education of the mother and the father as well as the social class of the latter are all important factors in the child's educational outcome, and much of the effect of income identified in column (1) is capturing the effect of these factors. Interestingly, for the BCS70 cohort the impact of such variables has fallen relative to that found for the NCDS58 (although the coefficients are not always significant). This seems to indicate that across the two cohorts parental income has gained importance and other parental characteristics have lost it in determining a child's education.

Consider now the determinants of an individual's probability to start her career in occupation i. Let p_i $\forall i \in \{O, L, M, H\}$ be the probability to start in occupation i. The equation is the following:

$$\text{logit}(p_i) = \alpha + \gamma Y^p + \phi E^c + \psi X$$

where Y^p is parental income, E^c the child's education and X are individual characteristics. All terms are crossed with a dummy that equals one when an individual is in the 1970 cohort (BCS). We estimate this equation both separately for the four occupation-types -out-of-work

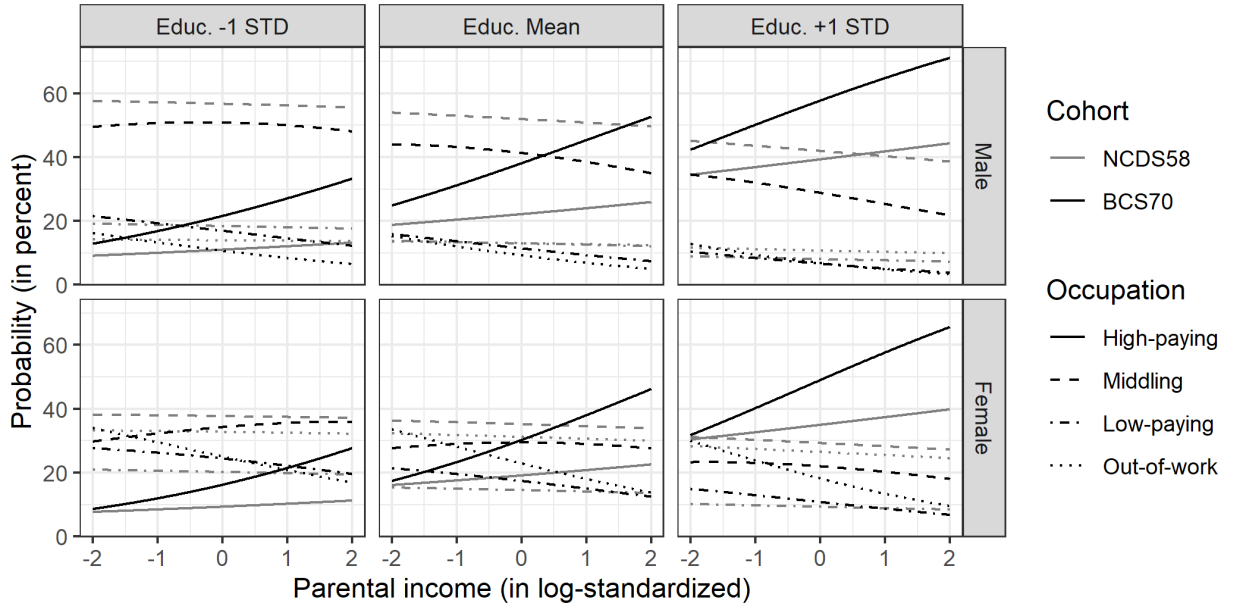
(O), low-paying (L), middling (M) and high-paying (H)- and using a multinomial logistic regression. The results are reported in Tables C.1 and C.2) in the appendix, and Figure 8 displays the results.

Tables C.1 and and C.2 report the results, with two specifications for each occupation: one in which only parental income and gender are included, and one with the full set of controls. Parental income is a key determinant of initial occupation, increasing the probability to be in a high-paying occupation and reducing that of being in one of the other three categories, yet much of the effect occurs through education. For the NCDS, once we control for education, parental income only has a significant coefficient in the equation for the probability of being in a high-paying occupation. The change of the coefficients for the younger cohort is massive. The coefficient increases from 0.10 to 0.23 for high-paying occupations, while the probability of being in a low-paying or middling occupation, which was not affected by parental income once education was accounted for, now is positively correlated with income. This results indicate that for those born in 1958 most of the transmission across generations was occurring through access to education (which has the expected signs, increasing the probability of working in a high-paying occupation and reducing the others with the effect being strongest for low-paying occupations). In contrast, for the BCS70 cohort, the impact of parental income through education is magnified by a direct effect on occupational outcomes.

To visualize these effects, Figure 8 displays the probability to be in each occupation when young as a function of parental income, in both cohorts.[17] The probabilities are reported separately for the two gender groups and for three levels of the child's education - the average and plus/minus one standard deviation of education. Concerning men, three results are striking. As far as high-paying occupations are concerned, we see a gap between the two cohorts that increases with parental income for all levels of the child's education. In other words, even when we control for education, parental income became more important

[17]Figure E.2 in the appendix depicts the same probability according to the child's education level at several points of the parental income distribution. The probabilities are computed according to the multinomial logistic regression, reported in the appendix (see table C.2).

Figure 8: Probability of being in each occupation at first period, according to parental income



Notes: This figure presents the probability, expressed in percent, of being in each type of occupation (out-of-work, low-paying, middling, high-paying) in first period according to parental income, in log-standardized, at several points of the child education distribution (at -1 std., at the mean and at +1 std.). Probabilities are computed for males and females in both cohorts according to the multinomial logistic regression reported in columns (2) of the table C.2 in the appendix.

in affecting the likelihood of getting into the top occupations. One possible explanation for this is that non-cognitive skills have become more important and that they are positively associated with the household's income; alternatively, parental income could be a proxy for the child's social network, either its size or 'quality', which in turn has become more important in determining access to jobs.[18]

Second, for the older cohort the schedules for low-paying or out-of-work are roughly flat, indicating that only education mattered, yet they exhibit a considerable downward slope for the younger cohort, again highlighting the increased role of parental income. Lastly, the evolution of the probability of being in a middling-paying occupation for the BCS70 is

[18]See, for example, Blanden et al. (2007), using the same data as us and, showing a strengthening of the relationship between parental income and non-cognitive skills between both cohorts. Chetty et al. (2014) shows that neighborhood characteristics are extensively correlated with mobility, hence, being born in a family with more income in a context of spatial segregation would give access to a better social network, thus increasing the role of parental income towards mobility.

particularly surprising: for those with high educational attainment, the relationship between parental income and this probability is strongly decreasing, for those with average education, it is decreasing but less steep, and for those with low education it is roughly flat (it actually exhibits a slightly hump-shaped pattern). In all cases, the probability of getting middling jobs has fallen across cohorts, but, except for those with low education, the reduction has been greater the higher parental income is. This has several implications. First, the share of those with low education getting these jobs has fallen overall, pushing these individuals towards worse employment conditions. Second, while for the older cohort lack of education was an equalizing factor (those with scarce qualifications fared similarly irrespective of their background), for the younger cohort parental income has become a substitute for education implying that low-education youngsters have very different outcomes depending on their background. Lastly, note that the relative flat profiles for the NCDS58 imply that lack of education was an equalizing factor (those with scarce qualifications fared similarly irrespective of their background), for the younger cohort parental income has become a substitute for education implying that low-education youngsters have very different outcomes depending on their background.

The results for women are more mixed but the key patterns are confirmed. Notably, for the younger generation parental income has a stronger effect on the probability of getting a high-paying job than was the case for the older cohort. The data also indicate that for women with low education, the probability of getting a middling-job is increasing in parental income. For the older cohort, low levels of education implied getting a middling job with a high probability (close to 40%) irrespective of parental income. For the younger generation those with low parental income have witnessed a drop in this probability of around 10 pp., making them more likely to have no job or be in a low-paying occupation; however, as parental income increases the probability of having a middling job rises.

4.3 Parental income and the occupation of mature individuals

Consider now the determinants of the probability of being in occupation j at age 42. We suppose that it is given by

$$logit(p_j) = \alpha + \sum_i \eta_i \mathbb{1}_i + \gamma Y^p + \phi E^c + \psi X$$

where $\mathbb{1}_i$ is a dummy variable that equals one when an individual was in occupation i when young. That is, we suppose that as well as depending on education and parental income, the occupation of mature workers depends on their job at the start of their career. As before, we estimate this equation both separately for the four occupation-type as well as in a multinomial regression. The results are reported in Tables C.3 and C.4 in the appendix, and the impact of parental income is depicted in Figures 9, 10 and Figure 11.

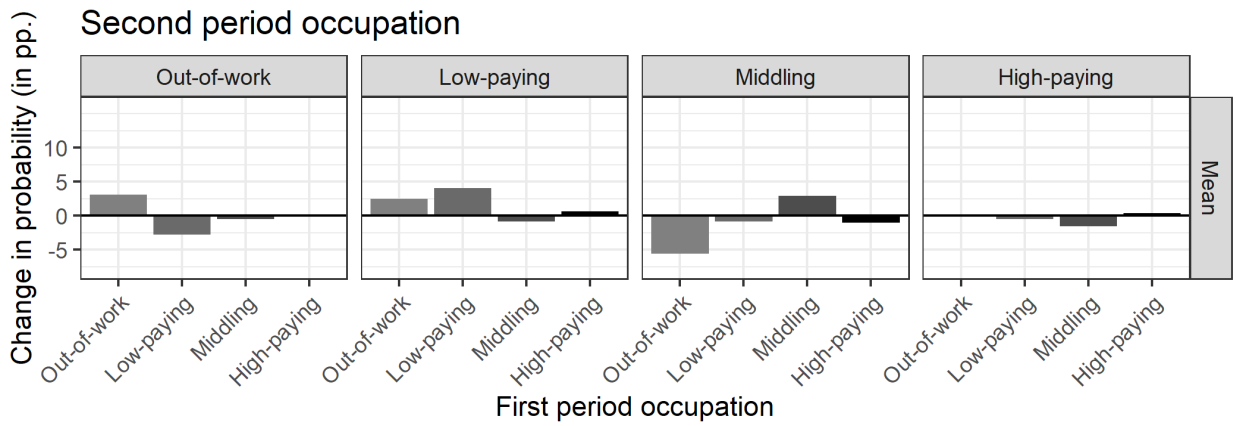
The tables indicate that when parental income has a large impact on occupational outcomes at age 42, with the coefficient more than doubling across cohorts. This effect occurs largely through education. However, as was the case for first-period occupations, for the BCS cohort the impact on the likelihood to be in a high-paying occupation has changed, with parental income becoming more important and own education less than for the NCDS cohort.

Figure 9 presents the change in the probability of being in each occupation at second period depending on the first-period occupation (for males only). [19]. Changes in the probability are defined as the difference in probability between the two cohorts. Probabilities are computed using the multinomial regression in Table C.4, at the mean of parental income and child education. Each graph concerns a particular occupation at age 42, and each of the four bars represent the change in the probability of being in that occupation depending on the individual's first-period occupation.

The changes are not large at the top of the distribution. Notably, the fourth graph,

[19] Equivalent figures and tables to those presented in te rest of this section but for women are provided in the Appendix. See Figures E.3 and E.4 and Table E.1

Figure 9: Change in probability to be in each occupation at second period according to the first-period occupation (male only)



Notes: This figure presents the difference, expressed in percentage points, between the BCS70 and the NCDS58 cohorts in terms of probability of being in each type of second-period occupation (out-of-work, low-paying, middling, high-paying) conditional on the first-period occupation, at the mean of the parental income and child education distribution. Probabilities are computed for males in both cohorts according to the multinomial logistic regression reported in columns (3) of the table C.4 in the appendix.

reporting changes in the probability of being in a high-paying occupation, implies that although the probability of being in such an occupation has increased for individuals who started in a high-paying job and declined for the others, the magnitudes are small, about less than one percentage point. Larger changes are observed in other categories. The probability of being in a middling occupation in late career has increased by almost 3 pp. for those who started in such occupation but declined for all other groups. The two left graphs provide evidence of a reduction in upwards mobility for those starting in the least well-paid positions. For example, for those who were initially out-of-work, the probability of remaining there has increased by 3.1 pp.; although the probability of being in a low-paying occupation at 42 has increased about 2.5 pp. this has occurred at the expense of moving into middling jobs with a decline about -5.55 pp.

These changes do not capture the differences that may be due to parental background, which we have seen became more important -as measured by its direct effect- for the younger cohort. Figure 10 hence performs the same exercise but computes the changes when parental income is 2-standard-deviations above and 2-standard-deviations below the mean, as well as

Figure 10: Change in probability to be in each occupation at second period according to the first-period occupation and parental income (male only)

Notes: This figure presents the difference, expressed in percentage points, between the BCS70 and the NCDS58 cohorts in terms of probability of being in each type of second-period occupation (out-of-work, low-paying, middling, high-paying), conditional on the first-period occupation, at several points of the parental income distribution (at +2 std., at the mean and at +2 std.) and at the mean of the child education distribution. Probabilities are computed for males in both cohorts according to the multinomial logistic regression reported in columns (3) of the table C.4 in the appendix.

reporting again the results obtained at the mean of parental income.

The fourth column of graphs, reporting changes in the probability of being in a high-paying occupation across cohorts, implies striking changes that are not apparent when looking only at the mean of parental income. For those at the top and the bottom of the parental income distribution the changes are large and of opposite sign. Notably, for those who started in any occupation other that high-paying and who came from a household with parental income 2-standard-deviations below the mean, the reduction in the probability is between 6.9 and 8.1 pp.; even those who started in high-paying occupations are less likely

to remain there if parental income is low. In contrast, when parental income is 2-standard-deviations above the mean there are large increases in the likelihood of remaining or moving to the top, with those who started in a low-paying occupation experiencing an increase of 7.5 pp.

The second important pattern observed in the data is a dichotomy that appears for those who started in a low-paying occupation. Their probability of moving to a middling occupation has fallen, but the alternative outcome depends on parental income. The likelihood of remaining in the occupation has increased for those with average and with low parental income, by 4 pp. for the former and by 8 pp; for the latter, while for those at the top of the parental income distribution the declining in mobility into middling jobs has been accompanied by lower persistence and a greater probability of moving into a high-paying occupation. The natural progression in which individuals would move from low-paying into middling occupations as their careers evolved seems to have weakened, and has been replaced by higher probabilities of either staying in the occupation of origin or jumping up to a high-paying one, with the changes being strongly dependent on parental income.

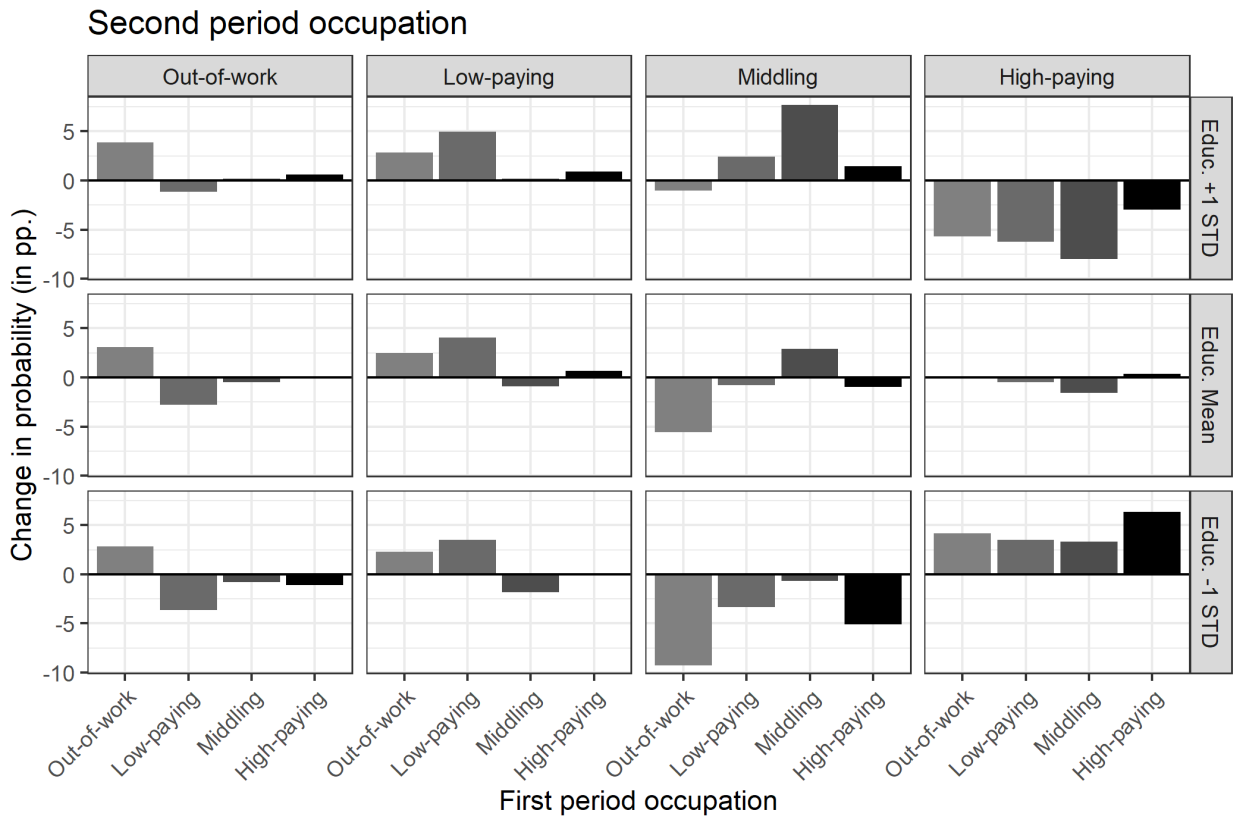
The analysis we have just performed considers the direct effect of parental income, but as is well established and we have seen above, much of this effect occurs through its impact on the child's education. We hence examine the change in the probability to be in each occupation for different positions in the distribution of the child's education, depicted in Figure 11, (again for males only).[20] The middle row of graphs is again that depicted in Figure 9 for average parental income and child's education, while the top and bottom rows depict the results for individuals which are one-standard-deviation above and below the mean of child's education.[21].

Although the changes are again much larger at the top and bottom than at the mean,

[20] As before, changes are defined as the difference in probability between the cohorts, and probabilities are computed from the multinomial logistic regression reported in the appendix (see table C.4) for an individual with the cohort-average parental income.

[21] Looking at two standard deviations is not particularly interesting in the case of education since individuals are bunched at the bottom (secondary schooling) and top (higher degree) of the distribution, contrary to parental income where dispersion is much greater and we have a long right-tail

Figure 11: Change in probability to be in each occupation at second period according to the first-period occupation and child education (male only)



Notes: This figure presents the difference, expressed in percentage points, between the BCS70 and the NCDS58 cohorts in terms of probability of being in each type of second-period occupation (out-of-work, low-paying, middling, high-paying), conditional on the first-period occupation, at several points of the child education distribution (at +1 std., at the mean and at +1 std.) and at the mean of the parental income distribution. Probabilities are computed for males in both cohorts according to the multinomial logistic regression reported in columns (3) of the table C.4 in the appendix.

they imply that the effect of education on mobility during the individual's career has diminished. In terms of the likelihood of moving into high-paying occupations, those at the top of the education distribution are less likely to move to or stay for the younger than for the older cohort irrespective of their initial occupation. The opposite occurs for those with low educational achievement. The disappearance of middling jobs has reduced both the probability of those starting in low-paying occupations to upgrade their occupation to middling and for those starting there to remain for low and average educational levels, but increased it for those at the top of the education distribution. For the younger cohort, those

starting in low-paying jobs experienced an increase in the likelihood of remaining in that occupational category between 3.88 and 6.72 pp. depending on their level of schooling.

We summarize these results in Table 10. In order to provide a compact measure, we define three possible outcomes for the second period. Downward mobility is defined as ending up in a category with lower average pay than the individual's initial category; persistence consists of remaining in the same category, and upwards mobility occurs when the individual moves to a category with higher average pay. Hence for those starting in a low-paying occupation, downward mobility occurs if the are out-of-work at age 42, and upwards mobility is they are in a middling or high-paying occupation. The table reports changes in the probability of each type of mobility depending on the individual's initial occupation, assessed at several points of the parental income and child education distributions as in the graphs above.

Consider first the role of parental income. At the mean, persistence has increased and both upwards and downwards mobility have declined, irrespective of the initial occupation. For those in low-paying occupations the younger cohort has lost 1.31 pp. in upwards mobility, which amounts to a reduction of 5% as compared to the NCDS cohort [22] For those starting in middling occupations the reduction of 1.56 pp. represents a decline of 12%. When we look at the top of the parental income distribution (top left panel) we find large increases in both persistence for those in high-paying occupations and in upwards mobility for all other groups. Yet the most striking results are those at the bottom of the distribution of parental income, where upwards mobility has fallen by between 7.69 and 8.50 percentage points.

5 Conclusion

A vast literature has discussed the consequences of job polarization for wage inequality. In contrast, little is known about whether the change in employment structure has also had an impact on social mobility. This paper has addressed such question using British data for two cohorts for which we have information for parents and children.

[22] The probability of upward mobility for this cohort was 24%; see Table 5.

Our empirical approach consists of examining the occupational outcomes of children in the two cohorts, taking into account parental characteristics. An important aspect of our analysis it that, since we have data fort children at various ages, we can identify to what extent mobility is driven by an improvement in the occupation at which the child enters the labour market or by going up the occupational ladder during her work-life. Crucially, the two cohorts, born 12 years apart, entered the labour market under substantially different conditions in terms of the structure of employment, with the latter cohort facing a much more polarized labour market.

The data indicates two major changes across generations. First, we find that the share of individuals who start their careers in middling occupations has declined markedly between the older and the younger cohort. Second, the probability of those who start in low-paying occupations to move into middling jobs has also fallen. As a result, two sources of occupational mobility seem to have weakened. We then examine how parental income affects the various steps that determine the child's outcome at age 40, focusing on changes across the two cohorts. Our results show that the role of parental income in determining occupations has increased, and that the difference across the two cohorts is only partly due to a greater effect of parental characteristics on educational attainment, with the rest being driven largely by the type of entry job that the child holds (conditional on education). In fact, our results indicate that not only there are fewer middling entry jobs, but also that parental income has become more important in having access to those jobs. Lastly, the fortunes of those who start in low-paying jobs differ considerably across generations. For the older cohort, a considerable fraction moved onto middling jobs, but this probability has fallen markedly for the younger cohort. At the same time, the probability for those who start in low-paying jobs to move to high-paying jobs has increased, yet only for those with high-income parents.

These results highlight that as middling jobs were eroded, the natural progression from low-paying into middling-paying, and eventually into high-paying occupations, has become less likely. Moreover, not only has the likelihood of upwards mobility during the individual's

work-life decreased, it has also become more dependent on parental income. These results hence indicate that the structure of employment affects not only the distribution of income but also its persistence across generations and raise major policy concerns as they indicate that the fragmentation of the labour market enhances social fragmentation.

Table 9: Determinants of the child's education

	Linear regression - Dep. var.: Education (in PIR-STD)				
	(1)	(2)	(3)	(4)	(5)
Intercept	−0.01	0.01	0.03*	−0.16***	−0.21***
	(0.01)	(0.01)	(0.02)	(0.04)	(0.05)
Female	0.07***	0.06***	0.07***	0.05**	0.05**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Parental income	0.13***	0.08***	0.08***	0.07***	0.07***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Father's education		0.19***	0.14***	0.09***	0.09***
		(0.01)	(0.01)	(0.01)	(0.01)
Mother's education		0.13***	0.12***	0.10***	0.10***
		(0.01)	(0.01)	(0.01)	(0.01)
Father's soc. class			0.19***	0.13***	0.13***
			(0.01)	(0.01)	(0.01)
Number of siblings					−0.06***
					(0.01)
Eldest child					0.07***
					(0.03)
BCS cohort	−0.03	−0.05**	−0.05**	−0.11***	−0.05
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
Female × BCS	0.02	0.03	0.02	0.00	−0.02
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
Parental income × BCS	0.11***	0.11***	0.08***	0.05**	0.06***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
Father's educ. × BCS		−0.10***	−0.07***	−0.04*	−0.03
		(0.02)	(0.02)	(0.02)	(0.02)
Mother's educ. × BCS		−0.03	−0.02	−0.03*	−0.05**
		(0.02)	(0.02)	(0.02)	(0.02)
Father's soc. class × BCS			−0.06***	−0.04**	−0.05**
			(0.02)	(0.02)	(0.02)
Number of siblings × BCS					0.08***
					(0.02)
Eldest child × BCS					−0.01
					(0.04)
Parents' interest in education				Yes	Yes
Region FE				Yes	Yes
R^2	0.04	0.09	0.11	0.18	0.18
Adj. R^2	0.04	0.09	0.11	0.17	0.18
Num. obs.	20722	17354	13901	11814	10509

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort is the referent group. Parental income is in logarithm then standardized, see below. Education variables and the father's social class are defined in peer-inclusive ranking. All variables, except dummies, are standardized at the cohort level to take into account changes in the variance of the variables' distributions between both cohorts. Estimate without standardized variables is also reported in the appendix, see table B.1.

Table 10: Change in mobility across cohorts (male only)

	Type of mobility according to					
	Parental income			Child education		
First period occupation	Down	Persist	Up	Down	Persist	Up
	at +2 STD			*at +1 STD*		
Out-of-work		-1.41	1.41		3.87	-3.87
Low-paying	-4.38	-0.59	4.96	-1.16	4.96	-3.80
Middling	-4.11	-1.29	5.41	0.34	7.66	-8.00
High-paying	-6.12	6.12		2.96	-2.96	
	at the Mean			*at the Mean*		
Out-of-work		3.10	-3.10		3.10	-3.10
Low-paying	-2.76	4.07	-1.31	-2.76	4.07	-1.31
Middling	-1.36	2.93	-1.56	-1.36	2.93	-1.56
High-paying	-0.37	0.37		-0.37	0.37	
	at -2 STD			*at -1 STD*		
Out-of-work		8.50	-8.50		2.85	-2.85
Low-paying	-0.65	8.34	-7.69	-3.67	3.52	0.15
Middling	1.98	5.96	-7.95	-2.60	-0.70	3.31
High-paying	6.90	-6.90		-6.36	6.36	

Notes: This table summarizes the difference, expressed in percentage points, between the BCS70 and the NCDS58 cohorts in terms of type of mobility (down, persist, up) conditional on the first period occupation (out-of-work, low-paying, middling, high-paying) at several points of the parental income distribution (at +2 std., at the mean, at -2 std.) and the child education distribution (at +1 std., at the mean, at -1std.) for males only. These values are computed from the results obtained in figures 10 and 11.

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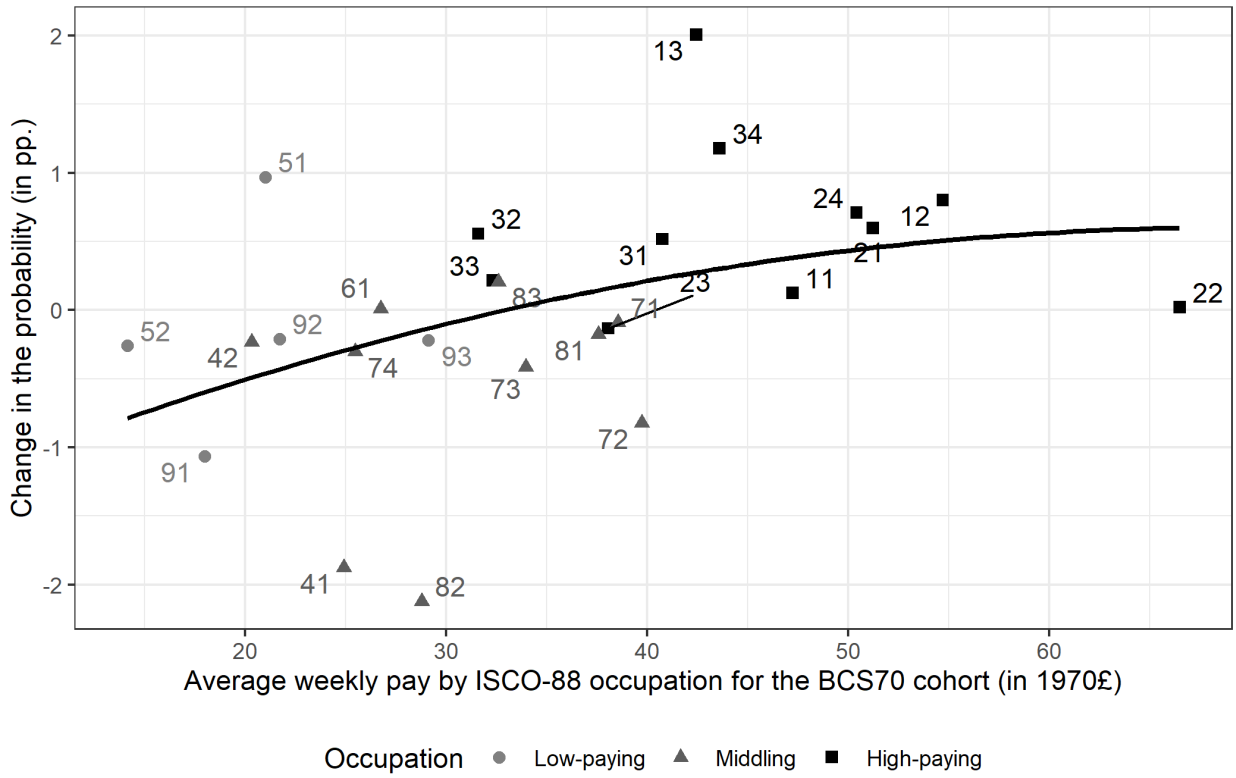
Appendixes

A Occupations and structure of employment

This appendix provides additional tables and figures about the structure of employment and the observed job polarization in the data. Table A.1 describes the classification of occupations with an overview of ISCO-88 occupation codes along with the routine task intensities from Goos et al. (2014) and Mahutga et al. (2018). Figure A.1 presents the change in the probability of second period occupation according to the average weekly pay for the BCS70 cohort. Figure A.2 presents the negative relationship between the probability of second period occupation according to the routine task intensity.

Figure A.1: Change in the probability of second period occupation according to the average weekly pay



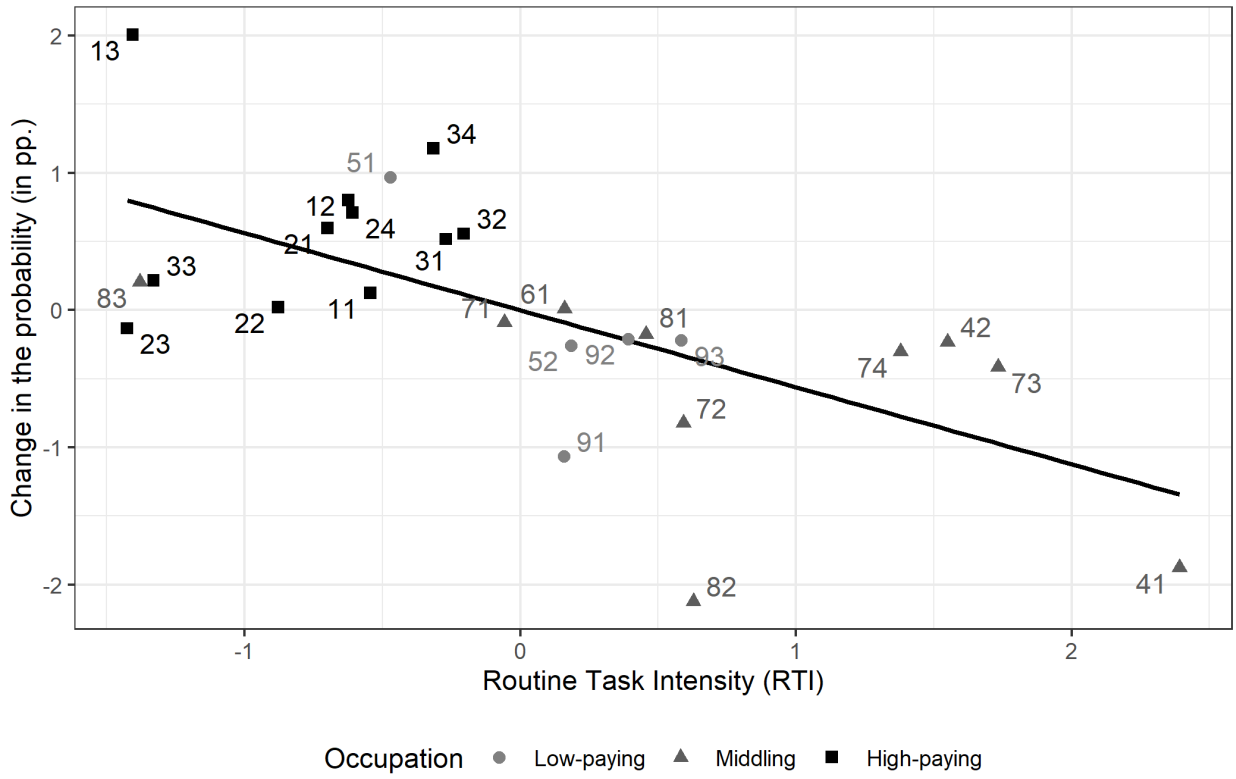
Notes: This figure presents the positive relationship between the difference, expressed in percentage points, between the BCS70 and NCDS58 cohorts in terms of probability of being in each ISCO-88 occupation in second period and the average weekly pay, expressed in 1970£, in this occupation for the BCS70 cohort.

Table A.1: Overview of ISCO-88 occupation codes and routine task intensity

		RTI	
Code	**Occupation**	**GMS**	**LIS**
High-paying occupations			
11	Legislators and senior officials		-0.54
12	Corporate managers	-0.75	-0.62
13	Managers of small enterprises	-1.52	-1.41
21	Physical, mathematical and engineering professionals	-0.82	-0.70
22	Life science and health professionals	-1.00	-0.88
23	Teaching professionals		-1.43
24	Other professionals	-0.73	-0.61
31	Physical, mathematical and engineering associate professionals	-0.40	-0.27
32	Life science and health associate professionals	-0.33	-0.20
33	Teaching associate professionals		-1.33
34	Other associate professionals	-0.44	-0.32
Middling occupations			
41	Office clerks	2.24	2.39
42	Customer service clerks	1.41	1.55
61	Skilled agricultural and fishery workers		0.16
71	Extraction and building trades workers	-0.19	-0.06
72	Metal, machinery and related trade work	0.46	0.59
73	Precision, handicraft, craft printing and related trade workers	1.59	1.73
74	Other craft and related trade workers	1.24	1.38
81	Stationary plant and related operators	0.32	0.46
82	Machine operators and assemblers	0.49	0.63
83	Drivers and mobile plant operators	-1.50	-1.38
Low-paying occupations			
51	Personal and protective service workers	-0.60	-0.47
52	Models, salespersons and demonstrators	0.05	0.18
91	Sales and service elementary occupations	0.03	0.16
92	Agricultural, fishery and related labourers		0.39
93	Laborers in mining, construction, manufacturing and transport	0.45	0.58

Notes: This table provides an overview of ISCO-88 occupation codes and their corresponding Routine Task Intensity (RTI) from Goos et al. (2014) (GMS) and Mahutga et al. (2018) (LIS). Occupation groups (high-paying, middling and low-paying) correspond to those from Goos et al. (2014), except for occupations 11, 23, 34, 61 and 92 that were removed from their analysis. We add these missing occupations to categories according to closest occupations, hence, relying on the 1-digit ISCO-88 classification.

Figure A.2: Change in the probability of second period occupation according to routine task intensity



Notes: This figure shows the negative relationship between the difference, expressed in percentage points, between the BCS70 and NCDS58 cohorts in terms of probability of being in each ISCO-88 occupation in second period and the Routine Task Intensity (RTI) index from Mahutga et al. (2018).

B Determinants of education

This appendix provides the alternative specifications for estimating determinants of the child's education from equation (2). Table B.1 shows the estimated coefficients for non-standardized education using as explanatory variable non-standardized parental income. Table B.2 (resp. table B.3) presents determinants of the standardized (resp. non-standardized) child's education with father's occupation as an explatory variable.

Table B.1: Determinants of the (non-standardized) child's education (according to parental income)

	Linear regression - Dep. var.: Education (in PIR)				
	(1)	(2)	(3)	(4)	(5)
Intercept	0.50***	0.31***	0.29***	0.34***	0.35***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Female	0.01***	0.01***	0.01***	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Parental income	0.04***	0.02***	0.02***	0.02***	0.02***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Father's education		0.22***	0.16***	0.10***	0.10***
		(0.01)	(0.02)	(0.02)	(0.02)
Mother's education		0.12***	0.11***	0.09***	0.10***
		(0.01)	(0.01)	(0.01)	(0.01)
Father's soc. class			0.13***	0.09***	0.09***
			(0.01)	(0.01)	(0.01)
Number of siblings					−0.01***
					(0.00)
Eldest child					0.01***
					(0.01)
BCS cohort	−0.16***	−0.05***	−0.02	−0.02	−0.04
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
Female × BCS	0.00	0.01	0.00	0.00	−0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Parental income × BCS	0.05***	0.05***	0.04***	0.02***	0.03***
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Father's educ. × BCS		−0.14***	−0.09***	−0.05***	−0.05**
		(0.02)	(0.02)	(0.02)	(0.02)
Mother's educ. × BCS		−0.03	−0.02	−0.03*	−0.05**
		(0.02)	(0.02)	(0.02)	(0.02)
Father's soc. class × BCS			−0.04***	−0.03**	−0.03**
			(0.01)	(0.01)	(0.01)
Number of siblings × BCS					0.01***
					(0.00)
Eldest child × BCS					−0.00
					(0.01)
Parents' interest in education				Yes	Yes
Region FE				Yes	Yes
R^2	0.04	0.09	0.11	0.18	0.18
Adj. R^2	0.04	0.09	0.11	0.17	0.18
Num. obs.	20722	17354	13901	11814	10509

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort is the referent group. Parental income in logarithm. Education variables and the father's social class variable are defined in peer-inclusive ranking. Estimate with standardized variables is reported in table 9.

Table B.2: Determinants of the child's education (according to father's occupation)

	Linear regression - Dep. var.: Education (in PIR-STD)				
	(1)	(2)	(3)	(4)	(5)
Intercept	−0.17***	−0.09***	−0.03	−0.22***	−0.16***
	(0.02)	(0.03)	(0.03)	(0.05)	(0.06)
Female	0.09***	0.07***	0.07***	0.06***	0.06**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Father in Out-of-work	−0.21***	−0.20***	−0.06	−0.09	−0.16
	(0.04)	(0.05)	(0.67)	(0.65)	(0.65)
Father in Middling	0.09***	0.07**	0.01	0.02	0.02
	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Father in High-paying	0.71***	0.50***	0.31***	0.21***	0.20***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Father's education		0.14***	0.13***	0.09***	0.09***
		(0.01)	(0.01)	(0.01)	(0.01)
Mother's education		0.13***	0.13***	0.10***	0.11***
		(0.01)	(0.01)	(0.01)	(0.01)
Father's soc. class			0.13***	0.10***	0.09***
			(0.01)	(0.02)	(0.02)
Number of siblings					−0.04***
					(0.01)
Eldest child					0.08***
					(0.03)
BCS cohort	−0.09**	−0.11***	−0.06	−0.16***	−0.20***
	(0.04)	(0.04)	(0.05)	(0.05)	(0.08)
Female × BCS	−0.01	0.01	−0.00	−0.02	−0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
Father in Out. × BCS	−0.04	−0.11	−0.26	−0.23	−0.52
	(0.10)	(0.12)	(0.86)	(0.91)	(1.12)
Father in Mid. × BCS	0.02	0.01	−0.00	0.04	0.05
	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)
Father in High × BCS	−0.13***	−0.05	−0.05	0.05	0.04
	(0.04)	(0.05)	(0.07)	(0.07)	(0.08)
Father's educ. × BCS		−0.06***	−0.06***	−0.03*	−0.02
		(0.02)	(0.02)	(0.02)	(0.02)
Mother's educ. × BCS		−0.01	−0.00	−0.02	−0.03
		(0.02)	(0.02)	(0.02)	(0.02)
Father's soc. class × BCS			−0.05**	−0.04*	−0.04*
			(0.02)	(0.02)	(0.03)
Number of siblings × BCS					0.04***
					(0.02)
Eldest child × BCS					−0.03
					(0.04)
Parents' interest in education				Yes	Yes
Region FE				Yes	Yes
R^2	0.07	0.11	0.11	0.17	0.17
Adj. R^2	0.07	0.11	0.11	0.17	0.17
Num. obs.	20534	15342	14532	12329	10901

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort with father in low-paying occupation is the referent group. Father's occupation variables are dummy variables. Education variables and the father's social class variable are defined in peer-inclusive ranking. All variables, except dummies, are standardized at the cohort level to take into account changes in the variance of the variables' distributions between both cohorts. Estimate without standardized variables is reported in table B.3.

Table B.3: Determinants of the (non-standardized) child's education (according to father's occupation)

	Linear regression - Dep. var.: Education (in PIR)				
	(1)	(2)	(3)	(4)	(5)
Intercept	0.60***	0.42***	0.44***	0.45***	0.46***
	(0.00)	(0.01)	(0.01)	(0.01)	(0.02)
Female	0.02***	0.01***	0.01***	0.01***	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Father in Out-of-work	−0.04***	−0.04***	−0.01	−0.02	−0.03
	(0.01)	(0.01)	(0.13)	(0.13)	(0.13)
Father in Middling	0.02***	0.01**	0.00	0.00	0.00
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Father in High-paying	0.14***	0.10***	0.06***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Father's education		0.16***	0.15***	0.10***	0.10***
		(0.01)	(0.02)	(0.02)	(0.02)
Mother's education		0.12***	0.12***	0.10***	0.10***
		(0.01)	(0.01)	(0.01)	(0.01)
Father's soc. class			0.03***	0.02***	0.02***
			(0.00)	(0.00)	(0.00)
Number of siblings					−0.01***
					(0.00)
Eldest child					0.02***
					(0.01)
BCS cohort	−0.02***	0.05***	0.05***	0.02	0.01
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
Female × BCS	−0.00	0.00	−0.00	−0.00	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Father in Out. × BCS	−0.01	−0.02	−0.05	−0.04	−0.10
	(0.02)	(0.02)	(0.17)	(0.18)	(0.22)
Father in Mid. × BCS	0.00	0.00	−0.00	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Father in High × BCS	−0.02***	−0.01	−0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Father's educ. × BCS		−0.09***	−0.08***	−0.05**	−0.04**
		(0.02)	(0.02)	(0.02)	(0.02)
Mother's educ. × BCS		−0.01	−0.01	−0.02	−0.03
		(0.02)	(0.02)	(0.02)	(0.02)
Father's soc. class × BCS			−0.01**	−0.01*	−0.01*
			(0.00)	(0.00)	(0.00)
Number of siblings × BCS					0.01***
					(0.00)
Eldest child × BCS					−0.01
					(0.01)
Parents' interest in education				Yes	Yes
Region FE				Yes	Yes
R^2	0.07	0.11	0.11	0.17	0.18
Adj. R^2	0.07	0.11	0.11	0.17	0.17
Num. obs.	20534	15342	14532	12329	10901

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort with father in low-paying occupation is the referent group. Education variables and the father's social class variable are defined in peer-inclusive ranking. Estimate with standardized variables is reported in table B.2.

C Logistic regressions

C.1 First-period occupation regressions

This appendix provides the regressions tables for the binomial and multinomial logistic regressions. Tables C.1 and C.2 present the coefficients from the probability of being in each occupation at first period for, respectively, the binomial and multinomial logistic regressions. The next subsection reports the regressions for the probability of being in each occupation at second period.

C.2 Second-period occupation regressions

Tables C.3 and C.4 present the coefficients from the probability of being in each occupation at age 42 for, respectively, the binomial and multinomial logistic regressions. For each occupational category we start by estimating a regression in which the only explanatory variables are gender and parental income and compare the coefficients for both cohorts. The increase in the impact of parental income is large in all cases, with the coefficient at least doubling across generations. We next estimate a specification that includes both the child's education and her first-period occupation. As for initial occupations, when education

Table C.1: Probability of being in each occupation at first period (binomial)

	Binomial logistic regression - Dependent variable: First period occupation							
	Out-of-work		Low-paying		Middling		High-paying	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Intercept	−1.96***	−1.98***	−1.87***	−1.96***	−0.02	−0.03	−1.12***	−1.26***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.05)
BCS cohort	−0.38***	−0.40***	−0.13*	−0.16**	−0.39***	−0.42***	0.63***	0.77***
	(0.08)	(0.08)	(0.07)	(0.08)	(0.05)	(0.05)	(0.05)	(0.06)
Female	1.09***	1.11***	0.11	0.13*	−0.66***	−0.66***	−0.14**	−0.18***
	(0.06)	(0.07)	(0.07)	(0.07)	(0.05)	(0.05)	(0.06)	(0.06)
Female × BCS	−0.06	−0.05	0.31***	0.34***	0.10	0.12	−0.10	−0.16**
	(0.09)	(0.10)	(0.10)	(0.10)	(0.07)	(0.07)	(0.08)	(0.08)
Par. inc.	−0.05	−0.03	−0.08**	−0.03	−0.07***	−0.03	0.22***	0.10***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)
Par. inc. × BCS	−0.28***	−0.25***	−0.17***	−0.12**	−0.05	0.01	0.27***	0.23***
	(0.04)	(0.04)	(0.05)	(0.05)	(0.03)	(0.04)	(0.04)	(0.04)
Education		−0.17***		−0.47***		−0.27***		0.83***
		(0.03)		(0.04)		(0.03)		(0.03)
Education × BCS		−0.07		−0.05		−0.15***		−0.03
		(0.05)		(0.05)		(0.04)		(0.04)
Pseudo R^2	0.05	0.06	0.01	0.04	0.02	0.04	0.04	0.14
Log Likelihood	-6579.43	-6539.62	-5969.79	-5788.83	-9364.01	-9174.56	-8552.59	-7693.88
Num. obs.	14556	14556	14556	14556	14556	14556	14556	14556

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort is the referent group. Parental income in logarithm and child education in peer-inclusive ranking, both are standardized at the cohort level.

Table C.2: Probability of being in each occupation at first period (multinomial)

	Multinomial logistic regression - Dependent variable: First period occupation					
	(1)			(2)		
	Low	Mid	High	Low	Mid	High
Intercept	0.08	1.39***	0.69***	−0.00	1.38***	0.53***
	(0.07)	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)
BCS cohort	0.23**	0.13	0.77***	0.22**	0.12	0.89***
	(0.10)	(0.08)	(0.09)	(0.10)	(0.08)	(0.09)
Female	−0.78***	−1.26***	−0.99***	−0.76***	−1.26***	−1.02***
	(0.09)	(0.07)	(0.08)	(0.09)	(0.07)	(0.08)
Female × BCS	0.26**	0.01	−0.06	0.27**	0.01	−0.12
	(0.12)	(0.10)	(0.11)	(0.12)	(0.10)	(0.11)
Par. inc.	−0.03	−0.00	0.21***	−0.01	0.00	0.10***
	(0.04)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)
Par. inc. × BCS	0.09	0.21***	0.40***	0.10*	0.22***	0.36***
	(0.06)	(0.05)	(0.05)	(0.06)	(0.05)	(0.05)
Education				−0.28***	−0.02	0.77***
				(0.05)	(0.04)	(0.04)
Education × BCS				0.03	−0.04	−0.05
				(0.07)	(0.05)	(0.06)
Num. obs.	14556	14556	14556	14556	14556	14556

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Out-of-work occupation in first period is the base outcome of the multinomial logistic regression. Male in the NCDS58 cohort is the referent group. Parental income in logarithm and child education in peer-inclusive ranking, both are standardized at the cohort level.

is included, the coefficient on parental income is not significant for the older cohort, but it plays a role for the younger one, notably for the probability of being in a high-paying occupation. The impact of education is large and is generally stable across generations, except for high-paying occupations where the effect of education seems to have declined. In fact, for this type of occupations there seems to have been an increase in the (direct) role of parental income and a reduction in that of education, with a one standard deviation increase in parental income increasing the odds to be in high-paying occupation by 17.4%.

As far as gender differences are concerned, women have a lower probability than men to be in middling- and high-paying occupations. Although the gender gap in terms of occupations has been reduced for the younger cohort, there has been no change in women's likelihood to be middling occupations. This might be due to job polarization, as the lack of labour demand in this category may have made it harder for employers to accept women, in contrast with high-paying occupations where strong demand could have forced employers to disregard their preferences concerning the gender of employees.

Consider next the role played by initial occupation. For the interpretation of the first period occupations, we have to make comparisons by columns, keeping in mind that the omitted group is those out of work. Thus absolute coefficients are the difference in log-odds with respect to out-of-work young individuals (second panel) and the coefficients for BCS70 indicate the change in the log-odds between both cohorts (third panel). The figures in the second panel indicate a considerable degree of persistence, with the coefficients on the diagonal being large and highly significant. Note that being in a middling-occupation reduces the probability of being in either a low-paying job or out-of-work and increases that of being in a middling or high-paying occupation, although the coefficient for the latter is not significant.

When we compare the impact of initial occupation across the cohorts (third panel) the most striking result is the considerable improvement in the outcomes for those who started in a middling occupation. For those individuals the odds of being out-of-work or in low-paying occupations fell for the younger cohort, while those of ending in middling- and even high-paying occupations increased. That is, at the same time as the number of jobs in this category was falling the advantage in terms of upward mobility of holding such a job as a young worker increased.

Table C.3: Probability of being in each occupation at second period (binomial)

	Binomial logistic regression - Dependent variable: Second period occupation											
	Out-of-work			Low-paying			Middling			High-paying		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	−2.39***	−2.45***	−1.66***	−1.97***	−2.12***	−1.94***	−0.70***	−0.75***	−1.18***	−0.16***	−0.15***	−0.50***
	(0.06)	(0.06)	(0.09)	(0.05)	(0.06)	(0.09)	(0.04)	(0.04)	(0.08)	(0.04)	(0.04)	(0.08)
BCS cohort	−0.08	−0.08	0.20	−0.02	−0.03	0.14	−0.15***	−0.16***	−0.31**	0.13***	0.19***	−0.06
	(0.09)	(0.09)	(0.13)	(0.07)	(0.08)	(0.13)	(0.05)	(0.05)	(0.12)	(0.05)	(0.05)	(0.11)
Female	0.98***	1.02***	0.81***	0.89***	0.97***	0.90***	−0.51***	−0.50***	−0.35***	−0.61***	−0.80***	−0.80***
	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)	(0.07)	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)	(0.06)
Female × BCS	−0.03	−0.02	−0.02	−0.11	−0.10	−0.19*	−0.15**	−0.14*	−0.15*	0.21***	0.26***	0.34***
	(0.11)	(0.11)	(0.11)	(0.09)	(0.09)	(0.10)	(0.08)	(0.08)	(0.08)	(0.07)	(0.08)	(0.08)
Par. inc.	−0.09***	−0.05	−0.05	−0.08***	−0.02	−0.00	−0.06**	−0.01	0.00	0.17***	0.06**	0.04
	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Par. inc. × BCS	−0.21***	−0.18***	−0.13***	−0.18***	−0.13***	−0.08*	−0.08**	−0.04	−0.04	0.27***	0.23***	0.17***
	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Education		−0.36***	−0.28***		−0.62***	−0.49***		−0.46***	−0.40***		1.01***	0.87***
		(0.04)	(0.04)		(0.04)	(0.04)		(0.03)	(0.03)		(0.03)	(0.03)
Education × BCS		0.02	0.01		0.01	0.03		0.02	0.10**		−0.19***	−0.24***
		(0.05)	(0.06)		(0.05)	(0.05)		(0.04)	(0.05)		(0.04)	(0.04)
Change with respect to the referent group as first period occupation (Out-of-work)												
Low-paying			−0.59***			0.82***			−0.18*			−0.11
			(0.11)			(0.10)			(0.11)			(0.11)
Middling			−0.96***			−0.32***			0.99***			0.07
			(0.09)			(0.09)			(0.08)			(0.08)
High-paying			−1.02***			−0.79***			−0.44***			1.41***
			(0.11)			(0.12)			(0.11)			(0.09)
Change between cohorts												
Low. × BCS			−0.50***			0.10			0.29*			0.02
			(0.15)			(0.13)			(0.15)			(0.15)
Mid. × BCS			−0.25*			−0.23*			0.42***			0.03
			(0.13)			(0.12)			(0.12)			(0.12)
High. × BCS			−0.22			−0.05			0.19			0.07
			(0.15)			(0.15)			(0.15)			(0.12)
Pseudo R^2	0.04	0.05	0.09	0.03	0.08	0.13	0.02	0.05	0.12	0.03	0.15	0.21
Log Likelihood	-5646.72	-5559.07	-5374.23	-6775.16	-6454.73	-6119.99	-8155.80	-7911.74	-7342.98	-9558.17	-8377.14	-7825.20
Num. obs.	14556	14556	14556	14556	14556	14556	14556	14556	14556	14556	14556	14556

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort in out-of-work occupation in first period is the referent group. Parental income in logarithm and child education in peer-inclusive ranking, both are standardized at the cohort level. Coefficients in the first bottom panel captures the change in the marginal effect of the first-period occupation with respect to the referent one, i.e. out-of-work. Coefficients in the second bottom panel indicates the change across cohorts in the marginal effect of the first-period occupation.

Table C.4: Probability of being in each occupation at second period (multinomial)

	Multinomial logistic regression - Dependent variable: Second period occupation								
	(1)			(2)			(3)		
	Low	Mid	High	Low	Mid	High	Low	Mid	High
Intercept	0.38***	1.37***	1.69***	0.28***	1.38***	1.69***	−0.19*	0.45***	0.81***
	(0.08)	(0.07)	(0.07)	(0.08)	(0.07)	(0.07)	(0.11)	(0.11)	(0.10)
BCS cohort	0.06	−0.02	0.14	0.06	−0.03	0.18*	−0.01	−0.38**	−0.16
	(0.11)	(0.09)	(0.09)	(0.11)	(0.10)	(0.10)	(0.16)	(0.16)	(0.14)
Female	−0.12	−1.22***	−1.23***	−0.08	−1.22***	−1.43***	0.03	−0.95***	−1.25***
	(0.09)	(0.09)	(0.08)	(0.09)	(0.09)	(0.09)	(0.10)	(0.09)	(0.09)
Female × BCS	−0.06	−0.12	0.16	−0.07	−0.11	0.22*	−0.14	−0.12	0.27**
	(0.13)	(0.12)	(0.11)	(0.13)	(0.12)	(0.12)	(0.13)	(0.12)	(0.12)
Par. inc.	0.01	0.04	0.19***	0.03	0.04	0.08**	0.04	0.05	0.07*
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Par. inc. × BCS	0.04	0.13**	0.34***	0.05	0.14**	0.31***	0.04	0.09	0.22***
	(0.06)	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)
Education				−0.20***	0.02	0.97***	−0.17***	−0.01	0.81***
				(0.05)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)
Education × BCS				−0.01	−0.03	−0.21***	0.02	0.05	−0.21***
				(0.07)	(0.06)	(0.06)	(0.07)	(0.07)	(0.06)
Change with respect to the referent group as first period occupation (Out-of-work)									
Low-paying							0.98***	0.29**	0.33**
							(0.12)	(0.14)	(0.14)
Middling							0.52***	1.44***	0.90***
							(0.11)	(0.10)	(0.11)
High-paying							0.13	0.48***	1.62***
							(0.15)	(0.14)	(0.12)
Change between cohorts									
Low. × BCS							0.41**	0.62***	0.41**
							(0.17)	(0.19)	(0.19)
Mid. × BCS							−0.02	0.52***	0.19
							(0.16)	(0.15)	(0.15)
High. × BCS							0.13	0.33*	0.18
							(0.19)	(0.19)	(0.16)
Num. obs.	14556	14556	14556	14556	14556	14556	14556	14556	14556

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Out-of-work occupation in second period is the base outcome of the multinomial logistic regression. Male in the NCDS58 cohort in out-of-work occupation in first period is the referent group. Parental income in logarithm and child education in peer-inclusive ranking, both are standardized at the cohort level. Coefficients in the first bottom panel captures the change in the marginal effect of the first-period occupation with respect to the referent one, i.e. out-of-work. Coefficients in the second bottom panel indicates the change across cohorts in the marginal effect of the first-period occupation.

D Counterfactual decomposition

This appendix provides the additional counterfactual decompositions for the low-paying and middling, based on the same methodology of Table 8. Table D.1 and D.2 present the change in probability of being in a low-paying and middling occupations when mature.

We also consider the same analysis with people in education as an occupation and not included in out-of-work. Tables D.3 and D.4 report the absolute and conditional probabilities. Tables D.5, D.6 and D.7 present the counterfactual decompositions for, respectively, the low-, mid- and high-paying occupations.

Table D.1: Change in probability of being in a low-paying occupation when mature

	Occupations				
	All	Out-of-work	Low-paying	Middling	High-paying
Overall change	-0.9				
(in %)	-4.9				
Contribution due to...					
Initial probabilities	-1.2	-1.3	0.4	-1.2	1.0
(as % of total)	127.3	141.9	-38.3	131.3	-107.6
Transition probabilities	0.3	0.1	0.7	-0.5	0.0
(as % of total)	-27.4	-11.0	-71.5	56.3	-1.1

Notes: Coefficients in percent are rounded to one digit.

Table D.2: Change in probability of being in a middling occupation when mature

	Occupations				
	All	Out-of-work	Low-paying	Middling	High-paying
Overall change	-4.2				
(in %)	-14.8				
Contribution due to...					
Initial probabilities	-2.8	-1.1	0.2	-3.4	1.5
(as % of total)	68.5	26.8	-4.4	83.0	-36.9
Transition probabilities	-1.3	-0.9	-0.4	0.4	-0.4
(as % of total)	31.5	22.2	9.2	-10.8	10.9

Notes: Coefficients in percent are rounded to one digit.

Table D.3: Probability to be in each occupation at both periods, for both cohorts (in percent)

	First period			Second period		
Occupation	BCS70	NCDS58	Δ	BCS70	NCDS58	Δ
Out-of-work	13.1	19.1	-5.9	13.3	13.7	-0.4
in-Education	2.8	2.2	0.5	0.3	0.6	-0.3
Low-paying	14.9	14.0	0.9	18.2	19.1	-0.9
Middling	33.2	41.2	-7.9	23.8	28.0	-4.2
High-paying	35.9	23.5	12.4	44.3	38.5	5.8

Notes: Probabilities with people in education included in out-of-work are reported in the paper, see table 6.

Table D.4: Conditional probabilities of changing occupations during the career (in percent)

	BCS70					NCDS58					Δ				
Occupation	Out	Educ	Low	Mid	High	Out	Educ	Low	Mid	High	Out	Educ	Low	Mid	High
Out-of-work	35.6	0.7	28.5	15.7	19.5	28.3	0.8	27.0	22.2	21.7	7.3	-0.1	1.5	-6.5	-2.1
in-Education	14.0	0.5	10.7	11.2	63.7	10.7	0.0	5.3	8.0	76.0	3.3	0.5	5.4	3.2	-12.3
Low-paying	13.4	0.3	44.4	17.8	24.1	15.8	0.5	39.9	20.3	23.4	-2.4	-0.2	4.5	-2.6	0.7
Middling	10.0	0.3	13.9	44.7	31.1	9.8	0.5	15.5	43.3	30.9	0.2	-0.2	-1.6	1.4	0.2
High-paying	8.0	0.2	8.1	11.1	72.6	7.7	0.8	8.1	12.3	71.1	0.3	-0.6	0.0	-1.3	1.5

Notes: Conditional probabilities with people in education included in out-of-work are reported in the paper, see table 7.

Table D.5: Change in probability of being in a low-paying occupation when mature

	Occupations					
	All	Out	Educ	Low	Mid	High
Overall change	-0.9					
(in %)	-4.9					
Contribution due to...						
Initial probabilities	-1.4	-1.6	0.0	0.4	-1.2	1.0
(as % of total)	152.8	170.5	-3.1	-38.3	131.3	-107.6
Transition probabilities	0.5	0.2	0.1	0.7	-0.5	0.0
(as % of total)	-52.8	-20.7	-15.8	-71.5	56.3	-1.1

Notes: Coefficients in percent are rounded to one digit.

Table D.6: Change in probability of being in a middling occupation when mature

	Occupations					
	All	Out	Educ	Low	Mid	High
Overall change	-4.2					
(in %)	-14.8					
Contribution due to...						
Initial probabilities	-3.0	-1.3	0.0	0.2	-3.4	1.5
(as % of total)	72.3	31.6	-1.0	-4.4	83.0	-36.9
Transition probabilities	-1.1	-0.8	0.1	-0.4	0.4	-0.4
(as % of total)	27.7	20.6	-2.1	9.2	-10.8	10.9

Notes: Coefficients in percent are rounded to one digit.

Table D.7: Change in probability of being in a high-paying occupation when mature

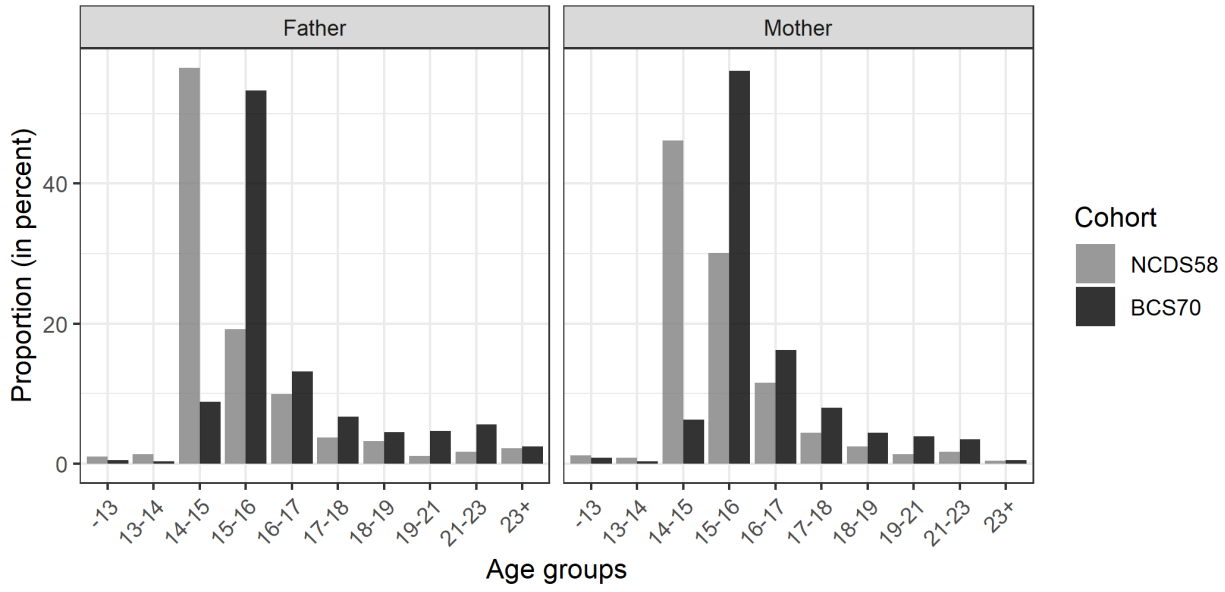
	Occupations					
	All	Out	Educ	Low	Mid	High
Overall change	5.8					
(in %)	15.0					
Contribution due to...						
Initial probabilities	5.7	-1.3	0.4	0.2	-2.5	8.8
(as % of total)	98.6	-22.1	7.1	3.6	-42.4	152.4
Transition probabilities	0.1	-0.3	-0.3	0.1	0.1	0.5
(as % of total)	1.4	-4.9	-5.8	1.7	1.3	9.1

Notes: Coefficients in percent are rounded to one digit.

E Additional materials

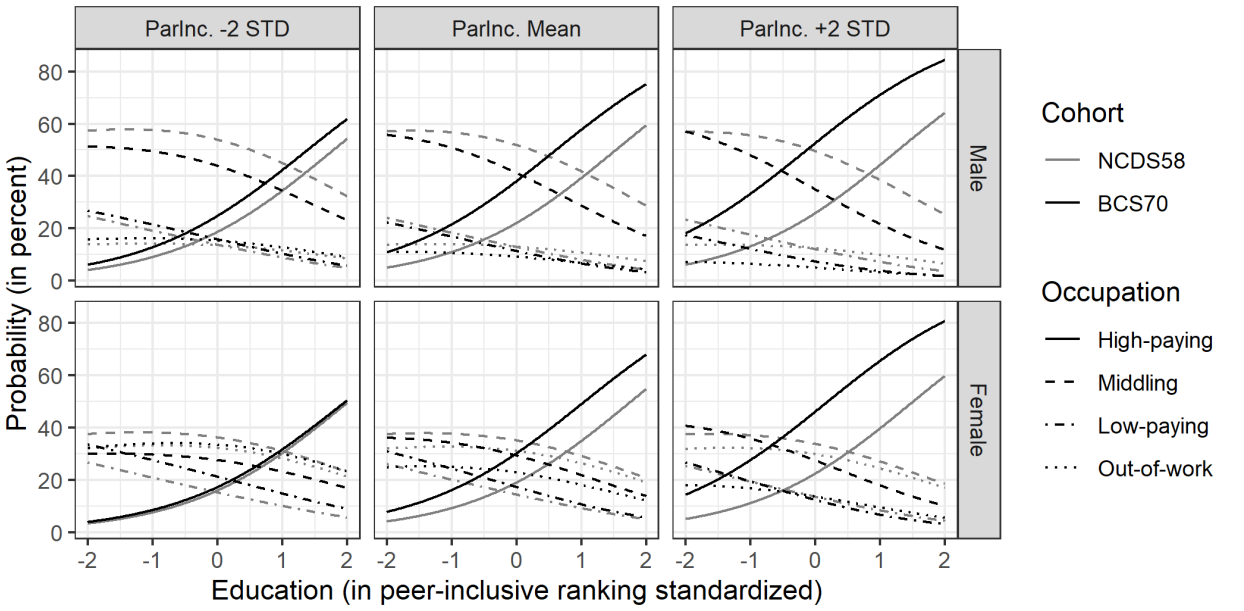
This appendix provides various additional figures and tables to complete some points in the analysis. Figure E.1 describes the parental education distribution for both cohorts. Figure E.2 shows the probability of being in each occupation at first period according to child education, evaluated at several points of the parental income distribution. Figure E.3 provides the change in probability of being in each occupation at second period conditional on first-period occupation at several points of the parental income distribution for females only. Figures E.4 provides the change in probability of being in each occupation at second period conditional on first-period occupation at several points of the child education distribution for females only. Table E.1 presents the change in mobility across cohorts for females only.

Figure E.1: Parental education distribution



Notes: This figure presents the distribution of parents' education for the NCDS58 and BCS70 cohorts. Parental education refers to the age at which parents left school that is used as a proxy. Education levels at the bottom and top are grouped for readability.

Figure E.2: Probability of being in each occupation at first period, according to child education



Notes: This figure presents the probability, expressed in percent, of being in each type of occupation (out-of-work, low-paying, middling, high-paying) in first period according to child education, expressed in peer-inclusive ranking standardized, at several points of the parental income distribution (at -2 std., at the mean and at +2 std.). Probabilities are computed for males and females in both cohorts according to the multinomial logistic regression reported in columns (2) of the table C.2 in the appendix.

Figure E.3: Change in probability to be in each occupation at second period according to the first-period occupation and parental income (female only)

Notes: This figure presents the difference, expressed in percentage points, between the BCS70 and the NCDS58 cohorts in terms of probability of being in each type of second-period occupation (out-of-work, low-paying, middling, high-paying), conditional on the first-period occupation, at several points of the parental income distribution (at +2 std., at the mean and at +2 std.) and at the mean of the child education distribution. Probabilities are computed for females in both cohorts according to the multinomial logistic regression reported in columns (3) of the table C.4 in the appendix.

Figure E.4: Change in probability to be in each occupation at second period according to the first-period occupation and child education (female only)

Notes: This figure presents the difference, expressed in percentage points, between the BCS70 and the NCDS58 cohorts in terms of probability of being in each type of second-period occupation (out-of-work, low-paying, middling, high-paying), conditional on the first-period occupation, at several points of the child education distribution (at +1 std., at the mean and at +1 std.) and at the mean of the parental income distribution. Probabilities are computed for females in both cohorts according to the multinomial logistic regression reported in columns (3) of the table C.4 in the appendix.

Table E.1: Change in mobility across cohorts (female only)

	Type of mobility according to					
	Parental income			Child education		
First period occupation	Down	Persist	Up	Down	Persist	Up
	at +2 STD			*at +1 STD*		
Out-of-work		-2.50	2.50		3.63	-3.63
Low-paying	-6.69	-3.94	10.63	-3.61	1.87	1.74
Middling	-10.38	-3.73	14.11	-2.93	0.89	2.05
High-paying	-16.22	16.22		-2.18	2.18	
	at the Mean			*at the Mean*		
Out-of-work		3.23	-3.23		3.23	-3.23
Low-paying	-4.43	0.93	3.50	-4.43	0.93	3.50
Middling	-5.15	-1.47	6.62	-5.15	-1.47	6.62
High-paying	-8.44	8.44		-8.44	8.44	
	at -2 STD			*at -1 STD*		
Out-of-work		8.88	-8.88		3.99	-3.99
Low-paying	-1.88	4.45	-2.57	-4.16	1.35	2.81
Middling	0.49	-0.59	0.10	-5.42	-2.11	7.53
High-paying	0.57	-0.57		-13.51	13.51	

Notes: This table summarizes the difference, expressed in percentage points, between the BCS70 and the NCDS58 cohorts in terms of type of mobility (down, persist, up) conditional on the first period occupation (out-of-work, low-paying, middling, high-paying) at several points of the parental income distribution (at +2 std., at the mean, at -2 std.) and the child education distribution (at +1 std., at the mean, at -1std.) for females only. These values are computed from the results obtained in figures E.3 and E.4.

F Robustness checks

F.1 Squared parental income

This appendix provides a robustness check on the role of squared parental income. Tables F.1 and F.2 show the coefficients of the binomial logistic regressions for the probability of being in each occupation in first and second periods, without and with squared parental income.

Table F.1: Probability of being in each occupation in first period (Squared-parental-income robustness check)

	Binomial logistic regression - Dependent variable: First period occupation							
	(1)				(2)			
	Out	Low	Mid	High	Out	Low	Mid	High
Intercept	−1.96***	−1.87***	−0.02	−1.12***	−1.94***	−1.87***	−0.01	−1.14***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.06)	(0.06)	(0.04)	(0.04)
BCS cohort	−0.38***	−0.14*	−0.39***	0.65***	−0.48***	−0.17**	−0.33***	0.70***
	(0.08)	(0.07)	(0.05)	(0.05)	(0.08)	(0.08)	(0.05)	(0.06)
Female	1.10***	0.11	−0.66***	−0.15***	1.10***	0.11	−0.66***	−0.15***
	(0.06)	(0.07)	(0.05)	(0.06)	(0.06)	(0.07)	(0.05)	(0.06)
Female × BCS	−0.06	0.31***	0.09	−0.09	−0.06	0.31***	0.09	−0.09
	(0.09)	(0.10)	(0.07)	(0.08)	(0.09)	(0.10)	(0.07)	(0.08)
Par. inc.	−0.09***	−0.12***	−0.08***	0.27***	−0.09***	−0.12***	−0.08***	0.26***
	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)
Par. inc. × BCS	−0.27***	−0.19***	−0.09***	0.22***	−0.32***	−0.21***	−0.02	0.29***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)
Par. inc.^{2}					−0.03	0.00	−0.01	0.02
					(0.02)	(0.02)	(0.02)	(0.02)
Par. inc.^{2} × BCS					0.10***	0.03	−0.06***	−0.06**
					(0.03)	(0.03)	(0.02)	(0.02)
Pseudo R^2	0.05	0.01	0.02	0.05	0.05	0.01	0.03	0.05
Log Likelihood	-6577.81	-5960.65	-9348.72	-8511.39	-6571.70	-5959.59	-9337.65	-8507.40
Num. obs.	14556	14556	14556	14556	14556	14556	14556	14556

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort is the referent group. Parental income is standardized at the cohort level and squared parental-income is the square of the standardized parental income.

Table F.2: Probability of being in each occupation in second period (Squared-parental-income robustness check)

	Binomial logistic regression - Dependent variable: Second period occupation							
	(1)				(2)			
	Out	Low	Mid	High	Out	Low	Mid	High
Intercept	-1.60^{***}	-1.77^{***}	-1.08^{***}	-0.51^{***}	-1.65^{***}	-1.73^{***}	-1.03^{***}	-0.54^{***}
	(0.09)	(0.08)	(0.08)	(0.07)	(0.09)	(0.09)	(0.08)	(0.07)
BCS cohort	0.23^{*}	0.14	-0.32^{***}	-0.16	0.18	0.13	-0.30^{**}	-0.10
	(0.12)	(0.12)	(0.12)	(0.10)	(0.13)	(0.12)	(0.12)	(0.11)
Female	0.80^{***}	0.85^{***}	-0.39^{***}	-0.67^{***}	0.80^{***}	0.85^{***}	-0.38^{***}	-0.67^{***}
	(0.08)	(0.07)	(0.06)	(0.06)	(0.08)	(0.07)	(0.06)	(0.06)
Female × BCS	-0.05	-0.21^{**}	-0.16^{*}	0.31^{***}	-0.04	-0.21^{**}	-0.17^{**}	0.32^{***}
	(0.11)	(0.10)	(0.08)	(0.08)	(0.11)	(0.10)	(0.08)	(0.08)
Par. inc.	-0.08^{**}	-0.09^{***}	-0.08^{***}	0.19^{***}	-0.10^{***}	-0.08^{**}	-0.07^{**}	0.17^{***}
	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)
Par. inc. × BCS	-0.12^{**}	-0.10^{**}	-0.05	0.12^{***}	-0.18^{***}	-0.09^{*}	-0.01	0.16^{***}
	(0.05)	(0.05)	(0.04)	(0.04)	(0.06)	(0.05)	(0.05)	(0.04)
Par. inc.^{2}					0.06^{***}	-0.04^{*}	-0.05^{***}	0.03^{*}
					(0.02)	(0.02)	(0.02)	(0.02)
Par. inc.^{2} × BCS					0.04	0.02	-0.00	-0.05^{**}
					(0.03)	(0.03)	(0.03)	(0.02)
Change with respect to the referent group as first period occupation (Out-of-work)								
Low-paying	-0.53^{***}	0.87^{***}	-0.10	-0.33^{***}	-0.53^{***}	0.87^{***}	-0.10	-0.34^{***}
	(0.11)	(0.09)	(0.10)	(0.10)	(0.11)	(0.09)	(0.10)	(0.10)
Middling	-0.97^{***}	-0.36^{***}	0.97^{***}	-0.03	-0.97^{***}	-0.36^{***}	0.97^{***}	-0.03
	(0.09)	(0.08)	(0.08)	(0.07)	(0.09)	(0.08)	(0.08)	(0.08)
High-paying	-1.22^{***}	-1.13^{***}	-0.69^{***}	1.73^{***}	-1.23^{***}	-1.13^{***}	-0.69^{***}	1.73^{***}
	(0.11)	(0.11)	(0.10)	(0.08)	(0.11)	(0.11)	(0.10)	(0.08)
Change between cohorts								
Low. × BCS	-0.51^{***}	0.08	0.25	0.12	-0.51^{***}	0.07	0.24	0.12
	(0.15)	(0.13)	(0.15)	(0.14)	(0.15)	(0.13)	(0.15)	(0.14)
Mid. × BCS	-0.25^{*}	-0.19	0.44^{***}	0.08	-0.23^{*}	-0.20	0.42^{***}	0.07
	(0.13)	(0.12)	(0.12)	(0.11)	(0.13)	(0.12)	(0.12)	(0.11)
High. × BCS	-0.21	0.02	0.28^{*}	0.02	-0.19	0.01	0.27^{*}	0.02
	(0.14)	(0.15)	(0.14)	(0.11)	(0.15)	(0.15)	(0.14)	(0.11)
Pseudo R^2	0.08	0.10	0.10	0.14	0.08	0.10	0.10	0.14
Log Likelihood	-5431.29	-6278.71	-7452.61	-8472.61	-5420.46	-6276.13	-7445.31	-8470.13
Num. obs.	14556	14556	14556	14556	14556	14556	14556	14556

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort in out-of-work occupation in first period is the referent group. Parental income is standardized at the cohort level and squared parental-income is the square of the standardized parental income. Coefficients in the first bottom panel captures the change in the marginal effect of the first-period occupation with respect to the referent one, i.e. out-of-work. Coefficients in the second bottom panel indicates the change across cohorts in the marginal effect of the first-period occupation.

F.2 First-period age

This appendix provides a robustness check about the difference in terms of age in the first period between both cohorts. Tables F.3 and F.4 show the coefficients of the binomial logistic regressions for the probability of being in each occupation in first and second periods, when both cohorts are either 23 or 26 years old and compare them to their respective baseline estimates from Tables C.1 and C.3.

Table F.3: Probability of being in each occupation in first period (First-period age robustness check)

	Binomial logistic regression - Dependent variable: First period occupation											
	Out-of-work			Low-paying			Middling			High-paying		
	(Base)	(23)	(26)	(Base)	(23)	(26)	(Base)	(23)	(26)	(Base)	(23)	(26)
Intercept	−1.98***	−1.98***	−2.31***	−1.96***	−1.96***	−1.99***	−0.03	−0.03	−0.09***	−1.26***	−1.26***	−1.01***
	(0.05)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)
BCS cohort	−0.40***	0.28***	−0.07	−0.16**	−0.03	−0.13*	−0.42***	−0.29***	−0.36***	0.77***	0.28***	0.52***
	(0.08)	(0.07)	(0.08)	(0.08)	(0.07)	(0.08)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)
Female	1.11***	1.11***	1.69***	0.13*	0.13*	0.20***	−0.66***	−0.66***	−0.91***	−0.18***	−0.18***	−0.46***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)
Female × BCS	−0.05	−0.59***	−0.63***	0.34***	0.26***	0.27***	0.12	0.18***	0.36***	−0.16**	0.07	0.12
	(0.10)	(0.09)	(0.10)	(0.10)	(0.10)	(0.10)	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)
Par. inc.	−0.03	−0.03	−0.04	−0.03	−0.03	−0.06	−0.03	−0.03	−0.03	0.10***	0.10***	0.12***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Par. inc. × BCS	−0.25***	−0.11***	−0.23***	−0.12**	−0.12**	−0.10**	0.01	0.04	0.01	0.23***	0.13***	0.20***
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Education	−0.17***	−0.17***	−0.34***	−0.47***	−0.47***	−0.42***	−0.27***	−0.27***	−0.30***	0.83***	0.83***	0.92***
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Education × BCS	−0.07	0.29***	0.10**	−0.05	0.06	−0.10*	−0.15***	−0.13***	−0.13***	−0.03	−0.25***	−0.12***
	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Pseudo R^2	0.06	0.03	0.09	0.04	0.03	0.04	0.04	0.04	0.05	0.14	0.09	0.14
Log Likelihood	-6539.62	-7081.91	-6423.45	-5788.83	-5832.50	-5773.72	-9174.56	-9236.04	-8948.25	-7693.88	-7471.95	-7724.98
Num. obs.	14556	14372	14503	14556	14372	14503	14556	14372	14503	14556	14372	14503

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort is the referent group. Parental income in logarithm and child education in peer-inclusive ranking, both are standardized at the cohort level. Column (Base) corresponds to the baseline estimate from column (2) in C.1 with first-period occupation at the age of 23 (resp. 26) for the NCDS58 (resp. BCS70) cohort. Column (23) estimates the same regression with first-period occupation at the age of 23 for both cohorts, whereas column (26) corresponds to age 26.

Table F.4: Probability of being in each occupation in second period (First-period age robustness check)

	Binomial logistic regression - Dependent variable: Second period occupation											
	Out-of-work			Low-paying			Middling			High-paying		
	(Base)	(23)	(26)	(Base)	(23)	(26)	(Base)	(23)	(26)	(Base)	(23)	(26)
Intercept	−1.66***	−1.66***	−1.63***	−1.94***	−1.94***	−1.80***	−1.18***	−1.18***	−1.06***	−0.50***	−0.50***	−0.70***
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
BCS cohort	0.20	−0.08	0.17	0.14	−0.17	−0.01	−0.31**	−0.36***	−0.43***	−0.06	0.42***	0.14
	(0.13)	(0.12)	(0.13)	(0.13)	(0.12)	(0.13)	(0.12)	(0.11)	(0.12)	(0.11)	(0.10)	(0.11)
Female	0.81***	0.81***	0.73***	0.90***	0.90***	0.81***	−0.35***	−0.35***	−0.34***	−0.80***	−0.80***	−0.69***
	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Female × BCS	−0.02	0.09	0.06	−0.19*	−0.09	−0.10	−0.15*	−0.16*	−0.16*	0.34***	0.24***	0.23***
	(0.11)	(0.11)	(0.11)	(0.10)	(0.10)	(0.10)	(0.08)	(0.08)	(0.09)	(0.08)	(0.08)	(0.08)
Par. inc.	−0.05	−0.05	−0.05	−0.00	−0.00	0.01	0.00	0.00	0.01	0.04	0.04	0.02
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Par. inc. × BCS	−0.13***	−0.17***	−0.13***	−0.08*	−0.10**	−0.09*	−0.04	−0.05	−0.04	0.17***	0.21***	0.18***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Education	−0.28***	−0.28***	−0.28***	−0.49***	−0.49***	−0.49***	−0.40***	−0.40***	−0.35***	0.87***	0.87***	0.83***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Education × BCS	0.01	−0.02	0.01	0.03	−0.05	0.02	0.10**	0.06	0.06	−0.24***	−0.15***	−0.20***
	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Change with respect to the referent group as first period occupation (Out-of-work)												
Low-paying	−0.59***	−0.59***	−0.66***	0.82***	0.82***	0.80***	−0.18*	−0.18*	−0.25**	−0.11	−0.11	−0.03
	(0.11)	(0.11)	(0.11)	(0.10)	(0.10)	(0.09)	(0.11)	(0.11)	(0.10)	(0.11)	(0.11)	(0.11)
Middling	−0.96***	−0.96***	−0.97***	−0.32***	−0.32***	−0.52***	0.99***	0.99***	0.97***	0.07	0.07	0.17**
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
High-paying	−1.02***	−1.02***	−1.01***	−0.79***	−0.79***	−0.92***	−0.44***	−0.44***	−0.76***	1.41***	1.41***	1.67***
	(0.11)	(0.11)	(0.11)	(0.12)	(0.12)	(0.11)	(0.11)	(0.11)	(0.11)	(0.09)	(0.09)	(0.09)
Change between cohorts												
Low. × BCS	−0.50***	−0.24	−0.43***	0.10	0.14	0.11	0.29*	0.34**	0.35**	0.02	−0.24*	−0.06
	(0.15)	(0.15)	(0.15)	(0.13)	(0.13)	(0.13)	(0.15)	(0.15)	(0.15)	(0.15)	(0.14)	(0.15)
Mid. × BCS	−0.25*	−0.03	−0.24*	−0.23*	0.08	−0.03	0.42***	0.36***	0.43***	0.03	−0.36***	−0.07
	(0.13)	(0.13)	(0.13)	(0.12)	(0.12)	(0.13)	(0.12)	(0.12)	(0.12)	(0.12)	(0.11)	(0.12)
High. × BCS	−0.22	−0.10	−0.24	−0.05	0.38**	0.08	0.19	0.32**	0.51***	0.07	−0.44***	−0.19
	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.12)	(0.12)	(0.12)
Pseudo R^2	0.09	0.08	0.09	0.13	0.11	0.13	0.12	0.11	0.12	0.21	0.20	0.22
Log Likelihood	-5374.23	-5307.35	-5347.10	-6119.99	-6114.29	-6070.89	-7342.98	-7322.64	-7261.69	-7825.20	-7832.08	-7722.34
Num. obs.	14556	14372	14503	14556	14372	14503	14556	14372	14503	14556	14372	14503

Notes: $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$. Standard errors between parentheses. Male in the NCDS58 cohort in out-of-work occupation in first period is the referent group. Parental income in logarithm and child education in peer-inclusive ranking, both are standardized at the cohort level. Coefficients in the first bottom panel captures the change in the marginal effect of the first-period occupation with respect to the referent one, i.e. out-of-work. Coefficients in the second bottom panel indicates the change across cohorts in the marginal effect of the first-period occupation. Column (Base) corresponds to the baseline estimate from column (3) in C.3 with first-period occupation at the age of 23 (resp. 26) for the NCDS58 (resp. BCS70). Column (23) estimates the same regression with first-period occupation at the age of 23 for both cohorts, whereas column (26) corresponds to age 26.