

Institute for Fiscal Studies

IFS Briefing Note BN301

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What has been happening to career progression?

The Alan Turing Institute

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Copy-edited by Judith Payne

Published by

The Institute for Fiscal Studies

ISBN 978-1-912805-96-9

This research was funded by the Turing–HSBC–ONS Economic Data Science Awards 2018 (grant TEDSA2\100038). Any errors and all views expressed are those of the authors.

Executive summary

Interest in the issue of career progression has been growing, fuelled by a decade of stagnant productivity and pay growth (even before the COVID-19 crisis) and concerns that changes in the labour market – such as the casualisation of work in the gig economy – are making it harder for some groups to progress.

However, debate on this topic is taking place in the absence of much hard evidence on the question at its core; we actually know very little about how pay and career progression have been changing. Here we provide new evidence on how pay and occupational progression during the crucial early stages of careers have changed over the last few decades.

Key findings

Men born in each decade since the 1950s, and women born since 1985, started their careers in occupations further down the wage ladder than earlier cohorts. For example, when compared with those born in the 1970s, men born in the late 1980s were at least twice as likely to have been bar staff, kitchen and catering assistants, or call centre workers in their first full-time job; and women were about twice as likely to have been waitresses or care workers.

The deterioration in the 'first occupation' for young women born in the late 1980s marks a sharp reversal of the trend seen over previous decades. Their starting position on the occupational ladder looked more similar to that of women born in the 1960s than to women born in the early 1980s.

All of this means that young workers are increasingly reliant on occupational progression in the early years of their careers if they are to attain high wages. This is because they are trying to catch up from a lower starting point on the career ladder, and because the wage growth they can expect in the absence of occupational progression has been so weak in recent years.

Rates of progression up the occupational ladder (ranking occupations by their average wage) in the early years of people's careers have tended to increase across successive generations, for both men and women – but this trend came to an end for men born in the 1980s. This means that the most recent cohorts of men have both started lower down the occupational ladder than their predecessors and climbed it more slowly.

One of the greatest economic risks facing young people as a result of the COVID-19 pandemic is that economic uncertainty and reduced hiring will make it much harder for them to climb the career ladder when in work. If this happens, possibly alongside a substantial increase in youth unemployment, then the cumulative impact on their economic position in years to come could be very large.

Poor pay progression has caused the wages of recent cohorts to fall behind

We have just lived through a 'lost decade' for wage growth. By the time the COVID-19 crisis hit, pay had barely recovered from the sharp falls that occurred in the years following the financial crisis and subsequent recession (see Figure 1). Despite growing since 2014, median real hourly wages in 2019 were only 3% higher than in 2008 among women and remained 3% lower than in 2008 among men.

These trends in wages – combined with historically high rates of employment – have led to an increased focus on the problem of in-work poverty, which on the eve of the current crisis accounted for almost 60% of all poverty in the UK and around 70% of working-age poverty.¹ There is also evidence that a lack of pay progression is responsible for a lot of low pay, since low progression is the norm for those with low levels of wages or education (see Figure 2), as well as part-time workers (often mothers). As a result, there has been a growing interest in pay and career progression – or lack of it.²



Figure 1. Change to median hourly wages relative to 2008, overall and by gender

 $Note: Hourly \ wages \ are \ deflated \ using \ a \ variant \ of the \ Consumer \ Prices \ Index \ (CPI) \ that \ includes \ housing \ costs.$

Source: Authors' calculations using table 1 of Office for National Statistics (ONS) Annual Survey of Hours and Earnings (ASHE) time series estimates 2019 and ONS series L522 (CPIH index All Items). Earnings measured in April of each year.

P. Bourquin, J. Cribb, T. Waters and X. Xu, 'Why has in-work poverty risen in Britain?', Institute for Fiscal Studies (IFS), Working Paper W19/12, 2019, https://www.ifs.org.uk/publications/14154.

For example, see A. Rudd, 'The future of the labour market', speech at the Recruitment and Employment Confederation, 9 May 2019, https://www.gov.uk/government/speeches/the-future-of-the-labour-market and Department for Work and Pensions, 'DWP areas of research interest 2019', 2019, https://www.gov.uk/government/publications/dwp-areas-of-research-interest-2019.

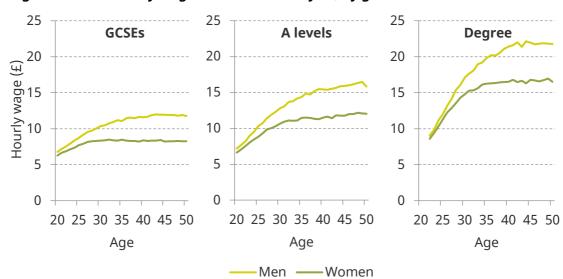


Figure 2. Mean hourly wages across the life cycle, by gender and education

Note: Hourly wages are deflated using the Consumer Prices Index (CPI) and are expressed in January 2016 prices. Individuals in the bottom two and top one percentiles of the gender- and year-specific hourly wage distributions are excluded.

Source: Labour Force Survey (LFS), 1993Q1-2018Q4.

Interest in the issue of progression has been further fuelled by concerns that structural changes in the labour market – such as the casualisation of work in the gig economy and the domestic outsourcing of occupations that firms used to employ in-house – are making it harder for some groups to progress than previously.

However, debate on this topic is taking place in the absence of much hard evidence on the question at its core; we actually know very little about how pay and career progression have been changing. In this work, we provide new evidence on how pay and occupational progression (a particular type of career progression) during the crucial early stages of careers have changed over the last few decades.

We focus on how people progress from their 'initial' job, which we define as their first full-time job between the ages of 22 and 25. This means we ignore jobs done at earlier ages, as well as part-time work done between the ages of 22 and 25, as these are relatively likely to reflect more casual or incidental work done in combination with education, rather than the start of people's careers in a more meaningful sense.³

Figure 3 shows how wage progression over the early part of people's working lives has changed over time. It presents mean hourly wages of men and women belonging to different cohorts, in their 'initial' job, five years later and ten years later. The figure highlights that, although the initial wages of those born in the 1980s are higher than those

³ One concern with this approach is that it overlooks pay or occupational progression among workers who work full-time between the ages of 16 and 22. However, all results in this briefing note are qualitatively similar if we instead define someone's initial job as their first full-time job between the ages of 16 and 25, which indicates this is not a substantial issue.

The equivalent results for different percentiles of the wage distribution are very similar to those for mean wages shown in Figure 3 and are available from the authors upon request.

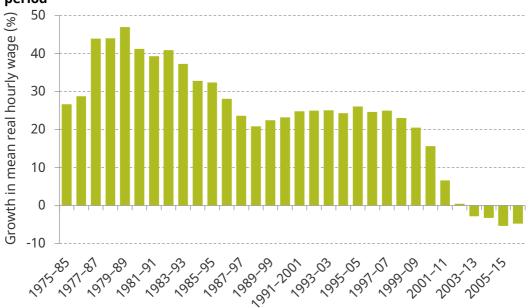
Figure 3. Mean real hourly wage in initial job, five years later and ten years later, by gender and birth cohort



Note: Hourly wages are deflated using a variant of the Consumer Prices Index (CPI) that includes housing costs and are expressed in 2018–19 prices. The wage distribution in each year is Winsorised at the top and bottom 0.5%. Sample is restricted to people we observe in their initial job, after five years and, for those born before 1985, after ten years. Wage progression after ten years for workers born between 1985 and 1989 is not shown as this outcome is not observed in the period covered by the NESPD.

Source: New Earnings Survey Panel Dataset, 1975–2016.

Figure 4. Growth in mean real hourly wages among workers aged 31–55, by ten-year period



Note: Hourly wages are deflated using a variant of the CPI that includes housing costs and are expressed in 2018–19 prices. The wage distribution in each year is Winsorised at the top and bottom 0.5%. Sample is restricted to people aged 31–55.

Source: New Earnings Survey Panel Dataset, 1975–2016.

born in the 1970s, their wages after 10 years in the labour market have fallen behind due to a sharp slowdown in pay progression. For example, men born in the 1970s had on average experienced an 88% increase in wages 10 years after their initial job started, whereas this had fallen to 58% among men born between 1980 and 1984. For women, the equivalent rate of pay progression fell from 77% among workers born in the 1970s to 49% among workers born between 1980 and 1984.

The slower rate of progression among younger cohorts is due (at least in part) to slower overall pay growth in the UK economy as a whole over the period that happens to coincide with the early part of their careers. For example, Figure 4 shows that a worker who started their initial job in 1975 would have spent the first 10 years of their career in a very buoyant economy where the wages of older workers grew by around 27%. A worker who started their initial job in 2005, by contrast, will have faced much more adverse economic conditions over the first 10 years of their career – a period during which the wages of older workers *fell* by 5%. It is hence no surprise to see that the wage growth that these cohorts themselves experienced as young adults was far higher for people starting their careers in the mid 1970s than for those doing so in the mid 2000s.

Alongside changes in overall economic performance, however, there have also been long-term changes in the UK economy over the last 40 years that mean younger cohorts face a very different labour market from earlier cohorts. It is possible that changes in the structure of the labour market are also making career progression more difficult. For example, increases in firms outsourcing services such as cleaning may mean that people in low-paying occupations are no longer working with, or building contacts with, people in higher-paying occupations. There is quite widespread concern that factors such as this are leaving more people stuck in 'dead-end' jobs with poor career prospects. Again, however, we know little about how career progression has changed and with what consequences for people's pay.

Young workers are starting further down the career ladder than they used to

Figure 5 shows that the type of work that people do, measured by task content of the job, has changed substantially over the last four decades. Jobs that involve manual tasks, such as metalworkers and sewing machinists, have become much less common. Jobs that involve interpersonal tasks have become much more common, but this is entirely driven by occupations that involve quite high levels of skill, such as nurses and management consulting. Lower-skilled 'social' jobs have not increased in prevalence.

Focusing on the occupations that people are employed in at the start their careers, however, gives a different picture. Figure 6 shows this by plotting the fractions of workers in each cohort who started their career in the various occupation groups based on skill level. The percentage of male workers starting their careers in low-skilled social occupations (such as customer service assistants) has risen across cohorts for every cohort shown, doubling from 17% of those born in the 1950s to 36% of those born in the late 1980s. This rise has been accompanied by a steady decline in the percentage starting in manual occupations (such as large goods vehicle drivers), which has fallen from 41% to 26%. Female workers, by contrast, have become increasingly likely to start their careers in high-skilled social occupations (such as marketing consultants).

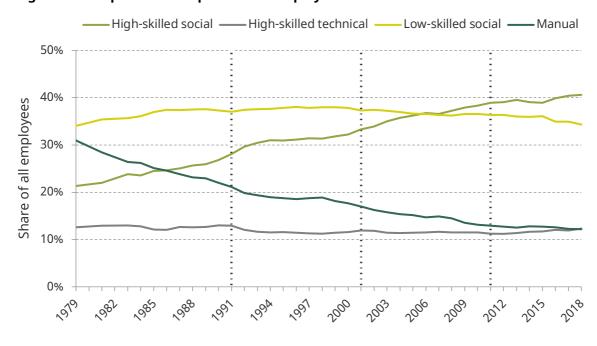


Figure 5. Occupational composition of employees in the UK

Note: Dashed lines indicate changes in occupational classifications.

Source: Labour Force Survey, 1979, 1981 and 1984–2018.

⁵ Appendix B explains how we group occupations according to their task content.

⁶ Figures C1 and C2 in Appendix C show the occupational composition of male and female employees respectively between 1979 and 2018.

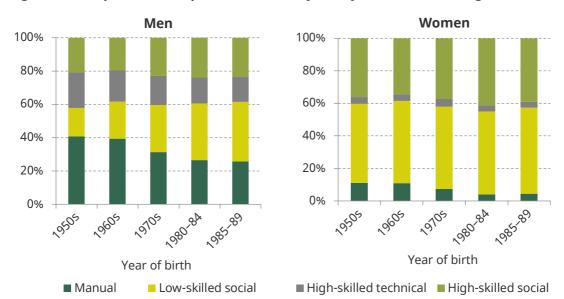


Figure 6. Occupational composition of initial jobs, by birth cohort and gender

Source: New Earnings Survey Panel Dataset, 1975–2016.

To examine the kinds of occupations people are in (and, later, paths up the career 'ladder') in a way that is easy to summarise, we now rank them according to their mean real wage. We use this ranking to classify occupations into 100 groups, from lowest-paid to highest-paid. We define these 100 groups so that they each contain the same number of occupations, but they may contain different numbers of workers, since some occupations are larger than others. Occupations in the 1st group are the lowest-paying 1% of occupations (on average), and those in the 100th group are the highest-paying. If, across the entire UK workforce, the occupations that are growing in relative size tend to be low-paying, then we would see a downward trend in the average occupation pay rank in the UK. By contrast, if low-paying occupations were becoming more common only among early-career workers, we would see a downward trend in the average occupation pay rank among workers in their initial jobs but not in the overall workforce.

Figure 7 shows that the growth in relatively low-paying occupations is indeed confined to workers in their initial jobs. Until the early 2000s, the occupations of young workers were on average actually similar, in terms of pay rank, to those of the workforce as a whole. Their pay ranks have since fallen well behind.

Throughout this analysis, we use the 369 'unit group' occupations of the 2010 version of the UK's Standard Occupational Classification (SOC). We use a proportional mapping approach to convert earlier occupational classifications observed in the New Earnings Survey Panel Dataset (NESPD) into the 2010 SOC. Appendix A provides further details. Occupational average wages are calculated on the sample of workers aged 21–55. Because the relative wages paid by different occupations have changed over time, we define the average wage percentile of each occupation several times, using occupation mean real wages calculated using NESPD data from the 1970s, 1980s, 1990s, 2000s and 2010s. We then assign workers to a particular occupational average wage percentile based on their current occupation and the decade in which we observe their 'initial' job.

This amounts to defining percentile groups of the occupational mean wage distribution *without* weighting each occupation by employment. By contrast, weighting by employment would ensure the occupation groups contained the same number of workers, but not necessarily the same number of occupations. Either is coherent, but we use the unweighted approach as we prefer its interpretation in this context.



Figure 7. Mean occupation pay rank of UK employees

Note: Dashed lines indicate changes in occupational classifications. We identify initial jobs in the LFS by restricting the sample to full-time employees aged between 22 and 25 and comparing respondent's age against the age at which they report leaving full-time education.

Source: Labour Force Survey, 1979, 1981 and 1984-2018.

Figures C3 and C4 in Appendix C present the same information as Figure 7 but for male and female employees respectively. They show that the gradual increase in the occupation pay rank of all initial jobs between 1979 and 2000 shown in Figure 7 was the combined result of different trends among men and women: female workers were starting their careers in higher-paying occupations than women in earlier years, whereas the average occupation pay rank of men's initial jobs remained broadly unchanged. From around 2000, however, the initial jobs of both men and women became increasingly concentrated in low-paying occupations.

To shed more light on the rise in low-paying occupations among early-career workers, Tables 1 and 2 show the occupations that have changed most in size for people at the start of their careers when comparing workers born during the 1970s and those born in the late 1980s. Table 1 reveals that a growing number of workers in the recent cohort started their careers in low-paying social occupations such as bar staff, kitchen and catering assistants, and call centre workers (among men) and care work and waitresses (among women). In each case, the prevalence of those occupations almost doubled or increased by more over that relatively short period. By contrast, Table 2 shows that midpaying manual occupations such as payroll managers experienced the greatest falls among the initial jobs of male workers, and mid-paying social occupations such as payroll and secretarial workers experienced the greatest falls among the initial jobs of female workers.

Table 1. Initial occupations that increased most in prevalence, between workers born in the 1970s and workers born in the late 1980s

	SOC 2010 code	SOC 2010 title	Share of initial jobs of 1970s cohort	Share of initial jobs of 1985–89 cohort	Occupation pay rank (1980)
Men	7111	Sales and retail assistants	4.2%	5.8%	6
	5314	Plumbers and heating and ventilating engineers	0.7%	1.9%	51
	9274	Bar staff	0.8%	1.6%	1
	9272	Kitchen and catering assistants	0.7%	1.5%	2
	7211	Call and contact centre occupations	0.4%	1.2%	18
Women	4159	Other administrative occupations n.e.c.	5.1%	6.2%	29
	6145	Care workers and home carers	2.2%	4.1%	12
	6121	Nursery nurses and assistants	1.7%	2.7%	10
	9273	Waiters and waitresses	0.9%	2.0%	1
	6125	Teaching assistants	0.2%	1.9%	14

Table 2. Initial occupations that decreased most in prevalence, between workers born in the 1970s and workers born in the late 1980s

	SOC 2010 code	SOC 2010 title	Share of initial jobs of 1970s cohort	Share of initial jobs of 1985–89 cohort	Occupation pay rank (1980)
Men	4122	Book-keepers, payroll managers & wages clerks	2.2%	1.4%	48
	3131	IT operations technicians	1.4%	0.8%	72
	4112	National government administrative occupns	1.1%	0.6%	31
	8211	Large goods vehicle drivers	0.8%	0.3%	25
	9111	Farm workers	0.6%	0.1%	8
Women	4122	Book-keepers, payroll managers & wages clerks	3.9%	1.9%	48
	4215	Personal assistants and other secretaries	4.6%	1.6%	43
	4123	Bank and post office clerks	2.0%	0.9%	38
	4217	Typists and related keyboard occupations	1.2%	0.5%	29
	8137	Sewing machinists	0.9%	0.0%	4

Note for Tables 1 and 2: For sample size reasons, the information in these tables was calculated using the Labour Force Survey. We identify initial jobs in the LFS by restricting the sample to full-time employees aged between 22 and 25 and comparing respondent's age against the age at which they report leaving full-time education.

Source for Tables 1 and 2: Labour Force Survey, 1991–2018.

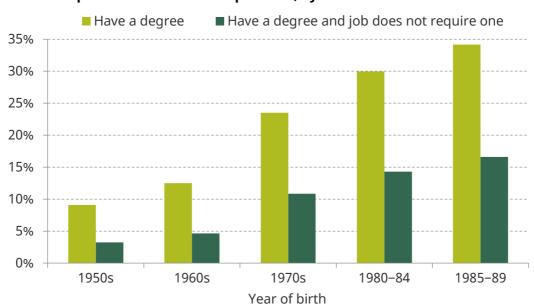


Figure 8. Share of employees aged 22–25 with a degree and share with a degree and in an occupation that does not require one, by cohort

Note: Jobs that do not require degrees are defined as occupations where fewer than 50% of workers in the O*NET data sample report requiring a degree-level qualification to perform their job. Employees aged 22–25 are only included in the sample if they have left full-time education and are working full-time. We do this to exclude jobs that are likely to be prior to someone's 'initial job' (i.e. their first full-time job between the ages of 22 and 25).

Source: Labour Force Survey, 1979, 1981 and 1984–2018; O*NET (version 21.1); Bureau of Labor Statistics employment by detailed occupation (table 1.2, 2016); Bureau of Labor Statistics mapping between US occupation codes and ISCO occupation codes; and ONS mapping between UK occupation codes and ISCO occupation codes.

Some of the changes shown in Tables 1 and 2 contribute to the disproportionate exposure of young workers to the social distancing measures seen during the COVID-19 pandemic. As explored more fully in previous work, the careers of young people today are more vulnerable to the impacts of the pandemic than they would have been if workers born since 1985 had started out in occupations similar to those of earlier cohorts.

The increase in low-paying occupations among early-career workers has occurred despite rising levels of participation in higher education. As a result, recent graduates are more likely to be starting in occupations that do not require a degree than previous cohorts of graduates. This is shown in Figure 8, which plots the fraction of workers aged 22–25 who have a degree-level qualification alongside the fraction who have a degree but work in an occupation that does not require one. 10 Among degree-holders born in the 1950s, 36%

⁹ M. Costa Dias, R. Joyce and A. Norris Keiller, 'COVID-19 and the career prospects of young people', Institute for Fiscal Studies (IFS), Briefing Note 299, https://www.ifs.org.uk/publications/14914.

To identify occupations that 'require a degree', we use data in which workers in different occupations are asked whether they require a series of qualifications in order to do their job. We classify an occupation as 'requiring a degree' if at least 50% of workers report that they require a degree-level qualification. The qualifications we count as 'degree-level' are: bachelor's degrees, post-baccalaureate certificates, master's degrees, post-master's certificates, professional degrees, doctoral degrees and postdoctoral training. Table B1 in Appendix B shows the fraction of workers who report that they require a degree-level qualification for each four-digit occupation of the UK's Standard Occupational Classification. Figure C5 in Appendix C shows the same information as Figure 8 but by gender. Trends among men and women are very similar to the overall trends shown in Figure 8.

were in a job that did not require a degree at the start of their careers; this had risen to 49% for degree-holders born in the late 1980s.

In summary, the overall mix of jobs in the UK has changed radically over the last four decades, with high-skilled occupations much more prevalent in the modern, highly educated and service-based economy than in the past. And yet we do not see those trends if we just look at successive generations of young workers at the start of their careers – especially young men. People have become far less likely to start their careers in occupations involving manual work and, since the turn of the millennium, have become more likely to start in low-paying occupations. Unfortunately, this also includes some of the specific occupations most impacted by the current COVID-19 crisis, such as those in hospitality.

The evidence justifies concern about worsening rates of career progression among the young – though only (so far) for men born since the mid 1980s

We now turn from the starting point of people's careers to the rates of progression after that point – an issue at the centre of increasing amounts of concern, and public and policy debate. We focus on a measure of 'occupational progression' that looks at how the wage rank of a worker's occupation changes over their career – do they, for example, move from an occupation that typically pays relatively low wages into those that typically pay relatively high wages?

Figure 9 shows the mean occupation pay rank of men and women in their initial job, their job five years later and their job ten years later, for different birth cohorts. To be clear again, these figures are not based on how much any individual is actually paid; we are assessing what kind of occupation they are in, and to do this we are 'ranking' occupations according to their average pay level, as this is a parsimonious and relevant way (though not the only relevant way) of comparing occupations along a single scale. Of course, within occupations, there is some variation in pay at the individual level as well.

The figure shows large differences between birth cohorts and between men and women. Looking first at men, there has been a consistent downward trend in the pay rank of their starting occupations, with each birth cohort starting lower down the ladder on this measure than their predecessors – echoing the analysis in the previous section. For example, men born in the 1950s started in occupations that on average paid more than 47% of occupations at that time (an example of an occupation at that wage level is metal machine operators); whereas those born between 1985 and 1989 started in occupations which on average paid more than 38% of occupations at that time (an example of an occupation at that level is ambulance drivers).

Until recently, however, the subsequent rate of progression to higher-paying occupations within the early stages of men's careers had been increasing, meaning that more recent cohorts were quite soon 'catching up' with their predecessors, despite the lower starting point. More recently, there are signs of a break in this trend. Men born in the early 1980s

Figure 9. Mean occupation pay rank of initial job, five years later and ten years later, by gender and birth cohort



Note: Sample is restricted to people we observe in their initial job, after five years and, for those born before 1985, after ten years. Occupation pay rank after ten years for workers born between 1985 and 1989 is not shown as this outcome is not observed in the period covered by the NESPD.

Source: New Earnings Survey Panel Dataset, 1975-2016.

did not progress up the occupational ladder any more quickly during the first 10 years of their career than men born in the 1970s (meaning that that they were still in lower-ranked occupations at that point in their career, given their lower starting point). And men born in the late 1980s progressed less far up the occupational ladder in the first five years of their career than men born in the early 1980s. In summary, if we look just at the most recent cohorts of men, it seems that we have a 'double whammy': they are both starting lower down the occupational ladder than their predecessors and, if anything, climbing the ladder more slowly after that point as well.

For young women, the figure highlights that their starting occupations were (unlike men's) increasing in average pay rank across cohorts born in the 1950s through to the early 1980s. In addition to that, they were (like men) progressing faster and faster up the occupational ladder in the first years of their career, relative to their predecessors. The combined result was very significant. On average, a decade into their careers, female employees born in the 1950s were on average in occupations that paid more than 40% of all occupations; for those born in the early 1980s, this had risen to 56%.

We do, however, see a stark break in trend in the level of starting occupations for women born in the late 1980s. In fact, remarkably, their starting position on the occupational ladder looked more similar to those of women born in the 1960s and 1970s than to that of women born in the early 1980s. When it comes to subsequent occupational progression, though, there is not yet clear evidence of a break in trend – this continues to be faster than for previous birth cohorts of women. Five years into their careers, this was enough for the late 1980s cohort to have caught up with the 1970s cohort, though they still lagged behind the early 1980s cohort.

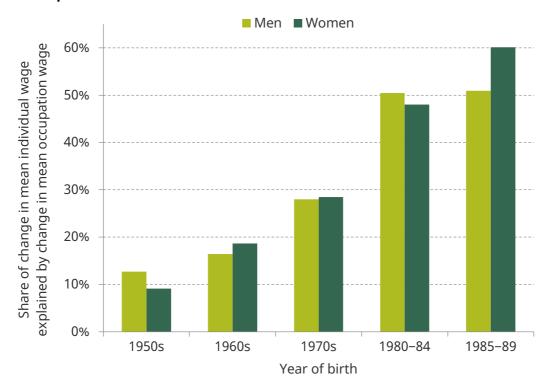
We show in Appendix C that, for both genders, the trends in rates of occupational progression across birth cohorts are the product of both changes in the likelihood of 'climbing' the occupational ladder at all, and changes in the number of rungs on the ladder that people climb when they do move up (see Figures C6 and C7).

Conclusions

When it comes to progression up the career ladder for young workers, the data do suggest some cause for concern, but the details are perhaps more nuanced than is popularly perceived. For much of the past few decades, rates of occupational progression in the early parts of people's careers have actually been *increasing*, and quite significantly so. For men, though, there is evidence of a turning point: those born in the late 1980s progressed through occupations less quickly in the early years of their careers than did those born in the early 1980s. Their female counterparts continued to see improved progression on average – and, as a result, were in fact (for the first time) in occupations at least as far up the pay ladder as men, five years into their careers. For men, rates of occupational progression were essentially the same for those born in the late 1980s as for those born in the 1970s. This might mark the start of a turnaround that will end up looking far more significant, but it is not yet a large and across-the-board reversal.

Crucially, though, workers are starting their careers lower down the occupational ladder than in the past; in other words, they would need *greater* progression thereafter simply to end up in the same place. For men this marks the continuation of a long-running trend, whereas for women it marks a very sharp break from trend. This break, only visible among those born in the late 1980s, comes after decades in which female employees' starting position was improving.

Figure 10. Change in average wage of one's occupation between initial occupation and occupation five years later, as a share of total change in individual wage over same period



Note: Sample is restricted to people we observe in their initial job and five years later.

Source: New Earnings Survey Panel Dataset, 1975–2016.

Much of the problem for young workers, then, is that they are increasingly *reliant* on progression, in the sense that they have further to climb given their low starting point, and because other sources of wage growth (besides occupational progression) have evidently been working against them in recent years. This reliance makes it all the more problematic if and when occupational progression does dry up, as it has for the most recent cohort of young men.

Figure 10 makes this point explicitly, combining much of the information already presented. It plots the share of the wage growth seen over the first five years of people's careers that is explained by changes in the mean wage of their occupations. Occupational progression has clearly become a more important source of wage growth, accounting for around a quarter of wage growth among workers born in the 1970s but at least around a half for those born in the 1980s. From the point of view of an individual, this means that someone's wage will now quickly fall behind that of their peers if their occupational progression is interrupted. From the point of view of young generations as a whole, this highlights that if occupational progression slows down significantly then the prospects for strong wage growth in early careers currently look very weak. One of the greatest economic risks facing young people right now, besides a large rise in youth unemployment, is that the economic uncertainty and reduced hiring caused by the COVID-19 pandemic will make it harder for them to climb the career ladder.

Data

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