

# Changing jobs?

Change in the UK labour market and  
the role of worker mobility

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## The Economy 2030 Inquiry

The Economy 2030 Inquiry is a collaboration between the Resolution Foundation and the Centre for Economic Performance at the London School of Economics, funded by the Nuffield Foundation. The Inquiry's subject matter is the nature, scale, and context for the economic change facing the UK during the 2020s. Its goal is not just to describe the change that Covid-19, Brexit, the Net Zero transition and technology will bring, but to help the country and its policy makers better understand and navigate it against a backdrop of low productivity and high inequality. To achieve these aims the Inquiry is leading a two-year national conversation on the future of the UK economy, bridging rigorous research, public involvement and concrete proposals. The work of the Inquiry will be brought together in a final report in 2023 that will set out a renewed economic strategy for the UK to enable the country to successfully navigate the decade ahead, with proposals to drive strong, sustainable and equitable growth, and significant improvements to people's living standards and well-being.

## The Nuffield Foundation

The Nuffield Foundation is an independent charitable trust with a mission to advance social well-being. It funds research that informs social policy, primarily in Education, Welfare, and Justice. It also funds student programmes that provide opportunities for young people to develop skills in quantitative and scientific methods. The Nuffield Foundation is the founder and co-funder of the Nuffield Council on Bioethics and the Ada Lovelace Institute. The Foundation has funded this project, but the views expressed are those of the authors and not necessarily the Foundation. Visit [www.nuffieldfoundation.org](http://www.nuffieldfoundation.org).

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## Executive summary

This report is about the nature and speed of change in the UK's labour market, about how past periods of rapid change have happened, and about workers' experiences as they have lived through these changes. It is written with an eye to the upheaval we expect to see in the coming decade as the effects of Brexit, Covid-19, and the net zero transition work their way through the economy. It forms part of the Economy 2030 Inquiry, a joint research project between the Resolution Foundation and the Centre for Economic Performance at the London School of Economics.

### We need a rich understanding of how economic change happens

Policy debates are dominated by strongly held misconceptions about economic change such as: it's speeding up; it takes place mainly by workers in shrinking sectors losing their jobs; and that it undermines job quality for some via a 'polarisation' of the labour market into bad and good jobs. There certainly are bad outcomes for those workers who do face involuntary job loss, and periods of faster economic change have been associated with higher rates of such job losses. But we need a richer understanding of how economic change happens, especially if we are to make a success of navigating the faster change we expect to see in the 2020s. In particular, we highlight three key facts about the UK's recent experience of economic change:

- Structural change (the reallocation of labour across different sectors) has been slowing down in recent years, not speeding up.<sup>1</sup> Alongside this, the rate at which workers move between jobs and sectors has also slowed down.
- Sectors can decline through older workers leaving and fewer younger workers joining, as well as through workers in the middle of their careers being forced out. To a significant extent, and as far as it is possible to tell with the available data, this was the case for the fall in manufacturing employment since the 1980s. Involuntary job losses do happen, however, particularly in declining sectors, and these can have serious negative repercussions for the workers involved.
- In recent years, and in contrast to some other countries, occupational change has tended to involve ‘upgrading’ (the growth of higher paid occupations) more than it has ‘polarisation’ (the growth of high *and* low paid jobs), especially for women.

There has been significant structural change in the labour market over the past 50 years – a shift from manufacturing to services, and ‘occupational upgrading’

There have been significant changes in the sectoral composition of the UK labour market in the past half century. The most significant shift has been the fall, in absolute terms and as a share of jobs, of manufacturing, and the rise of several service sectors, including business services. Employment has also grown significantly in parts of the public sector - especially in healthcare and education. In 1970 there were 7.7 million jobs in manufacturing, accounting for 29 per cent of the total. By 2021 that number had fallen to 2.5 million jobs, 8 per cent of the total. Over the same period, the number of jobs in professional services, education and health rose from 3.7 million (14 per cent of the total) to 10.6 million (31 per cent of the total). Other service sectors which have seen significant jobs growth are hospitality and administrative services. The structural transformation from manufacturing to services was driven by technical change and the automation of manufacturing

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<sup>1</sup> Of course, there are other ways in which the labour market is changing besides the sectoral composition of employment. The growth of alternative forms of employment (such as zero-hour contracts and self-employment) and market concentration are also important. One justification for focusing on sectoral reallocation here is that this is the type of change we might expect to be triggered by the ‘shocks’ facing the country in the 2020s.

jobs; by globalisation, which meant manufactured goods could be more readily imported and production moved overseas; and more generally by changes in consumption patterns.

Alongside sectoral change there has also been occupational change, where the main trend has been one of occupational 'upgrading', meaning jobs growth has been highest in higher-paying occupations. In the 1980s and 1990s this was accompanied by growth in low-paid occupations, giving rise to a story of jobs 'polarisation'. Since the 2000s, jobs growth in the lowest-paying occupations has been negative, meaning 'upgrading' rather than 'polarisation' is a better description. The consistent trend, though, has been stronger jobs growth of higher-paying occupations. Occupational upgrading has occurred for both sexes but has been more pronounced for women than men. Total female employment grew by 4.3 million between 1992 and 2019, almost all of which (3.9 million) is accounted for by employment growth in the 'top' three occupation groups (managers and directors, professional and associate professional occupations).

### The pace of structural change (the rate at which employment in different sectors grows and shrinks) has slowed since the 1980s, but this hasn't affected the pace of occupational change

It may feel like change is speeding up, with stories of 'robots taking our jobs' appearing in the press, and new ways of work, such as the gig economy, emerging. But when it comes to the sectors we work in, which ultimately stems from consumption patterns, productivity and the types of goods and services the UK produces, the pace of change has been slowing down. The 1970s and 1980s was a time of rapid change – this was when the shift from employment in manufacturing to services was at its most intense. But since then, the rate at which different sectors have grown and shrunk (underneath changes in overall employment) has trended downwards. In 2021, the reallocation of labour across 21 industry sectors, compared to a decade ago, was equivalent to 7 per cent of total employment. This is about one-third as high a rate of reallocation as the 1980s peak. Looking further back, the period around World War 2 was also a period of fast change. Although we don't have data as far back as we do for employment by sectors, the pace of occupational change measured by the dispersion in employment growth rates doesn't appear to be slowing down. This

suggests that occupational upgrading isn't wholly dependent on sectoral change and occurs in part within sectors.

### Structural change has in part happened by workers directly moving between sectors, but more significantly by the net effect of workers joining and leaving the labour market

Structural change – the growth of employment in some sectors at the expense of others – can happen in a number of ways. We might first of all think about workers moving from shrinking sectors (like manufacturing) to growing sectors (like professional services). Another route to the reallocation of labour is via the net effect of workers entering and exiting work altogether. If more workers enter employment (from non-employment) than leave employment (to non-employment) in a given sector, employment in that sector will grow even without any direct job moves between sectors. We find that the movement of workers between jobs in different sectors only accounts for around one-third of the fall in manufacturing employment from the 1980s to the 2000s, the rest coming from the net effect of workers joining and leaving the workforce.

Entry and exit can be further separated into the entry and exit of workers in the middle of their working lives ('within-career entry/exit') and the entry of young workers and the exit of older workers ('lifecycle entry/exit'). We find that in the 1980s to 2000s, lifecycle entry/exit played a bigger role in the fall in manufacturing employment than within-career entry/exit – this goes against the idea some may have that such sectoral decline happens via mid-career workers being forced out of their jobs. In professional services, where employment has grown since the 1980s, the picture is more mixed. Employment growth has been driven by different factors (job moves, and lifecycle and within-career entry and exit) in different periods. Overall, job moves played a larger role in the growth of employment in a growing sector - professional services - than they did in the fall of employment in manufacturing.

### Worker job mobility has slowed down, roughly in line with the slowdown in the rate of structural change

Even if not the main way in which labour reallocates across sectors, job mobility does make an important contribution to sectoral reallocation, particularly outside of downturns. And

it's important for other reasons too: it is a route through which workers can improve their pay, as we will later show. Despite the measurement challenges of long-term time series, we can confidently say that job mobility rates are lower now than they were in the 1980s. We have better quality data from 1992 onwards, when it becomes possible to measure high-frequency changes in labour market status. Looking through the ups and downs of the economic cycle suggests the fall in mobility has been significant. In 2000, 3.2 per cent of workers moved jobs per quarter, and 1.7 per cent of workers moved jobs to a different sector per quarter. In 2019, the rate of job mobility was 2.4 per cent, 25 per cent lower than in 2000, and the sector mobility rate was 1.1 per cent, 35 per cent lower than in 2000.

It is not clear what is behind this fall. Compositional factors only play a small role (more on which below). The returns to moving jobs, compared to staying put, have also not changed dramatically during this period, suggesting workers aren't responding to changing incentives. The incentive to move job and home has likely been dampened due to faster rising housing costs in higher paying areas, but job-and-home moves only account for a small minority of all job moves. One factor might be the rules and institutions governing the labour market, although it's not clear why the changes in this period (towards weaker regulations around hiring and dismissal, and curbs on union power) would have led to slowing job mobility. A reasonable hypothesis is that the rate at which workers move jobs is related to the pace of economic change, and indeed the slowdown over the past three decades in the pace of structural change and the rate at which workers move jobs have been similar. It might therefore be that workers are moving jobs less because there is less demand for them to do so, although establishing a causal link between these two trends would require further analysis.

### Young workers, lower paid workers, and workers in private sector service industries, are the most mobile

Compositional changes in the workforce – specifically the fact that it is becoming older – have had a small negative effect on the average mobility rate. This is because older workers have lower rates of job mobility than younger workers. In 2015-19, 5.8 per cent of 16-24-year-olds moved jobs per quarter, five times the rate of 55-to-64-year-olds (1.2 per cent). There is an even bigger age skew

when it comes to sectoral job mobility: 3.5 per cent of 16-24-year-olds move job to a new sector each quarter, compared to 0.5 per cent among 55-to-64-year-olds.

This may be a cause for concern if structural change is set to accelerate - an older workforce is one that is less likely to make voluntary job moves, which may in turn inhibit the pace at which the labour market adjusts to change, or lead to a bigger role for involuntary rather than involuntary moves. However, the effect of compositional changes on aggregate job mobility has been small, and only accounts for one-fifth of the slowdown in job mobility since the turn of the century. This suggests that composition of the workforce won't be a significant impediment to faster labour market change.

Age is not the only factor along which the rate of job mobility varies - other features such sector and occupation also matter. For example, workers from hospitality and retail move jobs at around three times the rate of workers from public administration. Together, in 2015-19, workers from hospitality and retail accounted for 26 per cent of all job moves and 32 per cent of all sector moves, but only 19 per cent of all employment. There are also big differences in the mobility of workers at different occupation levels: workers from lower-paid occupation groups ('elementary' and 'service and care' occupations) move jobs at twice the rate of workers from the high-paid 'managers and directors' group. Such high rates of job and sector mobility show that mobility is partly about 'churn' between jobs and sectors, and not always related to structural change.

### Young workers are more likely to change occupations when they move jobs, but when older workers do change, the changes are bigger

As well as measuring the rate at which workers move jobs, we can also, by looking at the task content of the jobs workers move between, capture the 'distance', in terms of task similarity, of job moves being made. This provides some important insights. Looking at all the job moves made over the past 20 years, a third (36 per cent) were to a job in the same occupation, hence involving zero 'distance'. For those moves that involve a job with new tasks, we might expect the relationship to be straightforwardly negative, with fewer moves made the larger the 'distance' between jobs.

However, that is not the case. Instead, the most common move is not over the smallest possible distance but over a medium distance – equivalent, say, to the difference (in the task content of their jobs) between a nurse and a factory worker. A significant minority of moves are over a larger ‘distance’: of job moves involving a change of occupation, one-third involve moving a distance (in task content) equivalent to the difference between a nurse and a solicitor.

There are striking differences in the types of job move made by old and young workers. Younger workers are more mobile in terms of changing occupations than older workers, but when older workers do change occupations they are more likely to move to occupations with significantly different tasks. Young workers are much more likely to move occupations when they move jobs – from 2002 to 2020, 70 per cent of 25-year-olds’ job moves involved changing occupation, compared to 55 per cent of 60-year-olds’ moves. But when older workers do move occupations, the distance moved doesn’t have the relationship with age we might expect. From 2002 to 2020, the average job distance of an occupation mover was highest for those age 25 to 35 but also for those age 55 and above (and low for those in their early 20s, as well as for those aged 40 to 50). The fact that some workers do manage to make significant occupational transitions later in their careers is encouraging, boding well for our ageing society’s ability to cope with periods of faster structural change.

### Labour market change can be positive for workers, with those moving jobs and sectors seeing greater pay growth than those who stay put

An important question, as we face up to a decade that is likely to bring greater levels of economic change, is how workers experience this change. It’s important to recognise that there are positives. Most obviously, workers enjoy much stronger pay growth when they move jobs than when they stay put. On average, from 1975 to the present day, individuals who moved jobs enjoyed typical pay growth 4 percentage points higher than individuals who stayed in the same job. The ‘movers’ bonus’ of transitions tends to rise and fall with the economic cycle (it’s lower in downturns), but beyond the cycle it has been remarkably consistent. The movers’ bonus is even higher when workers move to a job in a different sector or region. This suggests that economic change,

and changing patterns of demand for workers across sectors, is likely to create opportunities for some workers to move to where demand and pay is higher (albeit where they may also encounter higher housing costs). Whether UK workers possess the right level of transferable skills that will enable them to make the most of these future opportunities remains an open question that has recently received significant attention from both research and policy and will be further explored in future reports of this Inquiry.

### But there are also downsides to a changing labour market: previous periods of faster change came with higher rates of involuntary job loss

But there is of course also a downside to economic change: not all workers in shrinking sectors will make pay-enhancing moves elsewhere – some face involuntary job exits. These are very negative experiences for workers. They are clearly painful experiences in and of themselves, but we find that they also have further negative effects. Workers who experience involuntary job loss will take longer to return to work than those leaving work voluntarily (half of those experiencing involuntary job loss have returned to employment after six months, compared to two-thirds of those leaving their previous job voluntarily). Moreover, when they do return to employment, it is on average to a job which pays less than the one they left. From 1995 to 2020, median real hourly pay growth was -1.1 per cent among those who had experienced an involuntary period out of work within the past year, compared to 2.1 per cent among all workers.

This partly reflects the nature of workers' job changes. We find that 40 per cent of workers in declining sectors who experience involuntary job loss either return to work in the same sector, or in another declining sector. We also find (using the same job distance analysis mentioned above), that those returning to work after involuntary job separations typically move 'away' from jobs placing emphasis on analytical and personal tasks, and 'towards' jobs involving manual work. This is against the grain of workers making voluntary job moves, where the direction is, on average, towards more analytical jobs.

Importantly, previous periods of faster change have come with higher levels of involuntary job loss. In the early 1990s, 0.8 per cent of all workers faced involuntary job loss per quarter, compared to

0.4 per cent of workers per quarter in the pre-Covid period. Rates of involuntary job loss were particularly high in declining sectors in the early 1990s. This suggests the pace of structural change really matters for the volume of these negative outcomes – a warning sign if, as expected, change speeds up in the 2020s.

### To navigate the coming decade, policy makers will need to draw lessons from how change has happened in the past

What does the above analysis of past periods of economic change tell us about what we can expect in the 2020s? The combined effects of Brexit, Covid-19, and the transition to net zero are likely to trigger a greater level of structural change than we have seen in recent years. Future Economy 2030 Inquiry research will attempt to quantify this – should we expect structural adjustment on the scale of the 1980s? More? Either way, with the country's trading relationships fundamentally changing, with Covid-19 leaving lasting impacts on how and where we work and consume, and with the next phase of the net zero transition set to demand changes in consumption patterns as well as investment in carbon-saving activities, the rate of structural change is likely to increase in the coming years.

One positive lesson from the above is that the rate of sectoral structural change and job mobility appear to be related – when significant industrial reallocation was happening faster, so was the rate at which workers moved jobs. Although the current low rates of change and mobility might suggest an economy ill-prepared for faster change, it's reasonable to expect that rates of worker mobility will rise again as the need for labour reallocation increases.

The negative lesson from the above is that faster economic change is likely to lead to greater levels of job separations. While some workers will be able to turn economic change to their advantage and make pay-enhancing job moves, many won't. And involuntary job losses are costly for workers, both in the immediate sense, but also because those experiencing them are likely to make 'bad' job moves on re-entering employment. As discussed above, sectors can grow and shrink in a number of ways – broadly, through job moves, through the entry and exit of workers in the middle of their working lives, and through 'natural' entry and exit.

'Natural' entry and exit (the balance, at sector level, of young workers joining, and older workers retiring) is clearly the least painful way of managing change, in that it minimises the risk of workers being pushed out via involuntary separations.

Future reports within the Economy 2030 Inquiry will explore in detail how policy makers should go about managing what we expect to be greater levels of change this decade, where the challenge will be to promote the positive opportunities such change presents some workers, while mitigating the negative impact on others.

## Section 1

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### Introduction

The Economy 2030 Inquiry was launched to investigate the substantial economic change that is expected to take place in the 2020s (driven by Brexit, Covid-19, and the transition to net zero) alongside longer-standing factors which continue to shape the UK economy (such as technological and demographic change). The labour market will be one of the domains where change will play out and where its effects will be most directly felt by individuals in the economy. The shocks above will affect not just the types of jobs done in the UK, but also their location, and who does them. Some industries and occupations will likely shrink or even disappear within the decade ahead, while others will significantly expand.

In this report we lay the groundwork for thinking about the coming decade by looking backward at the labour market change that has taken place over the last half century. We examine: the scale of sectoral change that has happened in the past, what characterised the change, and how workers have experienced it. As shown in this report, the pace of change in the UK (at least, in terms of sectors) has been much slower in recent years than it was in the 1980s, so our collective memory of what rapid change looks like has faded right at a point when change is set to speed up. Studying how change has happened and its effects on workers in the past is therefore a useful exercise to start thinking about the labour market of the 2020s.

To this end, this report is structured as follows.

- Section 2 sets out basic facts about how the sectoral and occupational composition of employment in the UK has changed over the past half century, and how the pace of change has varied over time;
- Section 3 expands on how this change has taken place, with a focus on the contribution of workers moving jobs and sectors;

- Section 4 looks at what these changes have meant for workers living through these changes, in terms of both the benefits (as some workers experience stronger pay growth by changing jobs and sector) and the costs (as others are subject to involuntary job separations and the negative consequences which flow from that);
- Section 5 concludes.

## Section 2

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# Sectoral and occupational change in the UK labour market

There have been significant changes in the sectoral and occupational structure of the UK economy over the past 50 years. In terms of sectors, the biggest change since the 1970s has been the fall of employment in manufacturing, and the rise of employment in service sectors such as business services. In terms of occupations, the jobs growth has been concentrated in higher-paying occupations, particularly for women. In the 1980s and 1990s there was also growth in low-paying occupations, leading to a characterisation of the labour market as undergoing 'polarisation'. In more recent years growth at the bottom is less apparent, so 'upgrading' is a more accurate characterisation.

Importantly, although it might not feel like it, the pace of structural change has been slowing down in recent years, not speeding up. The amount of reallocation of labour across 21 'sections' of the economy amounted to 7 per cent of total employment in 2021, about one-third the rate of change seen in the 1980s, which marked a high point in the rate of change. This observed slowdown in the rate of change is also true when we look at more detailed industry classifications - reallocation across the 81 industry 'divisions' has also been slowing down.

This section sets out some facts about how the UK labour market has changed over the past half-century. There have been changes in that period on many fronts: in the composition of the workforce; in worker power and the role of unions; wage and income inequality; in the geographic distribution of work; and more recently in the rise of 'atypical' forms of employment contract and the 'gig' economy. These changes are all important, and some will be covered in depth in other Economy 2030 Inquiry reports.

In this report (and in this section) we focus on the change and pace of transformation affecting two of most relevant characteristics of the economy and labour market over time: the industrial and occupational mix of UK jobs.

## There have been big changes in the sectoral and occupational make-up of the UK economy over the past half-century

### The 1970s and 1980s saw a big shift from employment in manufacturing to employment in services

The scale of the change in the industrial structure of UK jobs over the past fifty years has been significant. The biggest changes have been the fall in the number of jobs in manufacturing and the growth of jobs in a number of public and private sector services. Figure 1 sets out the proportion of UK jobs accounted for by manufacturing, education, health, and professional services. In 1970, there were 7.7 million jobs in manufacturing in the UK, accounting for around three-in-ten (29 per cent) of all (27 million) jobs. By 2021 the number of manufacturing jobs had fallen to 2.5 million, 8 per cent of all (34 million) jobs. The fall in the volume of manufacturing jobs between 1970 and 2021 was minus 67 per cent in terms of job numbers (meaning manufacturing in 2021 is less than a third of its size in 1978) and minus 21 percentage points as a share of total employment. In the same period, the growth of jobs in services has been similarly large. In 1970 there were 3.7 million jobs in education, health, and professional services combined - some 14 per cent of all jobs. By 2021 that had risen to 10.6 million or 31 per cent of all jobs.

The big shift from manufacturing to services in the 1970s and 1980s was driven by two structural factors: firstly, by the intensification of technological change and the rise of computers and robotization, which automated work in manufacturing but added value to jobs in services,<sup>1</sup> and secondly by the growth in global trade, which drove the relocation of production to countries with lower costs.<sup>2</sup> Government policy in that period, such as financial deregulation, and action against the power of organised labour together with a more limited role for labour market institutions, is likely to have pushed in the same direction as these structural factors.<sup>3</sup>

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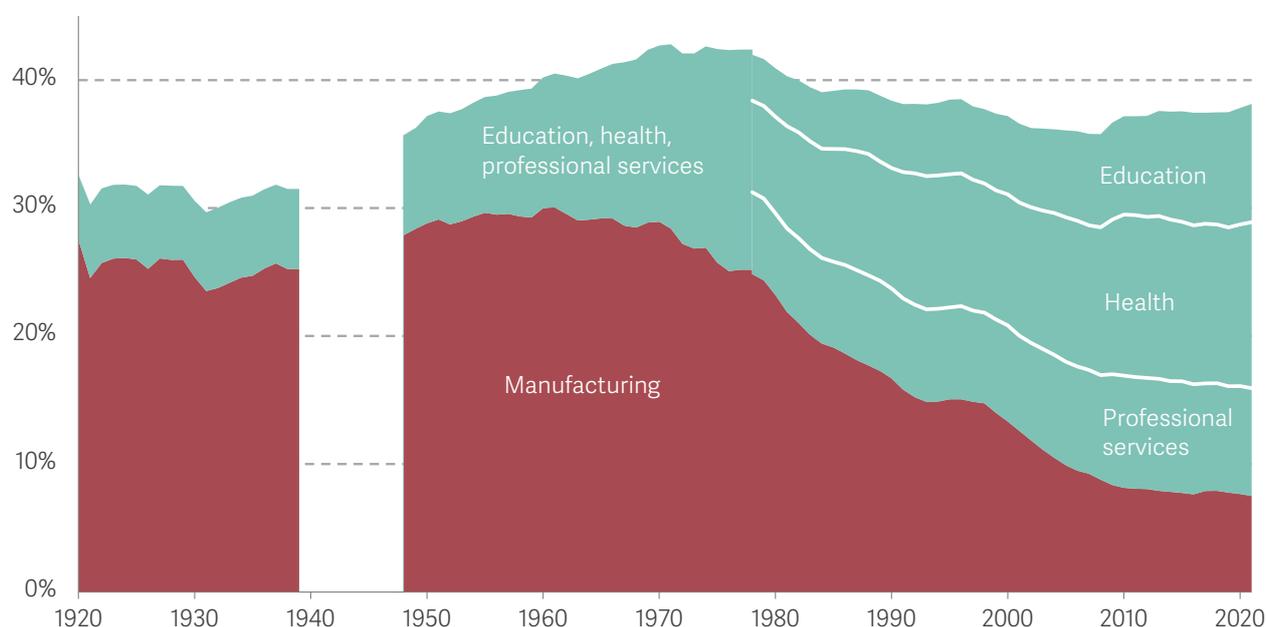
<sup>1</sup> See: G Graetz & G Michaels, [Robots at work](#), The Review of Economics and Statistics 100(5), December 2018; D Acemoglu & P Restrepo, [Automation and new tasks: How technology displaces and reinstates labor](#), Journal of Economic Perspectives 33(2), 2019.

<sup>2</sup> R Baldwin, [Globalisation, automation and the history of work: Looking back to understand the future](#), VoxEU, January 2019.

<sup>3</sup> T Bell et al., [The UK's decisive decade: The launch report of the Economy 2030 Inquiry](#), The Economy 2030 Inquiry, May 2021.

## FIGURE 1: Jobs in manufacturing fell sharply from 1970 onwards, and were replaced by jobs in services

Proportion of employment by selected sectors: UK, 1920-2021



SOURCE: Analysis of ONS, Workforce Jobs; Bank of England, Millennium of Macroeconomic Data.

In the case of manufacturing, it is the 1970s where the significant decline starts. Manufacturing accounted for the same share of jobs in 1950 as it did in 1970 (29 per cent). Before World War Two (WW2) the share had been slightly smaller, but not significantly so. In the case of the service sectors shown in Figure 1, the change started earlier: collectively, education, health and professional services have been rising as a share of employment since around 1930.

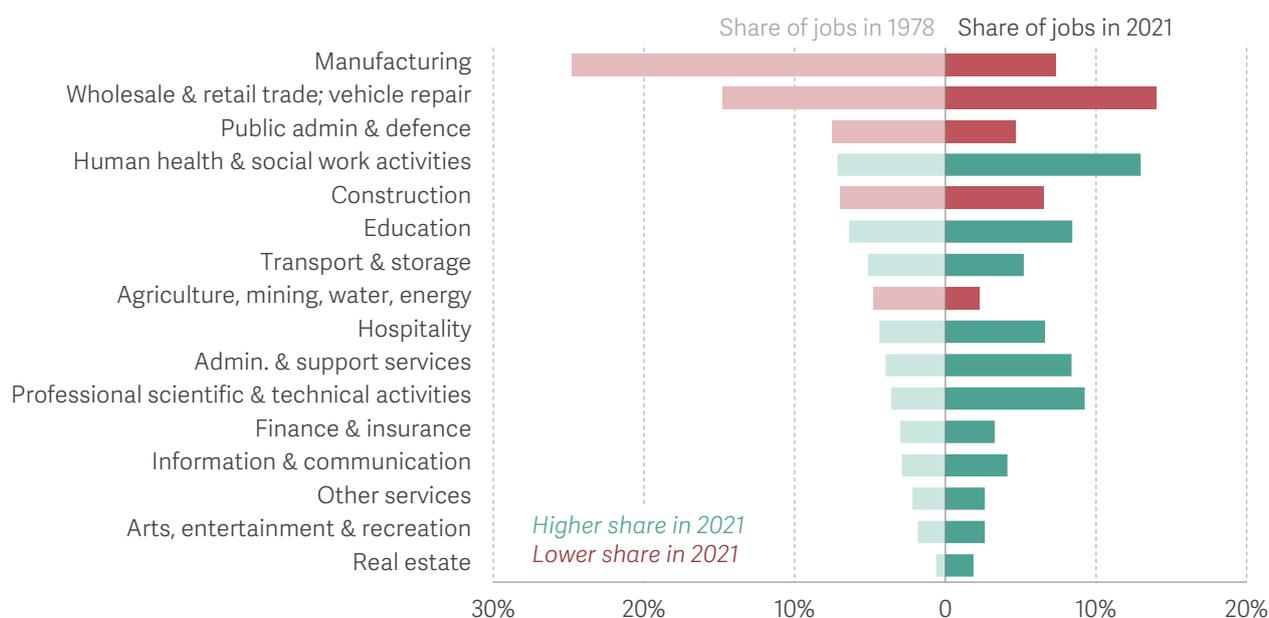
Manufacturing and the service sectors shown above are the industries where much of the structural change has taken place. But they are not the only sectors which have experienced growth or decline – and indeed together they account, throughout the period of analysis, for fewer than half of all jobs. Since 1978 (when employment data on modern industrial classifications begins<sup>4</sup>), the sectors which have fallen as a share of overall employment have been manufacturing; wholesale, retail, and motor services; public administration and defence; and primary sectors (agriculture, energy, water, and mining). Of those, the fall in manufacturing is by far the largest. All other sectors have grown as a share of overall employment. The sectors with the largest increases in employment share (in percentage points) between 1978 and 2021 have been health,

<sup>4</sup> By modern classification, we mean sector and division groups according to the 2007 Standard Industrial Classification (SIC07), in contrast to the sectoral industry aggregation used in the by the Millennium of Macroeconomic Data of the Bank of England.

professional services, and administrative and support services.<sup>5</sup> This data is set out in Figure 2, below.

**FIGURE 2: Manufacturing is the sector which has seen the biggest change in its share of overall employment since 1978; relative growth, meanwhile, has been spread across several service sectors**

Proportion of employment by selected sectors: UK, 1978-2021



SOURCE: Analysis of ONS, Workforce Jobs; and Bank of England, Millennium of Macroeconomic Data

## Occupational change in the 21st century has been characterised by ‘upgrading’ – the growth of higher-skilled, higher-paying occupations

Turning from sectors to occupations, again there is a picture of substantial change. Consistently-defined data on occupations is only available from 1992 onwards, so this discussion of occupations is more limited in its timeframe, although a thirty-year timeframe still provides a reasonable window to identify some long-term trends. The main trend is what has been referred to as ‘occupational upgrading’, where jobs growth has been concentrated among those occupations which are higher-skilled and higher-paid.

This can be seen most readily by looking at data on the ‘major occupation groups’, which group specific occupations (such as ‘telephone salespersons’) into broad groups (such as ‘sales and customer service occupations’) which have comparable levels of skill requirements, and as such also attract comparable levels of pay. Figure 3 plots total

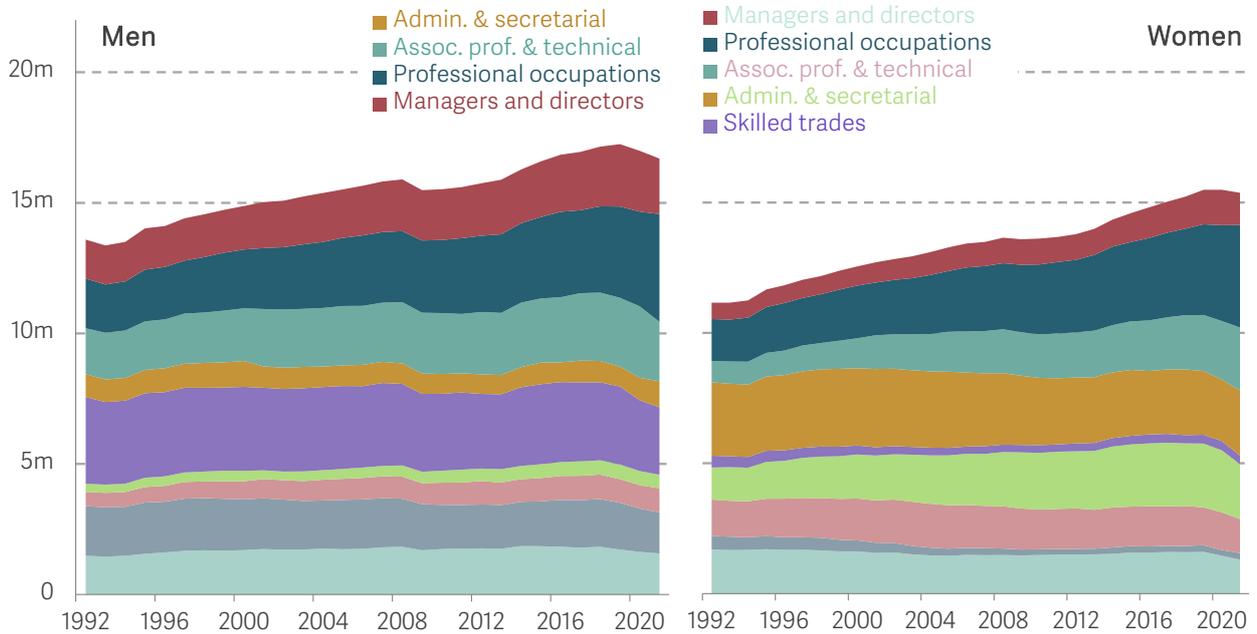
<sup>5</sup> Administrative and support services are not shown in Figure 1 because before 1978 this sector is grouped with ‘other services’, not all of which were significant growth sectors over this period.

employment by these major occupation groups, for men and women separately. The occupations are presented in descending order from the top in terms of their ranking in the major group hierarchy. For both men and women, employment growth over the past thirty years has been the greatest for higher level occupations.

Female employment has grown by 4.2 million since 1992. This total growth is more than accounted for by growth in the ‘top’ three occupations – managers and directors, and professional and associate professional occupations – which collectively have seen jobs growth among women of 4.5 million. Apart from ‘caring and leisure service occupations’, where female employment has grown by 0.9 million since 1992, female employment in other ‘lower’-level occupations has fallen, both in absolute terms and as a proportion of overall female employment. (Men have also seen falling employment in those occupations groups, but to a lesser extent than women.) Among the ‘higher’ occupations, growth has been particularly strong in the ‘associate professional and technical occupations’ major group, where female employment has grown from 0.8 million in 1992 to 2.4 million in 2021.

**FIGURE 3: For both men and women, jobs growth in the last 30 years has come mainly from the growth of higher-skilled occupations**

Employment by major occupation group: UK, 1992-2021



NOTES: SOC 1990 and SOC 2000 codes have been mapped to SOC 2010 codes using a probabilistic mapping relying on dual-coded data.  
 SOURCE: Analysis of ONS, Labour Force Survey.

For men, employment growth has also been strongest in the ‘higher’-level occupations – though because overall male employment grew more slowly than female employment in this period, the absolute growth in these occupations has not been as large. Since 1992, male employment has grown by 3.1 million. Again, employment growth among the ‘top’ three occupation groups (3.4 million) accounts for more than the total jobs growth. Whereas for women ‘associate professional and technical’ jobs were the biggest source of growth, for men it has been jobs in the (higher-level) ‘professional occupations’. Unlike women, employment in several ‘lower’ occupation groups was higher in absolute terms in 2021 than in 1992 for men, including jobs in ‘elementary’, ‘sales and customer services’, ‘caring and leisure services’, and ‘administrative’ occupations. (It should be stressed, however, that growth in these occupation groups has been small: men only account for a quarter – 0.2 million out of 0.9 million – of the growth in employment in ‘caring and leisure service occupations’, for example.)

The comparisons above take 2021 as the end point, where employment levels are of course lower than where they were before the Covid-19 crisis – and the impact on employment in this crisis has been concentrated among ‘lower’-level occupations.<sup>6</sup> If we instead took 2019 as our end point, it is still the case that employment growth since 1992 is overwhelmingly concentrated among ‘higher’ occupations, but not to quite the extent that is suggested by using 2021 as the comparison point.

Another way of showing occupational ‘upgrading’ is by looking at the growth of occupations by their level of typical pay. Figure 4 shows the change in the proportion of employment accounted for by occupations after splitting them into deciles based on their typical pay at the start of each period. The first period shown, 1979-1999, uses data from a 2007 report, which found employment growth in the bottom and top two pay deciles, and falling employment in the middle.<sup>7</sup> Authors Goos and Manning argued that this meant the UK was experiencing occupational ‘polarisation’, with the growth of both ‘lousy’ and ‘lovely’ jobs. Repeating this analysis for the period 2001-2019 shows that the picture has since changed from ‘polarisation’ to one of ‘upgrading’. Second-decile occupations grew in size, but first-decile occupations fell in size, meaning there is no overall picture of growth in low-paying occupations. And there is growth in the employment share across occupations in the top four pay deciles.

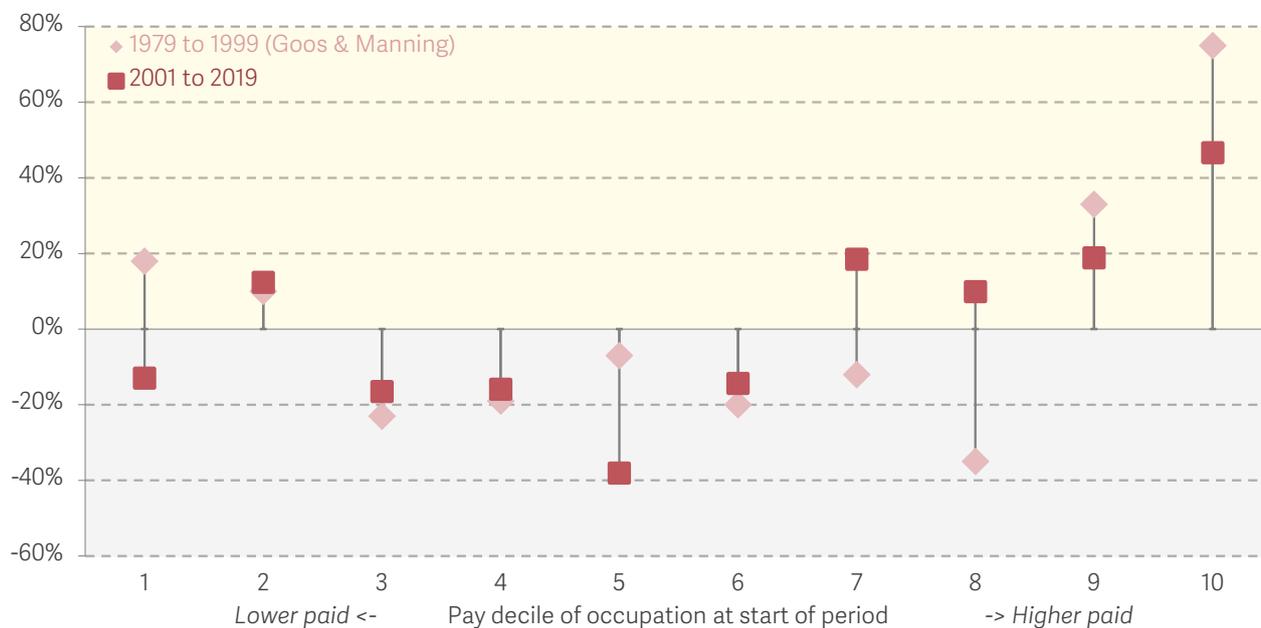
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<sup>6</sup> See, for example: M Brewer, C McCurdy & H Slaughter, [Begin again? Assessing the permanent implications of Covid-19 for the UK's labour market](#), The Economy 2030 Inquiry, November 2021.

<sup>7</sup> M Goos & A Manning, [Lousy and lovely jobs: the rising polarization of work in Britain](#), Centre for Economic Performance, London School of Economics, February 2007.

**FIGURE 4: The UK labour market has seen 'occupational upgrading' in the last 20 years, whereas previously there was evidence of 'polarisation' with growth at the top and bottom**

Change in the share of employment by pay decile of occupation at start of period: UK, 1979-1999 and 2001-2019



NOTES: SOC 1990 and SOC 2000 codes have been mapped to SOC 2010 codes using a probabilistic mapping relying on dual-coded data. Minor group occupations are grouped into pay deciles by their median hourly pay at the start of each period. The occupation pay decile groupings for the Goos & Manning analysis (for the period 1979-1999) are not necessarily the same as those from our analysis (for the period 2001-2019).

SOURCE: M Goos & A Manning, Lousy and lovely jobs: the rising polarization of work in Britain, Centre for Economic Performance, London School of Economics, February 2007; analysis of ONS, Labour Force Survey.

## Occupational 'upgrading' has been more pronounced for women than men over the last 20 years

As with the above data on major occupations, looking at occupational growth by pay decile also suggests that occupational upgrading in the last twenty years has been more pronounced for women than men. This is set out in Figure 5 below. For men, there has been sizeable growth in occupations in the tenth pay decile in the last 20 years, and modest growth in occupations in the first, second, seventh and ninth pay deciles. For women, there has been sizeable growth across the top four pay deciles, and modest growth in occupations in the second pay decile. Similar analysis by economists Petrongolo and Ronchi for the period 1980-2007 showed that both men and women experienced occupational 'polarisation' in that earlier period.<sup>8</sup>

<sup>8</sup> B Petrongolo & M Ronchi, *Gender gaps and the structure of local labour markets*, Labour Economics 64, June 2020.

### FIGURE 5: Occupational upgrading in the last twenty years has been more pronounced for women than men

Change in the share of employment from 2001 to 2019 by pay decile of occupation in 2001, by gender: UK



NOTES: SOC 1990 and SOC 2000 codes have been mapped to SOC 2010 codes using a probabilistic mapping relying on dual-coded data. Minor group occupations are grouped into pay deciles by their median hourly pay at the start of the period.

SOURCE: Analysis of ONS, Labour Force Survey.

## The pace of sectoral change has slowed since the 1980s

Later sections of this report will examine how the reallocation of labour from one part of the economy to another has tended to happen, and what the experiences of workers have been as the occupations and sectors they work in have grown or shrunk. One factor which is likely to influence both is how quickly change happens. We might expect, for example, that more rapid change is likely to be more disruptive, with change less likely to be accommodated by 'natural' differences in the sectors older workers leave and younger workers enter, and perhaps more likely to trigger involuntary job loss in areas of falling demand. The pace of change also matters for thinking about what's coming in the 2020s. As discussed above, the combined impact of Covid-19, Brexit, and the transition to net zero are likely to lead to significant changes in patterns of demand.<sup>9</sup> All else equal, the workers and institutions in a labour market with recent experience of change are likely to be better placed to handle future periods of change.

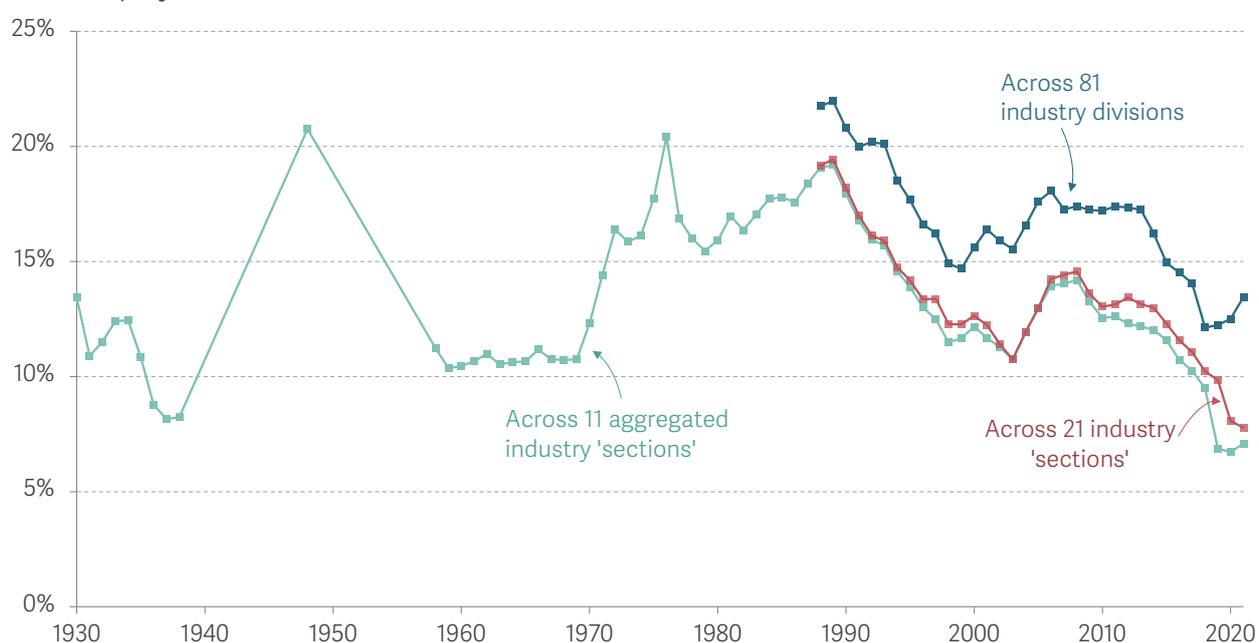
<sup>9</sup> T Bell et al., *The UK's decisive decade: The launch report of the Economy 2030 Inquiry*, The Economy 2030 Inquiry, May 2021.

## The economy underwent rapid sectoral change in the 1970s and 1980s, but the rate of change has since slowed down

Figure 6 presents a measure of how much the sectoral composition of employment has changed over the past 10 years.<sup>10</sup> Given the size of the structural shift from manufacturing to services in the 1970s and 1980s, it is not surprising that those years were a period of fast change – equal to the level of change triggered by WW2. Since the 1980s, the rate of change has been trending downwards (apart from an uptick around the time of the financial crisis), and in 2021 stands at its lowest point measurable using this data, which is 1920 onwards. But while the pace of sectoral change in recent years might appear ‘low’ compared to much of the time series shown in Figure 6, it is actually a relatively ‘normal’ level of change by historical standards, outside of wartime and periods of intense structural change such as the 1970s and 1980s. Although the pace of change today is at a century-long low, it is not significantly lower than the rate of change in the late 1940s or the 1960s.

**FIGURE 6: The rate of sectoral change has fallen since the 1980s**

Sectoral reallocation in the 10 years to date shown, expressed as a percentage of total employment: UK



NOTES: Sectoral reallocation is measured as the weighted average, across sectors, of the absolute change in employment share compared to a decade ago, based on a measure used in G Chodorow-Reich & J Wieland, *Secular Labor Reallocation and Business Cycles*, *Journal of Political Economy* 128(6), April 2020. See Appendix for further details. Red line uses SIC 2007 sections but some have been condensed for consistency with long-run data; the blue line uses the full set of industry sections in SIC 2007, for which Workforce Jobs data is available from 1978 onwards.

SOURCE: Analysis of ONS, Workforce Jobs; Bank of England, Millennium of Macroeconomic Data.

<sup>10</sup> Further details on the measure used are set out in the Appendix. See also: G Chodorow-Reich & J Wieland, *Secular Labor Reallocation and Business Cycles*, *Journal of Political Economy* 128(6), April 2020.

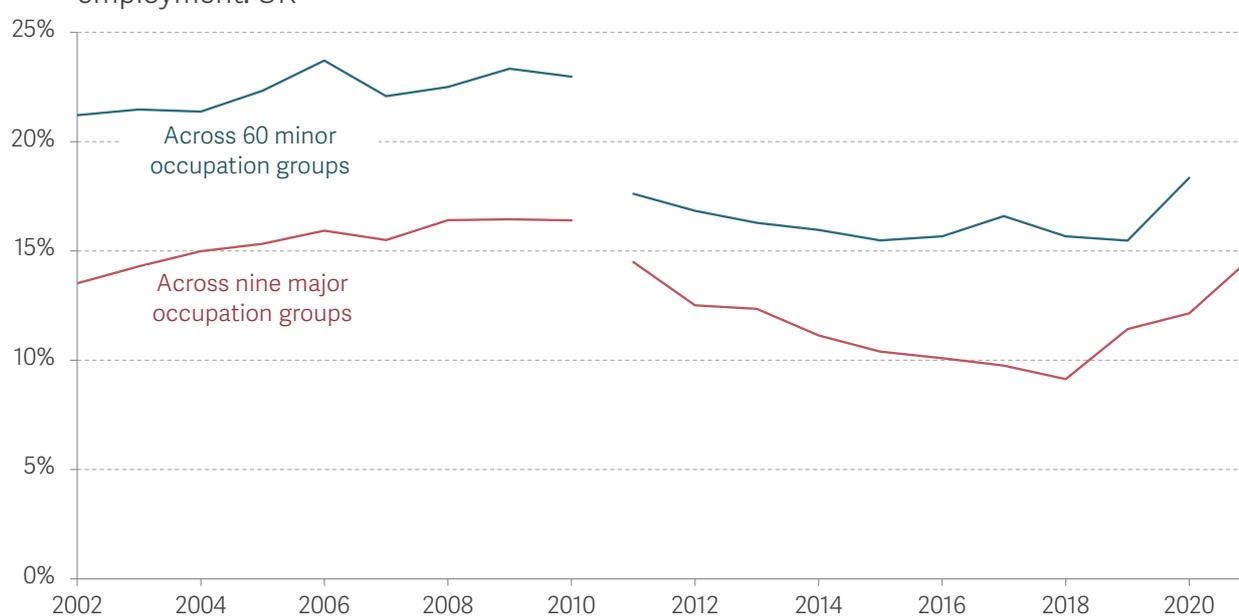
The overarching finding of falling rates of reallocation was set out in the launch report of the Economy 2030 Inquiry.<sup>11</sup> Here we have extended that result, firstly by measuring reallocation at a higher frequency, and secondly by showing that the fall in sectoral reallocation holds when employment is measured at different levels of sector aggregation. The long-term data, which measures reallocation across 11 aggregated 'sections' (the teal line in Figure 6), tells a similar story to the data on reallocation across 81 industry 'divisions' (the dark blue line), which is available from 1978 onwards.

## The rate of reallocation across occupations may not have slowed as much as reallocation across sectors

It is harder to measure the pace of occupational change because consistent data is not available over as long a period as for sectors. Figure 7 below applies to occupations the same measure of change used for sectors in Figure 6, although it is worth noting the two charts are not comparable in levels terms because the number of sectors is different to the number of occupations.

**FIGURE 7: The rate of reallocation across occupations may not have slowed as much as reallocation across sectors**

Occupational reallocation in 10 years to date shown, expressed as a percentage of total employment: UK



NOTES: Occupational reallocation is measured in the same way that sectoral reallocation was measured, in Figure 6. See Appendix for the equation underlying the calculation. The SOC classification changed in 2011 – the fall in reallocation in 2011 may be a data break rather than a genuine fall, and so should be treated with caution.

SOURCE: Analysis of ONS, Labour Force Survey.

<sup>11</sup> T Bell et al., *The UK's decisive decade: The launch report of the Economy 2030 Inquiry*, Resolution Foundation, May 2021.

Figure 7 suggests that the rate of occupational change has been broadly stable over the period shown (a data break in 2011 means we should be careful about reading much into the fall in reallocation in that year). This is different from the pattern of sectoral reallocation which, as set out above, has been slowing. Occupational change continuing at a similar pace while sectoral change slows might suggest that the process of occupational upgrading is not linked to or dependent on changes in the structure of employment across sectors. This is in keeping with studies which have found that the process of occupational polarisation in the 1980s and 1990s was mainly occurring ‘within’ rather than ‘between’ industries.<sup>12</sup>

Having explored the nature and pace of sectoral and occupational change that has occurred in recent decades, the next section looks at how that change has happened, and in particular at how workers moving between jobs has contributed to that change.

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<sup>12</sup> See, for example: M Goos & A Manning, [Lousy and lovely jobs: the rising polarization of work in Britain](#), Centre for Economic Performance, London School of Economics, February 2007.

## Section 3

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### How has labour market change happened?

Reallocation of labour across the economy can come from direct job moves, but also from the net effect of inflows and outflows. This may be the more important driver of reallocation: ‘natural’ entry and exit (the balance of older workers leaving the workforce, and younger workers entering) was particularly important in the fall of manufacturing employment in the 1980s, for example. Nevertheless, job moves do make an important contribution to reallocation. With greater structural change expected this decade, it may therefore be concerning that there has been a slowdown in the rate at which workers move between jobs and sectors. Alternatively, slowing mobility may be a result of a slowdown in structural change, and may therefore speed up if the rate of structural change increases this decade. While some compositional changes are exerting a drag on job mobility – mainly because the workforce is ageing and older workers move jobs less – this effect is offset by other compositional changes, so the total compositional drag on job mobility is small.

This section looks at how the changes outlined in the previous section came about. When we look at how labour is reallocated across sectors or occupations in aggregate, we are observing the net effect of a much larger number of gross changes – some workers move jobs and others enter or leave employment altogether. This section explores these gross flows, and how they have changed over time, focussing particularly on the role of job mobility in driving labour reallocation.

#### Reallocation of labour across the economy is the result of moves between jobs and flows into and out of employment

Labour market flows (in and out of employment, or between sectors) are typically much larger than the net changes in employment they lead to. For example, in the latest

quarter, July-September 2021, total UK employment among 16-to-64-year-olds rose by 153,000 on the previous quarter. This net change was an order of magnitude smaller than the gross flows underpinning it: between the April-June and July-September quarters 1.2 million people entered and 950,000 left employment. On top of these entry and exit flows, an additional 1 million people changed job between two sectors. So a net employment change of 150,000 sits on top of 3.1 million people who either entered or left employment, or changed jobs.<sup>13</sup>

It's a similar story when it comes to the change in employment at the sector level, which will be the net effect of people joining and leaving a sector. At the sector level, joiners and leavers can be separated into those joining from (or leaving to) another job in a different sector, and those joining from (or leaving to) non-employment. The net effect of these flows will drive changes in sector-level employment, but as above the gross flows are larger than the net changes. And there are always flows in both directions. Shrinking sectors, such as manufacturing, will still have workers joining the sector, but these inflows will be smaller than the number of workers leaving.<sup>14</sup> It's also worth noting that high-frequency exit and re-entries make an important contribution to job and sector mobility. As Figure 8 shows, direct job moves (where the worker moved directly from employment in one job to employment in another job) account for the majority of all within-year job moves (71 per cent), but indirect job moves (via one or more periods out of work) account for a significant minority (29 per cent).<sup>15</sup> Interestingly, direct and indirect job moves are similarly as likely to involve moving to a new sector, so it's not the case that sectoral mobility owes more to indirect than to direct job moves.

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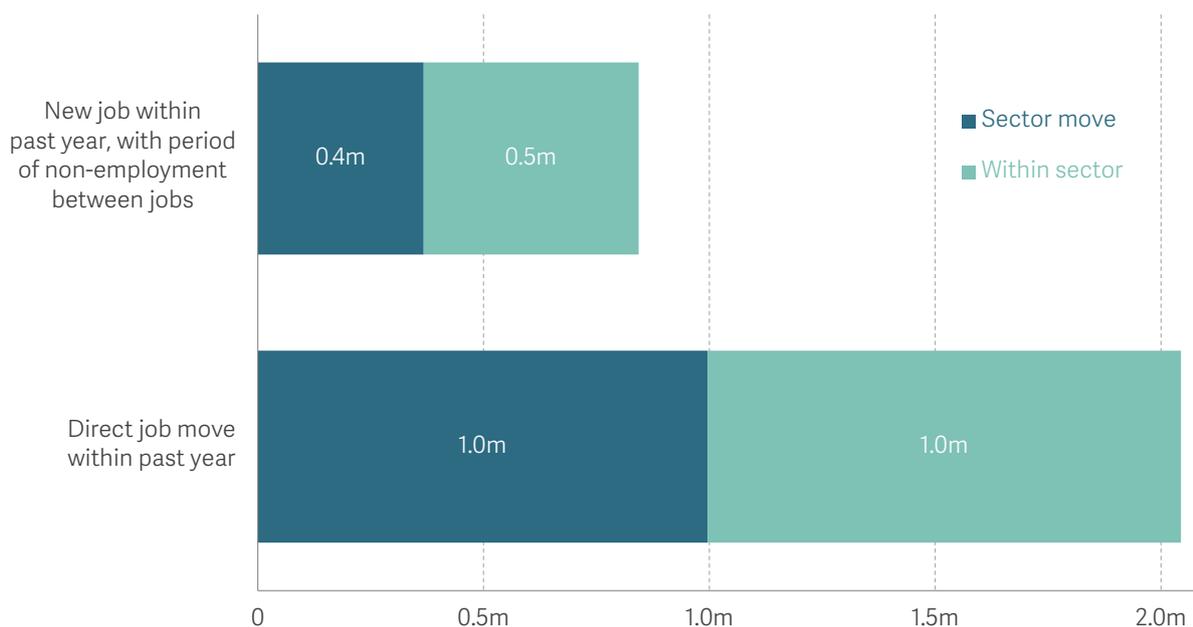
<sup>13</sup> Note that the difference between employment entry and exit flows imply a net change of plus 250,000 between April-June and July-September, whereas the change in the stock as reported in the official employment estimate was plus 150,000. The two numbers are different because the ONS's estimate of employment flows and employment stocks come from different samples, meaning they do not produce identical estimates of the change in the stock. The broader point, that employment flows are much greater than the change in the stocks over any given time period, holds in any case.

<sup>14</sup> For example, in the 1980s, when manufacturing experienced falling employment, the number of entrants to manufacturing from other sectors and from non-employment, over a ten year horizon, were equivalent to more than half of total employment in manufacturing. These are the gross entry flows which lie behind Figure 9. The methodology is described under the figure and in the text.

<sup>15</sup> There are different ways to measure job moves in the Five-Quarter Labour Force Survey. Some methods utilise the tenure spent with the current employer whereas others reflect self-reported job changes. Figure 35 and Figure 36 in the Appendix show that the trend captured by the different measures is similar. Thus, which measure of job moves we use does not make a material difference. Our preferred measure of job moves is the corrected tenure approach. It records a job move if a worker has spent more time with their current employer at time t-1 relative to time t. See the Appendix for the alternatives.

### FIGURE 8: 'Indirect' job moves (via a period out of work) are a third of the size of within-year direct job moves

Number of workers making a job move within the past year, either directly (from job to job without any periods not employed) or indirectly (via a period out of work): UK, 2014



SOURCE: Analysis of ONS, Five-quarter Labour Force Survey.

Figure 9 attempts to set out how these different flows have, across ten year time horizons, contributed to falling employment in manufacturing. The net effect of industry movers (those in employment in both periods observed but working in different sectors) is shown in red. Movements into and out of the sector from non-employment are further separated by age – the net effect of older workers (age 55 plus) leaving and younger workers entering (and 25 or below) is shown in turquoise, separately from the net effect of 'within career' workers (age 25 to 55) entering and leaving the sector to and from non-employment, which is shown in blue. The former could be termed 'life-cycle' flows, since it captures the net effect of workers entering from education<sup>16</sup> and leaving to retirement.<sup>17</sup> Moves are measured at a ten-year horizon, using the New Earnings Survey Panel Dataset and the Annual Survey of Hours and Earnings panel, where approximately 1 per cent of all employees are included based on their national insurance number. As a caveat it should

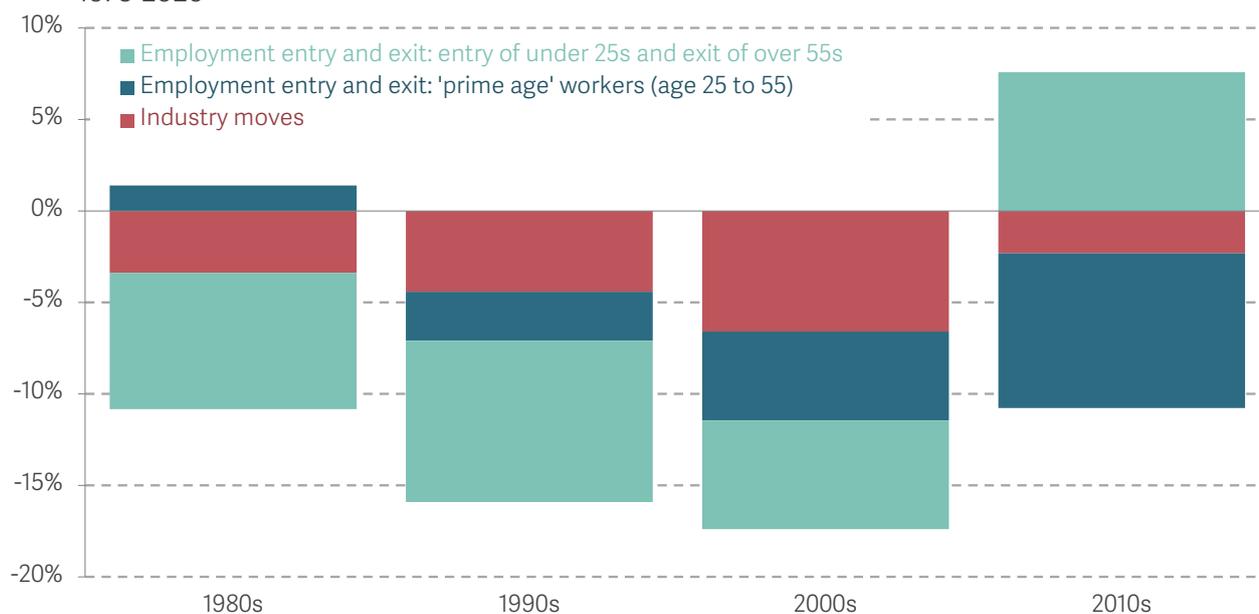
<sup>16</sup> For the period that we observe in the Five-quarter Labour Force Survey (January 1994-March 2021), out of all job moves for people aged 25 or less around 46% were associated with students. In other words, 46% of jobs moves for people aged below 25 were students moving i) from inactivity to employment, ii) from unemployment to employment or iii) from one job to another. In general, the share of student transitions varied from 38% to 54% out of all job moves for people aged 25 or less over the period.

<sup>17</sup> Note that we do not observe workers that are not in the dataset, but we know their age when they are observed, from which we can calculate their age when not observed. We are assuming that workers under the age of 25 who have entered the sample (on a ten year horizon) were likely to have previously been in education, and workers age 55 plus who have left the sample (on a ten year horizon) are likely to have retired.

be noted that this survey isn't designed to be used as a long-term panel in this way, and the data are not weighted, so results should not be over-interpreted – they are used here to provide a general overview rather than to draw out detailed results.<sup>18</sup>

### FIGURE 9: Employment entry and exit played a bigger role in the fall of manufacturing employment than workers moving jobs between sectors

The average annual effect on employment in manufacturing of people entering and exiting the sector from different origins/destinations across a ten year horizon: GB, 1975-2020



NOTES: This analysis uses the New Earnings Survey / Annual Survey of Hours and Earnings panel dataset, which is approximately a 1 per cent sample of all employees. Data are not weighted. Non-appearance in the sample is treated as a proxy for not being in employee work, though in practice we cannot distinguish between an individual who is not in employee work and another who does not appear in the sample for a different reason. Industry classifications from earlier years (SIC 1968, SIC 1980 and SIC 2003) have been harmonised to the SIC 2007 classification using proportional mapping, and aggregated at the SIC 2007 section level. An entrant to manufacturing is someone working in manufacturing in year T who was not working in manufacturing in year T-10. An exiter from manufacturing is someone working in manufacturing in year T who was not working in manufacturing in year T+10. The net effect of entry and exit is the number of entrants, minus the number of exiters, expressed as a proportion of employment in the sector in year T. SOURCE: Analysis of ONS, NESPD/ASHE.

A number of findings emerge from these calculations. First of all, in the case of manufacturing, the net effect of each of the flows described above have tended to push in the same direction. Falling employment has been driven by negative net industry moves, and negative net workforce entry and exit. The exception has been in the 1980s, when the net effect of 'within career' workforce entry and exit was positive, and in the 2010s, when the net effect of 'lifecycle' workforce entry and exit was positive.

<sup>18</sup> Furthermore it should be noted that ASHE and NESPD only include employees; self-employed are not included.

Second, workforce entry and exit have tended to play a bigger part in the reallocation of labour away from manufacturing than job moves between industries have. In the 1990s, for example, the net effect of all workforce entry and exit (taking ‘within career’ and ‘lifecycle’ entry and exit together) amounted to -11.5 per cent of total employment on average, compared to -4.4 per cent of employment for the average net effect of sector job moves. This is an important finding, as it shows it is possible to have big changes in employment at the sector level without relying on individuals moving sectors<sup>19</sup>.

Within the two types of entry and exit shown, in the 1980s and 1990s ‘lifecycle’ workforce entry and exit played a bigger role than ‘within career’ entry and exit, but since then they have been similar in the size of their effect on manufacturing employment.

### FIGURE 10: The drivers of growth in employment in professional services have changed over time

The average annual effect on employment in professional services of people entering and exiting the sector from different origins/destinations across a ten year horizon: GB, 1975-2020



NOTES: This analysis uses the New Earnings Survey / Annual Survey of Hours and Earnings panel dataset, which is approximately a 1 per cent sample of all employees. Non-appearance in the sample is treated as a proxy for not being in employee work, though in practice we cannot distinguish between an individual who is not in employee work and another who does not appear in the sample for a different reason. Industry classifications from earlier years (SIC 1968, SIC 1980 and SIC 2003) have been harmonised to the SIC 2007 classification using proportional mapping, and aggregated at the SIC 2007 section level. An exiter from professional services is someone working in manufacturing in year T who was not working in professional services in year T+10. The net effect of entry and exit is the number of entrants, minus the number of exiters, expressed as a proportion of employment in the sector in year T.

SOURCE: Analysis of ONS, NESPD/ASHE.

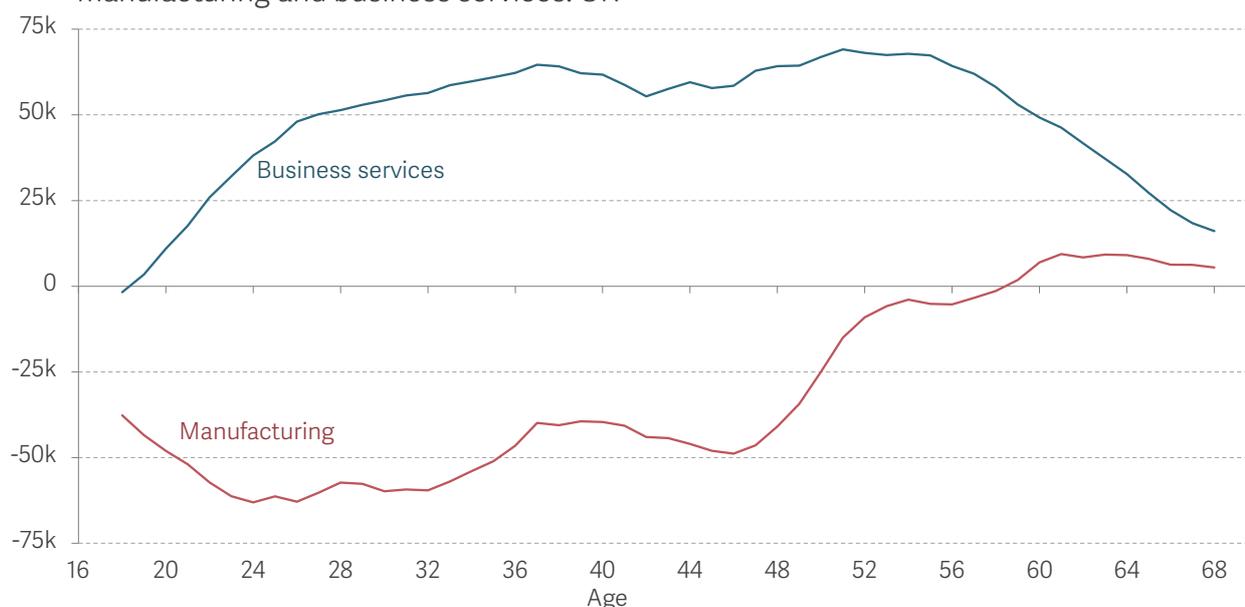
<sup>19</sup> Recent research on the effect of import competition on manufacturing employment shows how workers have struggled to reallocate to other sectors of the economy as result of that economic shock. See Autor, David H., David Dorn, and Gordon H. Hanson. 2013. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States." and De Lyon, Josh & Pessoa, Joao Paulo, 2021. "Worker and firm responses to trade shocks: The UK-China case"

Figure 10 repeats the above analysis but for professional services instead of manufacturing. Employment in professional services has been growing since the 1980s, so the net combination of the different flows is positive in each decade, even if each type of flow is not positive in all periods. In the case of professional services job moves appear to have played a more significant role in labour reallocation than is the case for manufacturing. For example, in the 1990s, the net effect of moves into and out of jobs in professional services from jobs in other sectors amounted to 5.4 per cent of overall employment in that sector, while workforce entry and exit had a broadly neutral effect, with net 'lifecycle' entry and exit negative and net 'within career' entry and exit positive to similar degrees.

The importance of 'lifecycle' entry/exit in the reallocation of labour across sectors can also be seen by looking at how sectors' age profiles change over time. Figure 11 plots the change in employment across the age range between 1994-95 and 2018-19 in manufacturing (in which employment fell by 38 per cent in this period) and business services (in which employment grew by 139 per cent). Manufacturing employment has fallen across most of the age distribution, but the fall was greatest among younger workers, in particular those in their 20s and 30s. This suggests a significant contribution in falling employment coming from lower entry among young workers. Manufacturing employment among workers in their 60s was higher in 2018-19 than 1994-95. Business services, by contrast, saw employment growth across the age distribution in this period.

**FIGURE 11: The manufacturing workforce has become older as it has shrunk**

Change in employment between 1994-95 and 2018-19 by single year of age in manufacturing and business services: UK



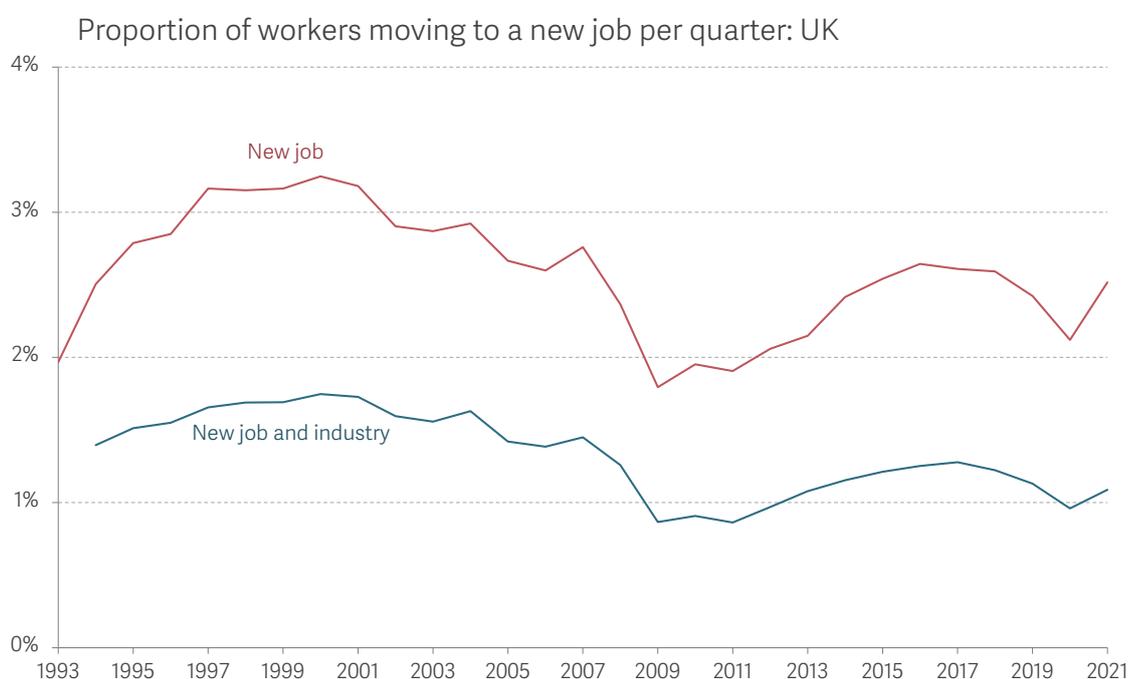
NOTES: Manufacturing and business services refer to SIC 1992 sections 4 ('Manufacturing') and 11 ('Real estate, renting, and business activities').

SOURCE: Analysis of ONS, Quarterly Labour Force Survey.

## The rate of worker job and sector mobility has fallen since the 1980s, by broadly the same extent as the fall in the rate at which jobs have reallocated across sectors

Having showed how different types of flows have contributed to changing employment in manufacturing and professional services, we now zoom out and look at how, across the economy as a whole, the rate at which workers move between jobs and sectors has changed over time.

**FIGURE 12: The rate at which workers move jobs, and in particular the rate at which workers move jobs between sectors, has slowed compared to 20 years ago**



NOTES: A job move is defined using an employment tenure reset condition, and industry moves are defined at SIC section level. See appendix for further details.

SOURCE: Analysis of ONS, Two-quarter longitudinal Labour Force Survey.

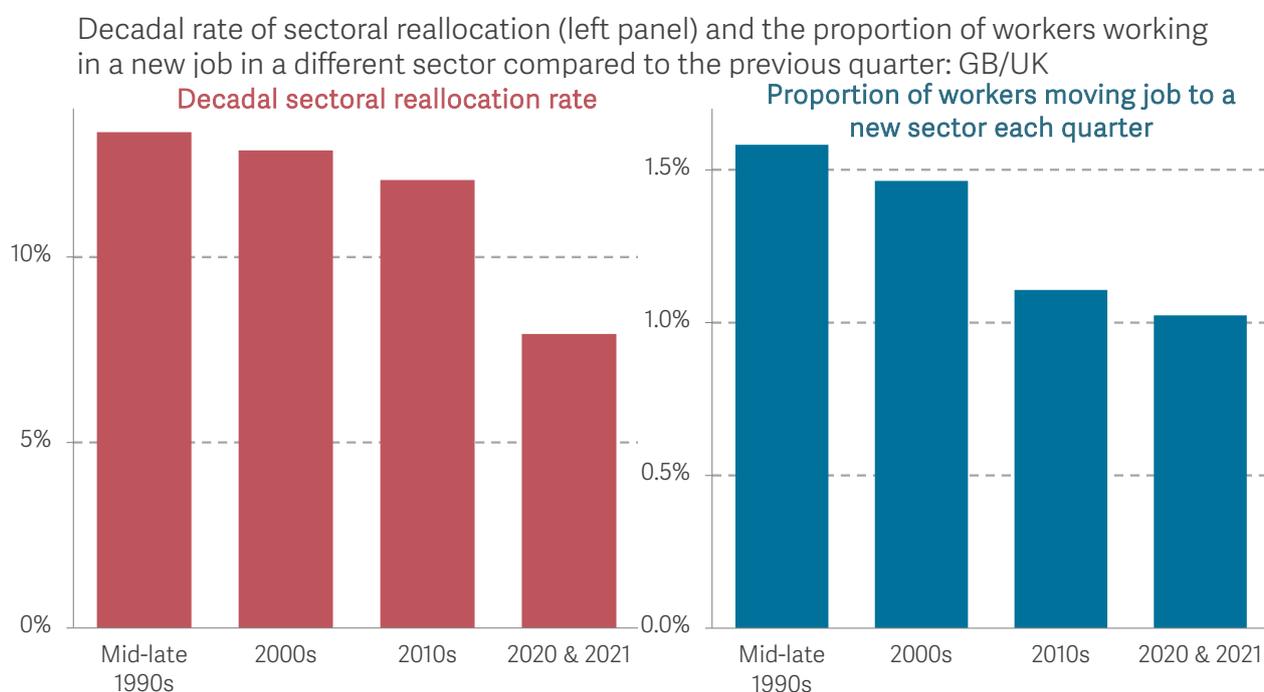
Even though direct job moves are possibly not the main driver of labour reallocation over long-term horizons (potentially playing a smaller role than the net effect of movements into and out of employment), the slowing rate of labour reallocation across sectors has been accompanied by a slowdown in the rate at which workers themselves move between jobs and between sectors. Figure 12 shows the proportion of workers moving jobs, and moving jobs to new sectors, since the early 1990s.<sup>20</sup> Clearly, there is substantial

<sup>20</sup> In Figures 35 and 36 in the Appendix, we discuss different measures of job moves. We also show that different measures of job moves follow a similar trend over time. So, using different measures of job moves should not affect our results significantly.

cyclical variation in the job mobility rate – more on which in a moment. But looking past the two periods marked by downturns and recovery from downturns (the start of the 1990s, and the period surrounding the financial crisis), job and sector mobility is lower now than it was two decades ago. In 2000, 3.2 per cent of workers moved jobs per quarter, and 1.7 per cent of workers moved jobs to a different sector. In 2019, the rate of job mobility was 2.4 per cent, 25 per cent lower than in 2000. The sector mobility rate was 1.1 per cent, 35 per cent lower than in 2000.

The slowdown in the rate of worker sector moves over the last 20 years is similar to the slowdown in overall labour sectoral reallocation. Figure 13 presents a summary of the decadal sectoral reallocation rate and the quarterly worker sector mobility rate across sub-periods within the past three decades. The measures are very different in their frequency (we are comparing a 10-year measure of structural sectoral change, with a quarterly measure of worker sector moves) but it's clear that both have been slowing. Across 2020 and 2021, the rate of decadal sectoral reallocation was 41 per cent lower than in the mid-late-1990s, similar to the fall in the rate of worker quarterly sectoral mobility in the same period (-35 per cent).

**FIGURE 13: The rate at which workers move between sectors has fallen over time, as has the rate of sectoral reallocation**



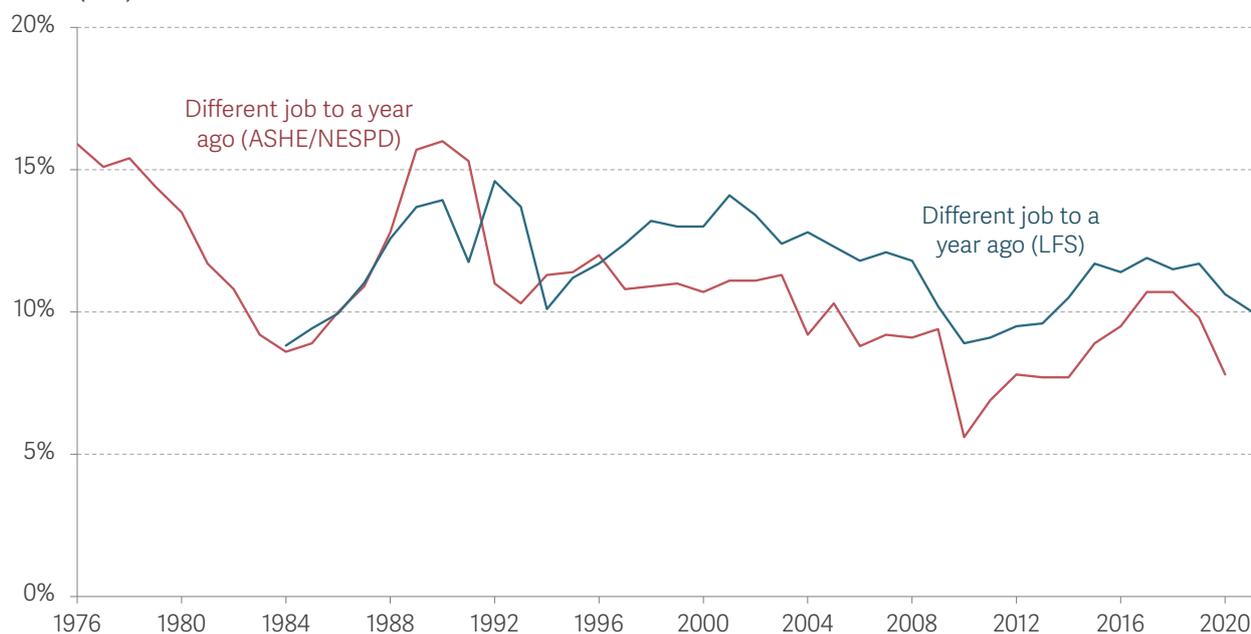
NOTES: Sectoral reallocation is measured as the weighted average, across industry sections, of the absolute change in employment share compared to a decade ago, based on a measure used in G Chodorow-Reich & J Wieland, *Secular Labor Reallocation and Business Cycles*, *Journal of Political Economy*, April 2020. Job moves to a new sector are measured using the Two Quarter Labour Force Survey. A job move is defined using an employment tenure reset condition, and industry moves are defined at SIC section level. See Appendix for further details.

SOURCE: Analysis of ONS, Workforce Jobs (left panel), and ONS, Two-quarter longitudinal Labour Force Survey (right panel).

The high frequency measure of job moves used above is the best available measure of worker moves.<sup>21</sup> Its drawback is that it is only available from the early 1990s, which is unfortunate as we know that the 1970s and 1980s were periods of fast structural change. We can use some longer-term data to extend the picture of worker mobility backwards. Figure 14 uses two datasets, the New Earnings Survey Panel Database (NESPD), which is a 1 per cent sample of employees, and the cross-sectional Labour Force Survey, to measure the proportion of workers in a different job to a year ago. It should be noted that this is not directly comparable with the measure of job moves in the above figures, because along with direct job movers it includes individuals who are in a different job to a year ago and who had a period non-employment in the interim. That is, it captures some workforce entry and exit along with direct job moves. Nevertheless, it does suggest that, alongside significant cyclical volatility, there has been a long-term fall in worker mobility, with lower rates of mobility now than forty or fifty years ago.

**FIGURE 14: The rate of worker job mobility has been trending downwards over time**

Proportion of workers in a different job to a year ago, measured in ASHE (GB) and LFS (UK): 1975-2021



NOTES: The ASHE/NESPD different job measure is based on longitudinal analysis. The LFS measure is based on self-reported responses. The LFS includes the self-employed, who do not appear in ASHE/NESPD. SOURCE: Analysis of ONS, ASHE/NESPD and ONS, Quarterly Labour Force Survey.

The two data sources give somewhat different views of when the fall in mobility took place. The Labour Force Survey measure suggests the fall has mainly happened since the turn of the century, with mobility rates in 2000 similar to those in the late 1980s.

<sup>21</sup> See Figures 35 and 36 in the Appendix for technical details. There we discuss different measures of job moves based on tenure or self-reported job change.

The NESPD measure, on the other hand, suggests the fall took place earlier, and shows similar mobility rates now to 20 years ago. Both measures have their limitations, though, so it's safest to simply conclude that there has been a long-term fall in worker mobility, just as there has been a long-term fall in the rate of sectoral reallocation.

## The rate of involuntary job exits has also been trending down over time

Along with falling job mobility, the rate of involuntary job exits has also been trending downwards over time. This is good news, because as we will show in Section 4, involuntary job exits are associated with negative outcomes for the individuals involved, even beyond the initial job separation. Figure 15 sets out the proportion of workers who have faced an involuntary job separation within the past three months. In the late 1990s this was 0.8 per cent of workers; in the years immediately before the Covid crisis rate of involuntary job exits had fallen by half to 0.4 per cent. It is tempting to think that, as with falling job mobility, a lower rate of involuntary exits may be related to the slowing pace of structural change. This relationship is consistent with the fact that the rate of involuntary exits appears to have fallen particularly fast in shrinking sectors, as opposed to growing sectors, where the rate of job exits has only fallen slightly in the past 20 years.

**FIGURE 15: The rate of involuntary job exits has been trending down, in particular in shrinking sectors**

Proportion of workers who have left a job involuntarily within the past three months: UK, 1995-2021



NOTES: The 60 SIC92 industry divisions are split into declining, stable, and expanding categories by taking their average quarterly change in employment shares over the years 1995 and 2003. The 20 divisions with the lowest percentage change (not in absolute terms) are declining, and the 20 with the highest positive percentage growth is expanding. Estimates are scaled by employment share by industry 'type' in the previous quarter.

SOURCE: Analysis of ONS, Two-quarter longitudinal Labour Force Survey.

## Job and sector mobility rates vary significantly across different categories of worker

Turning back to job mobility, it's important to note that the overall rate of job and sector mobility hides significant variation across different groups. Figure 16 presents the proportion of workers who moved jobs within the last quarter, on average, from 2015 to 2019. The total bars show the proportion who made any job move, while the dark blue and light blue bars show, respectively, the proportion of these moves that were to a different sector or within the same sector. Overall, 2.6 per cent of workers moved jobs per quarter, on average, between 2015 and 2019. Within this, 1.2 per cent of workers moved jobs between sectors, per quarter, and 1.4 per cent of workers moved jobs within the same sector.

As is clear from the chart, rates of worker job mobility vary significantly between different age groups, between different sectors and occupations, between students and non-students, and (unsurprisingly) between those on temporary or permanent contracts. However, there is relatively little variation in mobility rates between men and women, and between graduates and non-graduates.

Starting with age, the proportion of 16-to-24-year-olds who move jobs per quarter is around five times the rate of 55-to-64-year-olds (5.8 per cent compared to 1.2 per cent).<sup>22</sup> The gap is bigger when it comes to job moves to different sectors, where 3.5 per cent of 16-to-24-year-olds move to a new job in a different sector per quarter, compared to 0.5 per cent of 55-to-64-year-olds. The relationship between job mobility and age is linear, with mobility slowing with each age group. It's worth noting, though, that part of the difference in mobility across age groups is driven by factors other than age. If we control for all the other factors shown in the chart above (i.e. sector, occupation, whether an individual is a student or not, etc.) the gap in mobility between the oldest and youngest age groups falls by around a third (from 4.7 percentage points to 3.4 percentage points); this is because young people are more likely than older workers to have other characteristics associated with higher mobility, such as being a full-time student, or working part-time.<sup>23</sup> But the gap in mobility between old and young workers is still large even after accounting for these other factors. Young people's higher mobility means that, despite accounting for just 13 per cent of all employment, 16-to-24-year-olds account for 28 per cent of all job moves and 34 per cent of all sector job moves.

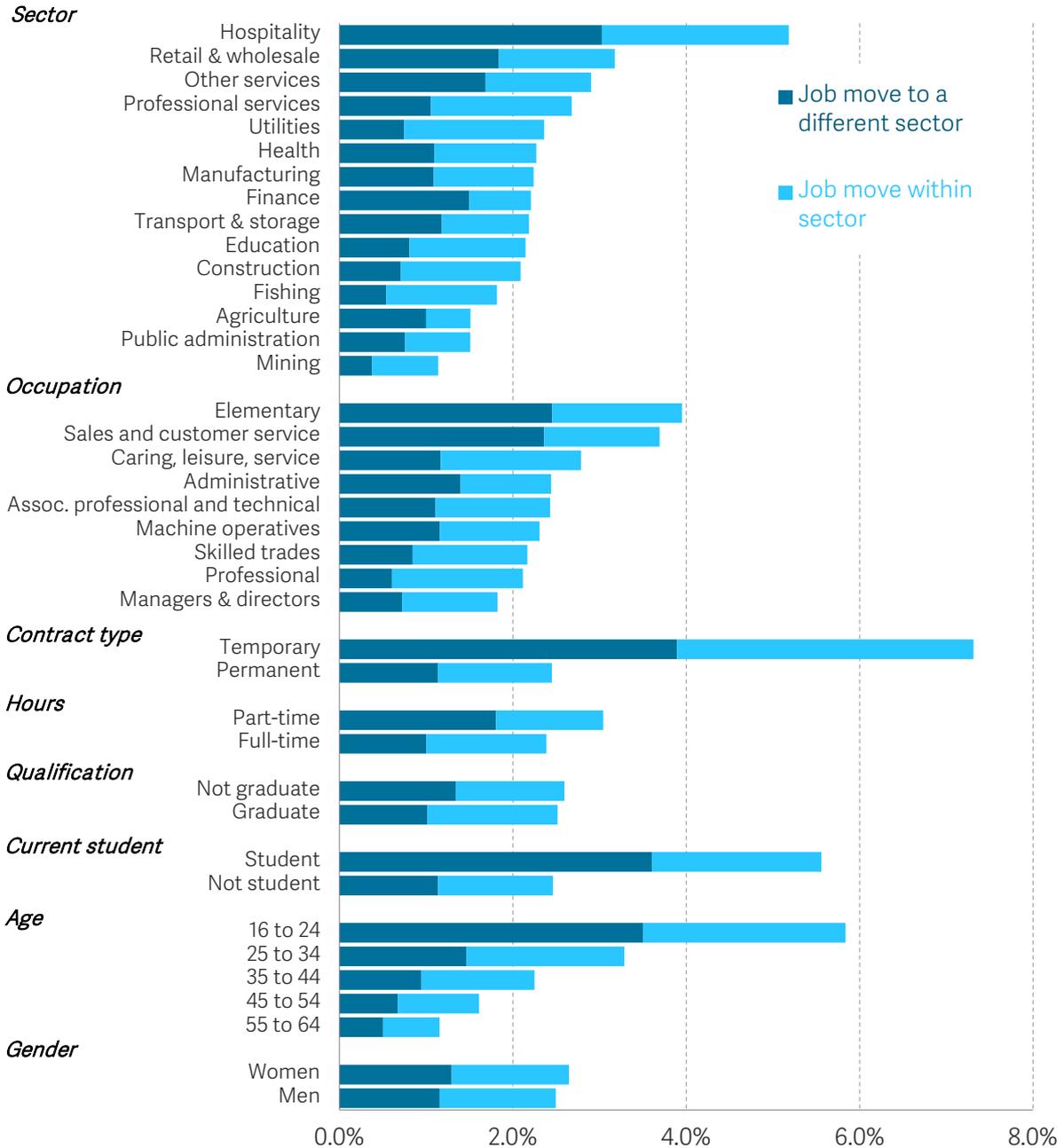
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<sup>22</sup> We plot the share of workers experiencing a job move by single year of age in Figure 37 from the Appendix. It confirms the linear relationship between job mobility and age.

<sup>23</sup> The full list of regressors used is: age, sex, region of work, region of residence, occupation, sector, part-time / full-time, temporary / permanent, student / not student, graduate / non-graduate.

**FIGURE 16: Sector and job mobility is higher for younger workers, students and those in temporary jobs or lower-paying sectors**

Proportion of workers who moved jobs between and within sectors since previous quarter: UK, 2015-19



NOTES: The characteristics set out above relate to the worker before the job move. That is, the job move rate for the hospitality sector described the rate at which workers starting in hospitality move to new jobs either within hospitality (in the case of the light blue bars) or to a different sector (in the dark blue bars).  
 SOURCE: Analysis of ONS, Two-quarter longitudinal Labour Force Survey

There are also significant differences in mobility rates across sector: for example, the proportion of workers in the hospitality sector moving jobs each quarter is, at 5.2 per cent, more than three times the 1.5 per cent job mobility rate of workers in public

administration. Retail, wholesale and repair of motor vehicles is another sector with high job mobility rates (note that we are assigning to workers the sector they were working in before their job move). Together, hospitality and retail, wholesale and motor repair accounted for 19 per cent of all employment in 2015-19, but 26 per cent of all job moves, and 32 per cent of all sector moves. By contrast, the public sector, broadly defined (i.e. education, health, and public administration), accounts for 30 per cent of employment but only 25 per cent of all job moves and only 19 per cent of all sector moves. Again, however, the difference in mobility between sectors is partly down to other factors. If we control for other factors (age, occupation, and so on), the difference in quarterly job mobility between workers in hospitality and public administration falls by half, from 3.7 percentage points to 1.8 percentage points.

There's a similar story when it comes to occupations, where lower-paying occupations have higher rates of job and sector mobility than higher-paying occupations. The proportion of workers moving jobs each quarter between 2015 and 2019 was 3.7 per cent in 'Sales and customer service' occupations, and 4.0 per cent in 'Elementary' occupations, which are two broad occupation where typical pay is low. By contrast, the job mobility rate was 1.8 per cent among 'Managers and directors', the highest-paid occupation group. Workers in those two low-paid occupations make an outsized contribution to job and sector mobility: they account for 19 per cent of employment but 26 per cent of job moves and more than a third (36 per cent) of all sector moves. Again, though, other factors than occupation explain some of these differences. Controlling again for the same factors as above reduces the difference in job mobility between Managers and directors and workers in Elementary occupations by two thirds (from 2.1 percentage points to 0.6 percentage points).

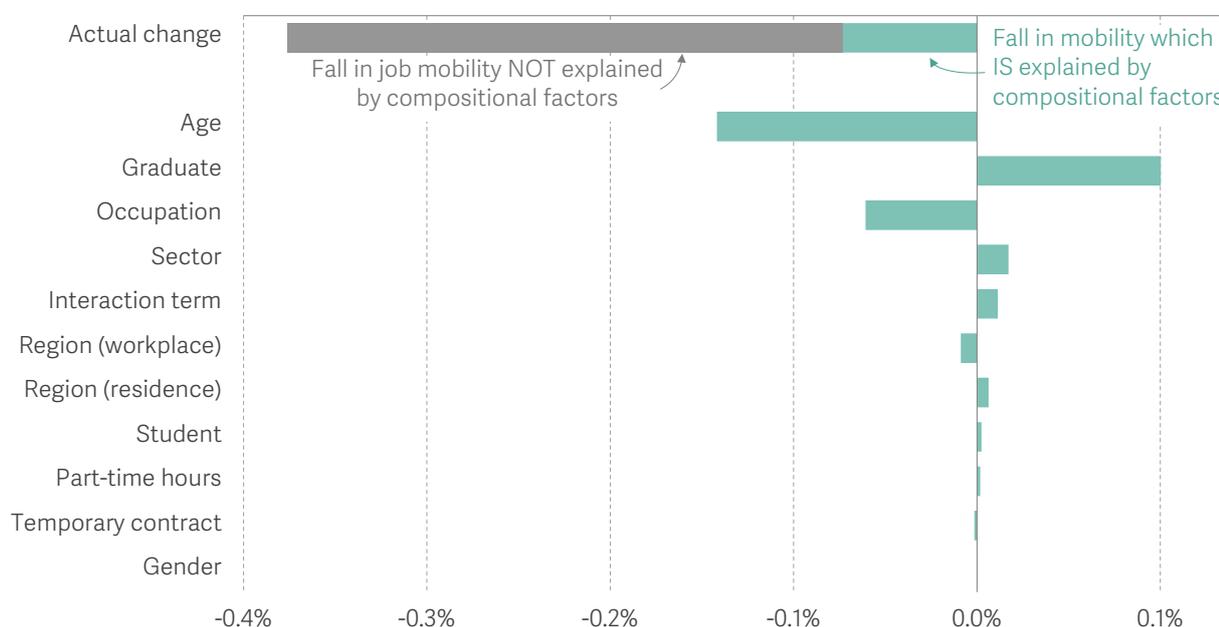
These statistics all relate to direct job moves – workers in employment in two consecutive quarters and in a new job in the second quarter. As discussed earlier, workers can also change jobs or sectors indirectly, via a period of non-employment; such 'indirect' job moves account for around 40 per cent of all job moves made within the space of a year. The rate at which workers move in and out of work varies by more, across different types of workers, than does the rate of direct job moves, which means that looking only at 'direct' job moves will understate the extent to which young workers and those from lower-paid occupations contribute to overall rates of job and sector mobility. From 2015 to 2019, the job separation rate (the proportion of workers employed in one quarter and not employed in the following quarter) was 12 per cent for workers in Elementary occupations (compared to 2 per cent among Managers and directors), 6 per cent among workers in hospitality (compared to 1 per cent among workers in public administration), and 7 per cent among 16-to-24-year-olds (compared to 2 per cent among 55-to-64-year olds). The overall job separation rate was 3 per cent.

## Changes in the composition of the workforce are having a small negative effect on the rate of job mobility

With such big differences across types of workers, it should not be surprising that changes in the composition of the workforce over time are having an impact on the overall job mobility rate. Between 2001-04 and 2016-19, the average quarterly job mobility rate fell by 12 per cent, from 3.1 per cent to 2.7 per cent. Of this 0.4 percentage point fall, only 0.07 percentage points (a fifth of the total fall) can be attributed to changes in the composition of the workforce. Interestingly, there are compositional changes pushing in different directions. The ageing of the workforce in that period would, all else equal, have reduced the quarterly job mobility rate by 0.14 percentage points because, as shown above, older workers tend to move jobs less frequently. And the fact that the economy has experienced ‘occupational upgrading’, with more workers in higher-paid occupations, is also pushing down on job mobility rates.

**FIGURE 17: Changes in the composition of the workforce have reduced mobility, but these only explain a small part of the slowdown in mobility this century**

Proportion of the fall in mobility between the pre-financial crisis (2001-04) and pre-Covid (2016-19) periods which is explained by compositional factors: UK



NOTES: Relationship between compositional factors and job mobility is based on a logistic regression covering data from 2001-2020.  
 SOURCE: Analysis of ONS Two-quarter longitudinal Labour Force Survey.

On the other hand, the fact that there are more graduates in the workforce – who across the whole time period covered below (2001-2019) have on average had higher

rates of job mobility than non-graduates – has been pushing the mobility rate upwards. All other compositional changes (including gender, sector, region, and the number of students) have had a very small impact on the average mobility rate, either because their composition has not changed much (as is the case for sectoral composition) or because categories within those groups don't display much variation in job mobility (as is the case for gender).

## Many workers make 'big' job moves, in terms of the difference in the task content of the jobs they are moving between

The analysis above tells us about the rate at which workers move between jobs, and how this has changed over time. Looking at the proportion of workers making sector moves (compared to within-sector moves) is one way of capturing how 'big' a move a worker is making, in terms of the difference between their old and new job. But we can refine this idea of the 'size' or 'distance' of a job move by looking in detail at the task content of the occupations that workers are moving between, along with whether they are changing occupation when they move job.

To investigate the degree of occupational mobility of British workers, we characterise jobs with the task requirements typical of that occupation, and measure the 'distance' between the jobs that workers move between, based on the differences between the underlying tasks requirements. The methodology for this analysis is set out in Box 1.

### BOX 1: Measuring the 'distance' between occupations in terms of their task requirements

To characterise occupations in terms of their underlying 'task requirements', we follow the approach proposed by Acemoglu and Autor in their seminal 2011 study of the effects of technological change and trade liberalization on workers performing different sets of tasks in the US.<sup>24</sup> Two important dimensions in their classification is whether tasks are performed routinely or non-routinely and whether they are cognitive or

manual in nature. Accordingly, they identify five components to describe each occupation: non-routine cognitive analytical, non-routine cognitive personal, non-routine physical, routine cognitive, and routine manual tasks. Next, they rely on the US O\*NET dictionary of occupations to rate the importance of each of these tasks in every occupation. We follow their approach by mapping the 2009 version of the O\*NET dictionary into the UK

<sup>24</sup> D. Acemoglu and D. Autor, [Skills, Tasks and Technologies: Implications for Employment and Earnings](#), Handbook of Labor Economics, 2011.

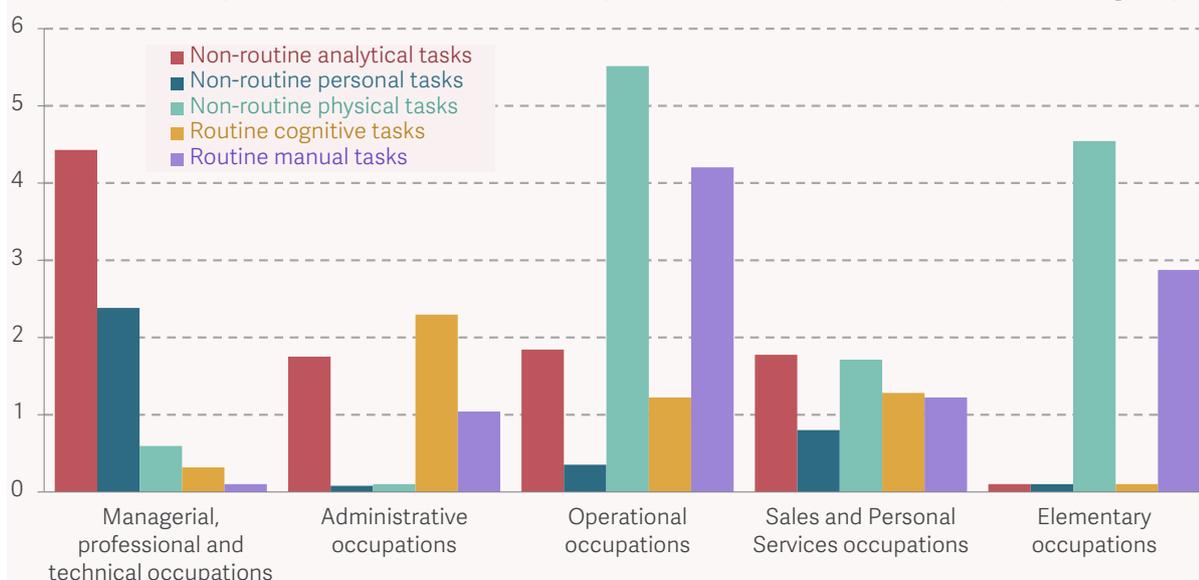
occupational classifications (SOC 2000 and SOC 2010). This allows us to construct equivalent measures for UK occupations at the 4-digit level.<sup>25</sup>

To illustrate this ‘tasks requirement’ definition, Figure 18 plots the relative importance of the five types of tasks across five broad occupational groups. Unsurprisingly, analytical tasks are least required in ‘Elementary’ occupations and most required

in ‘Managerial, Professional and Technical’ occupations. On the other hand, routine manual and non-routine physical tasks are mostly performed by workers in ‘Elementary’ or ‘Operational’ occupations. Non-routine personal tasks are most important in ‘Managerial, professional and technical’ occupations whereas routine cognitive tasks are mostly important in Administrative occupations.

**FIGURE 18: Occupations vary significantly in their underlying task content**

Relative importance of different ‘task requirements’ across broad occupational groups



NOTES: The occupation classification is based on SOC by grouping occupations at the 1-digit level. The tasks-importance measure in this graph is normalised to be always positive

SOURCE: Analysis of O\*NET, and ONS, Two-quarter longitudinal Labour Force Survey.

Having rated the importance of each type of task for every occupation, we measure how different any two occupations are by computing the difference in the importance attached to each task.<sup>26</sup> The higher is the

resulting difference, the more dissimilar two occupations are in terms of the tasks that workers are expected to perform, and the greater is the ‘distance’ in moving between these occupations.

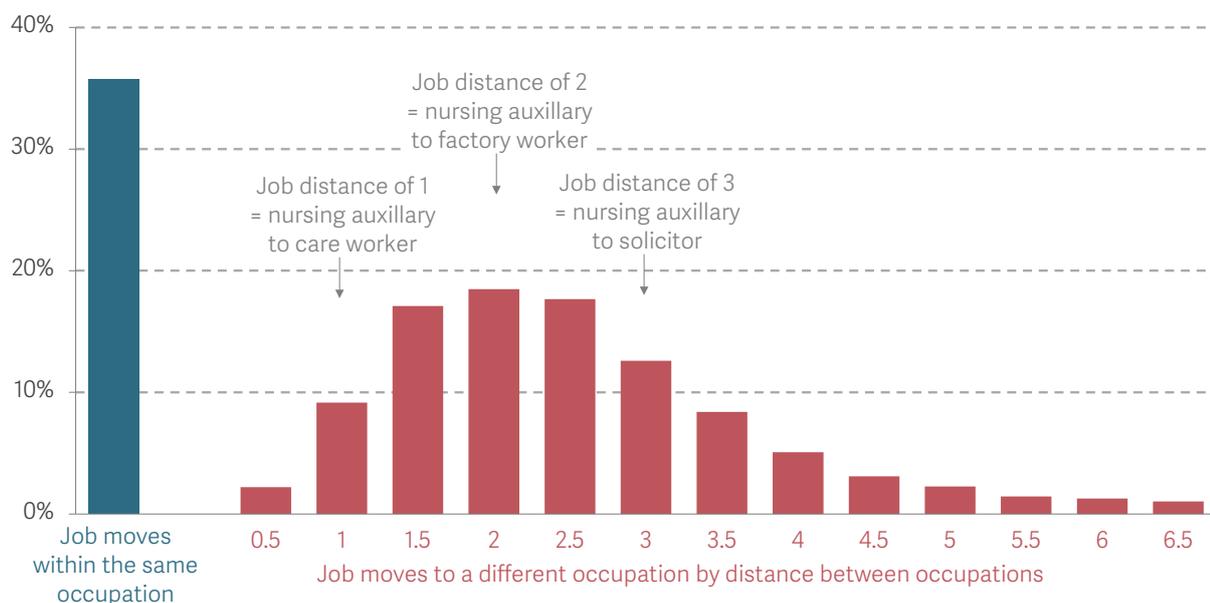
<sup>25</sup> The appendix provides more technical details on how we adapted the O\*NET dictionary to the UK and how we construct the task requirements measures.

<sup>26</sup> We follow the approach proposed by: C. Robinson, *Occupational Mobility, Occupation Distance, and Specific Human Capital*, *The Journal of Human Resources*, August 2014.

Figure 19 shows the distribution of the distance associated with workers' job moves between 2002 and 2020.<sup>27</sup> We can see that around 36 per cent are moves within the same (4-digit) occupation: as task requirements are measured at the occupation level, these moves are naturally associated with a distance of zero. Remaining job moves are to a different occupation and generally imply a positive distance as task requirements between two occupations differ. We can see there is quite a lot of dispersion in the distance associated to job moves, but most moves (66 per cent) cover a distance between 1.5 and 3 which can be associated to different occupations (e.g. a distance of 3 would be from a nursing auxiliary to a solicitor). Generally, this shows that job-movers who do change occupation are mobile, even if they unsurprisingly tend to move to occupations that are more similar (i.e. closer in distance) to their original employment than if they were to pick an occupation randomly. This can be directly seen in Figure 38 in the Appendix where we overlay this distribution with the distribution we would see if workers picked a random occupation whenever they change job.

**FIGURE 19: Many job moves are to occupations which have significantly different task requirements**

Distribution of tasks requirements distance involved in workers' job moves: UK, 2002-20



NOTES: The 'tasks requirements' distance pertains to the occupations (measured at the SOC 4-digit level) that workers were employed in the first and last (fifth) quarter of the Five-Quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. Job moves whose last quarter falls between 2011 and 2013 are excluded because of missing data. Tasks requirements distance between the two occupations is measured as the Euclidian distance between the two task requirements vectors that characterise the occupations. The blue bar refers to workers changing job but staying within the same 4-digit occupation (corresponding to a distance of zero). Red bars report the proportion of job moves (pertaining to workers who change both job and occupation) involving a distance in that interval (e.g.: between 0 and 0.5, 0.5 and 1, etc.).

SOURCE: Analysis of O\*NET, and ONS, Five-quarter longitudinal Labour Force Survey.

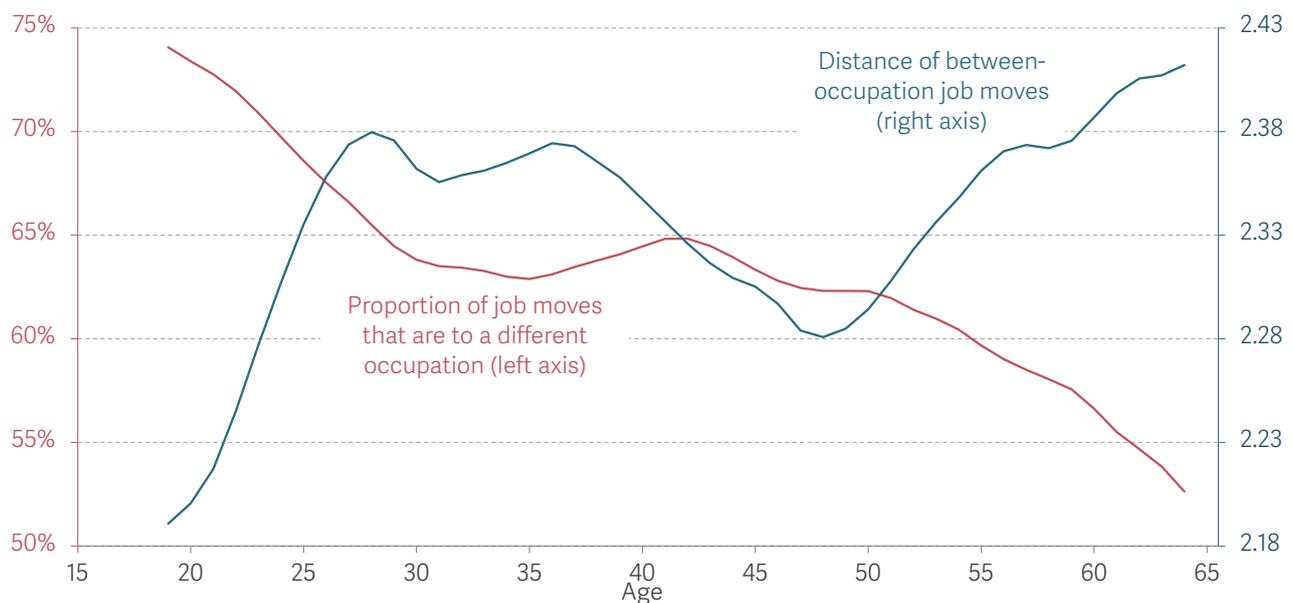
<sup>27</sup> There is a gap in the time series between the first quarter of 2011 and the first quarter of 2013. This is true of all analysis in this report considering distance in task-requirements between occupations.

## Young workers are more likely to change occupation when they move jobs, but they tend to move between relatively similar occupations compared to older occupation-movers

Figure 20 shows the proportion of job moves that are within the same occupation by workers' age.<sup>28</sup> We can see that younger workers are more likely to change occupation when they change job. Part of this can be explained by younger workers trying different occupations before settling into a good match, and part might be due to younger workers changing job to be advanced into senior roles (which often correspond to different occupations, as they have different tasks requirements). As workers grow older, there is less scope for career advancements or changes of careers. Among job movers who do change occupation, though, older workers seem to be slightly more occupationally mobile than their younger counterparts.

**FIGURE 20: Young workers are more likely to change occupation when they move job, but older workers are more likely to make 'bigger' moves**

Proportion of job moves to a different 4-digit occupation, and average tasks requirement distance involved in occupational move, by age: UK, 2002-2020



NOTES: The 'tasks requirements' distance pertains to the occupations (measured at the SOC 4-digit level) that workers were employed in the first and last (fifth) quarter of the Five-Quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. Job moves whose last quarter falls between 2011 and 2013 are excluded because of missing data. Tasks requirements distance between the two occupations is measured as the Euclidian distance between the two task requirements vectors that characterise the occupations.

SOURCE: Analysis of O\*NET, and ONS, Five-quarter longitudinal Labour Force Survey.

<sup>28</sup> Figure 37 from the Appendix plots the distribution of job moves by single year of age and confirms that young workers are more likely to change jobs.

Plotted on the right-hand axis, Figure 20 also shows that the average tasks requirements distance involved in occupational moves rises until workers reach their late twenties and slightly falls afterwards before rising again when workers reach their mid-fifties. The overall difference is not large (at most around 10 per cent), but it is interesting to see how older workers who change occupation are at least as adaptable as younger workers, in that they can switch to occupations that are relatively different in terms of tasks requirements.<sup>29</sup>

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<sup>29</sup> From Figure 16 we learnt that older workers are much less likely to change job than their younger counterparts. It is therefore important to keep in mind that older job movers in particular are likely to be a selected sample of workers (who might be more very different from a randomly-selected older worker in the population).

## Section 4

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# What does the reallocation of labour across the economy mean for workers' mobility and wages?

This section highlights how different workers experience employment reallocation. We show that job mobility is not a panacea for workers employed in shrinking sectors. Not only do those employed in shrinking sectors exhibit lower rates of mobility than those in expanding sectors, they also are more likely to remain in a shrinking sector should they move. A similar finding holds for those in expanding industries who, almost always, move into jobs in other expanding sectors of the economy. On the flip side of this, we highlight a positive aspect of job moves – those who move tend to enjoy a sizeable pay bonus for doing so. We note that the wage gains associated with a job move need not be positive for all workers; in particular, those who leave their previous workplace involuntarily tend to suffer a fall in earnings, upon re-entry to work, relative to what they earned at their previous employer. To help explain these findings, we assess changes in the task content of jobs following a move. We find that workers who change job voluntarily move to jobs characterised by a greater use of non-routine tasks, and the opposite is true for workers making involuntary job moves, or returning to work after longer periods of unemployment or inactivity.

This section assesses what reallocation means for workers who move jobs.<sup>30</sup> First, we look at what happens to workers who find themselves in declining industries; second, we consider the extent to which job moves facilitate wage growth and whether it matters if job moves are voluntary or not. Finally, we characterise job moves in terms of changes in tasks performed by workers to explain these patterns and draw a parallel between how workers experienced recent job reallocations and future labour market scenarios.

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<sup>30</sup> As mentioned, there are different ways to measure job moves. In the Appendix (Figures 35 and 36), we discuss the different approaches towards measuring job moves.

Previous sections have highlighted sectoral differences in rates of job mobility. Some sectors exhibit greater mobility than others and, importantly, have greater flexibility in exit options for workers who seek employment elsewhere. To look at this more systematically, Figure 21 breaks down mobility rates according to whether a worker is in an industry in decline, one that exhibits a stable employment share, or one that exhibits increasing employment opportunities.

**FIGURE 21: Job-to-Job moves are more prevalent among those starting out in stable and expanding industries**

Job-to-Job moves by industry type as a share of employment in the previous quarter, 2003-2021: UK



NOTES: The 60 SIC92 industry divisions are split into declining, stable, and expanding categories by taking their average quarterly change in employment shares over the years 1995 and 2003. The 20 divisions with the lowest percentage change (not in absolute terms) are declining, the middle 20 are stable, and the 20 with the highest positive percentage growth is expanding. Estimates are scaled by employment share by industry 'type' in the previous quarter.

SOURCE: Analysis of ONS, Two-quarter longitudinal Labour Force Survey.

Job-to-Job moves among those starting out in stable and expanding industries are more prevalent than those in declining industries. While most mobility is accounted for by those in expanding industries – due to the large total employment share of these sectors – the rate of mobility is highest among those in stable industries, such as hotels and restaurants, that have exhibited slight change in their total employment share over the period. Declining industries, which are made up of a number of manufacturing sectors of the economy, have exhibited much lower rates of mobility in the aftermath of the financial crisis. Prior to 2008, mobility among those in declining sectors was close to the average rate in the economy, but fell sharply thereafter. This difference in mobility rates

reaches its peak during the quarters after the onset of Covid-19 with the job-to-job rate for those in expanding sectors being 57 per cent greater than the equivalent rate for workers in declining sectors in the third quarter of 2021. And there are around 80 per cent more job-to-job moves in stable sectors than in declining sectors.

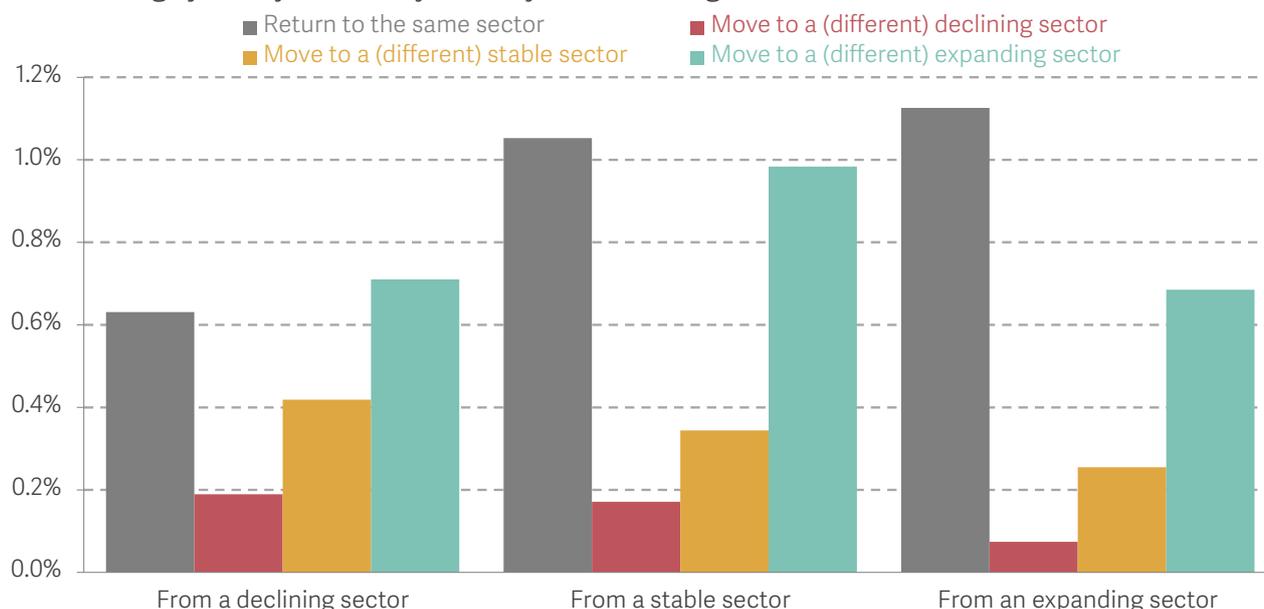
Digging deeper, we can see differences in the experience of workers who make a move depending on the industry they start in. Although many workers change industry when they move job, a sizeable proportion remain in the same industry. This is particularly true of those in expanding sectors who, unlike workers elsewhere in the economy, are more likely to remain in their current industry than switch. If we consider each case in turn: 53 per cent of those in expanding industries take a job in the same industry upon moving compared to 41 per cent of those in stable sectors and just 32 per cent of those in declining sectors.

### Those in declining industries are, conditional on moving, most likely to change industry, but are least likely to change industry ‘type’

It is also important for workers that between industry moves also allow them to enter expanding sectors of the workforce, and from this perspective, the overall picture is less sanguine for workers in declining sectors. Figure 22 splits job moves by industry ‘type’ (delineated by whether the industry is in decline, stable, or expanding) and by destination of the move. This suggests that, while there are fewer job move options for those in declining industries, should moves occur, they tend to be to a different industry. If we consider those that switch industries, around 14 per cent of those originating in declining sectors remain in a declining sector after the switch. Given that many workers don’t change industry when they move, this means that 42 per cent of all job-to-job moves for those originating in a declining sector result in a new job in a declining industry. This contrasts sharply with the experience of workers starting out in expanding sectors. Not only are these workers much more likely to remain in an expanding sector by virtue of fewer between-industry moves, but industry moves for these workers are also overwhelmingly between expanding industries. 67 per cent of workers who move out of an expanding industry do so for a job in an expanding industry. Overall, this means that 85 per cent of job-to-job moves for those originating in an expanding sector result in a job in an expanding sector. This compares to just 39 and 36 per cent in stable and declining industries respectively.

FIGURE 22: Job moves tend to be towards different industries

Average job-to-job mobility rates by sector of origin and destination 2003-2021: UK



NOTES: The 60 SIC92 industry divisions are split into declining, stable, and expanding categories by taking their average quarterly change in employment shares over the years 1995 and 2003. The 20 divisions with the lowest percentage change (not in absolute terms) are declining, the middle 20 are stable, and the 20 with the highest positive percentage growth are expanding. Employment shares are type specific, i.e. declining-industry moves are scaled by the number of workers employed in a declining industry in the previous quarter.

SOURCE: Analysis of ONS, Two-quarter longitudinal Labour Force Survey.

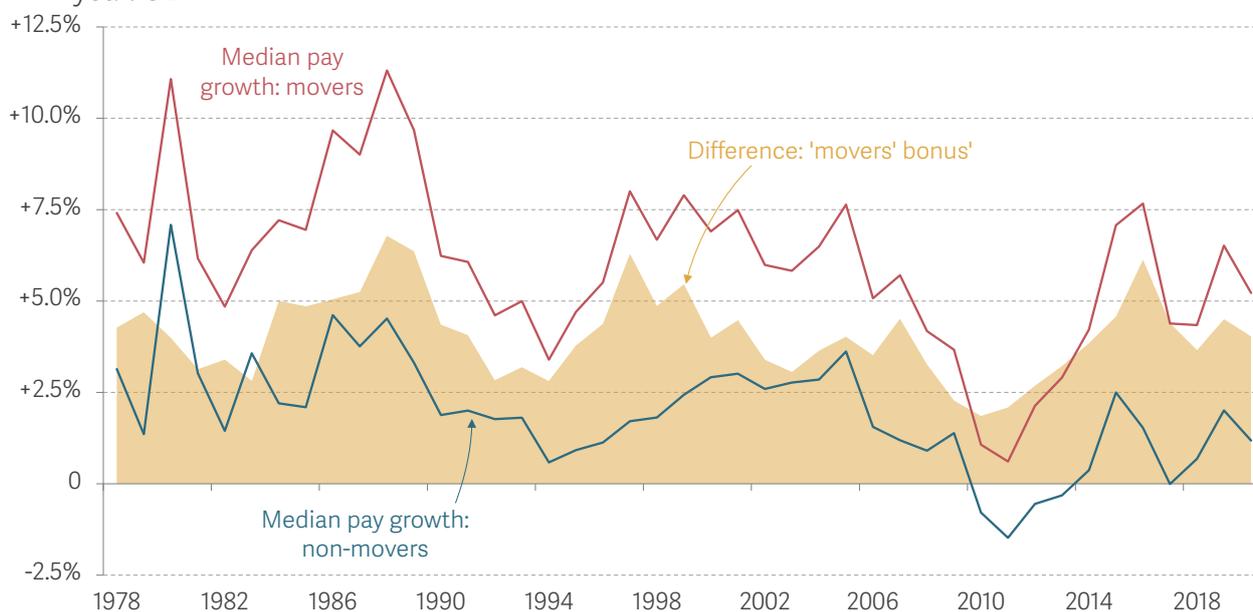
Overall, workers often change industry and, for those that do, many find new opportunities in expanding sectors of the workforce. Despite this, moves exhibit a form of sectoral ‘stickiness’. Those who move jobs tend to move into jobs of a similar type; that is, workers in declining industries tend to move to industries in decline while those in stable industries are likely to move among jobs with stable employment shares. Those in expanding industries overwhelmingly find work in either the same industry or another growing industry.

## Workers benefit from moving jobs

While mobility can be positive for workers for several reasons, the most salient aspect of job moves, for those switching jobs, is what happens to their paycheque. Luckily for movers, the effect of a move on pay (at least on average) is unambiguous: those moving jobs see their wages rise at a faster rate than those staying put. Figure 23 shows median pay growth among movers and non-movers between 1975 and 2020. The difference between the two changes over the economic cycle, with the median pay premium for moving shrinking in the aftermath of recessions. But there doesn’t appear to be a structural change over the period, with the premium averaging 4.1 percentage points.

### FIGURE 23: Moving jobs has often been associated with greater pay growth than staying put

Median annual growth in (real) hourly pay, by whether worker moved job in the past year: GB



SOURCE: Analysis of ONS, Annual Survey of Hours and Earnings and New Earnings Survey Panel Dataset.

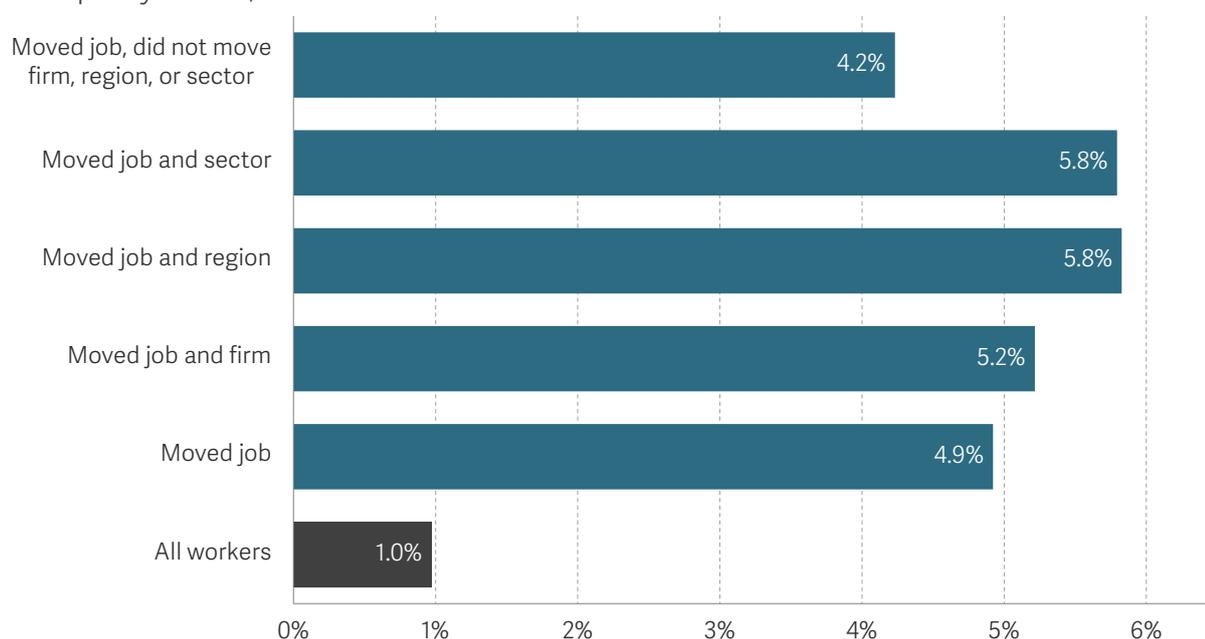
The fact that this premium hasn't declined over time suggests that the large falls in mobility documented earlier are not linked to a change in the financial incentives associated with moving jobs. We have shown in previous work that the financial incentive to move jobs when this also involves moving to a residence in a different has fallen. This is both because rents have, since the 1990s, risen fastest in higher paying areas and because the difference between the best and worst performing labour markets (in terms of typical earnings and employment rates) has narrowed.<sup>31</sup> However, job and residence moves only account for a minority (12 per cent) of job moves. So changing incentives to move job and residence are unlikely to be having a significant impact on the rates of overall job mobility. The question of regional mobility is nevertheless an important one, and one we will return to in future Economy 2030 Inquiry reports.

The premium attached to a move can be further broken down according to whether the worker leaves their current firm, moves region, or changes sector. Figure 24 shows median annual growth in hourly pay according to the type of move. None of the moves depart substantially from the overall median documented in Figure 19, but there is larger premium for job moves that are coupled with either a change in region or sector.

<sup>31</sup> L Judge, *Moving matters: Housing costs and labour market mobility*, Resolution Foundation, June 2019.

### FIGURE 24: Moving jobs to a new firm, region or sector attracts even greater pay growth

Average median annual growth in (real) hourly pay, by whether worker moved job in the past year: GB, 2005-2020



NOTES: Pay has been deflated using CPIH inflation.

SOURCE: Analysis of ONS, Annual Survey of Hours and Earnings.

Figure 23 shows the premium associated with a move to be procyclical – that is, the gap between median pay growth of movers and stayers shrinks during recessions and grows during booms. Figure 25 explores the relationship between the rate of job mobility – another variable that exhibits procyclical behaviour – and pay growth associated with a job move. While it is clear that these measures are positively correlated, it is difficult to draw a firm causal conclusion as to the extent to which pay growth spurs on greater rates of job mobility or vice versa. Because higher paying firms overcome the scarcity of unemployed labour during booms by hiring workers directly from lower paying and less productive employers, it is often thought that there is a relationship between the two.<sup>32</sup> In this case, the correlation is driven by the poaching efforts of firms as opposed to worker behaviour.

<sup>32</sup> G Moscarini & F Postel-Vinay, *The Cyclical Job Ladder*, Annual Review of Economics, 10, August 2018.

### FIGURE 25: There is a positive relationship between the rate of job moves and the return (in extra pay growth) to moving

Additional median annual growth in (real) hourly pay associated with moving jobs over not moving, and the rate of job moves: GB, 1975-2020



NOTES: The job mobility measure captures those in employment in year T and year T-1 who are working in a different job. We do not observe workers in the intervening period, so do not know if they made a direct job move or if they experienced a period out of work between jobs. 'Extra pay growth' is the difference between the median pay growth of individuals in the dataset in year T and T-1 of those who moved jobs compared to those who did not.

SOURCE: Analysis of ONS, ASHE/NESPD.

### ...but only when the move is voluntary

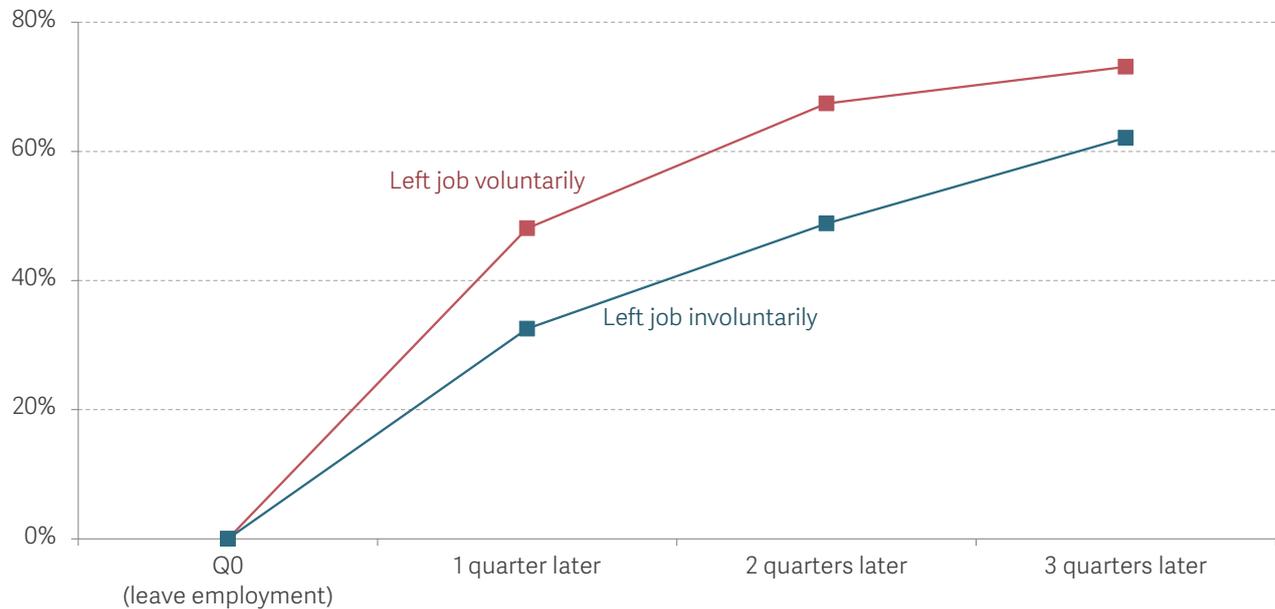
The results above relate to those who have changed jobs within the previous year. While many of these individuals voluntarily leave their employer in order to find better paid work elsewhere, a number of these workers experience a spell out of the labour force before returning to work. In many cases, the reason for leaving their initial job was an involuntary separation. There are numerous studies showing that those who leave their job involuntarily suffer a large earning loss upon re-entry to employment.<sup>33</sup>

Figure 26 highlights how those who separate from their employer voluntarily, rather than against their will, experience the return to work differently. It highlights that those leaving their previous job involuntarily are significantly less likely to return to employment within three quarters of the separation when compared with those who voluntarily left their previous job.

<sup>33</sup> L Jacobsen, R LaLonde & D Sullivan, *Earnings Losses of Displaced Workers*, American Economic Review, 83(4), September 1993.

### FIGURE 26: People who lose work involuntarily take longer to return to employment than those who choose to leave

Proportion of individuals who have returned to employment in the quarters following a job separation: UK, 1995-2020

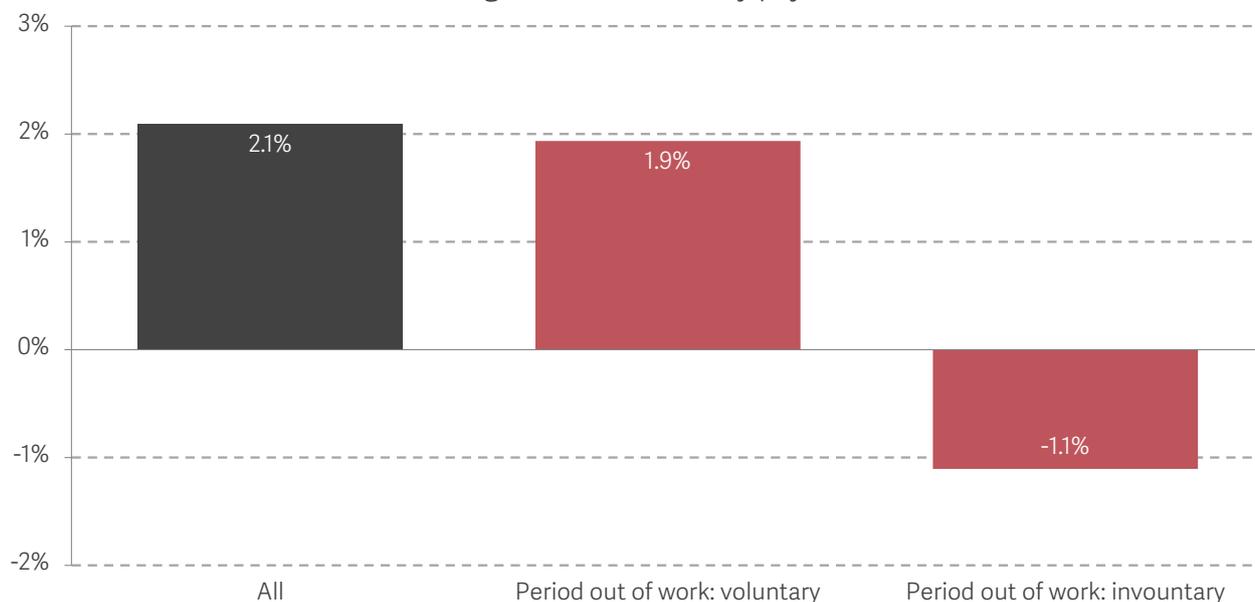


SOURCE: Analysis of ONS, Five-quarter longitudinal Labour Force Survey.

Comparing what happens to pay on re-entry adds to this bleak picture. Figure 27 highlights pay differences between those who have a voluntary spell out of work and return and those who have an involuntary period of absence before returning. The latter earn 1.1 per cent less on re-entry as compared with the 1.9 per cent gain that accrues to the former. It is important to note that these gains and losses are relative to pay a year ago and so should be benchmarked against the median annual growth in hourly pay over the same period, 2.1 per cent. It is also noteworthy that these results apply only to those who return to work within the year. Given that the wage penalty associated with unemployment spells is known to increase with unemployment duration, it is likely that Figure 27 understates the overall earnings loss for those who suffer an involuntary job spell.

**FIGURE 27: People who leave work involuntarily tend to earn less when they return to work**

Median individual-level annual growth in real hourly pay: UK, 1995-2020



NOTES: Pay deflated using CPIH inflation.

SOURCE: Analysis of ONS, Five-Quarter longitudinal Labour Force Survey.

## This partly reflects the change in tasks associated to workers' job moves

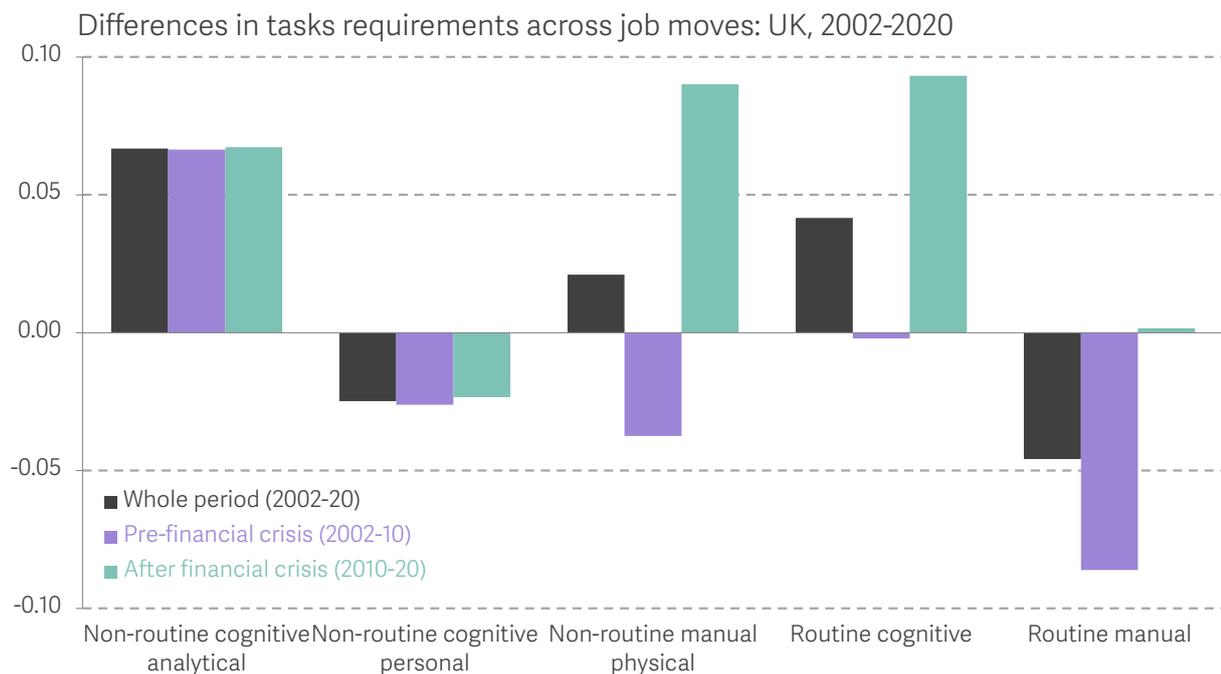
To better understand what drives the change in wages that follow a move, and how it differs for different types of separation, we look at job-to-job transitions in terms of the change in the tasks performed by workers following their move.<sup>34</sup> This can offer important insights into the extent that an occupations' task requirements interact with structural changes in the labour market. A large literature has established how some types of tasks have been more susceptible to technological change than others. Over the past two decades industrial robots have successfully automated many manual routine tasks that used to be performed by workers; more recent developments in software development and artificial intelligence are poised to do the same with routine cognitive tasks. These changes expose workers who perform these tasks in the workplace to a higher risk of

<sup>34</sup> To do this we keep following the task requirements definition first discussed in Box 1 above.

job loss.<sup>35</sup> Against this backdrop, using tasks requirements to characterise job moves can help us interpret existing evidence on workers’ mobility in light of changes in the economy.

## Changes in tasks suggest job-movers in general tend to ‘upgrade’ their occupations

**FIGURE 28: Overall, job-movers tend to move to jobs that are more intensive in their utilisation of analytical and routine cognitive tasks**



NOTES: Changes in task requirements set out above relate to the occupations (measured at the SOC four-digit level) workers were employed in the first and last (fifth) quarter of the five-quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. The period up to the financial crisis includes job moves whose last quarter falls between 2002 and 2010. The post-financial-crisis period includes job-moves between 2014 and the first quarter of 2020. Job-moves for which the last quarter falls between 2011 and 2013 are excluded because of missing data. Task requirement components of each occupation are defined using O\*NET mapped into the UK SOC 2000 and 2010 occupational classifications and standardised across all classified occupations (see Box 1 and Appendix for details). Accordingly, the scale refers to changes in the importance of a task where 1 corresponds to a one standard deviation change.

SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

Figure 28 shows the average change in occupations’ tasks requirements as workers move to a new job. Overall, we can see that job movers tend to move to jobs with an increased intensity of non-routine analytical tasks and, to a lesser extent, of non-routine

<sup>35</sup> See, for example, E Brynjolfsson, T Mitchell & D Rock, *What Can Machines Learn, and What Does It Mean for Occupations and the Economy?*, AEA Papers and Proceedings, 2018; or M Webb, *The Impact of Artificial Intelligence on the Labor Market*, Working Paper, 2020.

physical tasks. They also move to jobs that rely more on routine cognitive tasks but require less routine manual tasks. These differences are not too large in absolute terms but suggest that, over the past two decades, workers' job moves have mirrored the sectoral and occupational shifts in the British economy. This is partially in line with the patterns documented in Figure 9 where we can see that, particularly in the 2000s, job-to-job moves away from manufacturing (where routine manual tasks are often performed) explained a substantial proportion of its employment decline. The opposite is true for service sector jobs. These benefited from inflows due to job-to-job moves and are more intensive in their utilisation of non-routine and routine cognitive tasks.<sup>36</sup>

We can also consider job-moves that occurred in the period up to and including the financial crisis (2002-2010) and after the recovery from the crisis (2013-2020) separately. In doing so, interesting differences between the two periods emerge. Notably, post-crisis job-movers have started moving into jobs with higher intensity of non-routine physical tasks and routine cognitive tasks. In addition, workers were moving into jobs with lower intensity or routine manual tasks in the run up to the financial crisis, but this trend has disappeared in the more recent years. This mirrors evidence from Figure 1 showing that the decline in manufacturing halted in the 2010s.

The task changes associated with job moves appear to be positive for British workers. Moving into jobs at higher intensity of analytical tasks should be welcomed as these tend to be associated with higher wages and more stable employment prospects. Similarly, occupations that rely more on non-routine physical tasks are often associated with skill shortages and are likely to command higher wages as a result. More problematically, a shift towards occupations that require more routine cognitive tasks could be worrying to the extent that ongoing diffusion of AI technologies can increasingly automate this type of tasks.<sup>37</sup>

## Older and lower-educated workers tend to make 'bad' moves as female and male workers move in opposite directions

This moderately positive outlook, however, can disguise stark contrasts among different types of workers. First, we consider differences in the nature of job-moves by gender. Figure 26 shows that while workers of both genders tend to move to jobs with a higher intensity of analytical tasks, this is much more pronounced among women. At the same

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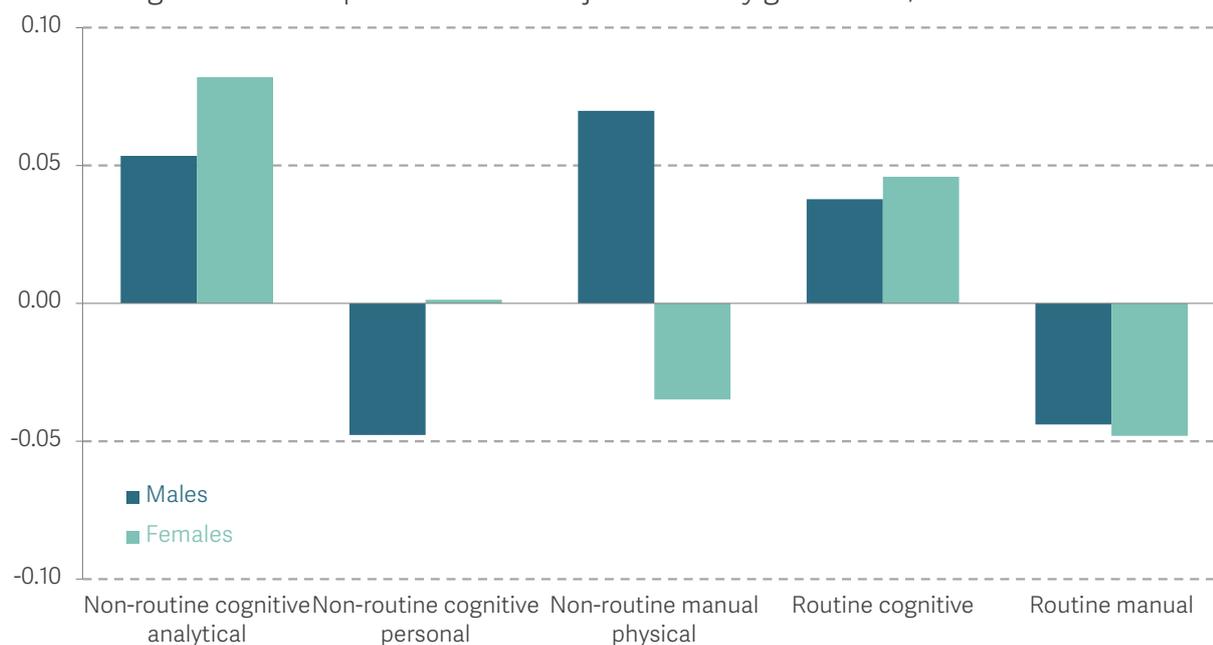
<sup>36</sup> It is important to bear in mind that the job moves considered here occurred in a period of at most one year (five quarters) which is the longest period that can be covered in the five-quarter Longitudinal LFS. This means that workers are partly constrained in the type of occupational moves they can make. For example, in a year time they would not be able to move into a job that requires a qualification which takes longer than a year to be acquired and that they may not have needed in their previous job (e.g. switching from being a lawyer to being a midwife or vice-versa). This explains why skills differences measured here are generally not very large.

<sup>37</sup> The extent to which different industrial sectors and occupations (including as characterised by their task-requirements) have been affected by automation will be subject of more detailed analysis as part of this research series.

time, female workers tend to move to jobs that rely slightly more on routine cognitive tasks than their male counterparts. Another noticeable difference is that while male job movers tend to move away from jobs with a high intensity of non-routine personal tasks, and towards jobs that are more intense in non-routine physical tasks, female workers tend to move away from physical tasks.

**FIGURE 29: Women are more likely to move to jobs that are intense in analytical tasks than men**

Changes in tasks requirements across job moves by gender: UK, 2002-2020



NOTES: Changes in task requirements set out above pertain to the occupations (measured at the SOC four-digit level) workers were employed in the first and last (fifth) quarter of the five-quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. Job-moves whose last quarter falls between 2011 and 2013 are excluded because of missing data. Task requirement components of each occupation are defined using O\*NET mapped into the UK SOC 2000 and 2010 occupational classifications and standardised across all classified occupations (see Box 1 and Appendix for details). Accordingly, the scale refers to changes in the importance of a task where 1 corresponds to a one standard deviation change.

SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

Overall, these findings indicate that, on one hand, job moves help female workers to close an initial gap in their exposure to analytical tasks on the job. On the other hand, they reinforce gender segregation across occupations at higher intensity of personal and particularly physical tasks (see Figure 39 in the Appendix) with ambiguous implications for the quality of these job moves.

Job moves can also be split by workers' age and education level. Workers in the youngest age group (18-24) tend to move to occupations that place greater emphasis on analytical and personal tasks. Older workers appear to move away from both analytical and

personal tasks (see in the Appendix).<sup>38</sup> When considering job-movers' level of education (see Figure 41 in the Appendix), we find that workers with a lower level of education tend to move to jobs with lower analytical and personal tasks requirements but higher physical and routine cognitive tasks requirements. Workers with upper-secondary education (holding A-Levels or equivalent qualifications) appear to make the most 'successful' job moves as they move away from routine tasks (particularly manual) and into jobs where personal and especially analytical tasks are much more important. This can partly reduce the gap in the use of analytical tasks that these workers have with university-educated workers (see, for example, Figure 42 in the Appendix) and suggests that holding A-Levels or equivalent qualifications, as opposed to only GCSEs or lower qualifications, can make a substantial difference in labour market trajectories. Generally, these findings are alarming for older workers, and those with lower levels of formal qualifications, as they tend to move into jobs that are intensive in tasks that carry the smallest premium in the labour market.

### Displaced workers experience 'bad' moves, especially if these involve hasty transitions or long spells out of employment

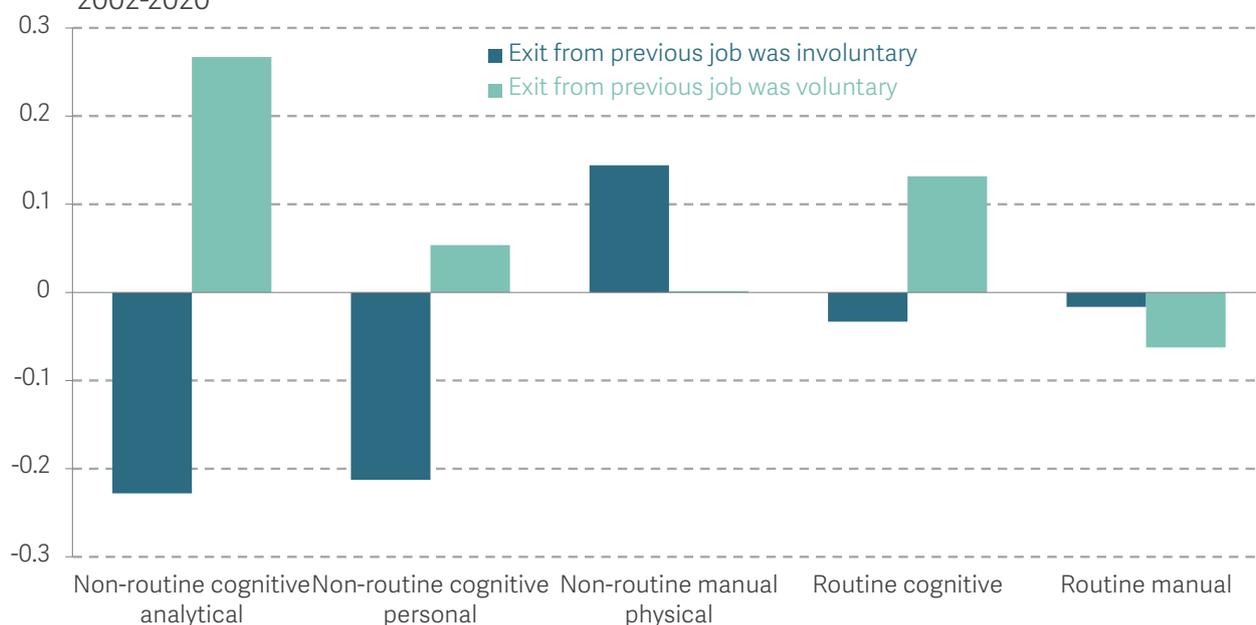
In this last sub-section, we describe the different experiences of job-to-job transitions by the reason those transitions were made and consider whether they involve any spell of non-employment. In Figure 30 we look at the change in task requirements involved in job transitions following what we define as voluntary (due to workers' resignation) or involuntary (due to workers' dismissal or redundancy) job moves. Clearly there is a stark difference between the two: workers who lose their job are typically re-employed in jobs with less emphasis on analytical and personal tasks, and more emphasis on non-routine physical tasks. On the contrary, workers who change their job voluntarily typically move to jobs where analytical tasks are more important (although routine cognitive tasks are also more prominent).

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<sup>38</sup> This backs the findings from Figure 20 when we attributed the greater occupational mobility of younger workers to more rapid occupational advancement at the beginning of workers' careers (as reflected here in higher intensity of analytical and personal tasks). More importantly, these differences suggest that, while for younger workers job moves seem to work to their advantage, for workers past their prime, job-moves tend to result in employment in occupations which are potentially worse paid and with possibly bleaker employment prospects.

**FIGURE 30: Workers who left their job involuntarily ‘move away’ from analytical and personal tasks**

Changes in tasks requirements across job moves by reason for leaving previous job: UK, 2002-2020



NOTES: Changes in task requirements set out above pertain to the occupations (measured at the SOC four-digit level) workers were employed in the first and last (fifth) quarter of the five-quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. Job-moves whose last quarter falls between 2011 and 2013 are excluded because of missing data. Involuntary job moves refer to workers who reported to have been dismissed or made redundant (including voluntary redundancies) in their last job. Voluntary job moves refer to workers who report to have resigned from their previous job. Task requirement components of each occupation are defined using O\*NET mapped into the UK SOC 2000 and 2010 occupational classifications and standardised across all classified occupations (see Box 1 and Appendix for details). Accordingly, the scale refers to changes in the importance of a task where 1 corresponds to a one standard deviation change.

SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

While the occupational ‘upgrade’ of workers who change their job voluntarily may not be too surprising, the findings for displaced workers are worrying and deserve some discussion. One intuitive explanation is that voluntary job movers typically have more time to search for their next job and only switch when they find a better match (in terms of both pay and future employment prospects). Displaced workers, instead, often have less time to look for their next job and often go through a period of non-employment. If skills depreciate while out of work, or if employers look unfavourably on non-employment spells, these workers may find themselves with limited options should they return to the workplace.<sup>39</sup>

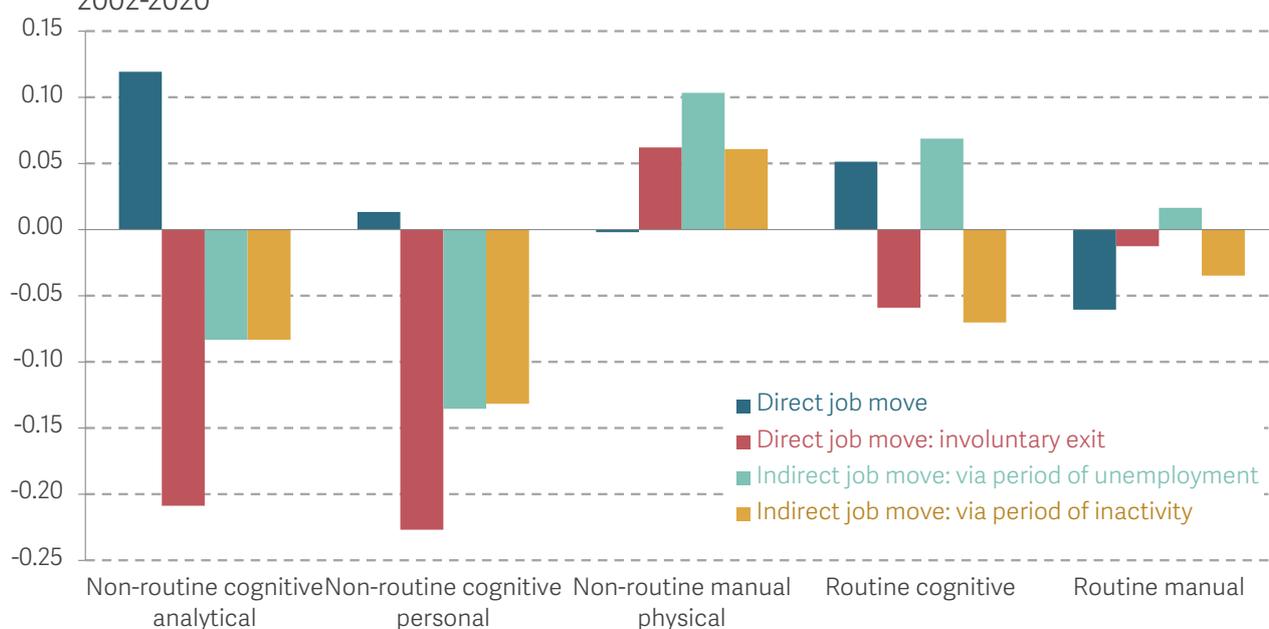
In Figure 31 below, we try to delve into this question by considering whether job-to-job transitions involved any intermediate spell of unemployment or inactivity. The

<sup>39</sup> For a theoretical discussion on skills depreciation as a result of unemployment, see: C Pissarides, *Loss of Skill During Unemployment and the Persistence of Employment Shocks*, Quarterly Journal of Economics, 1991. For some empirical results, see: P-A Edin and M Gustavsson, *Time Out of Work and Skill Depreciation*, ILR Review, 2008.

figure confirms that, on average, workers who do not experience any long spell out-of-employment tend to have better transitions than workers who go through spells of inactivity and particularly unemployment. Workers who left their previous job involuntarily and who remain ‘continuously’ employed thereafter seem to experience stronger ‘occupational downgrading’ than workers who go through unemployment or inactivity. One potential explanation is that laid-off workers face a trade-off whereby avoiding unemployment (with its associated negative income shock) comes at the cost of moving (at least temporarily) into any available job even if this implies drastic changes in the type of tasks the worker will have to perform.<sup>40</sup>

**FIGURE 31: Workers who experience out-of-employment spells as part of their job-to-job transitions move into jobs with less use of analytical and personal skills**

Changes in task requirements across job moves by type of job-to-job transition: UK, 2002-2020



NOTES: Changes in task requirements set out above pertain to the occupations (measured at the SOC four-digit level) workers were employed in the first and last (fifth) quarter of the five-quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. Job-moves whose last quarter falls between 2011 and 2013 are excluded because of missing data. Conflicts in the classification into indirect job moves via unemployment or inactivity are resolved by considering the status in the first spell out-of-employment. Involuntary job moves refer to workers who reported to have been dismissed or made redundant (including voluntary redundancies) in their last job. Task requirement components of each occupation are defined using O\*NET mapped into the UK SOC 2000 and 2010 occupational classifications and standardised across all classified occupations (see Box 1 and Appendix for details). Accordingly, the scale refers to changes in the importance of a task where 1 corresponds to a one standard deviation change.

SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

<sup>40</sup> It would be important to know whether eventually these workers find their way back into jobs that are more similar to the ones they lost, unfortunately we cannot directly answer this question within this report as we can only track workers over one year.

Finally, as we show in the Appendix, spending more time out-of-employment has a detrimental effect on the type of occupations workers eventually move into.<sup>41</sup> In particular, we find that, while spending even one quarter out of employment leads to some 'downgrade', spending two or even three quarters out-of-employment leads to a considerable reduction in the performance of analytical tasks. Additionally, after spending three quarters out of job, workers tend to reappear in occupations at higher intensity of routine cognitive and manual tasks (see Figure 43 in the Appendix).

While more research is necessary to understand the patterns documented, the findings contain important lessons for our understanding of the British labour market. Encouragingly, workers who change their job out of choice seem to experience positive moves on average. This stands in stark contrast with workers who lose their job (even when they do not end up unemployed following the job loss) and with workers who experience spells of unemployment and inactivity, particularly if longer than three months. These groups typically move into jobs which, by virtue of having much less intense analytical and personal tasks requirement, are associated with lower pay and bleaker long-term employment prospects.

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<sup>41</sup> Again, the nature of the data means that we can only consider job-to-job transitions where workers spent at most about three quarters (nine months) out of employment.

## Section 5

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### Conclusion

Previous episodes of structural change in the labour market have been characterised by high rates of job mobility – but the pace of change and rates of job mobility have both been slowing down

As Section 2 in this report shows, the rate of structural change (measured as the change in the sectoral composition of employment over a ten-year period) has been slowing since the 1980s. In 2021, structural change is still happening, but is moving at about one-third of the pace of industrial reallocation recorded in the 1970s and 1980s, a time when the big shift from manufacturing to services jobs was taking place. Similarly, the rate at which workers are moving between jobs has also been slowing over the same period, and again is substantially slower than it was in the 1970s and 1980s.

In launching the Economy 2030 Inquiry, we suggested that the slowdown of both reallocation and worker mobility might mean the economy is ill-prepared to deal with what we expect to be a period of faster structural change, as the UK economy undergoes significant change in response to Covid, Brexit, net zero transition and other structural factors.<sup>42</sup> However, in this report we raise a more positive alternative, that the rate of worker mobility may be linked to the pace of structural change. If this is the case then we might expect rates of mobility to increase in response to a period of faster structural change. Ideally, job mobility will adjust to structural change at a fast-enough pace as to prevent significant out of work flows and involuntary moves in the next decade, hence avoiding the high levels of unemployment seen in the 1980s.

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<sup>42</sup> T Bell et al, *The UK's decisive decade: The launch report of the Economy 2030 Inquiry*, Resolution Foundation, May 2021.

## Structural change nevertheless poses significant risks for workers in shrinking sectors

We showed in Section 4 that there are clear benefits to workers that do make job and sector changes, in the shape of stronger pay growth than those staying put, and typically moves to more ‘future-proof’ occupations. But economic change brings risks to workers that do not make such moves. Workers subject to involuntary job separations face both the short-term pain of job loss, but also further negative consequences in the shape of longer periods spent out of work (compared to those who leave employment voluntarily) and poor job and pay outcomes. Workers re-entering work after involuntary job loss typically see their earnings reduced and are re-employed in occupations with less emphasis on analytical and personal tasks. Crucially, when displaced, rapidly finding new employment does not seem to help workers escaping this occupational ‘downgrading’ although being out-of-employment for six months or longer further deteriorates their prospects.

## It is therefore preferable that structural change happens via ‘natural’ entry and exit and voluntary moves, rather than via forced moves or forced exits

We showed in Section 3 that the reallocation of labour between sectors can come from a number of sources – from workers directly moving between sectors, from workers entering and exiting employment in the middle of their working lives (which we termed ‘within career entry/exit’), and from workers entering and exiting employment at the start and end of their working lives (which we termed ‘natural entry/exit’). We showed that, in the case of manufacturing, more than half of the fall in employment in the 1980s and 1990s could be attributed to natural entry and exit.

Of those types of labour reallocation, sectoral change through workers moving jobs will in most instances be a positive experience for workers involved, since it typically comes with stronger pay growth. Although this won’t always be the case – we showed that workers who move jobs between quarters often make ‘bad’ job moves (in the sense that they move to jobs with a worse skills profile) if these moves are triggered by an involuntary exit from their previous job.

It’s ambiguous whether sectoral change through entry and exit of prime age workers is a good or a bad thing. Workers may find that they are able to find a better job through this process, as we might expect higher demand in growing sectors to be associated with higher pay. However, on average, this isn’t what we observe. Not only do workers subject to involuntary job loss experience the pain time spent out of work, but when they do re-enter employment they typically do so in a worse job (in terms of pay and task profile).

This is partly because many workers who lose a job in a shrinking sector return to work in the same sector or another shrinking sector.

## Policy makers will have a role to play in helping workers navigate change in the 2020s

Sectoral change via natural entry and exit is therefore likely to be the least costly way of achieving structural change, and when a sector is experiencing falling demand, policy makers should promote this type of adjustment where possible. This should not mean attempting to hasten the exit of older workers, as policy makers did in the 1980s.<sup>43</sup>

Instead, policy makers may want to find ways of steering labour market entrants towards growing rather than declining sectors. Of course, it's unlikely that all sectoral reallocation can be achieved in this way. Policy makers will also have to consider how to assist in the reallocation of workers between sectors (such as by helping workers acquire the skills needed to make such moves), and in how to support workers who are displaced from shrinking sectors.

Along with examining in more detail the scale and nature of the change which faces the UK labour market in the 2020s, future reports within the Economy 2030 Inquiry will set out policy options for managing this change.

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<sup>43</sup> N Cominetti, [A U Shaped Crisis: The impact of Covid-19 on older workers](#), Resolution Foundation, April 2021.

## Section 6

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### Appendix: Further results and methodological details

#### Calculating reallocation across sectors and occupations

Section 2 presents measures of the rate at which employment has reallocated across sectors and occupations. The calculation measures the weighted average, across sectors or occupations, of the absolute change in employment share compared to a decade ago.

The specific reallocation formula is as follows:

$$\sum_{i=1}^n \frac{e_t^i}{e_t} \cdot \left| \frac{e_t^i}{e_{t-10}^i} / \frac{e_t}{e_{t-10}} - 1 \right|$$

Where  $n$  is the number of industries or occupations,  $e_t^i$  is employment in industry or occupation  $i$  in year  $t$ , and  $e_t$  is total employment in year  $t$ .

This formula is based on a measure used in a 2020 paper by Chodorow-Reich and Wieland.<sup>44</sup>

#### Further results relating to labour market flows

Understanding the relative importance of the different labour market flows along the business cycle is relevant in interpreting the degree of dynamism of the labour market and what is the role of differential policies according to the start and end state of the transitions. Figure 32 presents a breakdown the UK labour market flows by start and end state of employment since 1994.<sup>45</sup> As it can be seen employment-to-employment moves (job moves) are consistently the type of transition with highest volumes throughout the period of analysis, with exception to the period of the Great Financial Crisis when

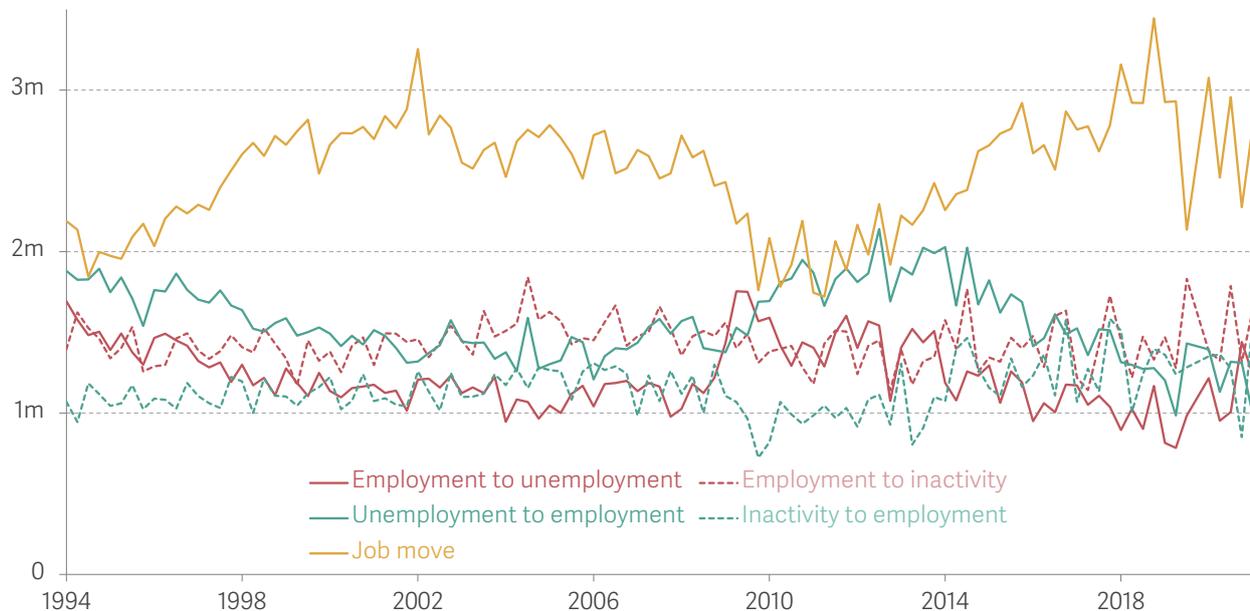
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<sup>44</sup> G Chodorow-Reich & J Wieland, *Secular Labor Reallocation and Business Cycles*, Journal of Political Economy, April 2020.

<sup>45</sup> For presentational purposes transitions from unemployment-to-unemployment (UU) and inactivity-to-inactivity (NN) are not presented. These flows are the lowest in absolute and relative importance.

it matches in volume with the unemployment-to-employment transitions (particularly during the recovery period).

**FIGURE 32: Labour market flows are cyclical and job-to-job transitions are particularly procyclical**



NOTES: Job-to-job transitions are defined according to the reset tenure methods explained elsewhere in the Appendix. All estimates are weighted and the sample is restricted to people aged 16-64 and full-time students are excluded.

SOURCE: Analysis of ONS, Five-Quarter Labour Force Survey,

An alternative way to understand the relative importance of the different labour market flows is to focus on whether a worker has lost, found, or changed employment. Doing so, one arrives at the three categories of aggregate flows described in Figure 33: employment exit (everyone who has exited a job and is currently not employed), employment entry (everyone who has found a new job if previously not employed) and job moves (everyone who was already employed but has found a new job). Figure 33 shows the rates of the previously described aggregate flows as a share of the employed population. The analysis shows that job-to-job moves are at least as important as employment entry and exit for periods of economic growth.

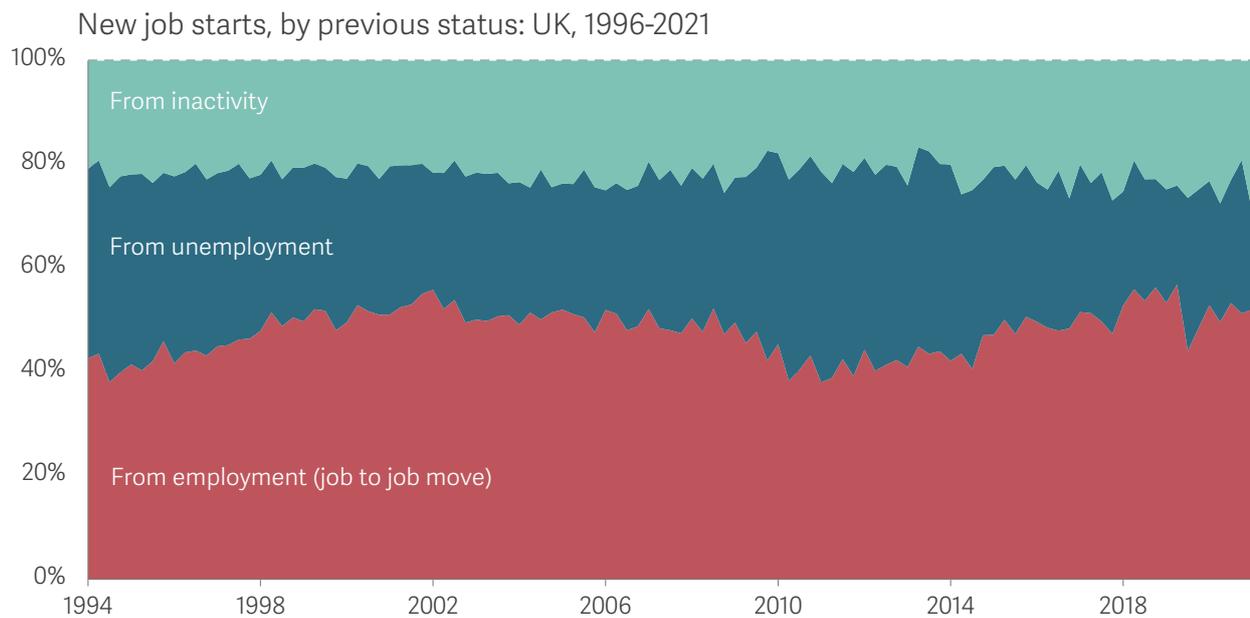
### FIGURE 33: Direct job-to-job moves are similar in magnitude to employment entry and exit, outside of downturns

Annual job-to-job transitions, employment entry and employment exit, as a proportion of employment: UK, 1996-2021



NOTES: Job-to-job transitions are defined according to the reset tenure method explained in the Appendix. Employment entry is the sum of the moves from inactivity or unemployment, employment exit is the sum of the moves to inactivity or unemployment. All estimates are weighted and the sample is restricted to people aged 16-64 and full-time students are excluded.  
SOURCE: Analysis of ONS Five-Quarter Labour Force Survey.

Finally, one may be interested in focusing only on the population of workers who start a new job. Among these workers, one can then divide them according to their previous employment status and ask how many of the new job starters have transitioned from unemployment, inactivity, or employment. Figure 34 shows the composition of new job starters in accordance with the previously described categories. Reinforcing the previous figures, one can conclude that job-to-job moves account for the highest fraction of new job transitions – around half of all job starters have moved (directly) from a previous job.

**FIGURE 34: Job-to-job moves account for more than half of all new job starts**

NOTES: Job-to-job transitions are defined according to the reset tenure methods explained elsewhere in the Appendix. All estimates are weighted and the sample is restricted to people aged 16-64 and full-time students are excluded.

SOURCE: Analysis of ONS Five-Quarter Labour Force Survey.

## Different options for measuring labour market flows

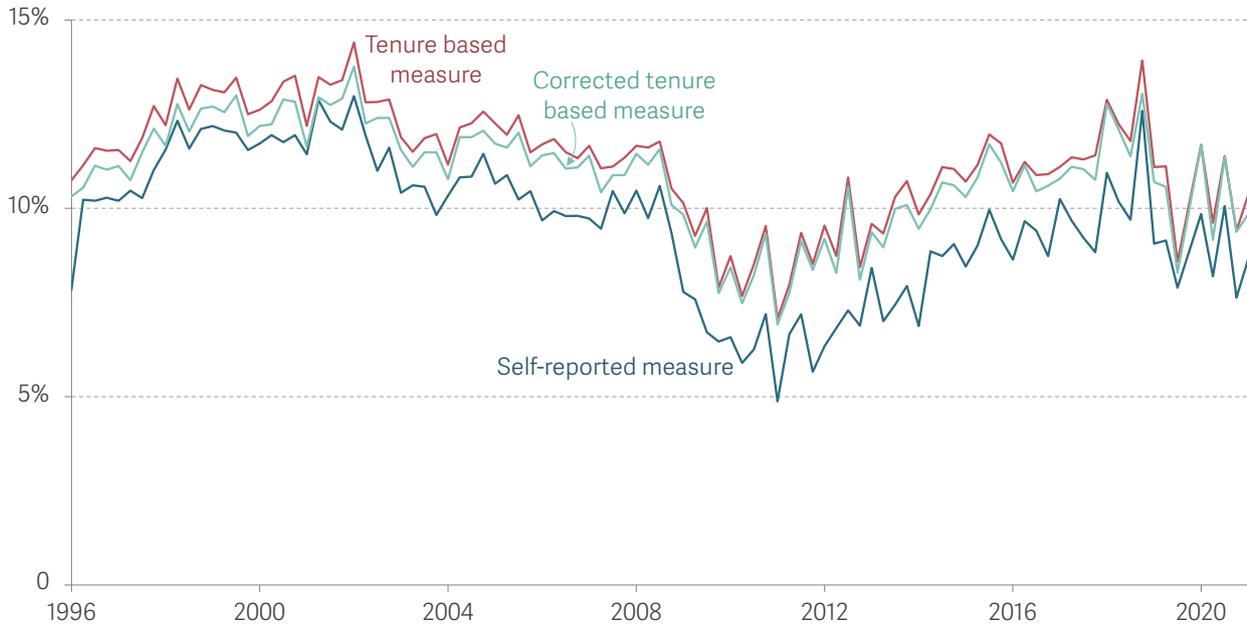
There are different ways to measure job-to-job moves. In Figure 35, we report three different measures of job-to-job using the Five-Quarter Labour Force Survey: self-report, tenure and corrected tenure approaches. All measures allow us to capture whether a worker has changed their job relative to one year ago. Firstly, the self-report method captures whether a worker self-reports leaving a paid job in the last three months. Secondly, the tenure approach looks at how long a worker has spent with their current employer now. If their tenure with the current employer is less than twelve months, we have a job-to-job move. Thirdly, we have the corrected tenure approach. It is motivated by the fact that the straightforward tenure approach overestimates the number of job-to-moves due to the sampling scheme of the Labour Force Survey. It is possible for a worker to report having worked for 11 months with their current employer but also having worked with them for just one month one year ago. On the straightforward tenure approach, this would be classified as a job-to-job move. Fortunately, we can apply a simple correction to deal with this issue: we can require that a worker has been with their current employer for at least three months one year ago hence avoiding misclassification due to the quarterly nature of reporting of LFS.

Overall, the three measures of job-to-job moves follow a similar trend. We can see the cycles nature of job-to-job moves which are lower in recessions and higher in booms.

Moreover, correcting the tenure approach also does not have a big effect on the time series.

**FIGURE 35: Different measures of job-to-job transitions follow a similar trend**

Proportion of workers in a different job to a year ago, measured in three different ways: UK, 1996-2021



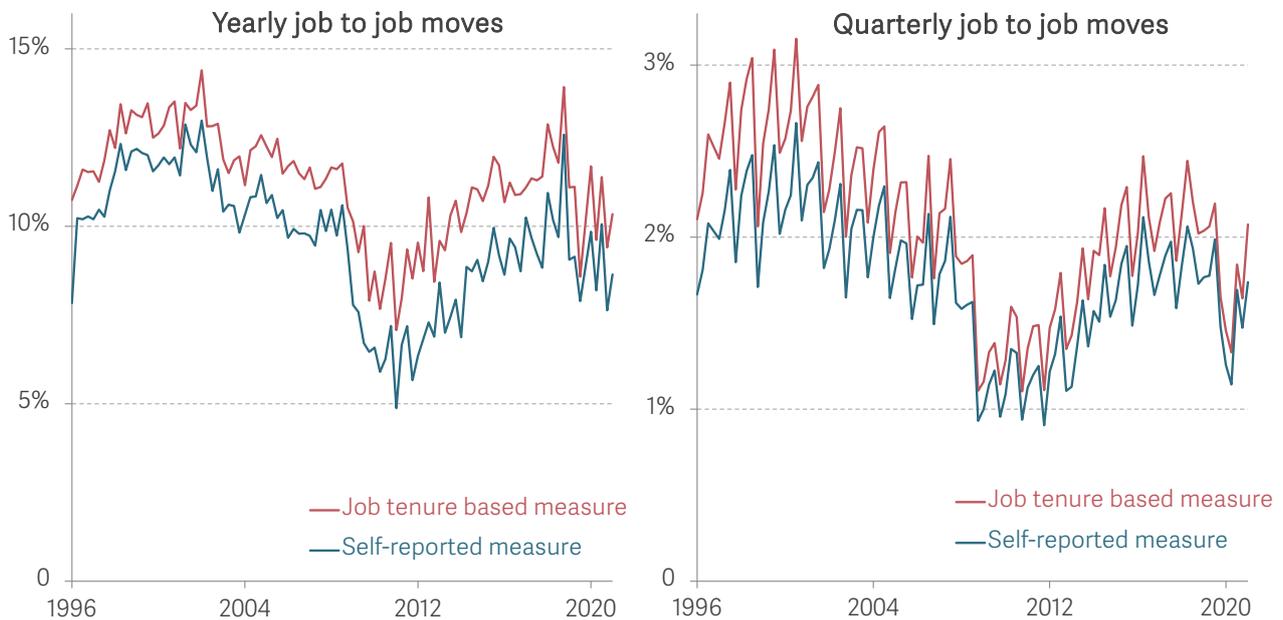
NOTES: Key variable used for tenure approach is 'empmon' and the key variable for the self-report approach is 'redpaid'. Variable 'redpaid' is not well-recorded in the Five-Quarter Labour Force Survey before January 1996. All estimates are weighted and the sample is restricted to people aged 16-64 and full-time students are excluded.

SOURCE: Analysis of ONS, Five-Quarter Labour Force Survey.

In addition to yearly transitions, we can also measure quarterly transitions using the Two-Quarter Labour Force Survey, i.e. whether a worker has the same job as one quarter ago. This is set out in Figure 36. As before, we plot both the (corrected) tenure and the self-report definitions. We can see that yearly job-to-job moves are roughly four times higher than quarterly job-to-job moves. This result is not surprising, given that yearly transitions capture the job-to-job moves from the four quarters in-between.

**FIGURE 36: Quarterly and yearly measures of job-to-job transitions follow a similar trend**

Proportion of workers in a different job to a year or quarter ago: UK, 1996-2021



NOTES: Key variable used for tenure approach is 'empmon' and the key variable for the self-report approach is 'redpaid'. Variable 'redpaid' is not well-recorded in the Five-Quarter Labour Force Survey before January 1996. All estimates are weighted and the sample is restricted to people aged 16-64 and full-time students are excluded.

SOURCE: Analysis of ONS, Five-Quarter Labour Force Survey for yearly transitions, Two-Quarter Labour Force Survey for quarterly transitions.

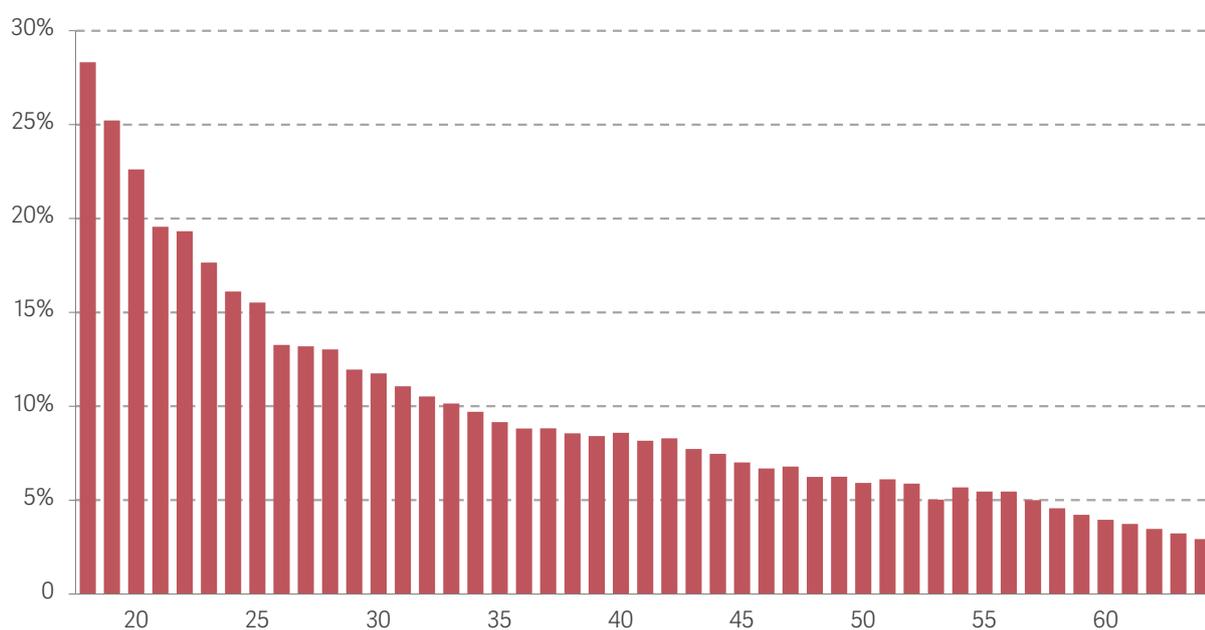
### Further results relating to rates of job mobility across different groups of workers

Figure 37 plots the distribution of job-to-job moves by age group. We can see that as age increases the probability of changing one's job decreases. In particular, the share of people moving jobs below age 25 is over 15% for each age group whereas it falls to less than 6% for people aged 55 or over. This finding is in line with research which suggests that young workers are more mobile.<sup>46</sup>

<sup>46</sup> R Topel and M Ward, *Job mobility and the careers of young men*, Quarterly Journal of Economics, 1992.

**FIGURE 37: Younger people tend to engage in job-to-job moves more often jobs more often than older people**

Proportion of workers changing jobs in the past year, by single year of age: UK, 2002-20



NOTES: All estimates are weighted and the sample is restricted to people aged 16-64 and full-time students are excluded. Data is pooled together for the period 2002 to 2020.

SOURCE: Analysis of ONS Five-Quarter Labour Force Survey.

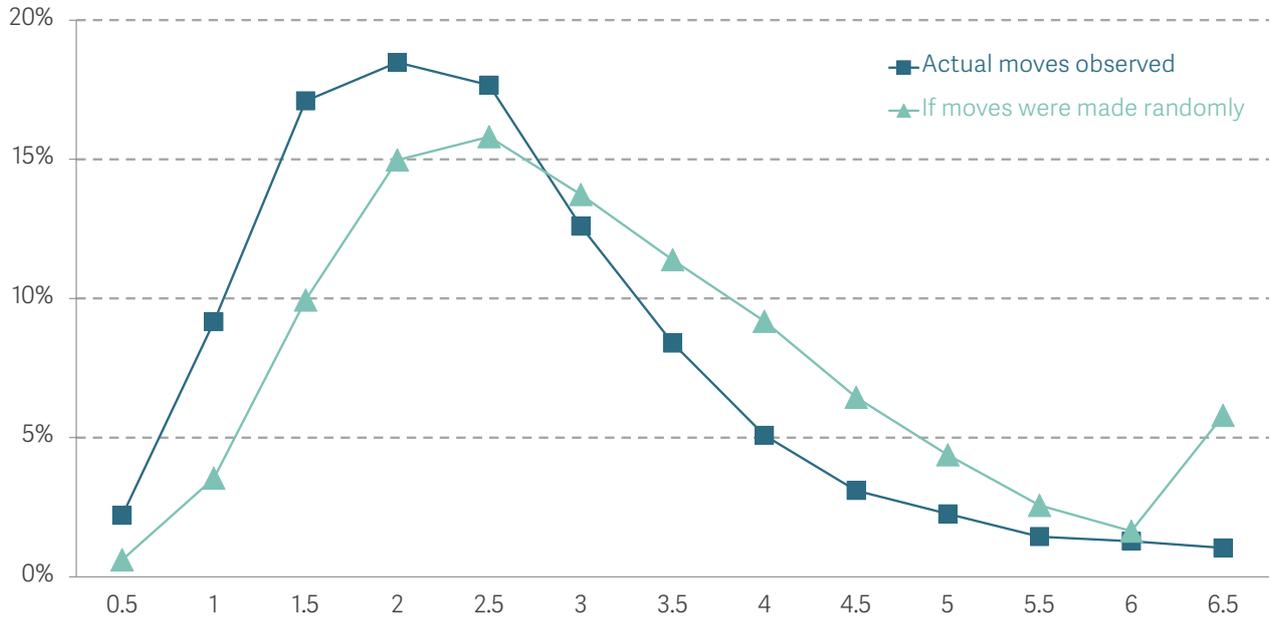
## Further results relating to mobility as measured by changes in task requirements

Figure 38 below complements the distribution of task-requirements distance involved in job-moves reported in Figure 17 by overlaying the distance distribution associated to random job-moves. This suggests that, if workers were to pick an occupation randomly<sup>47</sup> when they change job, they would be less likely to end up in occupations that are relatively similar (with a distance up to 2) and more likely to move to occupations that are further away (for example, four times as many moves would be to occupations whose distance is higher than 6). This is not surprising, in reality, workers tend to move to occupations whose task requirements are more in line with what they have been used to perform (especially as here we focus on short-timed moves of at most one year with not much time to undergo significant reskilling). Yet, the figure suggests that, conditional on changing occupation, workers are relatively mobile as there is still a substantial overlap between the two distributions.

<sup>47</sup> We define a random job-move as a move whereby the probability of ending up in a given occupation is proportional to the share of people employed in that occupation (i.e., workers are more likely to move into a more popular occupation).

**FIGURE 38: Many job moves are to occupations which have significantly different task requirements**

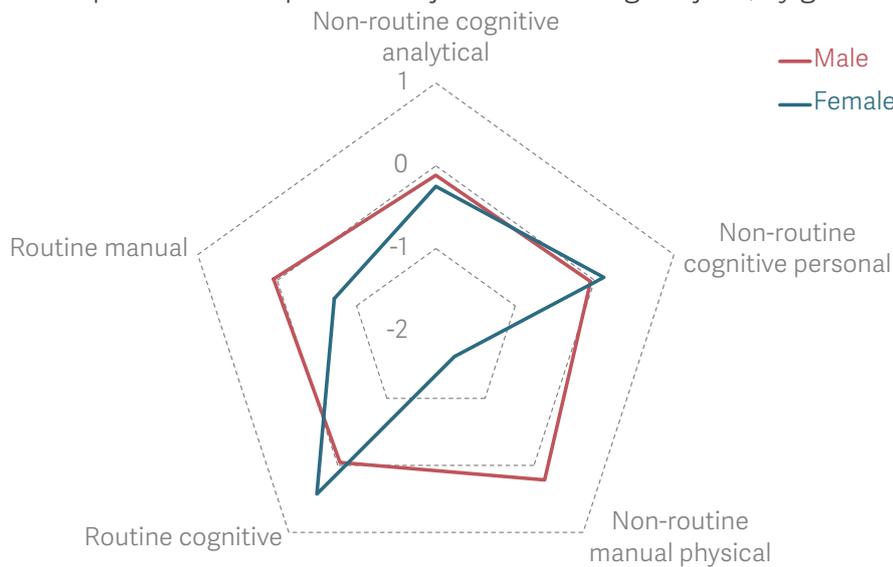
Distribution of task requirement distance involved when workers change occupation, observed, and if moves were made randomly: UK, 2002-20



SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

**FIGURE 39: Women tend to be employed in occupations involving lower intensity of physical tasks**

Task requirement composition of job-movers' original jobs, by gender: UK, 2002-2020



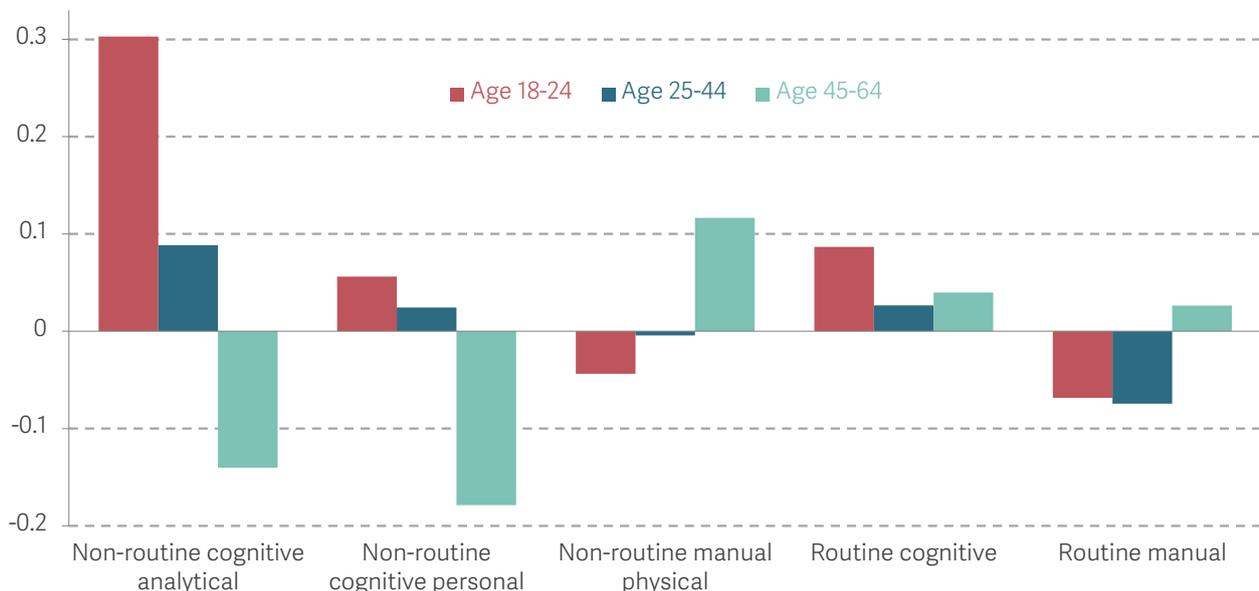
SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

Figure 39 complements Figure 29 from Section 3, and sets out the typical task content of men’s and women’s jobs. Men are typically employed in occupations which involve much greater emphasis on physical tasks, both routine manual and non-routine manual physical. Women are slightly more likely to work in occupations which place greater emphasis on non-routine cognitive personal and routine cognitive tasks.

Figure 40 describes changes in task requirements associated with job-moves by age group. As pointed out in Section 4, it appears that job-movers in the youngest age group (age 18-24) tend to experience positive job moves whereby they increase considerably their exposure to analytical and, to a lesser extent, personal and routine cognitive tasks. This is line with higher job-mobility from this age group likely reflecting promotions and upward moves in the job-ladder at the beginning of workers’ careers. This pattern seems to fade as workers grow older and we find that workers in their late careers (age 45-64) tend to experience distinctly negative job-moves. They tend to move away from analytical and personal tasks and, in contrast with all younger groups, move to jobs that emphasise much more physical but also routine manual tasks.

**FIGURE 40: Unlike youngest workers, older job-movers may lose out as they move away from jobs at higher analytical and personal tasks intensity**

Changes in task requirements across job moves by age: UK, 2002-2020



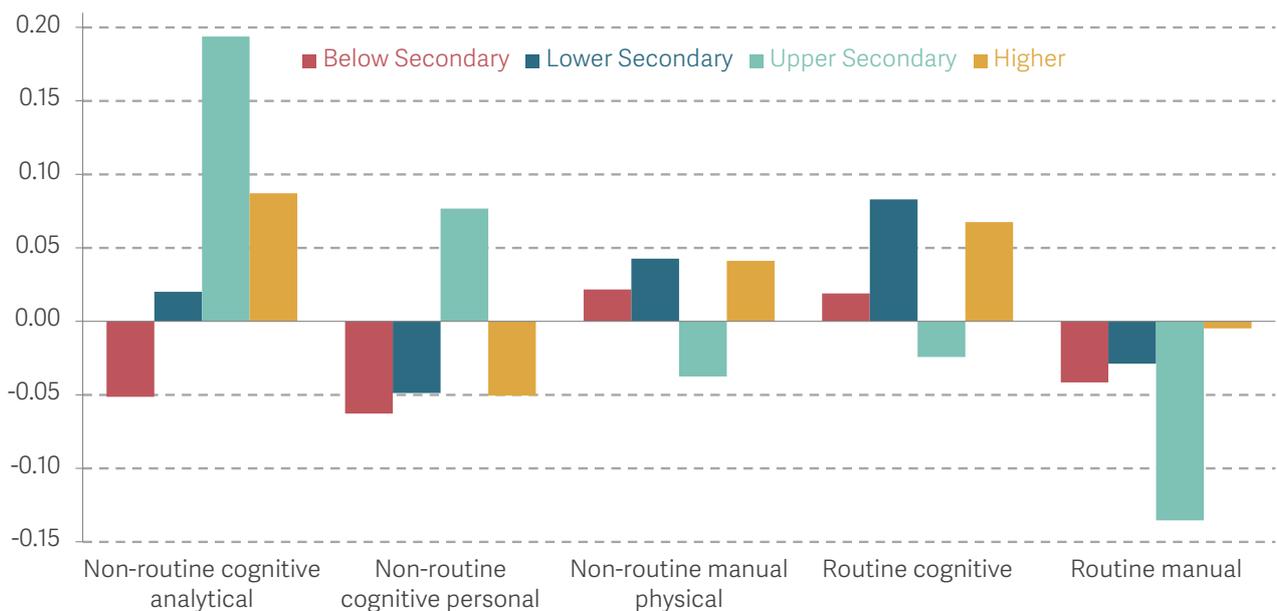
NOTES: NOTES: Changes in task requirements set out above pertain to the occupations (measured at the SOC 4-digit level) workers were employed in the first and last (fifth) quarter of the Five-Quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. Job-moves whose last quarter falls between 2011 and 2013 are excluded because of missing data. Task requirement components of each occupation are defined using O\*NET mapped into the UK SOC 2000 and 2010 occupational classifications and standardised across all classified occupations (see Box 1 and Appendix for details). Accordingly, the scale refers to changes in the importance of a task where 1 corresponds to a one standard deviation change.

SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

In Figure 41 we consider changes in task requirements associated with job moves by workers' self-reported level of education. As briefly discussed in Section 4, we find that job-movers with the lowest level of education (Below Secondary) tend to experience slightly worse moves that involve less exposure to analytical and personal tasks. This is partly the case for workers with GCSEs as their highest qualification (Lower secondary) who also tend to move into jobs at higher intensity of routine cognitive skills. Workers with A-Levels or equivalent Level 3 qualifications as their highest education achievement (Upper Secondary) seem to experience the most positive moves: they considerably increase their performance of analytical and, to a lesser extent, personal tasks and, notably, they move away from jobs that are more intensive in routine manual tasks.

**FIGURE 41: Better educated workers move into jobs with increased use of analytical skills**

Changes in task requirements across job moves by workers' level of education: UK, 2002-2020



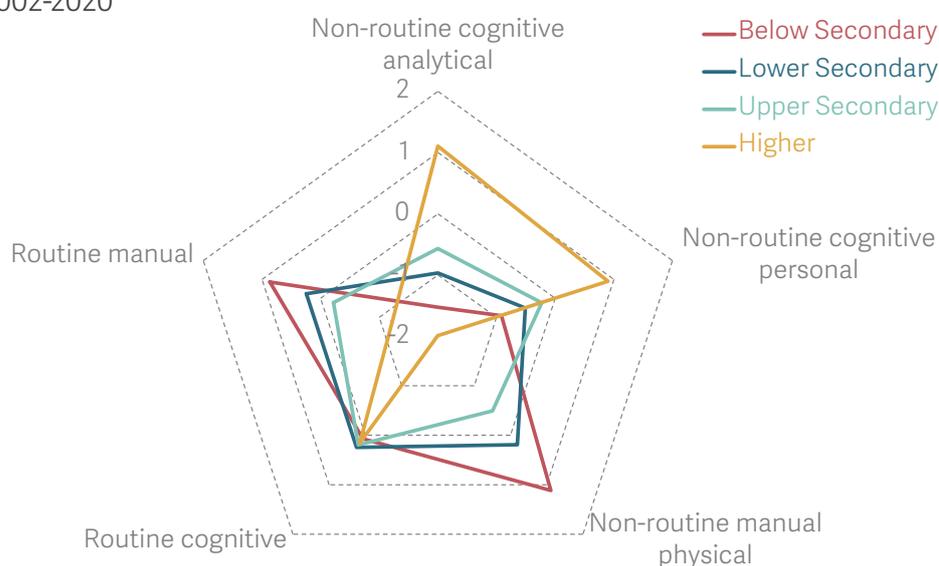
NOTES: Changes in task requirements set out above pertain to the occupations (measured at the SOC 4-digit level) workers were employed in the first and last (fifth) quarter of the Five-Quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. Job-moves whose last quarter falls between 2011 and 2013 are excluded because of missing data. Workers' level of education is determined by their self-reported highest qualification: Below Secondary refers to having achieved less than Level 2 in GCSEs or equivalent qualifications; Lower Secondary refers to having achieved Level 2 in GCSEs or equivalent qualifications; Upper Secondary refers to having achieved at least one A-Level or equivalent Level 3 qualification; Higher refers to having obtained any qualification above Level 3 (mostly university degrees). Task requirement components of each occupation are defined using O\*NET mapped into the UK SOC 2000 and 2010 occupational classifications and standardised across all classified occupations (see Box 1 and Appendix for details). Accordingly, the scale refers to changes in the importance of a task where 1 corresponds to a one standard deviation change.

SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

By relating these findings with Figure 42 below, we can see that job-to-job mobility enables workers with upper secondary education to narrow the gap with university graduates: the latter are typically employed in occupations at much higher intensity of analytical and personal tasks but through job moves, upper secondary-educated workers move more into that direction. On the negative side of things, lowest-educated job-movers, who tend to be employed in occupations where analytical and personal tasks are less important seem to move further away from occupations held by more-educated workers thus reinforcing task polarisation.

**FIGURE 42: Job movers with a university degree work in jobs at much higher intensity of analytical and personal tasks**

Task requirements composition of job-movers' original jobs, by education level: UK, 2002-2020



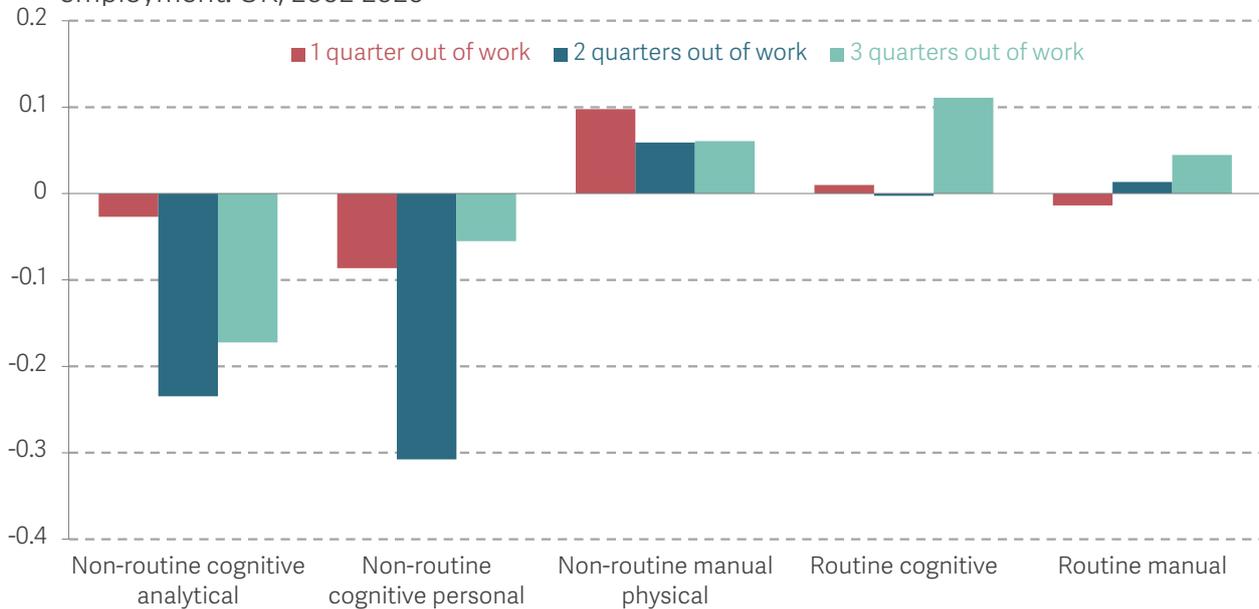
NOTES: Tasks requirements set out above pertain to the workers occupations, measured at the SOC 4-digit level. Task requirement components of each occupation are defined using O\*NET mapped into the UK SOC 2000 and 2010 occupational classifications and standardised across all classified occupations (see Box 1 and Appendix for details).

SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

Figure 43 sets out the typical changes in task requirements of those moving jobs with a period out of work between jobs, broken down by the length of time out of work. Overall, it shows that longer spells out of employment are associated with 'worse' job moves, in terms of involving a reduction in the use of non-routine cognitive tasks, and an increase, typically, in the use of routine tasks.

**FIGURE 43: Longer out-of-employment spells are associated with worse job moves**

Changes in task requirements across job moves by number of quarters out-of-employment: UK, 2002-2020



NOTES: Changes in task requirements set out above pertain to the occupations (measured at the SOC 4-digit level) workers were employed in the first and last (fifth) quarter of the Five-Quarter Longitudinal Labour Force Survey; respondents who were not in employment in either period are not considered. Job-moves whose last quarter falls between 2011 and 2013 are excluded because of missing data. The number of quarters refers to how many quarters respondents report to be out-of-employment (either unemployed or inactive) between the second and fourth quarter. Task requirement components of each occupation are defined using O\*NET mapped into the UK SOC 2000 and 2010 occupational classifications and standardised across all classified occupations (see Box 1 and Appendix for details). Accordingly, the scale refers to changes in the importance of a task where 1 corresponds to a one standard deviation change. SOURCE: Analysis of O\*NET and ONS Five-quarter longitudinal Labour Force Survey.

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3. [Work experiences](#): Changes in the subjective experience of work
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5. [Trading places](#): Brexit and the path to longer-term improvements in living standards
6. [Home is where the heat \(pump\) is](#): The Government's Heat and Buildings Strategy is a welcome step forward but lower-income households will need more support
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