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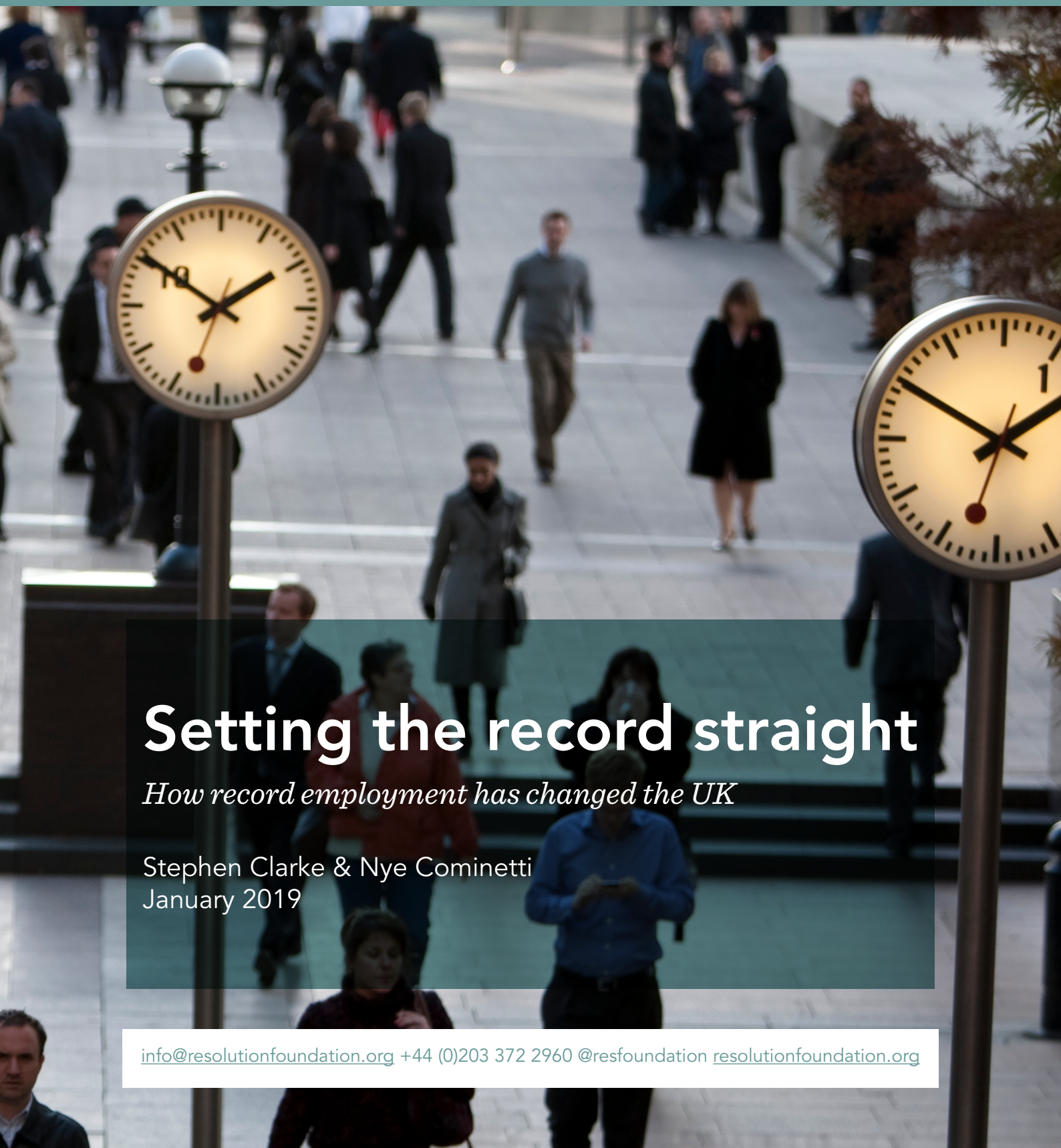
REPORT



Setting the record straight

How record employment has changed the UK

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Contents

Executive Summary

In the three months to October 2018, 32.5 million UK adults were in employment and the working-age (16-64) employment rate was 75.7 per cent, the highest figure since comparable records began in 1971. We are in this position off the back of a remarkable period of uninterrupted jobs growth that began in late 2011. As a result, 10 years on from the onset of recession in 2008, 2.7 million more people are in work and the employment rate is 2.8 percentage points higher.

The last time the UK enjoyed such a consistent period of rising employment rates was back in the 1990s. Back then the employment rate rose from around 68 per cent following the early 1990s recession to around 72 per cent around the turn of the millennium, and remained between 72 and 73 per cent until the effects of the financial crisis began to be felt in late 2008. However, this growth spurt only brought the labour market back to around its previous level at the same point in the cycle, rather than moving into higher territory as we have in recent years.

Over a decade on from 2008, what we thought the UK labour market was capable of in terms of employment has been upended. With this employment 'boom' coming to an end – there has been little increase in employment since early 2018 – now is a good time to take stock and ask how record employment has changed Britain. In doing so we chronicle not just how the UK jobs market is different now from when it was last at its peak, but because employment is the economy for most people, how the economy and indeed how the country has changed in this time.

We grapple with some of the key questions being asked in relation to the employment boom. Has the massive expansion in the amount of work come at the expense of job quality? Has the jobs surge ameliorated or exacerbated geographic divisions? Which occupations and industries have grown, and which have declined? And has record employment improved prospects for people settled in the UK, or has it predominantly offered opportunities to people willing to move to the UK from abroad?

We find that **record employment has been progressive.** Rising employment has helped support household incomes over the past seven years, offsetting, and in part representing a response to, a significant loss of earnings power and cuts in state support. Between 2007-08 and 2016-17, people living in households in the bottom half of the income distribution accounted for 62

per cent of the employment increase. The figures are even more progressive if we exclude those aged over 50, with three-quarters of the net employment increase since 2007-08 occurring in the bottom half of the income distribution.

The jobs-boom has brought some of the most disadvantaged groups into employment. Ethnic minorities and people with relatively low qualifications have been among the main beneficiaries, as have people with disabilities. The least-qualified third of the working-age population accounts for almost half of the net increase in employment, and people with disabilities (who disproportionately fall in the low-qualified group, so will very often be the same people) account for around one-third.

Record employment has been achieved despite an ageing society. This is due to improved employment outcomes for older workers, with the 50-64 year old employment rate having increased by 6.2 percentage points since 2008. It is also due to the fact that demographic headwinds have been countered by structural improvements in human capital, and greater labour market attachment among women with caring responsibilities.

These headline findings are very encouraging, with higher employment not only supporting incomes but more fairly sharing opportunity in Britain. But many people who recognise and welcome this good news also ask questions of it – questions which are worth answering. Four stand out.

First, is the employment boom all about migrant labour? No, **immigrants have been some of the main beneficiaries, but not at the expense of native workers.** Migrants have accounted for two-thirds of the increase in employment since 2008 (in part because they have grown as a share of the population), but in the same period the employment rate for people born in the UK has risen by over two percentage points to a record high of 75.8 per cent.

Second, has jobs growth been London-centric? No, but new divides are emerging. Far from exacerbating geographic divisions, **rising employment has been driven by relatively low-employment parts of the country catching up.** The story of the last decade is that of lower-employment urban Britain catching up with the rest of the country, while low-employment rural areas have done less well. Although it is sometimes assumed that all the new jobs created have been in London and the South East, the largest improvement in the employment rate happened in South Yorkshire (a 6.5 percentage point increase in the 18-69 year old employment rate) and the second largest was Merseyside (6.4 percentage points). Where the capital is distinct is in population growth. It is for this reason that London accounts for around a third of the net employment increase since 2008. It is the size and expansion of the capital, not its labour market performance, that really stands out.

Third, is employment growth only in low-paid roles? No, the recent decade has been one of occupational upgrading, but there are worrying trends for younger workers and pay performance has been poor across the occupation scale.

To delve into this third question, it's worth recognising that the world of 2018 is very different one from 2008. In 2008 you could buy stock in Amazon for around $75, today it would cost you $1,500. The internet and other technologies have upended retail, logistics, marketing, and a host of other industries. The economic cycle tamed the ascent of industries such as finance, while demographics have continued to boost others such as health and social care. The UK labour market reflects these trends. Health and social work accounted for almost a quarter of the net increase in employment since 2008. The number of people working in finance has fallen while employment in professional activities, business services and real estate has increased, with these industries accounting for almost half of the increase in employment. The big increase at the lower end of the earnings distribution was in the hospitality sector, accounting for almost one-fifth of the net increase in employment since 2008. By contrast, fewer people now work in wholesale and retail.

For some, this is indication that the UK jobs market is bifurcating into 'lovely' and 'lousy' jobs. However, we find that although polarisation may have described occupational change during the 1980s and 1990s, **since the millennium the UK labour market has been characterised by occupational upgrading**. Between 2001 and 2018, occupations that started out in the bottom three deciles of the earnings distribution have declined as a share of employment while those in the top three have increased (by 80 per cent).

Yet this positive picture overall has not been shared by everyone. **For younger workers, occupational change has been much more polarised.** For 18-29 year olds, occupations that started in the bottom-third of the earnings distribution have expanded by 37 per cent, those at the top by 44 per cent.

In addition, we must remember that relatively benign occupational changes do not negate problems related to low pay or poor pay growth. Despite an improved occupational structure over the past two decades, almost one-in-five UK workers remains low paid, and a deep pay squeeze across occupational groups means real average wages are still below their level in 2008.

Fourth, has the increase in job quantity come at the cost of job quality? Yes, particularly in the jobs boom's initial phase. The 'gig economy' may grab headlines but in many respects we've been gigging for a while. Rather, the past decade has witnessed the expansion and subsequent endurance of a wider range of 'atypical', sometimes insecure, work. Although full-time work as an employee remains the norm, t**wo-thirds of the growth in employment**

since 2008 has been in 'atypical' roles such as self-employment, zero-hours contracts or agency work. There was a particularly rapid expansion in these forms of work post-crisis, with growth concentrated in some sectors (business services, hospitality, and health and social work), and among some groups (people with disabilities and single parents).

Since 2016, atypical work has plateaued as the labour market has tightened and full-time work has grown, but atypical employment has not declined and remains significantly above pre-crisis levels. While many atypical workers value the flexibility afforded to them, the endurance of these contractual forms presents causes for concern: atypical workers more likely to express dissatisfaction with their work than full-time employees and face a 'pay penalty' of between 29p and 66p per hour. Further labour market tightening may precipitate declines in atypical work. However, given that little cyclical slack now remains and structural incentives towards atypical working (such as the treatment of self-employed income in the tax system) endure, policy change is desirable to reduce the share of the UK's workers who are at risk of insecurity.

A decade on, the UK jobs market is a different beast to what it was when the effects of the financial crisis began to take hold in 2008, but not in the ways many expected at the time or sometimes assert now. The changes the economy has gone through on the path to record-high employment confound the sceptics in many areas: jobs growth has been progressive; closed geographic gaps rather than exacerbated them; and benefited the UK-born at the same time as migrant employment has expanded.

However, these markers of success must not lead to complacency. There are black spots on this record, including the performance of younger workers, the relatively poor performance of rural areas and smaller urban areas, and the endurance of atypical work. With a tight labour market now is the time to address these areas of concern as well as driving participation for low-activity groups even higher. And of course, the employment boom has occurred alongside (indeed, likely partly in response to) the extremely poor performance of pay and productivity in recent years. These issues both explain why the UK's jobs boom does not receive the universal welcome we might expect, and represent the key challenges to ensure that the labour market continues to contribute to rising living standards in the years ahead.

Section 1: Introduction

A decade on from 2008, when the recession induced by the global financial crisis took hold, the UK labour market is once again at (or almost at) full capacity. There is little remaining cyclical slack in the economy, and the employment rate is currently at a record high of 75.7 per cent. The UK reached this point following seven years of uninterrupted employment growth, something that was unforeseen by experts, forecasters and commentators at the point at which the country began emerging from the crisis. Much has been written about this surprising achievement. Its drivers are less clear, although there is strong reason to believe that it represents a significant expansion of labour supply in the face of a keenly felt shock to incomes, earnings power and state support.

The employment expansion now appears to be at an end, with little increase since early 2018. This, and the fact that we are a decade on from the last time the UK labour market was at this point in the cycle, makes now a fitting time to reflect on how the world of work has changed over the last decade. In doing so we answer the questions most often asked about the jobs boom, shedding light on who, where and what kinds of jobs it has been comprised of.

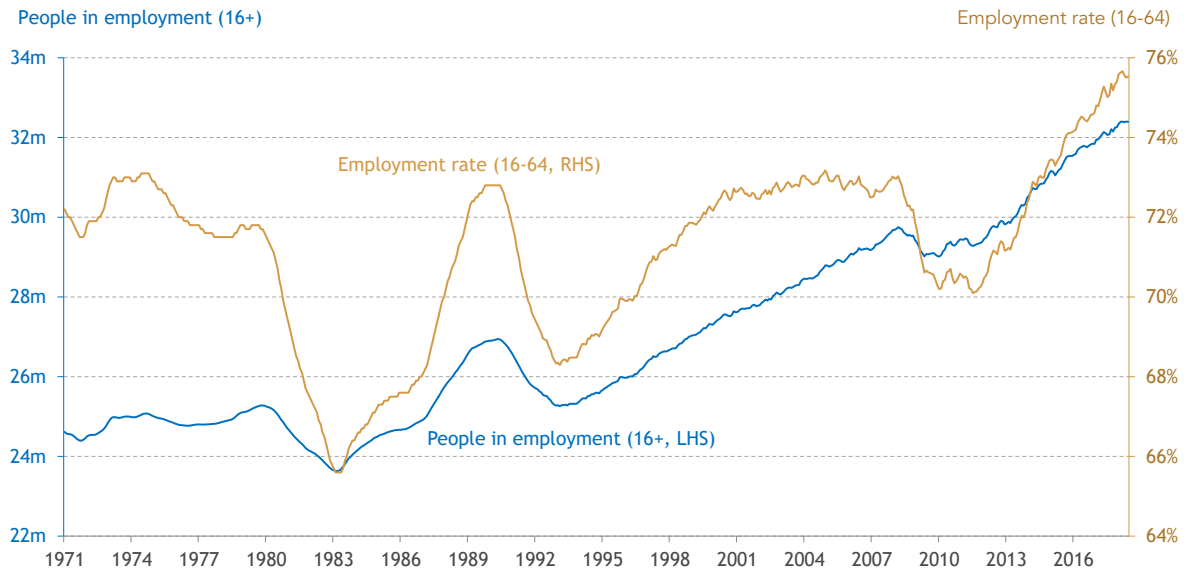
A decade on from the crisis, employment is at a record high

In March 2015 the Office for National Statistics (ONS) reported that earlier that year, in January, the UK labour market had broken a new record. In the three months to January 2015, the ONS estimated that the employment rate for those aged between 16 and 64 had reached 73.3 per cent, surpassing the previous high of 73.2 per cent recorded in February 2005. Such a feat was unexpected. In 2010, with the economy still reeling from the shock of the financial crisis, the Office for Budget Responsibility (OBR) forecast that by 2015 an additional 1.1 million people would be in work. The actual figure was almost double this, at 2 million.

The rapid rise in the employment rate which began in late 2011 caught most economists and commentators by surprise. When employment reached a record high in early 2015 there was still the belief that the rise may soon fizzle out. In March 2015 the OBR projected that by the third quarter of 2018 employment would have increased by 700,000. The latest figures (released in December 2018) put the number at 1.3 million. Figure 1 puts this remarkable rise in context. Far from just setting a new record in January 2015, the UK labour market was just at the beginning of a period of record-breaking on an almost monthly basis. [1]

[1] Throughout this report – unless otherwise stated – data presented in figures covers the UK.

Figure 1: Employment levels and rates are higher than at any time on record



Source: RF analysis of ONS, *Labour Market Statistics*

The employment rate increased at an average annual rate of 0.7 percentage points between January 2015 and September 2018. Not much slower than between mid-2012 and early 2015 when the labour market was recovering from the effects of the financial crisis, and the employment rate grew at an average annual rate of 0.9 percentage points.

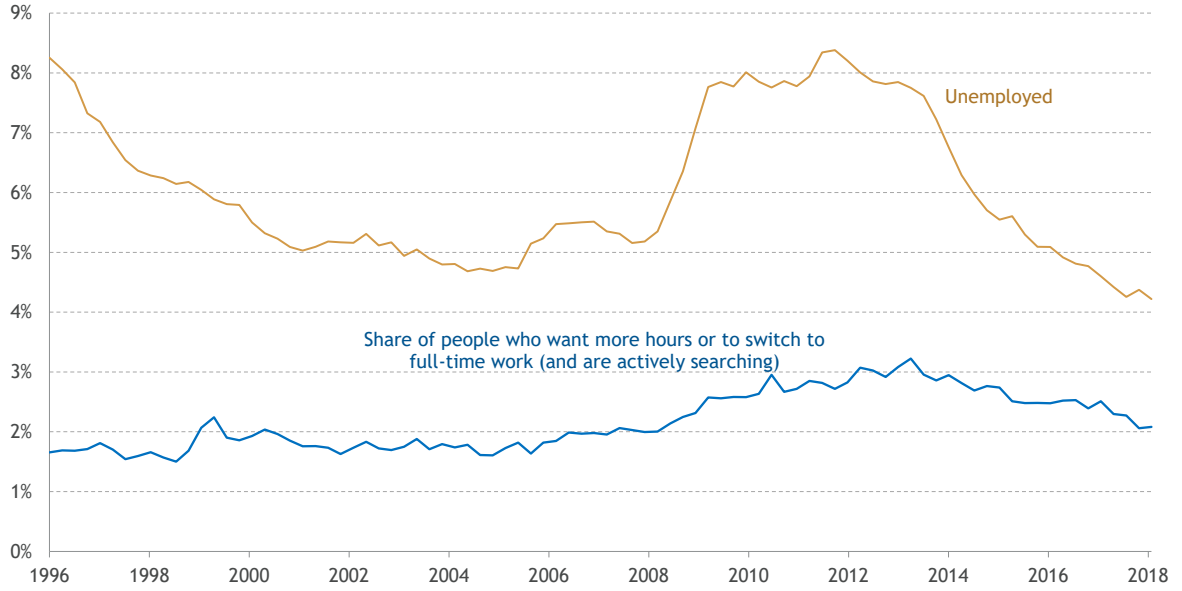
However, it now appears that we may have to call time on the period of rising employment. The employment rate has remained between 75.1 and 75.5 per cent for the past 16 months and there has been little increase in employment levels since early 2018. There is also little sign that there is much slack remaining. The unemployment rate is at a 43-year low and the proportion of people that say that they would like to work more hours or move from part-time to full-time work, and who are also actively searching for work, is almost at its pre-crisis level (Figure 2). In previous work we have shown that such people are an important component of labour market slack, and the reduction in their number, alongside unemployment falls, suggests little further scope for tightening (although there is, as always, significant scope for structural changes to increase overall employment). [2] This is a view shared by the Bank of England and the OBR, with both organisations taking the view that the UK economy is already at, or even above, full capacity as measured by the output gap. [3]

It is therefore a good time to take stock. What has seven years of uninterrupted jobs growth done to the UK labour market and economy, and how have things changed compared to when the labour market was last at (or close to) full capacity back in 2008? In answering these questions we chronicle not just how the UK jobs market is different now from when it was last at its peak, but because employment is the economy for most people, how the economy and indeed how the country has changed in this time.

[2] S Clarke & P Gregg, *Count the pennies: Explaining a decade of lost pay growth*, Resolution Foundation, October 2018
[3] See Bank of England, *Inflation Report – August 2018*, August 2018; Office for Budget Responsibility, *Economic and fiscal outlook*, October 2018

Figure 2: Unemployment and underemployment have fallen significantly over the past few years

Share of the 16+ population actively looking for work



Source: RF analysis of ONS, Labour Force Survey

To this end, this paper focuses in particular on who has benefitted from the employment boom, which parts of the country, what jobs people are doing that they weren't doing back in 2008, and how the nature of employment has changed. In so doing we tackle some of the questions most often asked in relation to the remarkable jobs market performance of recent years: that jobs growth has been unevenly distributed across the country; [4] that a tight labour market has mostly benefitted migrants; that the vast majority of the jobs created have been low paid or insecure. [5] And we also delineate both the structural and cyclical forces that have shaped the labour market over the course of the last ten years. [6]

There is good reason to believe that remarkable employment growth has been driven by people maintaining their incomes in the face of falling earnings and reductions in state support

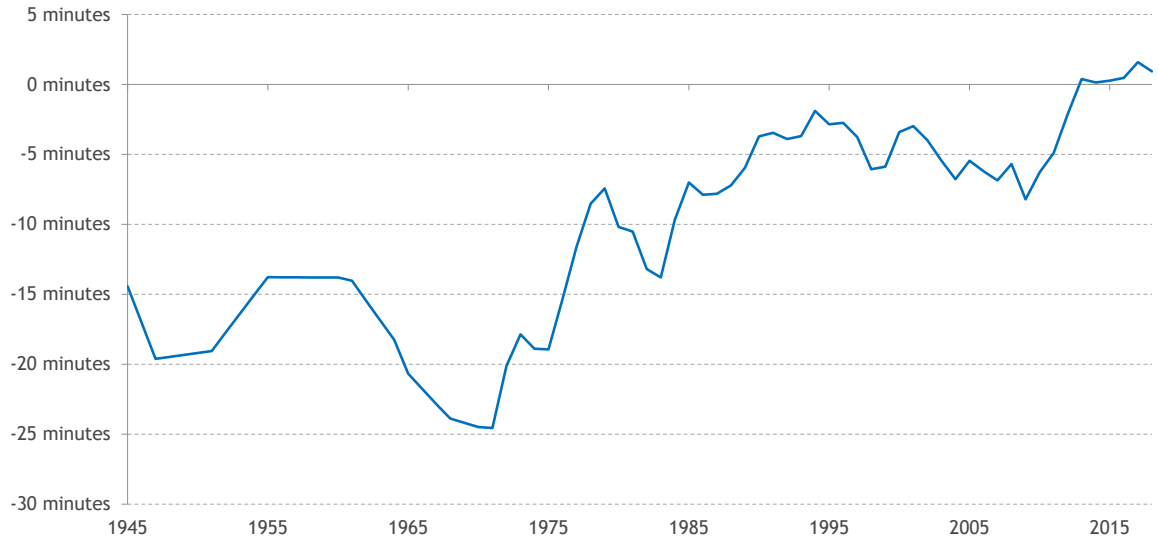
Beyond quantifying the rise in employment since 2008, what is sometimes missing from debates is an explanation for why more people may have chosen to work, or those in employment chosen to work more. Answering this question is not the primary focus of this paper, but as context for what follows, in this introductory section we discuss a potential answer. In short, we see strong evidence to suggest that people are working more to compensate for a loss of earnings power and a reduction in other sources of income.

[4] S Clarke, *London Stalling: Half a century of living standards in London*, Resolution Foundation, June 2018
[5] *The Guardian*, 'The Guardian view on record employment: Not the whole picture', 14 August 2018
[6] It is important to emphasise that our analysis does not follow specific people over time, rather it looks at how the employed population has changed since 2008. Furthermore we are analysing net, rather than gross, jobs creation. Since 2008 many jobs have been created and lost, many people have moved into work and many moved out of employment. For the most part, we focus on explaining the net additional 2.7 million increase in employment since 2008.

This has manifested itself both in the rise in employment documented above, but also in the volume of time spent working by the employed population. The most recent period has been marked by an almost unprecedented halt to the trend of those in work choosing to work fewer hours. Since the early 19th century there has been, at least outside of wartime, a pretty steady decline in average hours worked. From the Second World War until the financial crisis average hours worked declined by an average of 12 minutes a year. In the decade since they have been flat, and average hours have actually risen recently. Figure 3 shows that in the decade to 2018, the number of minutes worked per week increased by 2.

Figure 3: The financial crisis bought an end to half a century of falling hours worked

Annual change in minutes worked per week (averaged over a decade)



Source: RF analysis of ONS, Labour Force Survey; Bank of England, Millennium of Data Version 3

It is unlikely that changes in the composition of the workforce are responsible for this outcome, it being hard to believe that a big rise in employment such as that experienced in recent years has coincided with many people on low hours leaving the labour market, or new entrants being those with a tendency to work above-average hours.

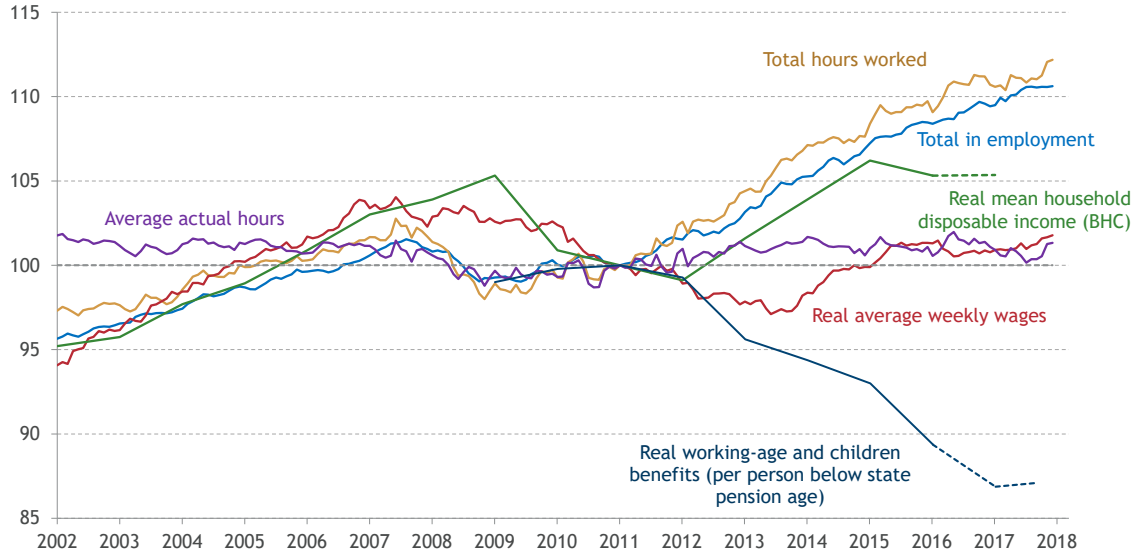
More plausible is the view that people in work have chosen to supply more hours in response to the well-documented poor performance of earnings in the years following the financial crisis. Theory suggests – and the outturn data in Figure 3 up to the financial crisis confirms – that as people's real earnings rise they choose to reduce their hours (with the magnitude of reductions depending on the strength of the 'income' versus 'substitution' effects). [7] So it follows that declining real earnings would be likely to have the opposite effect and push average hours up as people seek to protect their income.

[7] The 'income' effect occurs when someone chooses to work fewer hours in response to a rise in their earnings because fewer hours worked are now required to achieve their target income. The 'substitution' effect occurs when someone chooses to work more hours in response to a rise in their earnings because work is now more attractive than leisure.

A look at the data lends support to this explanation. Figure 4 shows that in the years since the financial crisis, there has been a large squeeze on real earnings, alongside a significant reduction in working-age welfare spending. This has coincided with a large increase in employment and total hours worked and a small rise in average hours. As a result, incomes are broadly where they were a decade ago.

Figure 4: Although weekly wages are lower than they were in 2008, household incomes have held up

Employment, hours, earnings, benefits and income (October 2011 = 100)



Notes: Dashed lines show projections. Series in real terms are deflated using CPIH.
Source: RF analysis of DWP, Family Resources Survey; DWP, Welfare Trends; ONS, Labour Market Statistics

There is therefore strong evidence to suggest that a key driver of the rise in employment during the most recent decade (both in terms of numbers of people and hours worked) is the large shock to income that followed the financial crisis, and the slow recovery of wages since. The rise in employment and hours worked has meant that households have now experienced a return to pre-crisis income levels, even as earnings and benefits remain well below their 2008 level.

The structure of this report

This introductory section has briefly offered an explanation for why employment has risen rapidly in recent years. In the rest of this paper we will chronicle how record employment has changed Britain, looking at who, where, and what jobs the employment boom has been made up of. The remaining sections are set out as follows:

- Section 2 examines the extent to which employment has increased across different groups of the population.

- Section 3 adds to the picture an analysis of where the net employment growth has occurred.
- Section 4 explores changes in employment numbers by occupation and industry.
- Section 5 evaluates changes in the types of jobs that people are doing.
- Section 6 concludes.

Section 2: Who?

Given that the surge in employment has been driven (in part) by people looking to maintain incomes in the face of a significant loss of earnings power and other forms of support, we might believe that groups most affected by these forces will be the main beneficiaries of the increase. There are also other factors at work: those on lower incomes may be more likely to lose their jobs in a downturn (and then come back in afterwards), and a strengthening labour market tends to entice those who struggle to find work or with weaker labour market attachment to participate. In line with this theory, we find that the majority of the increase in employment since 2008 is accounted for by groups that tend to be disadvantaged in the labour market.

Of these, people with relatively low qualifications, ethnic minorities and people with disabilities stand out. Similarly, migrants have boosted employment, both because migration was relatively high for most of this period and because EU migrants have higher employment rates than natives. Nevertheless the significant rise in the number of migrants in employment in the UK has not come at the expense of natives, for whom employment rates are also at a record high.

Such record employment rates have been achieved despite significant demographic headwinds. The changing age structure of the UK population has weighed on employment, but this has been more than offset by improvements in the employment rates of most age groups. It has also occurred despite an increase in the share of people who have an illness that affects their ability to work, because employment rates have improved for people with health problems.

Partly as a result of stark improvements in employment rates for some disadvantaged groups, we find that employment growth has been progressive over the course of the last decade, with the majority occurring in the bottom half of the income distribution.

Employment rates have risen most for those groups furthest from the labour market

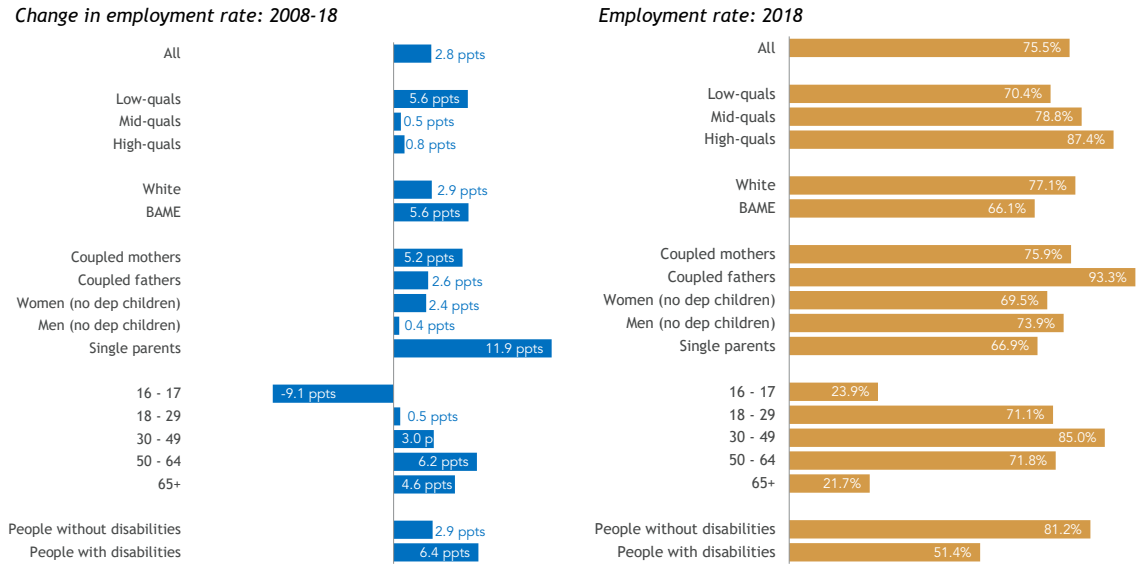
We begin by explaining *who*, that is which groups of people, account for the rise in employment. Before we do so, it is important to emphasize that many people fit into one (or more than one) of the categories below, meaning various groups can account

for apparently large shares of the employment increase at the same time. A second point worth making in this section, as well as throughout the rest of the report, is the distinction between changes in the employment rates of different groups and changes in the overall number of people in these groups in work, which is additionally determined by each group's overall size. Finally, the analysis throughout this report focuses on net employment changes, and does not follow specific people over time. Net employment changes are determined by a multitude of jobs market inflows and outflows by individuals; and job creation and destruction within firms and sectors. Future Resolution Foundation analysis will explore these flows and transitions in detail.

Figure 5 details changes in the employment rates of different groups within the working-age population since 2008. Employment rates have improved most for those groups that tend to have weaker attachment to the labour market. For example, the employment rate for people with disabilities has risen by 6.1 percentage points, compared to a rise of 2.8 percentage points for those without disabilities. The most pronounced increases have been for single parents, ethnic minorities, older workers and those with relatively low qualifications. [8] The employment rate for older workers has increased so much that the employment rate for those aged 50-64 is now higher than for those aged 18- 29 (when students are included). By contrast, there has been relatively little change in the employment rates for higher-qualified people, and men with no dependent children Employment rates for other groups have tended to rise in line with the overall average.

Figure 5: Employment rates have risen dramatically for groups furthest from the labour market

Employment rates, 16-64 year olds



Source: RF analysis of ONS, *Labour Force Survey*

Despite impressive gains, however, the right-hand panel of Figure 5 shows that, for many groups, employment rates continue to lag behind the national average. This underscores

[8] See Annex 1 for a full explanation of how we define the various groups.

the point that while there may be little *cyclical* slack remaining there is still a lot more potential for structural shifts that could raise the overall employment rate. This is particularly the case for people with disabilities, single parents, and ethnic minorities, all groups that have employment rates below 70 per cent. In previous research we have estimated how much employment for these groups would have to rise for the UK to be at (structural) 'full employment', and the kind of policy interventions that might help us move towards that outcome. [9] The implication is that although we have made significant progress for some groups over the last decade, for others (particularly people with health problems and disabilities) there is much further to go.

Ethnic minorities, people with low qualifications and people with disabilities have been the largest contributors to rising employment levels

The employment rates in Figure 5 provide a good summary of the relative performance of each group, but tell us nothing about the relative size of each group and therefore how much they have contributed to the 2.7 million increase in the number of people in employment between 2008 and 2018.

To address this question – which is challenging given we are exploring overlapping characteristics – in Figure 6 we divide people into 24 groups. Starting with their relative qualification level, we then divide the net employment growth up depending on whether people have a disability or not, whether they are a single parent or not, and then by ethnicity.[10] These categories were chosen because, as Figure 5 shows, these groups cover all those with the lowest employment rates.

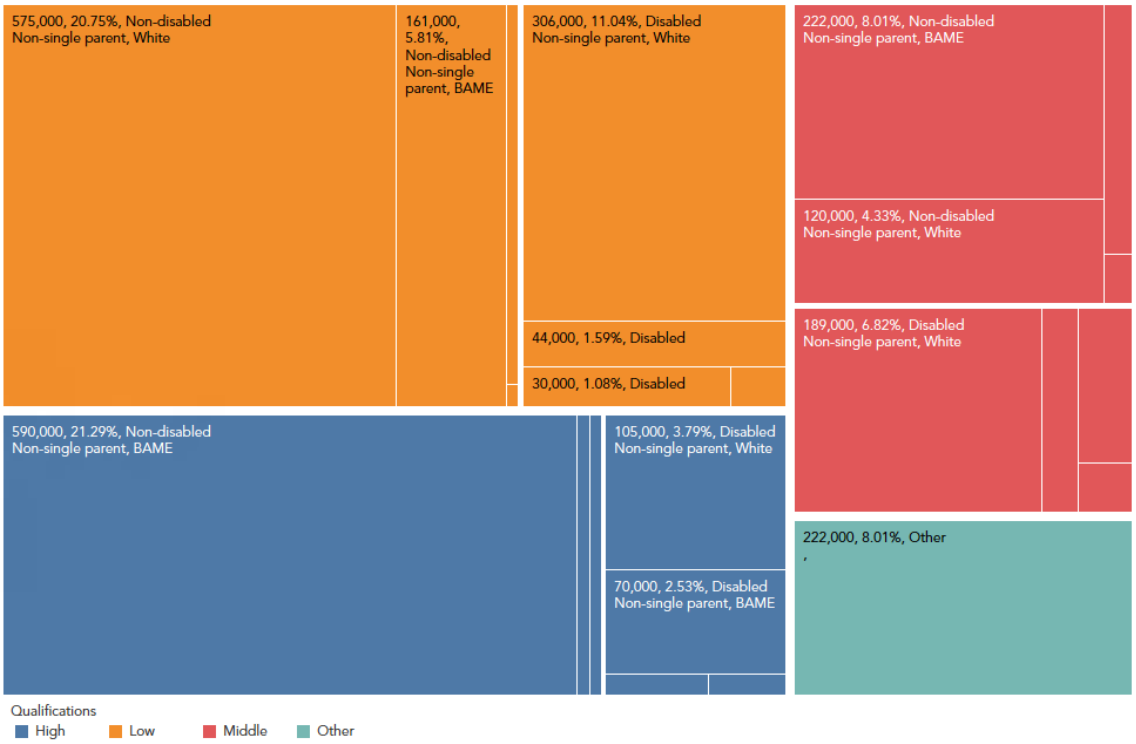
Figure 6 shows that those in the bottom-third of the qualifications distribution (orange boxes) have contributed most to the rise in employment (1.1 million, 41 per cent), of which around half is the result of an increase in employment for the white, non-disabled, non-single parent group (575,000, 20.8 per cent). Ethnic minorities, particularly those with relatively high qualifications, have also been big contributors to the rise in employment.

Ethnic minorities account for almost half of the increase, with the most prominent subgroup being ethnic minority people who are high-qualified, non-disabled, and not single parents (comprising 21 per cent of overall employment growth). This shift has coincided with significant changes in the ethnic minority population that have tended to raise the employment rate for this group, [11]such as a large increase in higher education participation (particularly among women). In 2008, 40 per cent of ethnic minorities were in the top-third of the qualifications distribution; by 2018, this had increased to 45 per cent. At the same time, rising employment numbers in the past decade have been aided by ongoing growth in share of the working-age population that those from ethnic minority backgrounds make up.

[9] P Gregg & L Gardiner, *The road to full employment: What the journey looks like and how to make progress*, Resolution Foundation, March 2016
[10] We divide the population into three equally sized groups based on people's highest qualification. See Annex 1 for a full description of all the groups.
[11] K Henehan & H Rose, *Opportunities Knocked? Exploring pay penalties among the UK's ethnic minorities*, Resolution Foundation, July 2018

Figure 6: White, low-qualified, people without disabilities, who are not single parents, accounted for the biggest increase in employment since 2008

Composition of net employment growth by 'low-activity' characteristic, 16+ year olds: 2008-18



Notes: One group (high-qualified, non-disabled, single parent, white) is not shown because its employment number declined over period.
Source: RF analysis of ONS, *Labour Force Survey*

Other notable contributions to overall employment growth came from high-qualified disabled people (175,000, 6 per cent); low-qualified, white, non-single parents (306,000, 11 per cent) and their mid-skilled counterparts (189,000, 7 per cent). Despite the rise in their employment rate, in most cases single parents contributed relatively little to the increase in employment over this period because they are a relatively small proportion of the population. The exception to this was white, mid- and low-skilled single parents, who contributed 61,000 or 2 per cent to the increase.

Table 1 provides an overview of the relative contribution made to the rise in employment for the groups discussed above (in this instance constrained to 16-64 year olds). It emphasizes the fact that people with relatively low qualifications have contributed the most in terms of numbers, which is particularly interesting given that (by design) they only constitute a third of the population. The split between the employment growth accounted for by ethnic minorities and white people is relatively even, but the fact that ethnic minorities make up only around a tenth of the population gives a sense of the outsized contribution made by this group.

Table 1: Contributions to increase in the number of people in employment, 16-64 year olds

	Change in employment: 2008-18		Population	
Group	Number	% of total	Share (2018)	Change (2008-18)
Low-qualifications	1,142,000	45%	N/A	N/A
Mid-qualifications	630,000	25%	N/A	N/A
High-qualifications	778,000	31%	N/A	N/A
People with disabilities	834,000	33%	19%	-2%
People without disabilities	1,716,000	67%	81%	2%
Single parents	127,000	5%	5%	0.6%
Non-single parents	2,424,000	95%	95%	-0.6%
Ethnic minorities	1,191,000	47%	13%	-3%
White	1,359,000	53%	87%	-3%
Other	222,000	9%	N/A	N/A

Notes: Population share data is not applicable for qualification groups because by design each constitutes a third of the population. The 'other' group is formed of those for whom we do not have data on their qualifications; this group has remained constant as a share of the total population over time.
Source: RF analysis of ONS, *Labour Force Survey*

Similarly, people with disabilities account for 33 per cent of the growth in employment, yet only account for 19 per cent of the working-age population. Finally, single parents accounted for 5 per cent of the employment growth and make up 5 per cent of the population. However, this group has shrunk as a proportion of the population over the past decade, so their proportional contribution to the change in employment is owing to a significant improvement in the employment rate of this group.

Migrants have accounted for two-thirds of the increase in employment

One group not covered above – but a common focus of discussion about recent employment changes in the UK – is migrants. [12] It has been argued that the significant improvement in employment over the past decade is due to the (relatively) high levels of migration that the country has experienced since the expansion of the EU in the mid-2000s. To tackle this claim it is worth, once again, drawing the distinction between employment rates and the number of people in work.

Focusing first on employment numbers, migrants have accounted for the majority of the increase in employment since 2008. Of the 2.7 million increase in the number of people in employment since 2008, 1.9 million, or two-thirds, is accounted for by people born outside the UK. 39 per cent is composed of people born in the EU and the remaining 28 per cent of people from the rest of the world. In this regard, the increase in the number of migrants in employment is only a little greater than the increase in the number in

[12] In this report we define a migrant as someone who was not born in the UK. This is the most common definition. Unlike nationality figures, defining migrants in this way means measures are not subject to change due to individuals transitioning to different nationalities.

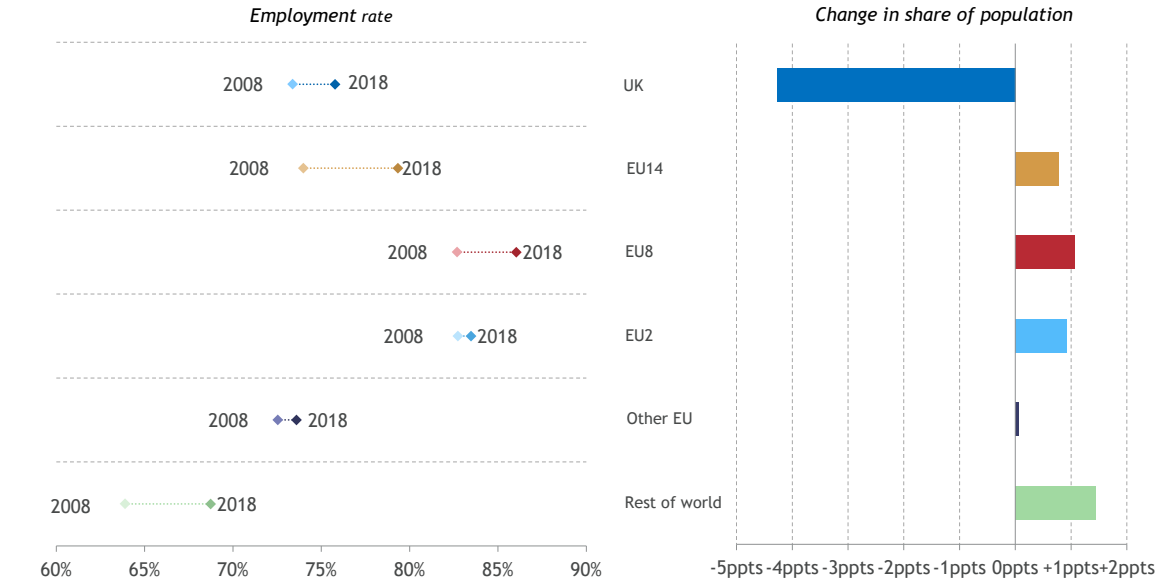
the population as a whole. Between 2008 and 2018 the UK population increased by 4.3 million, with 60 per cent of this increase accounted for by those born outside the UK.

It is also worth drawing a distinction between those migrants who have arrived recently in the UK and those who have been here for decades. 40 per cent of migrants in employment stated that they arrived in the UK within the last decade. However, migrants who arrived after 2007 account for all the net increase in the number of migrants in work over the past decade. Since 2008 there has been a 2.1 million increase in the number of migrants in employment who arrived from 2007 onwards. This has been offset by a fall of 243,000 in the number of migrants in work who arrived before 2008, resulting in an additional 1.9 million migrants in employment.

Turning to employment rates, Figure 7 shows that migrants have accounted for the majority of the increase in the number of people in work since 2008 both because (as the figures above suggest) this group has become a larger share of the population, and because employment rates for migrants have risen. However this outcome is not confined to the migrant population: Figure 7 shows that all groups, including people born in the UK, have experienced significant improvements in their employment rates since 2008.

Figure 7: Employment rates have increased for all groups, migrants and those born in the UK

Employment and population changes by country of birth, 16-64 year olds: 2008-18



Source: RF analysis of ONS, *Labour Force Survey*

Using the information presented in Figure 7, we can conduct a 'shift-share' analysis in which we decompose changes in the overall employment rate into those that can be explained by changes in the relative size of the different groups and those explained by changes in 'within group' employment rates. This analysis (full results from which are provided in Annex 2) shows that the net effect of changes in the composition of the population by country of birth on the overall employment rate has been negligible. This is because a decline in the share of the population born in the UK has been offset by an

increasing share of the population made up of migrant groups with relatively similar employment rates overall (a little higher across most of the EU and a little lower for those born elsewhere in the world). As a result, the vast majority (2.7 percentage points) of the 2.8 percentage point increase in the 16-64 employment rate in this period derives from 'within group' increases in employment rates.

These findings in relation to the UK-born are consistent with recent research on the implications of migration for native workers. The Migration Advisory Committee has concluded that migration has had a negligible effect on the employment prospects of the UK-born population. [13] In the same vein, Figure 7 suggests that over the past decade relatively large rates of net migration have not prevented a significant improvement in employment rates for the native population.

Rising employment has been achieved despite demographic headwinds

Similar analysis to that presented above in relation to migration – separating out changes in the employment rates of different groups from population changes – is fruitful in relation to other workforce characteristics in terms of understanding the population tailwinds and headwinds to labour market shifts.

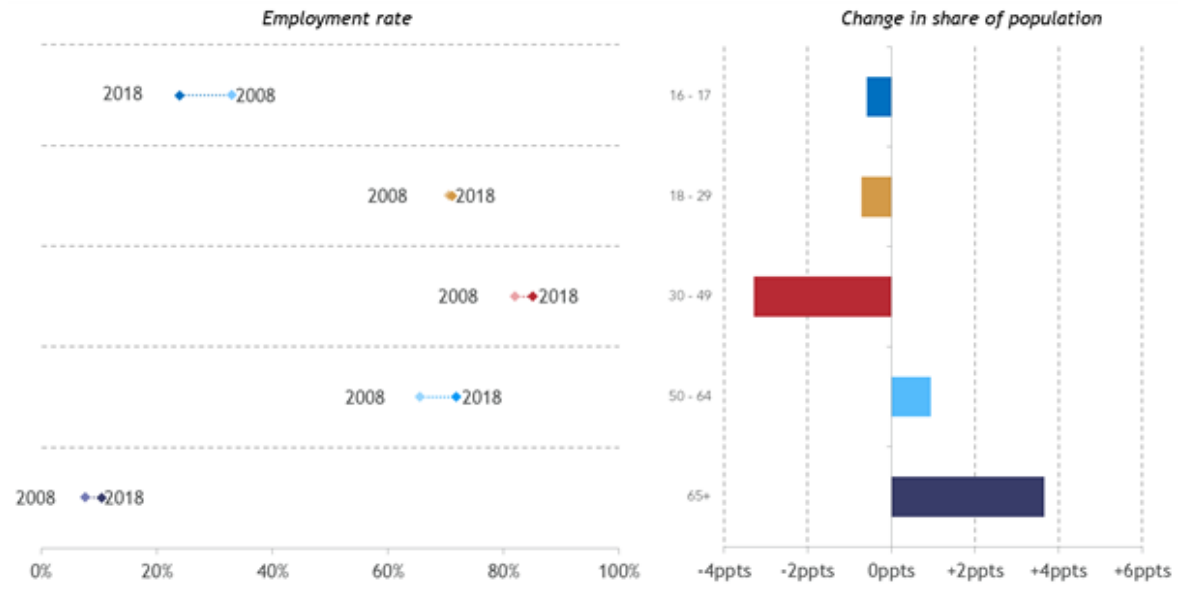
One important change that has occurred over the past decade – and which will continue in future – is the ageing of the UK population. Lots has been written about the effects of an ageing population, with a key concern being a rising dependency ratio and a relatively smaller labour force. Although such concerns are well-founded, it is notable that in the past decade record employment has been achieved despite a decline in the share of the population accounted for by prime-age workers (those aged between 30 and 49). Figure 8 shows that over the past decade the share of the UK population aged 30-49 has fallen by 3.3 percentage points, with the share of the population aged 50 and above increasing. All things being equal these shifts would be expected to lower the employment rate. The fact that they haven't is because (as shown by the left-hand panel of Figure 8) employment rates for those aged 30 and above have increased, significantly so for those aged between 50 and 64. Figure 8 shows that there was both large increases in the share of the population aged 50 and over and significant improvements in the employment rate of this group. As a result, people 50 and over account for 80 per cent of the net increase in employment since 2008.

Formal shift-share analysis (presented in Annex 2) like that conducted above for migrants reveals that changes in the age structure of the UK population would all-else-equal have lowered the employment rate over this period by 2.4 percentage points. However, this was counteracted by rising employment rates for prime-age and older groups, with the overall result of a significant increase in the 16-64 employment rate, and a small overall increase in the 16+ employment rate. In Figure 1 we drew attention to the headline employment rate (which covers people aged 16 to 64), but by contrast the employment rate for the whole adult population (people aged 16 and above) has increased by far less, just 1 percentage point.

[13] Migration Advisory Committee, *EEA Migration in the UK: Final Report*, September 2018

Figure 8: Prime-age workers have shrunk as a share of the population

Employment and population changes by country of birth, 16+ year olds: 2008-18



Source: RF analysis of ONS, *Labour Force Survey*

The difference between these two figures reflects the fact that, in a country which is ageing, it is far more challenging to increase the overall employment rate than the worker age one.

A more nuanced element of demographic headwinds to employment growth that the UK labour market has been sailing into over the past decade relates not to the age structure of the population, but its health (here we restrict our focus to those of working age). Above we showed that the employment rate for people with disabilities had increased significantly since 2008 and that people with disabilities have accounted for approximately a third of the increase in employment. To get a better understanding of the factors underpinning this, below we investigate how the health profile of the UK population reporting a disability has changed over time, and how employment rates have changed for disabled people with various health problems.

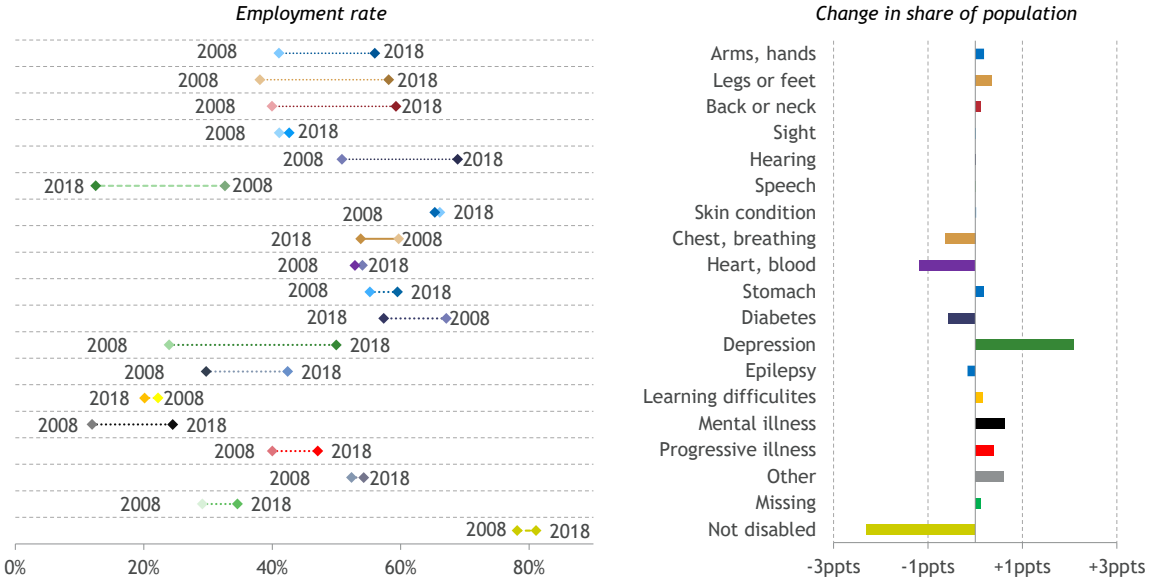
The picture is complex but a few things stand out from Figure 9. The first is that there has been a significant rise in the proportion of people reporting that they have a disability, and in particular a rise in the proportion of people reporting mental health problems. At the same, time employment rates have increased for the vast majority of these groups, and have increased most starkly for people with depression and various physical ailments such as problems with hands, legs, feet, neck and back.

Formal shift-share analysis (provided in Annex 2) shows that the rise in the proportion of people reporting a disability would all-else-equal have reduced the employment rate over this period, by 1.3 percentage points. However 'within group' increases in employment rates, particularly for disabled people with physical difficulties and mental health problems, has more than offset this. As with changes to the age structure of the population, the improving employment prospects of groups within the population (particularly those with below-average employment rates such as older workers and

working-age disabled people), have more than counteracted the headwinds of an ageing population with a greater incidence of disability.

Figure 9: There has been a rise in the proportion of people reporting that they have a mental illness and a rise in employment rates for this group

Employment and population changes by health problems of the disabled population, 16-64 year olds: 2008-18



Source: RF analysis of ONS, *Labour Force Survey*

Continued educational improvements have boosted employment

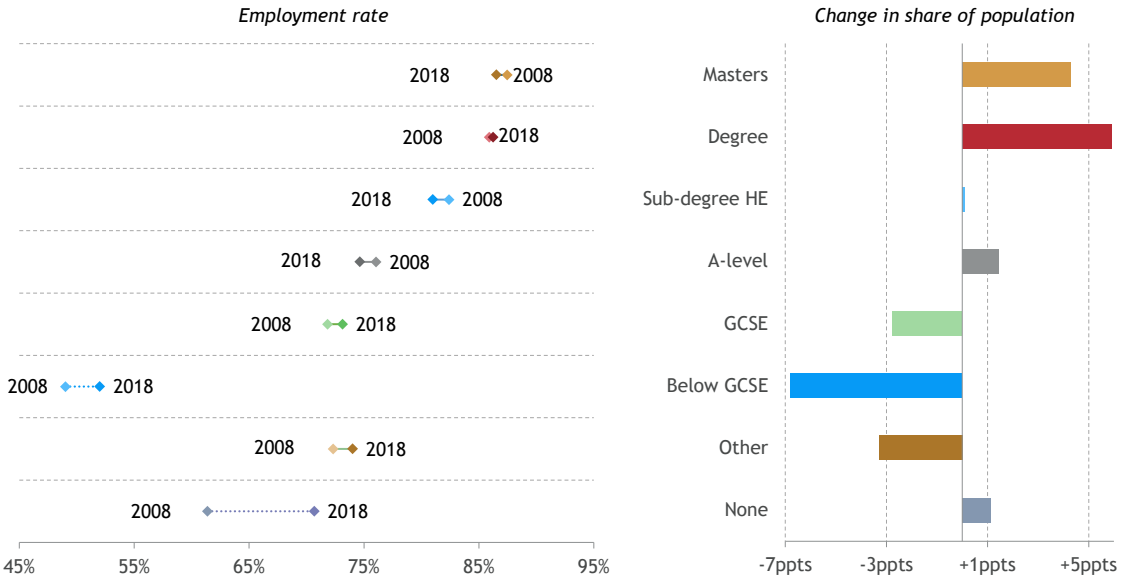
If record employment has been achieved in spite of demographic headwinds, what are the tailwinds? Improving educational attainment has raised employment over the past decade. Although the increase in the proportion of people with degrees has significantly slowed, [14] over the past decade there has still be a notable rise in the share of the population with a degree or Masters degree and a decline in the share of the population educated only to GCSE level or below.

The left-hand panel of Figure 10. shows that this shift in the educational profile of the population over the past decade was far more dramatic than changes in employment rates at different qualification levels, with very slight falls for some higher-level qualifications. Shift-share analysis (presented in Annex 2) confirms this finding that 'compositional' shifts by qualification explain all of the overall employment rate increase, with 'within group' changes in the employment rates of different educational groups having no (in fact a very slight negligible) effect overall.

[14] See: K Henehan & A Vignoles, Technical fault: Options for promoting human capital growth, Resolution Foundation, April 2018

Figure 10: There has been a notable increase in the proportion of the population with a degree

Employment and population changes by qualification, 16-64 year olds: 2008-18



Source: RF analysis of ONS, *Labour Force Survey*

A tightening labour market has brought disadvantaged groups into work

We have shown that the employment gains of past decade have disproportionately benefited relatively disadvantaged groups. This is the result of both the cyclical upturn that followed the financial crisis and ensuing downturn, and longer-term political, social and demographic shifts that have boosted participation even in the face of the demographic headwinds discussed above.

In terms of the general improvement in economic conditions we find that – across different parts of the country – tightening labour markets drive improvements in employment rates for low-activity groups. This is unsurprising. For this not to be the case it would be necessary for the employment rates for people not in any of the low-activity groups to have fallen. However, the strength of the relationship is still stark, with a simple correlation suggesting that improvements in the overall employment rate between 2008 and 2018 almost completely explained the change in the employment rate for low-activity groups. [15]

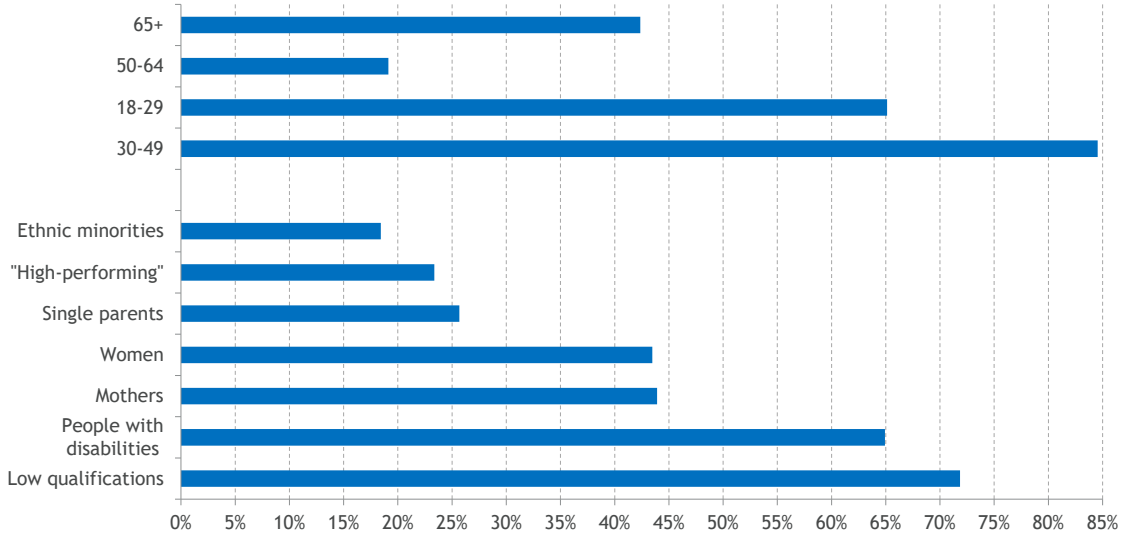
Although this overall finding is unsurprising, it is notable that the relationship between the two is stronger for some low-activity groups than others. Previous Resolution Foundation research showed that some low-activity groups are more (or less) responsive to economic conditions than others. Using regional variation we tested how sensitive groups' participation rates were to relative wage rates and the local availability of jobs.

[15] The r-squared of this correlation is above 90 per cent.

We found that the relatively low-qualified, people with disabilities and younger workers were more responsive than ethnic minorities, single parents and older workers.[16]

Figure 11: The relationship between improvements in the overall employment rate and changes for specific groups is stronger for some groups than for others

Strength of relationship (R-squared) between overall employment rate growth and growth for specific group: 2008-18



Notes: R-squared is from a simple bivariate model in which the change in the employment rate (between 2008 and 2018) for the 20 regions and nations of the UK is related to the change in the employment rate for each specific group above. The R-squared shows how much of the variation in the change in the group-specific employment rate can be explained by the change in the overall rate.
Source: RF analysis of ONS, *Labour Force Survey*

Here we have adopted a slightly different approach, though again we use regional variation to get a sense of how well changes in the overall employment rate correlate with changes in the employment rates for different groups. Figure 11 shows the strength of the relationship between the change in employment rates across parts of the UK and the change in the employment rate of each low-activity group (this is the same as the R-squared figure given in Figure 17 in the following section). We find that for some groups – people with disabilities, those with low qualifications, and workers under 49 – there is a very strong relationship between the two. For other groups – people in our 'high-performing' group, ethnic minorities, single parents and older workers – the relationship is far weaker.

This differential relationship between changes in overall economic conditions and group-specific employment rate growth reflects the different role that cyclical tightness and structural shifts have to play in driving participation for different types of people. Over the past decade both forces have acted upon the UK labour market. In some cases, changes such as rising educational attainment for ethnic minorities (particularly

[16] P Gregg & L Gardiner, *The road to full employment: What the journey looks like and how to make progress*, Resolution Foundation, March 2016

women), and long-term social and policy changes related to single parents, have been more important than the upturn in the economy in driving the employment increases for these groups (implied by their relatively smaller percentages in Figure 11). By contrast, some groups have many more opportunities to work when the labour market is tightening; in this regard the high percentages in Figure 11 suggest that those with relatively low qualifications and people with disabilities have benefitted from the last seven years in particular.

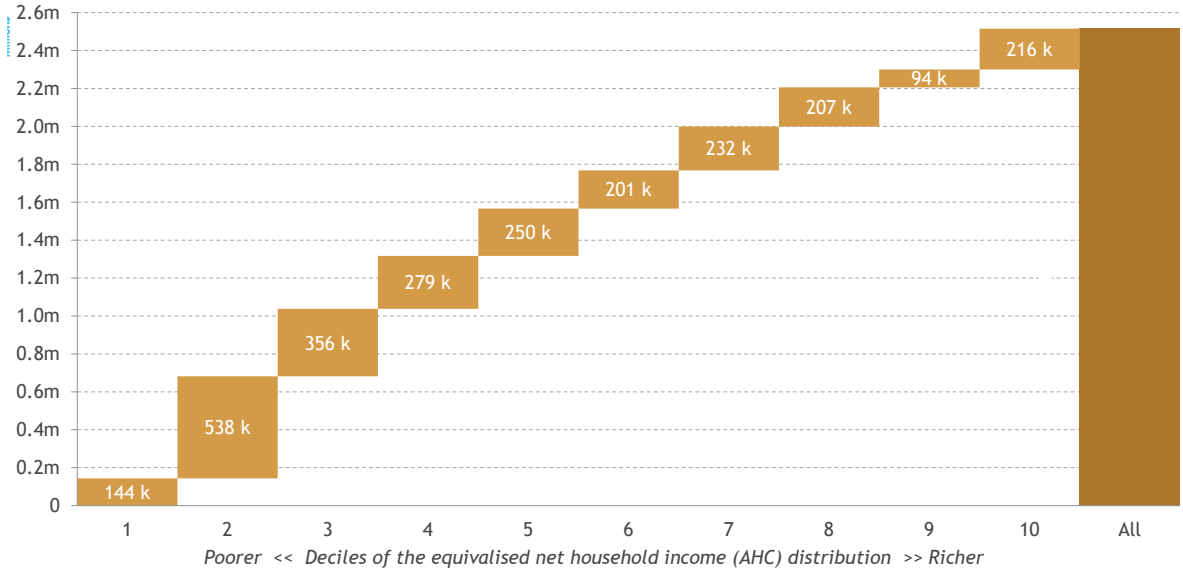
As with our previous work on this subject, the main takeaway from this is that economic conditions really matter, but improvements in economic conditions cannot do all the work. Policy needs to take active steps if we are to move closer to full employment. This is particularly true given that the pace of jobs growth has slowed recently.

Employment growth over the past decade has been progressive

Higher employment is an effective way of raising living standards for the poorest in society because those out of work tend to be on lower incomes. We can see this clearly when we examine how employment growth has played out across the household income distribution (after accounting for housing costs) over the past nine years. At the outset, it should be highlighted that this analysis of employment changes across the income distribution does not follow the same households over time, and so is underpinned by households moving around the distribution itself (for example when their employment status changes). That being said, where along the income scale employment growth manifests itself is a very useful indicator of its distributional implications.

Figure 12: People in the bottom half of the income distribution accounted for nearly two-thirds of the increase in employment since 2007-08

Change in employment by household income decile: 2007-08–2016-17



Source: RF analysis of DWP, *Family Resources Survey* and *Households Below Average Income*

Figure 12 shows that between 2007-08 and 2016-17, the number of people in employment increased by 2.5 million. People living in households in the bottom half of the income distribution accounted for 62 per cent of this.

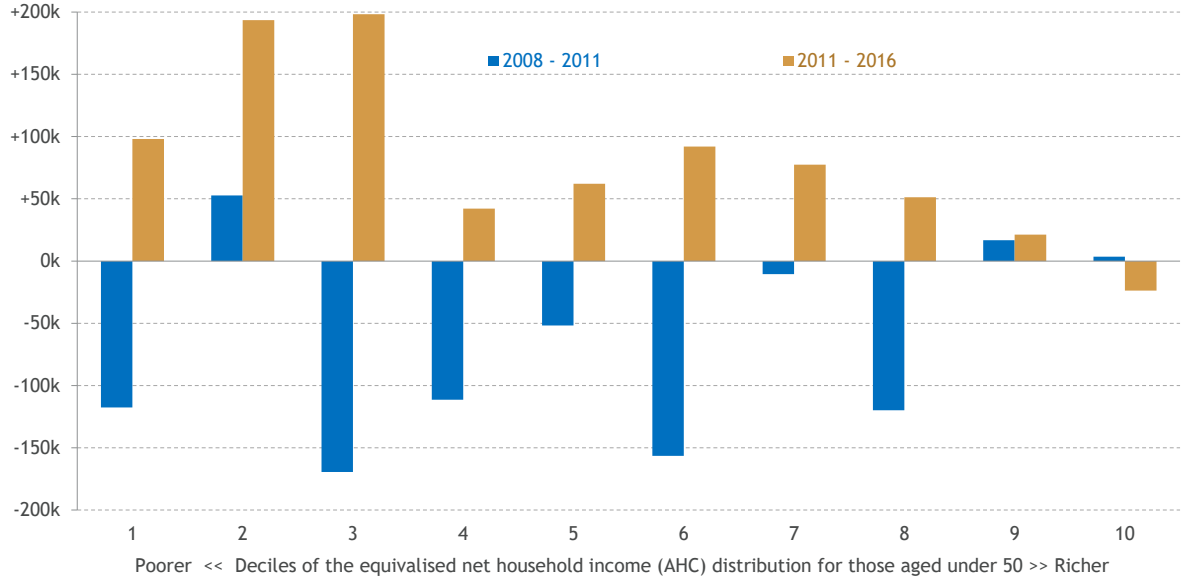
Because we already know that people aged 50 and over have accounted for four-fifths of the rise in employment since 2008, it could be that rising employment for those near and above pension age is driving this pattern, and actually the last decade has been less progressive for young and prime-age people.

We can test this by re-running the analysis for people aged under 50. Figure 13 does this and splits the period since 2007-08 into two. The first broadly maps onto the period in which employment was falling, while the latter is the period in which it rose. In the first period, falls in employment for those aged under 50 were more pronounced in the bottom half of the distribution. People in the bottom half of the distribution accounted for 60 per cent of the decline in employment between 2007-08 and 2010-11. These changes are reversed in the second period. People whose household income puts them in the bottom half of the distribution accounted for 73 per cent of the gains.

If we compare this to our findings for all households (not just those headed by someone under 50) we find that in the recovery they accounted for less than 60 per cent of the gains. Why was the picture more progressive for those under 50? It is partly the fact that (as we show above) younger workers are a lot more responsive to economic conditions than older workers and so the pattern of employment changes is more cyclical. The other reason is that, as we have shown in previous work, today fewer pensioners have low incomes and it is higher-income pensioners that are most likely to continue with some employment.

Figure 13: Employment gains since 2011 for those aged under 50 have been concentrated towards the bottom of the income distribution

Change in people in employment by household income decile



Source: RF analysis of DWP, Family Resources Survey and Households Below Average Income

Beyond the differences between older and younger households, the message from this analysis is that the employment growth of recent years has been progressive. It is likely to have cushioned the impact of the recession on lower-income households, but this does not mean that in itself employment is sufficient for ensuring a good standard of living (see Box 1).

The progressivity of employment growth may not be surprising – an expanding labour market brings in those who are not working, who are likely to have lower incomes – but it should be noted that it has not always been this way. For example, the 1990s employment recovery (in which the employment rate never moved beyond previous highs) was far more distributionally neutral. The implication is that the progressivity of employment growth is not linear: it becomes more 'pro-poor' as the labour market tightens and the overall employment rate is pushed beyond previous cyclical peaks.

i Box 1: The rise of in-work poverty

Although the increase in employment over the past decade has been progressive, the relationship with poverty levels is more complex. After taking into account housing costs, the proportion of households in poverty has remained steady over the past decade, at around 22 per cent of the population. What has changed is that there are now broadly equal numbers of households in poverty with someone in work as those in which no-one is in employment, whereas even a decade ago, out-of-work poverty predominated.

This does not mean that rising employment has not been a positive outcome, but it does suggest that employment itself cannot be the only answer to the poverty challenge, with levels earnings and income growth and inequality; levels of state support; and the role of housing costs all rising in salience. But given that boosting employment will remain central to driving down poverty, the fact that single parents, ethnic minorities and people with health problems are much more likely to be in poverty suggests that what is needed is a concerted effort to continue to raise employment amongst disadvantaged groups. In addition, having a second earner in a household significantly reduces the chances that a household will be in poverty, highlighting the importance of the distribution of work within households as well as across the population.

Section 3: Where?

Much has been written about the geographic divides that affect the UK, therefore it important to understand the extent to which the past seven years of employment growth have exacerbated or ameliorated these. On the face of it, the story of the past decade is one of wealthier, more economically productive parts of the country prospering. London and the South East, combined, account for almost half of the net increase in employment. However, a closer look reveals that this is almost entirely because of population growth (much of which has been driven by immigration) and actually some of the largest improvements in employment rates have occurred in places far from the capital, with South Yorkshire and Merseyside topping the list.

Instead, the true geographic story of the past decade is that of lower-employment parts of the country catching up with those areas that have traditionally had higher employment rates. This is largely about urban areas catching up with the national employment rate. This chimes with the findings in the previous section. Urban areas tend to contain higher proportions of people from relatively disadvantaged groups, and as outlined above many of these groups have experienced significant increases in their employment rates in recent years. Rural areas have poorly served some groups, with younger urbanites doing a lot better than their rural counterparts.

Increases in employment rates have been greatest in larger urban areas

One of the common arguments made to explain the past decade is that jobs growth has been unevenly spread across the country, with some parts of the UK, such as London, doing much better than others. As with some of the other arguments made in relation to the jobs boom there is a grain of truth in this, however the reality is more complex. Figure 14 shows that, aside from parts of Yorkshire and Humberside and Scotland, the employment rate has risen in most of the UK.

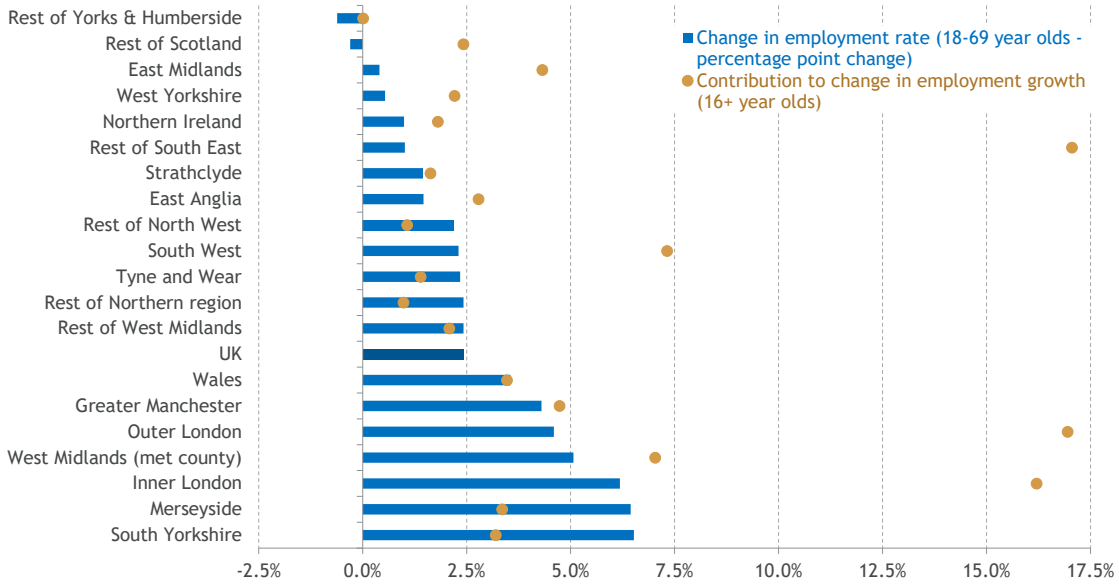
The places that have done better than others are primarily urban areas – London, Greater Manchester, Merseyside, West Midlands Metropolitan County (which contains Birmingham, Coventry, and Wolverhampton) and South Yorkshire (which contains Sheffield, Rotherham, Doncaster and Barnsley) – rather than rural ones.[17] London has performed strongly – in inner London the employment rate increased by 6.2 percentage

[17] Predominantly urban areas are: London, Tyne and Wear, South Yorkshire, West Yorkshire, West Midlands Metropolitan Country, Greater Manchester, and Merseyside.

points – however this was eclipsed by the performance of South Yorkshire (6.5 percentage points) and Merseyside (6.4 percentage points).

Figure 14: Employment rates have risen across the country

Change in employment: 2008-18



Source: RF analysis of ONS, Labour Force Survey

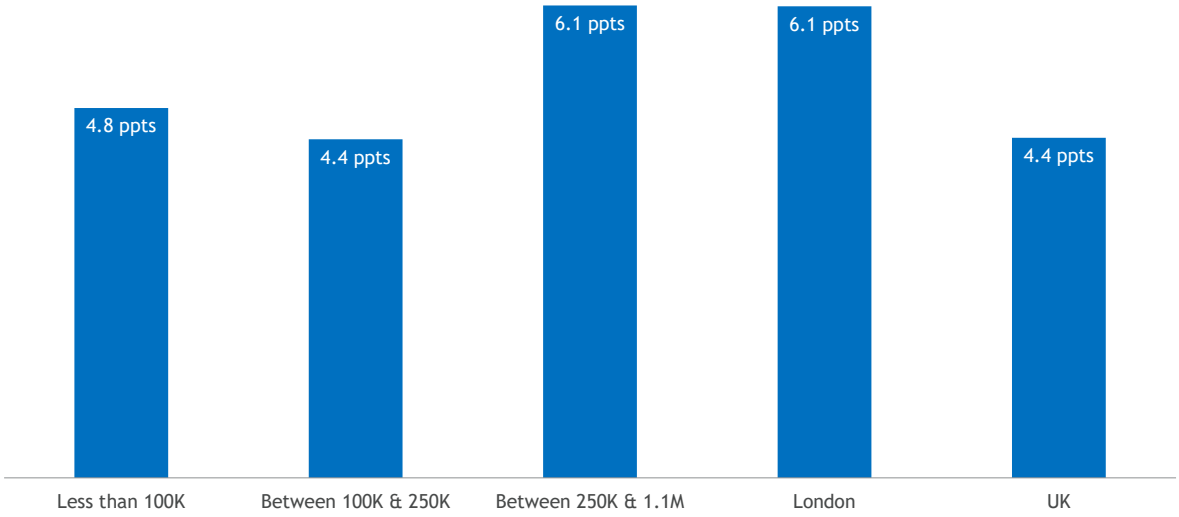
The strong performance of urban areas is due to a number of factors. Partly, as we show below, this is about catch-up growth with previously poor performing parts of the country improving their position relative to other areas. In addition, and in line with the findings of the previous section, this growth has been driven by improvements in the employment rates of relatively disadvantaged groups, some of whom – most importantly ethnic minorities – are much more likely to live in, particularly larger, urban areas Predominantly rural areas have also performed particularly poorly for some groups. Employment rates declined for those aged 18 to 29 in these areas, while they rose in the predominantly urban areas. Because younger people are increasingly more likely to live in urban areas than older people,[18] cities have benefitted from greater numbers of younger people and a higher rate of employment for those who live there compared to their rural counterparts.

The final important factor is size. Larger urban areas (those with populations above 250,000) and London performed better than smaller ones, shown in Figure 15. Again London's performance is not unique, with the capital performing just as well as the average performance of other large (although not nearly as large) conurbations. This partly reflects the strong catch-up growth of large urban areas like Leeds, Liverpool, Manchester, and Sheffield over this period.

[18] Resolution Foundation, *A New Generational Contract: The final report of the Intergenerational Commission, May 2018*

Figure 15: Larger urban areas have outperformed smaller ones

Change in 16-64 year old employment rate in urban areas, by population size: 2012-18



Notes: 2012 to 2018 is used as the ONS's 'major towns and cities' classification is not available before this point.
Source: RF analysis of ONS, *Labour Force Survey*

London stands out because of population growth, not improvements in employment rates

The extent to which different places account for the growth in employment numbers over the past decade depends on changes in the employment rate *and population growth. The places that contributed most to the rise in employment (the gold dots in Figure* 14) are those with large populations, with London and the South East accounting for approximately half of the increase in employment over the past decade. However, London and the South East also accounted for 43 per cent of the growth in the UK population over the period.

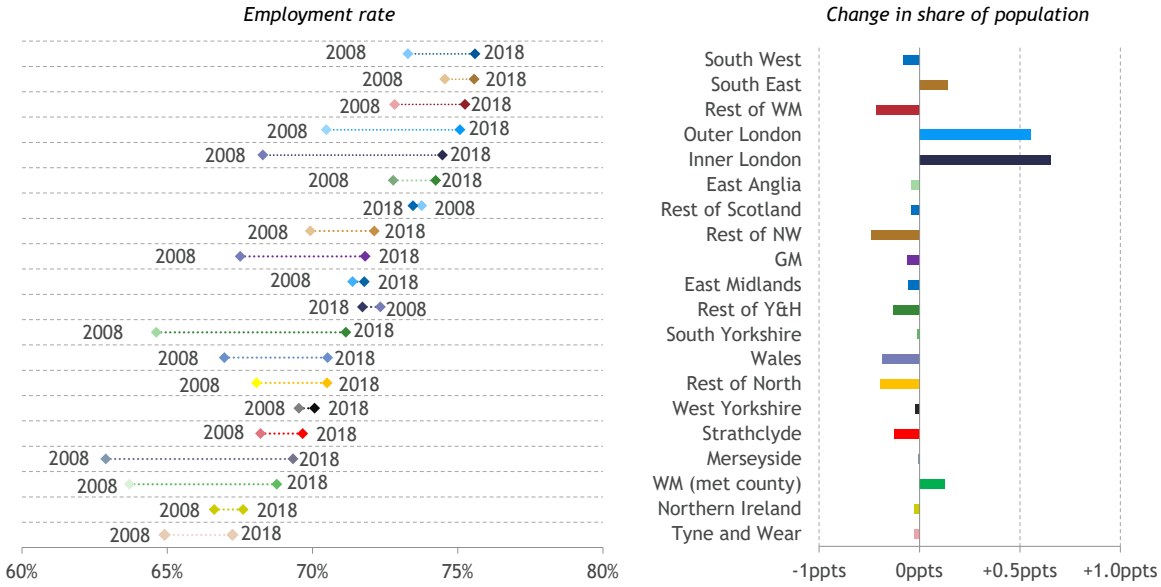
To disaggregate population and employment changes, Figure 16 shows how the employment rate and the share of the population accounted for by each region or nation changed between 2008 and 2018. It shows that some places both grew as a proportion of the population and significantly improved their employment rates (inner and outer London, Merseyside and South Yorkshire); others (such as the South East) saw a small increase in their population share, but have very high employment rates (and so contributed a lot to the overall rise). There has also been a relative shift out of low-employment regions (Wales, the north of England and Yorkshire), which boosted the overall employment rate.

London has played an outsized role in the rise in employment numbers over this period (accounting for around a third of the increase in the number of people in work). Yet this is mostly because London was big to start with and because the population of the capital

increased quicker than other parts of the country, London's employment rate change being similar to that of other urban areas such as South Yorkshire and Merseyside.

Figure 16: There was both a shift out of a low-employment regions and an improvement in the employment rates of parts of the UK with large populations

Employment and population changes by region, 16-64 year olds: 2008-18



Source: RF analysis of ONS, Labour Force Survey

Furthermore, previous research has shown that this large population increase is largely because of an increase in the number of migrants in London's labour market.[19] People born outside of UK have accounted for almost all (92 per cent) of the increase in number of people employed in the city since 2008.

Low-employment parts of the country have caught up

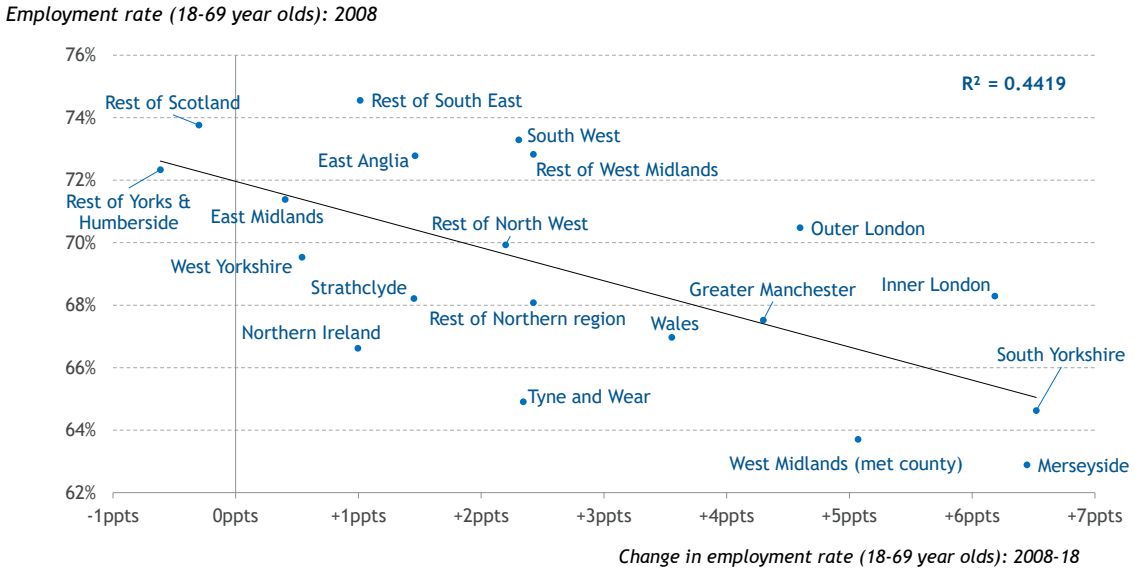
As we have already mentioned, the past decade has witnessed significant catch-up growth in employment rates, with lower-employment parts of the country improving at a faster rate than high-employment ones. There is a strong relationship between a region or nation's employment rate in 2008 and the subsequent change in the employment rate over the past decade. Figure 17 shows that parts of the country with relatively low employment rates a decade ago experienced sharper improvements in their employment rate over the past decade.

Some places over-performed; in London, the South East and South West, employment rates increased by more than would expected given the employment rate in these places in 2008. By contrast some places under-performed; these include Northern Ireland, West Yorkshire, Merseyside, West Midlands Metropolitan County and Tyne and Wear. However, in most of these cases (Northern Ireland is the exception) employment rates

[19] S Clarke, *London Stalling: Half a century of living standards in London*, Resolution Foundation, June 2018

did improve dramatically, just from a very low base. What is clear is that low-employment parts of the UK caught up over this period and that these were mostly urban areas, driven, in part, by the fact that urban areas tend to contain a higher proportion of relatively disadvantaged groups.

Figure 17: Places with low employment rates tended to see sharper increases in their employment rate over the past decade



Source: RF analysis of ONS, *Labour Force Survey*

Section 4: Which occupations and sectors?

As with the notion that the UK is a country increasingly divided along geographic lines, another common assertion has been that economic change is leading to a polarised or hourglass labour market, in which job creation takes place mostly at the top or the bottom of the earnings distribution. While this perhaps characterises developments in the 1980s and 1990s, we find that since the millennium, occupational 'upgrading' is a better way of describing the UK labour market. There has been far stronger growth in occupations towards the top of the wage distribution, with significant declines in the share of employment in middling occupations and some – albeit much less – growth of occupations at the bottom.

At the top, well-paid roles in professional and business services, health and education have grown, while towards the bottom of the earnings distribution there has been a significant expansion of roles in hospitality, along with lower-paid roles in care, health and social work. Manufacturing has continued to decline but has been joined in the past decade by falls in the number of people working in finance, construction and wholesale and retail. As mentioned above, in general, occupational change both within and across industries has been a positive phenomenon (at least in terms of relative earnings). However, this has not been the case for some groups. In particular, younger workers have experienced much more of a polarising labour market, with equally strong growth in lower- and higher-paid roles.

There has been significant occupational upgrading over the last two decades

It is often said that the UK labour market is 'hollowing out', 'polarising', or turning into an 'hourglass'. Research conducted by Goos and Manning analysed the period from the mid-1970s to mid-1990s found that, if occupations were split into different deciles based on earnings at the beginning of the period, the bottom and top two deciles experienced rises in the share of employment, whereas all others declined.[20] In addition to this, the authors analysed the relationship between pay and changes in hours worked, and found a 'U-shaped' relationship.[21] They conclude from this that the labour market polarised

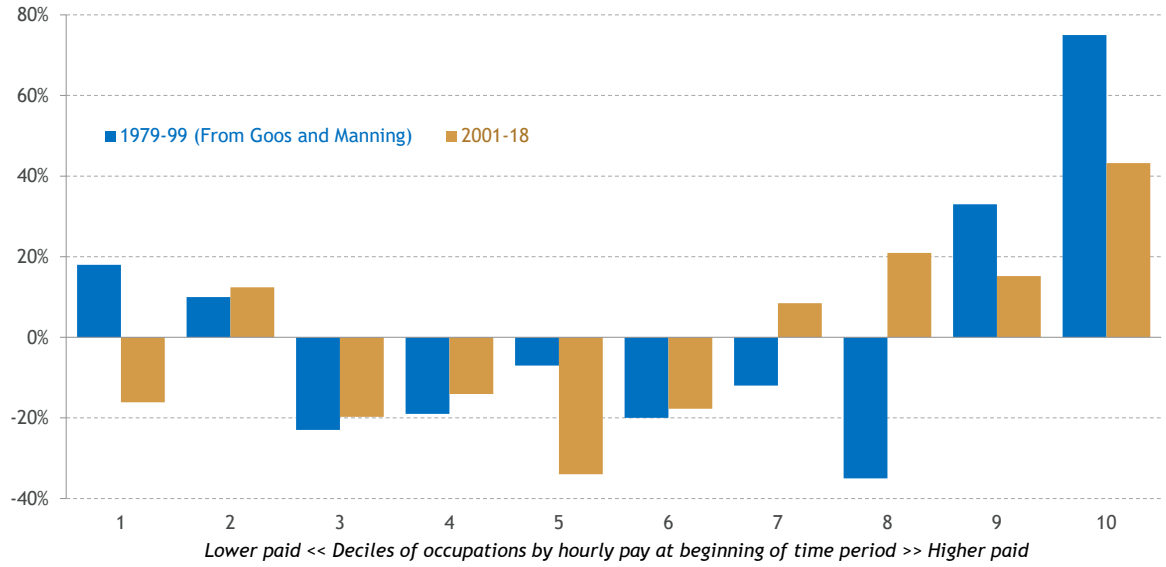
[20] M Goos & A Manning, *'Lousy and Lovely Jobs: the Rising Polarization of Work in Britain', Review of Economics and Statistics 89(1)*, February 2007
[21] The authors ran a regression model with linear and quadratic pay terms. The linear term was negative and the quadratic positive, suggesting that growth in hours worked had occurred at the ends of the distribution.

during this period into 'lousy' and 'lovely' jobs, at least based on the relative position in the earnings distribution of an occupation's average pay, as measured at the beginning of the time period in question.

Using data from the early 2000s to 2018 we can update Goos and Manning's work. In Figure 18 we compare Goos and Manning's findings (blue bars) with the same metric from 2001 to 2018. Whereas Goos and Manning found that low- and high-paying occupations expanded as a share of employment, we find that over the past two decades, growth has been concentrated at the top of the distribution (top four deciles), with some limited growth in the second decile. Rather than polarisation or hollowing out, we find evidence of occupational upgrading.

Figure 18: Occupational shifts exhibit an upward 'U' shape over the past two decades

Percentage change in employment share



Source: RF analysis of ONS, Labour Force Survey; M Goos & A Manning, *'Lousy and Lovely Jobs: the Rising Polarization of Work in Britain'*, Review of Economics and Statistics 89(1), February 2007

It would seem that there have been more 'lovely' (at least in terms of their position in the earnings distribution at the turn of the millennium) than 'lousy' jobs created over the past two decades, but which jobs have expanded the most? Table 2 shows the top 10 expanding occupations (as a share of total employment) and the bottom 10. The top 10 is dominated by professional occupations, particularly business professionals and health professionals. The lower-paying occupation that has expanded the most is sales supervisors. Large declining occupations include secretarial roles and process operatives; smaller occupations that have declined include metal working roles, roles in the textile and garment trade and roles in the printing industry. Many of these roles are paid around the minimum wage, but some are paid above this.

Table 2: Occupational shifts exhibit an upward 'U' shape over the past two decades

Occupation	Percentage change in share of employment (2001-18)	Share of employment (2018)	Hourly pay (2018)
Health Professionals	98%	1.6%	£21.55
Business, Research and Administrative Professionals	91%	2.8%	£21.25
Legal Associate Professionals	87%	0.3%	£13.05
Therapy Professionals	80%	0.6%	£15.88
Quality and Regulatory Professionals	79%	0.6%	£20.80
Sales Supervisors	73%	0.7%	£9.44
Health Associate Professionals	71%	0.5%	£12.16
Chief Executives and Senior Officials	64%	0.3%	£33.20
Welfare and Housing Associate Professionals	62%	1.2%	£12.12
Legal Professionals	55%	0.6%	£26.06
Skilled Metal, Electrical and Electronic Trds Sprvsrs	-39%	0.1%	£13.51
Assemblers and Routine Operatives	-39%	1.0%	£9.98
Textiles and Garments Trades	-39%	0.1%	£7.95
Plant and Machine Operatives	-41%	0.6%	£10.08
Secretarial and Related Occupations	-42%	2.6%	£10.01
Elementary Administration Occupations	-43%	0.6%	£9.97
Process Operatives	-51%	0.8%	£9.57
Building Finishing Trades	-54%	0.2%	£8.44
Metal Forming, Welding and Related Trades	-56%	0.3%	£10.77
Printing Trades	-69%	0.1%	£11.72

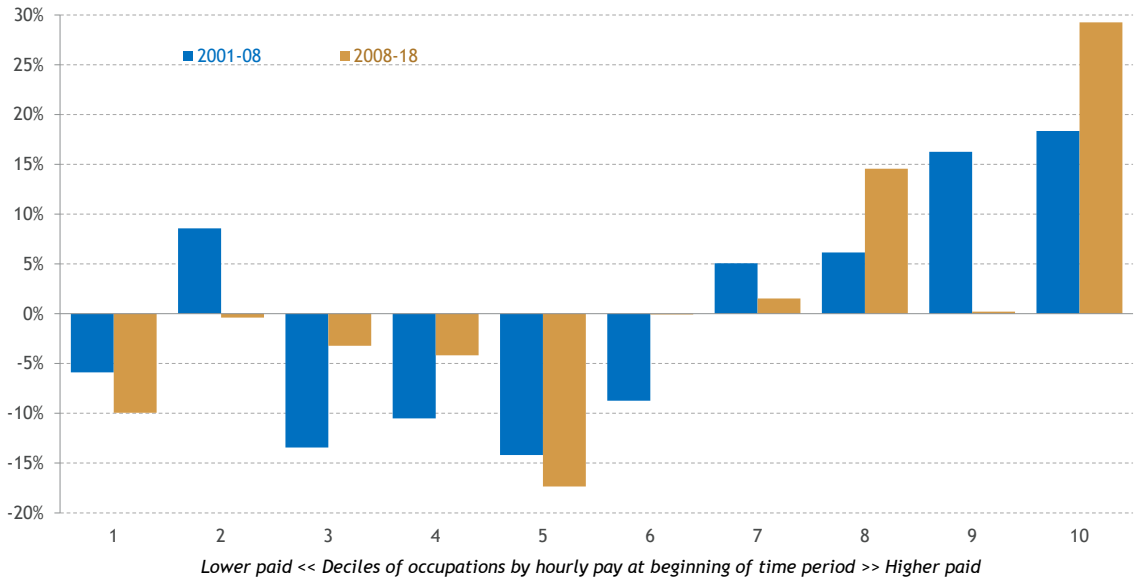
Source: RF analysis of ONS, *Labour Force Survey*

The last two decades includes both a period of relative economic calm and the worst recession since the Second World War, therefore it is worth seeing if the shape of occupational change has evolved over the period. Figure 19 breaks down the years since the millennium into two. The shape of occupational change is relatively similar across the two periods. In 2001-08 the top four deciles expanded, along with the second decile. In 2008-18, only the top four deciles expanded (although only deciles eight and ten significantly expanded).

In both periods, the majority of the increase in employment has occurred towards the top of the distribution. But there are some differences. In the latter period the rate of occupational upgrading is slower (despite a sharp rise in employment in the top decile), and the decline in employment in the middle of the distribution is less pronounced. Nevertheless, both can be broadly described as periods of occupational upgrading rather than polarisation.

Figure 19: There has been little change in the shape of occupational change in the past decade

Percentage change in employment share



Source: RF analysis of ONS, *Labour Force Survey*

Another way to see how much occupational change has altered between the first and second period is to look at the extent to which occupational change in 2008-18 can be explained by change in the previous period. A simple equation tells us that for every 1 per cent change in the share of employment accounted for by an occupation in 2001-08, there is a 0.44 per cent change in the share of employment between 2008-18. To put this figure in context we can use the same type of equation to analyse occupational change during 1993-2001 and 2001-08. For every 1 per cent change in the share of employment accounted for by an occupation in 1993-2001 there is a 0.25 per cent change in employment in 2001-08.[22] The fact that the latter figure is lower suggests that there may have been less continuity in occupational change between 1993-2001 and 2001-08, than between 2001-08 and 2008-18.[23]

Professionals and managers have accounted for the majority of the increase in employment

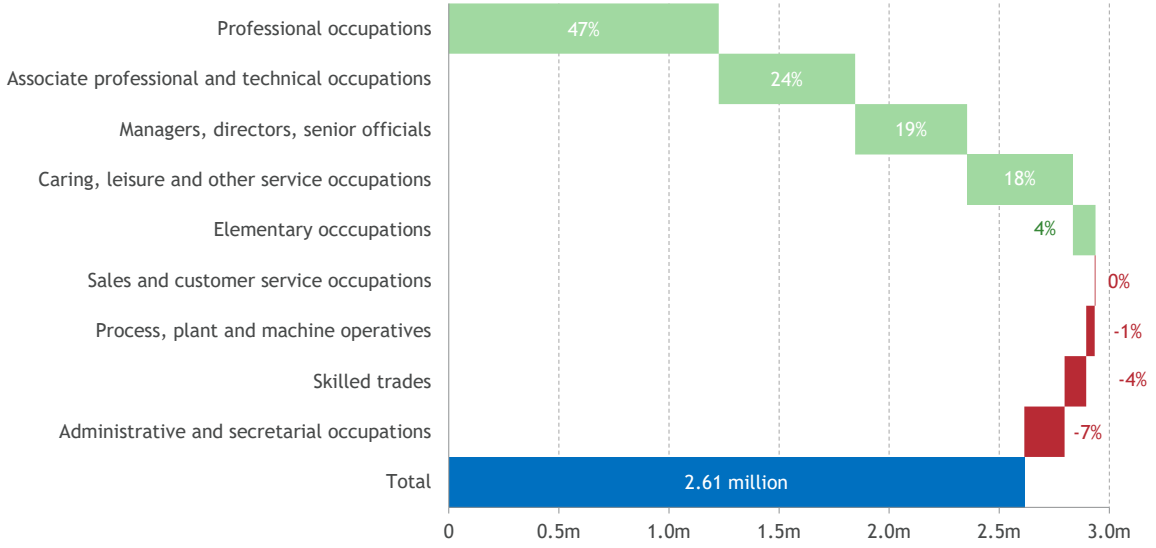
Having established that occupational change over the past decade has primarily involved increases in the share of employment accounted for by higher-paying occupations, we now explore which occupations account for this. Figure 20 analyses the increase in the number of people in employment during 2008-18, and breaks this down by

[22] We run a simple OLS regression in which the change in the share of hours worked in period t is regressed on the change in the share of hours worked in period t-1. The coefficient on the explanatory variable (given in the text) is the percentage change in our dependent variable for a 1 per cent change in the independent variable.
[23] Although we have tried to harmonise them over time, these figures could be different because changes in the way in which occupations have been classified have introduced measurement error. If so, the presence (and amount) of measurement error will bias down the relationship in the earlier period.

occupation.[24] Over the period there was an increase of over 1.2 million professional jobs, over 600,000 associate professional roles and over half a million managerial roles. In terms of lower-paid occupations, there was an increase of nearly half a million in caring and leisure roles. The increase in these occupations was somewhat offset by a reduction in the number of people in administrative jobs and skills trades.

Figure 20: Professional and technical occupations account for the majority of the net increase in employment in the past decade

Contribution to change in employment: 2008-18



Source: RF analysis of ONS, *Labour Force Survey*

The main conclusion that can be drawn from this is that over the past decade the majority of employment growth has been in professional roles, and that where lower-paid roles have been created, they have been concentrated in care and leisure. This chimes with the data above and indicates that the majority of the net employment increase over the past decade has been in relatively[25] higher-paid work.

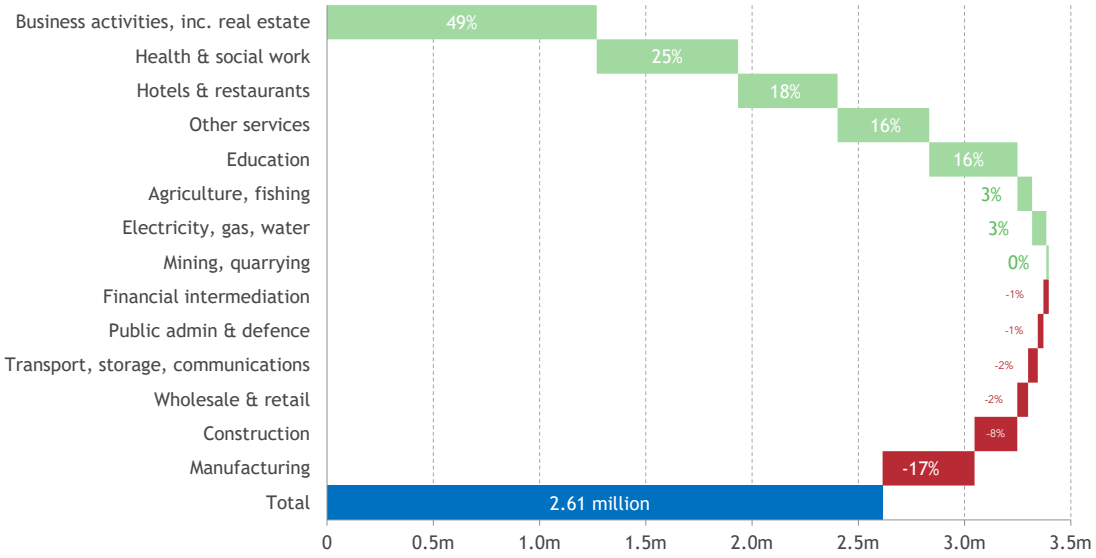
There has been a shift towards business activities, health and social work and hospitality

Having analysed which occupations have expanded and contracted over the past decade we now turn to sectors. Figure 21 shows that business activities including real estate accounts for almost half of the 2.61 million net increase in employment since 2008. Human health, social work and hotels and restaurants account for a further 43 per cent.

[24] The total figure (2.6 million) is slightly lower than the 2.77 million discussed above because of changes to the occupational classification system which means that some occupations are unable to be consistently classified. One of the challenges of carrying out analysis of occupations over time is that classification systems change, and although statisticians try to harmonise classifications, these attempts are imperfect.
[25] This is an important caveat because we are not saying that in an absolute sense the UK economy has created a lot more higher-paying jobs over this period. The fact that typical real earnings are still lower than they were in 2009 indicates that, in absolute terms pay, within existing and new roles has grown slower in recent years than in the past, but relatively more jobs have been created in higher-paying roles.

Figure 21: Employment has grown most in the business activities, health and hospitality sectors

Contribution to change in employment: 2009-17



Source: RF analysis of ONS, *Labour Force Survey*

There have been declines in employment in relatively few sectors, the most notable one is manufacturing (a decline of 430,000), followed by construction (a decline of 201,000), and the number of jobs in finance shrank marginally over the period. Again, there is clear evidence of an expansion in relatively skilled, higher-paying roles (particularly in professional service firms and real estate) but also evidence of significant growth in some lower-paying sectors (hospitality) and others in which there is a mix of lower and higher-paid staff (human health and social work). Of course occupations and sectors overlap (more on this below), and so although some lower-paying sectors have expanded, this does not preclude the possibility that it is relatively higher-paying roles in these sectors that account for the growth.

To better understand the change in occupations and sectors, we can cross tabulate the two. Table 3 shows how much each occupation and industry combination has contributed to the total rise in hours worked since 2008. The bottom row and last column show the overall contribution made by each occupation or industry. For instance, manufacturing accounts for a 16.6 per cent decline in the net change in hours worked over the past decade, while professional occupations account for 47 per cent of the net increase. Table 3 allows us to see the contributions of occupations within specific industries. Managers, professionals and associate professionals in business and real estate account for 36 per cent of the increase, and healthcare and educational professionals account for 20.9 per cent. By contrast managers and professionals in finance account for just 3.6 per cent.

In terms of lower-paid occupations, the most significant contribution was made by people in caring roles within health and social work (an increase of 10.7 per cent), and elementary occupations in hospitality (7.1 per cent). The occupations and industries that account for the biggest declines are roles across the manufacturing sector, but

particularly process, plant and machine operatives (a decline of 6.8 per cent) and skilled tradespeople (a decline of 5 per cent). Construction, wholesale and retail also shrunk as a share of employment over this period, with the biggest falls in skilled trades roles within construction (a decline of 8.4 per cent), and managers (a decline of 1.7 per cent), sales and customer service roles (a decline of 4.4 per cent) within wholesale and retail.

Table 3: Change in employment by occupation and industry: 2008-18

ccupation → dustry ↓	Managers, directors, senior officials	Professional occupations	Associate professional and technical occupations	Administrative and secretarial occupations	Skilled trades	Caring, leisure and other service occupations	Sales and customer service occupations	Process, plant and machine operatives	Elementary occcupations	Sum
griculture, fishing	0.4%	0.1%	0.2%	-0.2%	3.0%	-1.0%	0.1%	0.3%	-0.3%	2.6
ining, quarrying	0.0%	0.0%	0.1%	0.0%	0.6%	-0.1%	0.0%	-0.1%	0.0%	0.4
anufacturing	0.0%	0.1%	0.1%	-2.7%	-5.0%	-0.2%	0.0%	-6.8%	-2.0%	-16.6
ectricity, gas, water	0.0%	1.0%	0.7%	0.2%	0.7%	0.0%	-0.2%	0.3%	-0.1%	2.6
nstruction	1.2%	0.6%	0.2%	-1.0%	-8.4%	0.1%	0.3%	-1.1%	0.4%	-7.7
holesale & retail	-1.7%	1.7%	1.1%	-2.4%	-0.1%	0.2%	-4.4%	3.0%	0.8%	-2.0
otels & restaurants	2.0%	0.2%	1.2%	1.0%	3.0%	1.0%	1.9%	0.6%	7.1%	17.9
ansport, storage, communications	0.0%	1.0%	0.0%	-1.1%	-0.8%	-0.1%	-1.4%	1.8%	-1.0%	-1.7
nancial intermediation	0.4%	2.2%	1.0%	-3.5%	0.2%	-0.1%	-1.3%	0.1%	0.1%	-0.9
siness activities, inc. real estate	13.5%	12.7%	9.8%	1.4%	2.8%	1.0%	2.9%	0.5%	4.0%	48.5
blic admin & defence	0.5%	3.1%	-2.3%	-1.6%	-0.4%	0.4%	0.5%	0.2%	-1.4%	-1.0
lucation	0.8%	10.2%	2.3%	1.6%	0.0%	2.7%	0.3%	0.0%	-2.1%	15.9
ealth & social work	0.0%	10.8%	3.2%	1.3%	0.0%	10.7%	0.4%	0.1%	-1.1%	25.4
her services	2.4%	3.3%	6.1%	0.0%	1.0%	3.7%	0.8%	-0.3%	-0.4%	16.5
m	19.4%	46.9%	23.7%	-7.0%	-3.7%	18.4%	-0.1%	-1.5%	3.9%	100.0

Source: RF analysis of ONS, *Labour Force Survey*

A consistent picture emerges when analysing occupational and industrial change over the past decade. A greater proportion of workers are now employed in higher-paying roles. The majority of these professional roles are in the private sector, particularly business services (but not finance), with a sizeable minority in health and education. Where there has been an expansion of lower-paying occupations it has been focused in health, social work and hospitality. The most significant declines in hours worked have occurred in the middle of the earnings distribution, but with falls at the bottom as well. The sectors that have shrunk most are manufacturing, construction, and parts of the wholesale and retail sector.

As with occupations, it is worth examining how the change in the industrial mix has shifted differentially in different time periods. Figure 22 presents the weighted percentage change in each industry's share of employment, and compares the change between 2001 and 2008 to that between 2008 and 2018.[26] Since the millennium, some sectors have continued to expand – business activities, education, health and social work – whereas others – manufacturing, transport, storage, retail and wholesale, and finance have continued to shrink (as a share of total employment).

Some sectors expanded in the early 2000s – public administration and construction, for example – but then shrank from 2008 onwards. The first case represents a shift in government policy and reductions in public sector (mostly local government) employment. In the second case, the downturn caused a retrenchment in construction

[26] We use the weighted percentage change rather than a simple percentage change to correct for the fact that some occupations employ relatively few people and so small changes in employment lead to large percentage changes.

activity. The opposite is true for hotels and restaurants, which marginally shrank in the 2000s but has expanded significantly since the financial crisis.

Figure 22: Business, education and health have expanded significantly over the past two decades

Weighted percentage change in the share of employment by industry

Source: RF analysis of ONS, Labour Force Survey

Where there is clear evidence of polarisation is for younger workers

Although there is little evidence of occupational polarisation for all workers, when we focus just on the youngest people (aged 18-29) ,we find that since the millennium there has been a bifurcation in employment growth, with large rises in the share of hours worked at either ends of the earnings distribution. Figure 23 shows the change in hours share for all workers (this is the same as in Figure 18) and for those aged 18 -29. Employment increased in the top and bottom three deciles of the distribution for younger workers, and there is far more of a 'U-shaped' pattern, similar to that found by Manning for the 1980s and 1990s.

Breaking down the period since the millennium into two we find that – consistent with other research – the strongest growth in lower-paying occupations for younger workers has occurred in the last decade, but is not confined to it.[27] This indicates that although the financial crisis exacerbated this phenomenon, it began before the crisis hit.

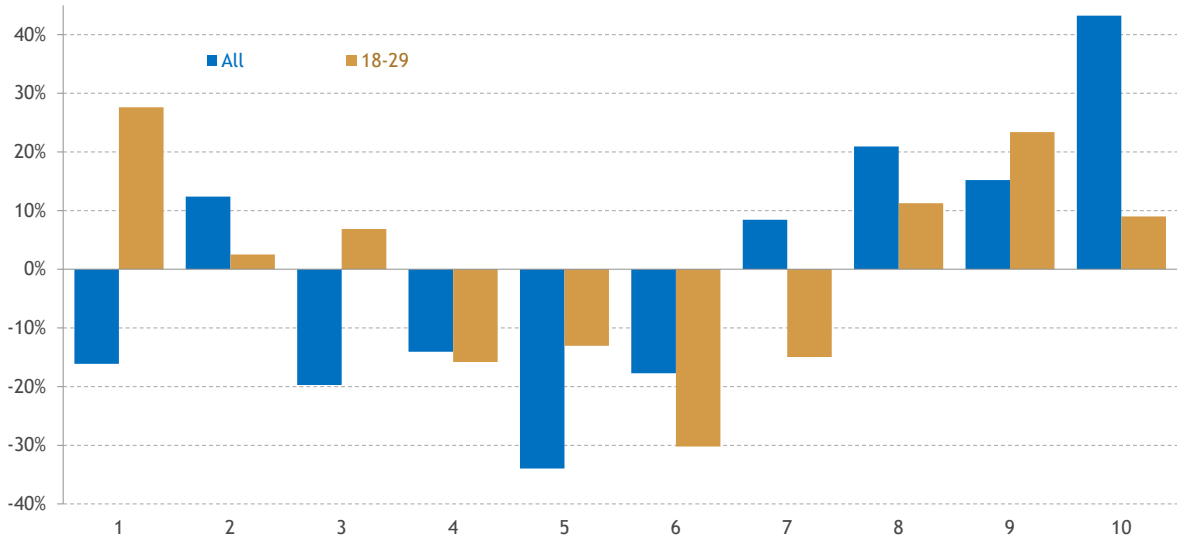
Elsewhere we have documented some of the other problems facing younger workers in today's labour market, including being more likely to be in insecure or atypical work, and being more affected by the post-crisis pay squeeze. We will touch on the latter in more

[27] L Gardiner & P Gregg, Study, Work, Progress, Repeat? How and why pay and progression outcomes have differed across cohorts, Resolution Foundation, February 2017

detail below, but in conclusion to this section, it is worth emphasizing that although on the whole occupational change has been broadly positive, this is not the case for all groups, with younger workers faring less well.

Figure 23: There is clear evidence of occupational polarisation for younger workers

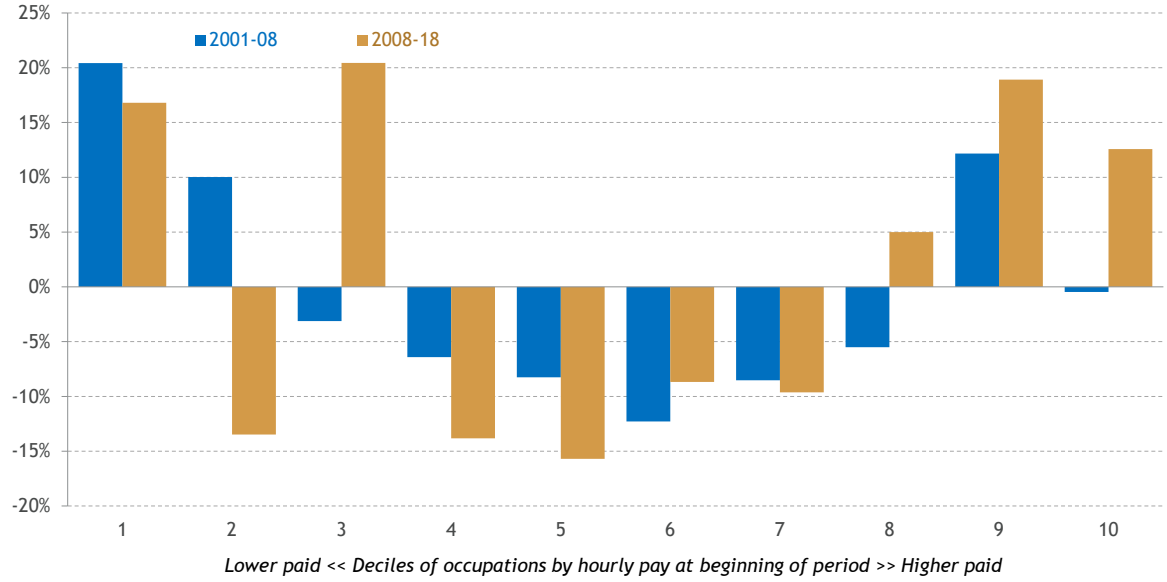
Percentage change in employment share: 2001-18



Source: RF analysis of ONS, Labour Force Survey

Figure 24: The financial crisis exacerbated it but polarisation began before it

Percentage change in hours share, 18-29 year olds



Source: RF analysis of ONS, Labour Force Survey

Section 5: What types of jobs?

One charge made against the UK's employment boom is that the growth has been dominated by jobs in the gig economy, and other types of insecure, atypical work. There is some truth in this claim. Since 2008, two-thirds of net employment growth has been in 'atypical' employment, which we define as self-employment, part-time work, temporary work, agency work, or work on a zero-hours contract. This increase in atypical work has happened across most parts of the economy, but in particular there was an increase in business services, hospitality, and in health and social care. Unsurprisingly, groups that tend to experience barriers to employment or labour market disadvantage saw above-average increases in the rate of atypical employment, including single parents, young people, people with disabilities, and immigrants.

As the labour market has tightened, the growth in atypical employment slowed and then stopped, with all employment growth since 2016 driven by full-time employee work. However, tightening has not led to a decline in atypical work, which remains significantly above pre-crisis levels. While many atypical workers value the flexibility afforded to them, the endurance of these contractual forms presents a cause for concern: atypical workers are more likely to express dissatisfaction with their job, and face a pay penalty. Policy intervention alongside a continued tight labour market will be needed to reverse the rise in atypical working in the UK economy.

Two-thirds of net employment growth since the recession has been in 'atypical' work

This section looks at what kind of jobs account for the 2.7 million post-recession increase in employment. In particular, we focus on the growth in 'atypical' work, versus full-time work as an employee, which is a common definition of 'typical' work. In this paper we define 'atypical' as comprising: the self-employed, those working part time, those on a temporary contract, agency workers, and those on a zero-hours contract (ZHC). See Box 3 for more detail on these definitions. Note also that this section looks only at people's main job, for the reason that the proportion of people with second jobs is small, and has not increased since the recession. Box 2 has more information on second jobs.

Before we look at employment growth since the recession – where atypical work has played a significant role – we should first note that full-time work for an employer remains the norm. In a broad sense, the structure of the labour market is similar to a decade ago, but there have been some shifts. In 2018, 63.1 per cent of employment was as a full-time employee. In 2008 that figure was 64.4 per cent. Meanwhile, atypical

work accounted for 40.8 per cent of employment in 2018, compared to 38.3 per cent in 2008. Figure 26 sets out a decomposition of employment into these mutually exclusive categories.

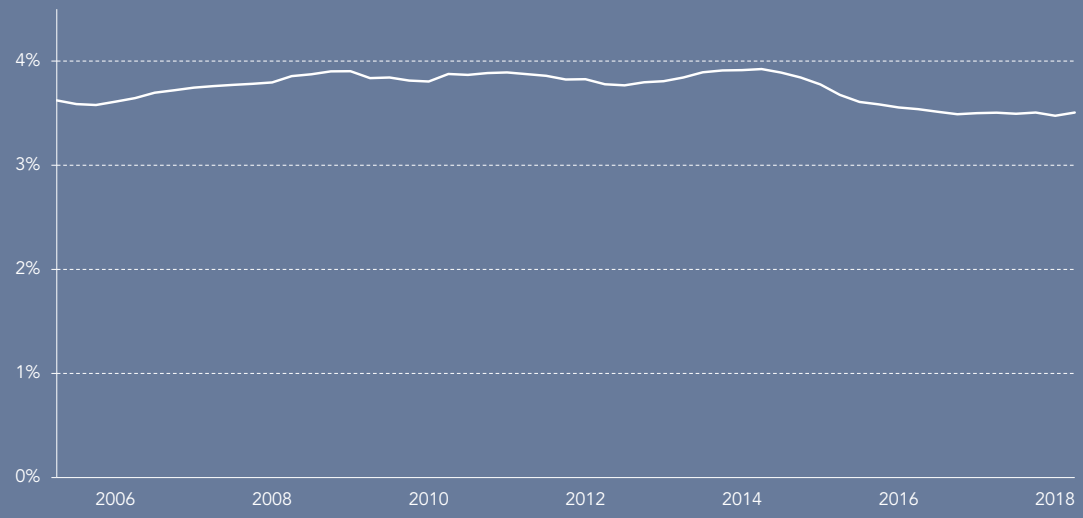
i Box 2: Second jobs

In this section we are only looking at people's main job, not capturing second or subsequent roles. The main reason for this approach is that the subject of this report is the increase in employment, not the increase in jobs. Moreover, second jobs have not been an important or growing part of the employment story.

As Figure 25 shows, there was no increase in the proportion of people employed that had second jobs over the past decade, and in fact this proportion has been falling since 2014.

Figure 25: The proportion of people with a second job is small, and has fallen since 2014

Proportion of people in employment with a second job, 16+ year olds



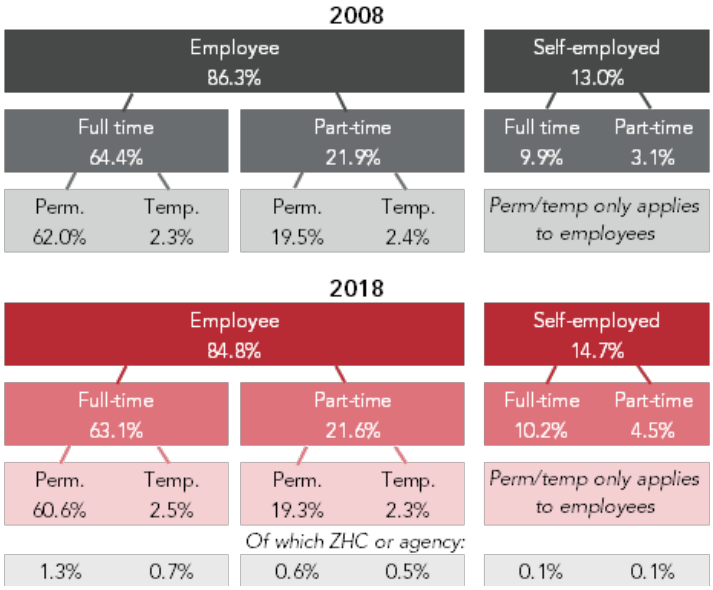
Source: RF analysis of ONS, Labour Force Survey

These changes are not just a feature of the post-crisis employment boom. The fall in full-time employee work and the rise in self-employment can both be traced back to 2001. Self-employment increased from 11.9 per cent of employment in 2001 to 14.7 per cent today, an increase of 2.8 percentage points (with 1.7 percentage points of this increase occurring after 2008). Full-time employee work fell from 65.2 per cent of employment in 2001 to 63.2 per cent today. The post-2008 period accounts for 1.3 percentage points of this 2 percentage point decrease. One of the drivers of this structural change is the tax system, which favours self-employment. We have shown previously that, for a worker costing a firm £100,000, a self-employed worker enjoys a £7,000 tax advantage over

a similarly expensive employee, mainly driven by the absence of employer national insurance contributions.[28]

Figure 26: Full-time work for an employer remains the norm

Proportion of employment, by mutually exclusive job categories



Notes: Does not include second jobs. Some categories do not sum to total employment due to missing data.
Source: RF analysis of ONS, Labour Force Survey

i Box 3: Defining 'atypical' work

In this paper we include the following groups in a broad 'atypical' work group:

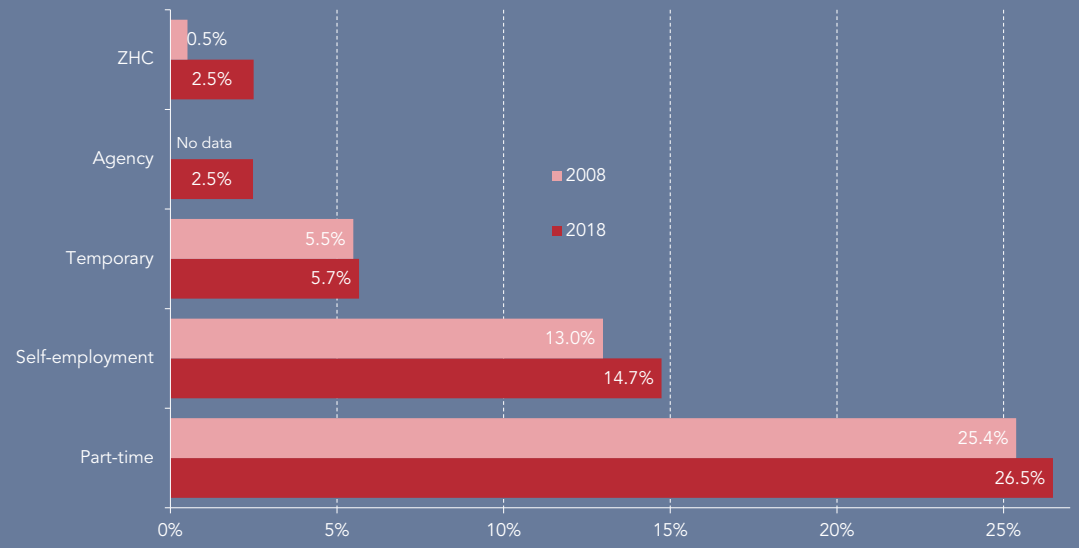
- Self-employment
- Part-time work
- Temporary work (employees)
- Agency work
- Zero hours contract work

'Typical' work is often defined as full-time work for an employer, which accounts for two-thirds of employment. This means that, under these definitions, 'atypical' and 'typical' are not exclusive categories. All full-time employees on temporary contracts fall into both categories, for example. In 2018, 530,000 people were in this overlapping group. Within 'atypical' employment, the largest category is part-time work, which accounts for 26.5 per cent of employment. Self-employment is second largest and accounts for 14.7 per cent, temporary work accounts for 5.7 per cent, and agency work and ZHCs both account for 2.5 per cent of employment. Note these forms of atypical work are not mutually exclusive. For example, one may be both self-employed and working part-time. This data is set out in Figure 27.

[28] A Tomlinson & A Corlett, *A tough gig? The nature of self-employment in 21st Century Britain and policy implications*, Resolution Foundation, February 2017

Figure 27: Part-time work is the largest type of 'atypical' work

Proportion of people in employment with a second job, 16+ year olds



Source: RF analysis of ONS, Labour Force Survey

All of these atypical employment categories have grown as a share of employment since the recession. The largest proportional increase has been in ZHCs, although since this data is self-reported, the rise is likely to be partly due increased awareness of these contracts following media reporting from around 2013.

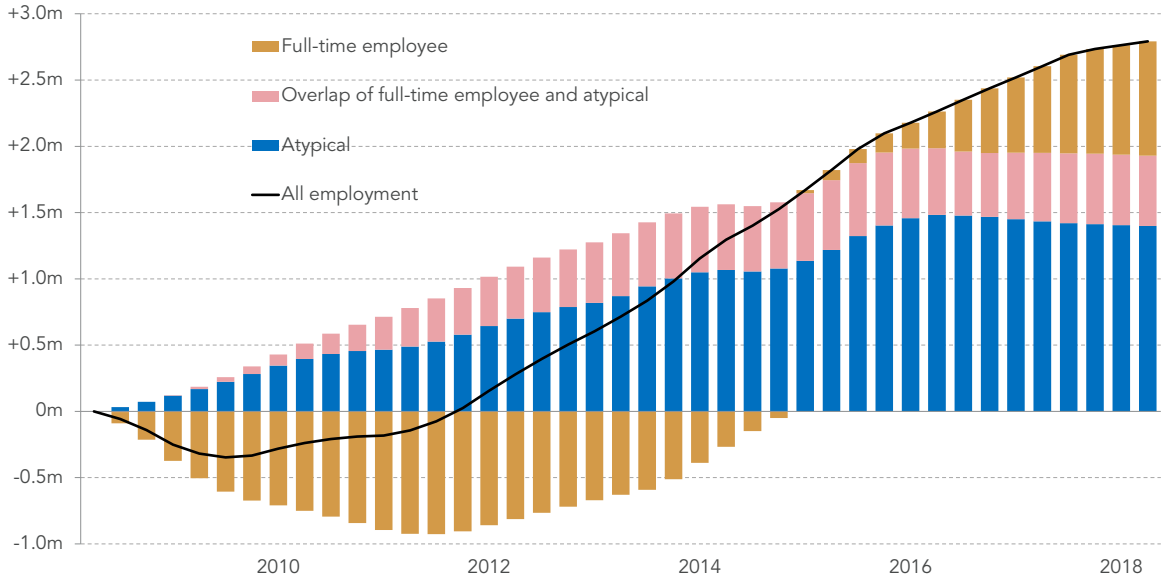
The rise in self-employment is also significant, from 13.0 per cent of employment in 2008 to 14.7 per cent in 2018.

Turning to employment growth, while atypical work is still, as the name suggests, in the minority, it has accounted for over two-thirds of employment growth since the recession (1.9 million out of 2.7 million). Of this 1.9 million growth in atypical work (the blue and pink bars in Figure 28), about a third has been full-time employees who simultaneously meet one of our definitions of atypical working (shown by the pink bars – meaning they are simultaneously on a temporary, agency or zero-hours contract). Although two-thirds of employment in the economy is full-time employee work ('typical' work), this kind of work only accounts for half of employment growth since the recession (the sum of the yellow and pink bars below).

It is useful to divide the post-crisis decade into different periods. In the first three years after the crisis (mid-2008 to late 2011), full-time employee work fell. Atypical employment grew, but initially this was not sufficient to account for the fall in full-time employee work, and consequently overall employment fell. From late 2009, the number of people in employment (but not the employment rate) started to grow again, recovering its pre-recession peak by mid-2011. This was driven by atypical employment growth outstripping the fall in full-time employee work.

Figure 28: Atypical work has accounted for the majority of post-recession employment growth

Change in employment since 2008, 16+ year olds



Source: RF analysis of ONS, *Labour Force Survey*

A second-period (late 2011 to early 2016) saw employment rise above its pre-recession peak and employment growth of around 400,000 per year. This was roughly evenly accounted for by growth in full-time employee and atypical work.

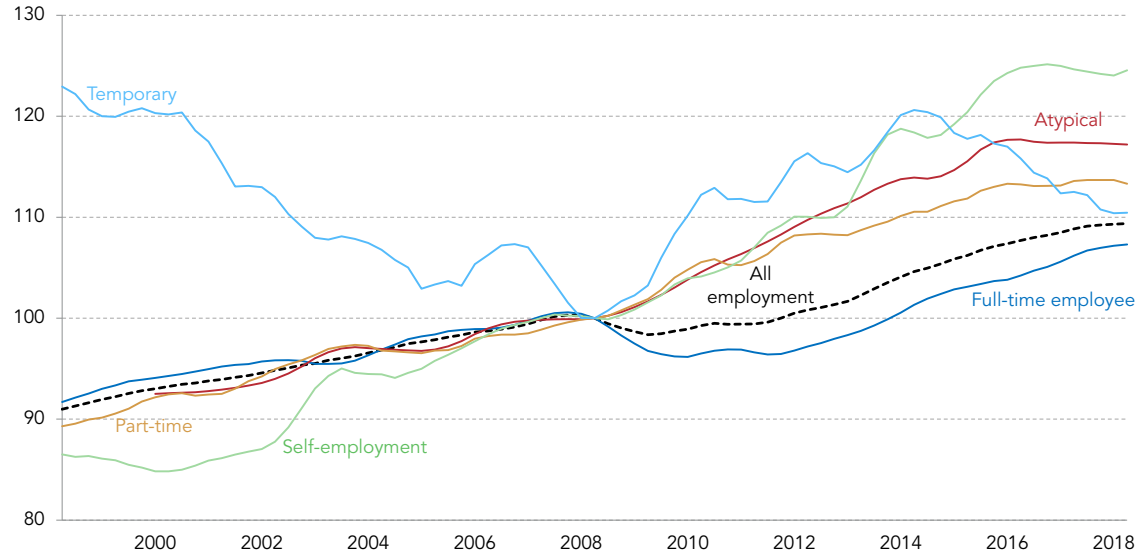
In a final period (early 2016 to 2018), overall growth in the number of people in employment continued at a similar rate initially, before grinding to a halt in early 2018. Over this period atypical employment growth stopped. For the last two years, employment growth has been entirely driven by full-time employee work, which to some extent represents movements from atypical work into full-time employee roles.

This change in the type of jobs driving employment growth (a shift from atypical work to full-time employee work) roughly coincides with the degree of slack in the labour market. As the labour market tightened after 2014 (both unemployment and underemployment fell, along with other indicators) the jobs growth 'engine' increasingly switched to full-time employee work. One interpretation is that an increasingly tight labour market meant employers had to offer full-time employee jobs to attract workers.

Figure 29 again shows employment growth by job-type, but over a two-decade time period (series are indexed to 2008). It also shows the larger sub-categories of atypical work (part-time work, self-employment, and temporary work), alongside atypical work and full-time employee work overall. It shows that atypical and full-time employee work were growing at the same rate pre-recession, with the recession disturbing these trends. As discussed above, post-recession, full-time employee work initially fell and then recovered, whereas atypical work continued its pre-recession growth rate until stalling in 2016.

Figure 29: Atypical employment stopped growing in 2016

Employment by job-type (2008 = 100)

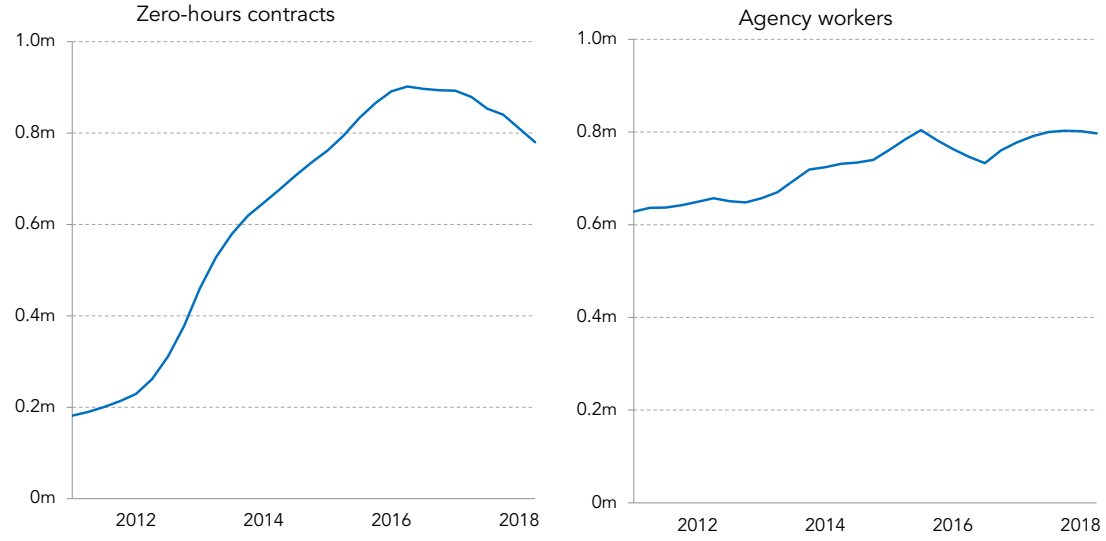


Source: RF analysis of ONS, *Labour Force Survey*

Figure 29 also shows that the largest two sub-categories of atypical work – part-time work, and self-employment, have also stalled since 2016, along with atypical work overall. Temporary work has been *falling* since mid-2014, and more broadly is the category of atypical work most sensitive to the cycle, which appears to have temporarily disrupted its structural decline. The final two categories of atypical work – agency work and ZHCs – have also seen their growth stalled since 2016 but remain significantly elevated above pre-crisis levels, as shown in Figure 30.

Figure 30: the growth of agency workers has stalled, and zero-hours contracts are falling

Number of people employed



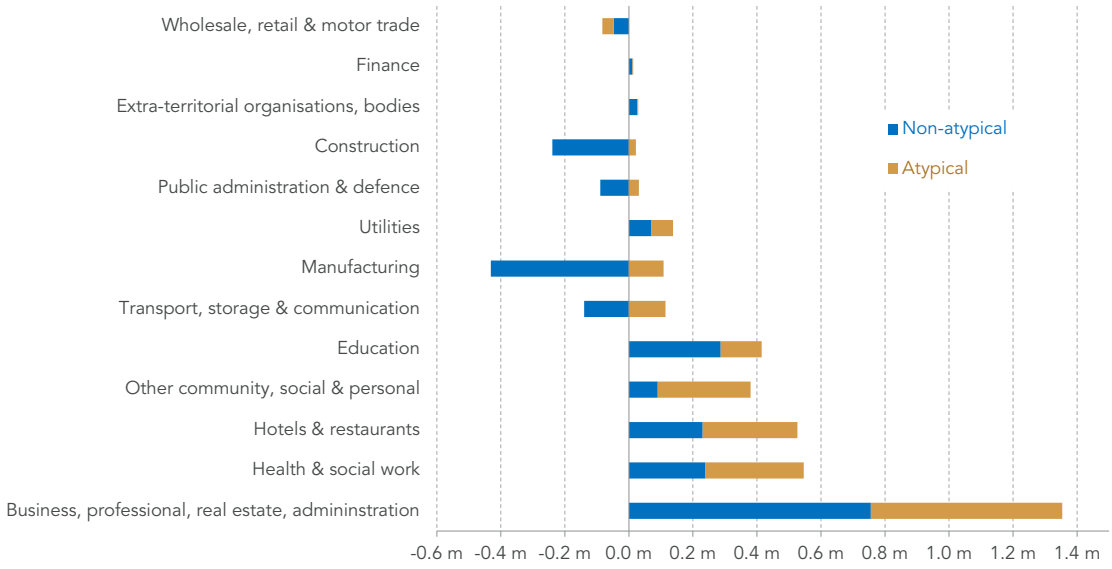
Source: RF analysis of ONS, *Labour Force Survey*

Atypical work has grown across the private sector but most strongly in hospitality, health and social work and personal services

Atypical work has become a more important part of almost all sectors of the economy but in some far more than others, and the nature of atypical work also varies significantly across industries. Figure 31 shows how much atypical, and non-atypical, work has grown for each sector since 2008. In terms of total employment growth, large sectors, particularly business activities (which includes professional services, real estate and administrative activities) account for a significant amount of the increase in atypical work (32 per cent). But in terms of the growth of atypical work as a share of employment growth within the sector, three sectors stand out: health and social work, hospitality and other community, social and personal service industries. In all three, atypical work accounts for the majority of the increase in employment growth since 2008

Figure 31: Atypical work has grown strongly in business activities, health and social work and hospitality

Change in employment: 2008-18



Source: RF analysis of ONS, Labour Force Survey

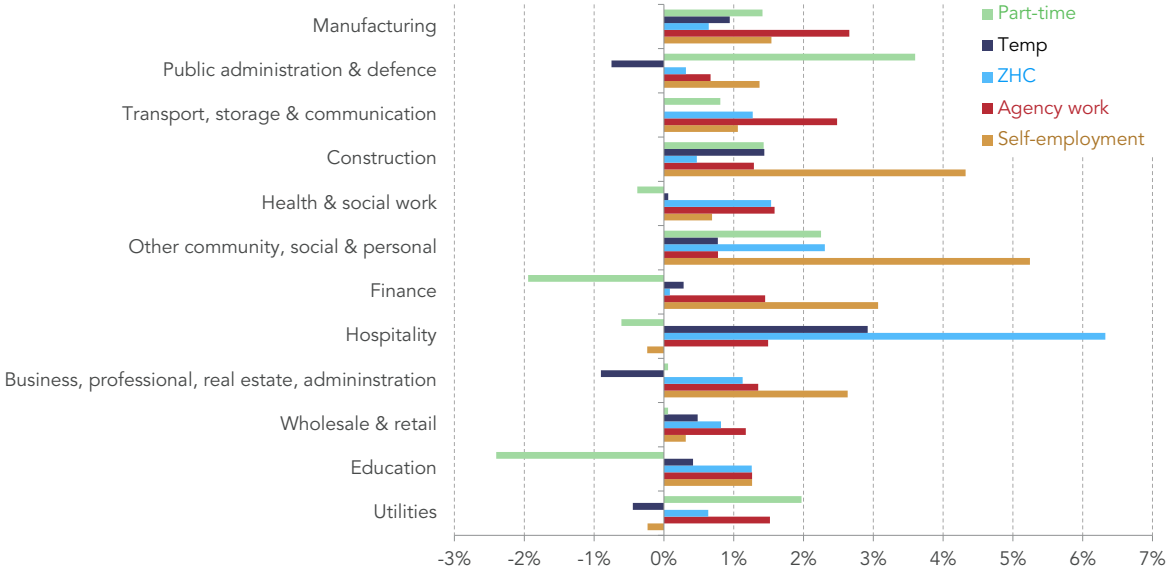
It is also worth noting those sectors in which employment has decreased since 2008, but which atypical work has grown. This is the case for construction, manufacturing, transport and communications and public administration. These sectors – particularly the first three – have each made use of new forms of employment in response to drops in demand, offshoring or technological innovation.

Industries have made increasing use of different types of atypical work. Figure 32 shows the percentage point change in the various types of atypical work for each industry

since 2011.[29] Although most forms of employment have increased across the majority of sectors, there are some notable divergences. Construction has seen a large increase in self-employment, as have broader personal and social services. Manufacturing and logistics firms have made a lot of use of agency workers, while ZHCs have proliferated in the hospitality industry.

Figure 32: Different sectors use different forms of atypical work

Percentage point change in various forms of atypical work: 2011-18



Source: RF analysis of ONS, *Labour Force Survey*

Far from all the increase in atypical work has been focused in what we tend to think of as lower-paying industries. Self-employment has increased in finance, and the public sector has also made increasing use of self-employed workers. From an occupational perspective, self-employment has also increased more for managers and associate professionals than it has for those in elementary occupations. ZHC and agency working have grown in education, and agency working in finance – both relatively higher-paying industries. This cross-sectoral and cross-occupational proliferation of atypical work is how the main finding in this section – that forms of work that we might associate with insecurity have dominated employment growth in the past decade – is consistent with the story of occupational upgrading in the previous one.

Groups that experience labour market disadvantage have experienced above-average increases in atypical work

Atypical employment is not confined to one part of society, but some groups are more likely than others to be in atypical employment. Figure 33 shows the proportion of employment that is atypical for several select groups. These groups have in common that

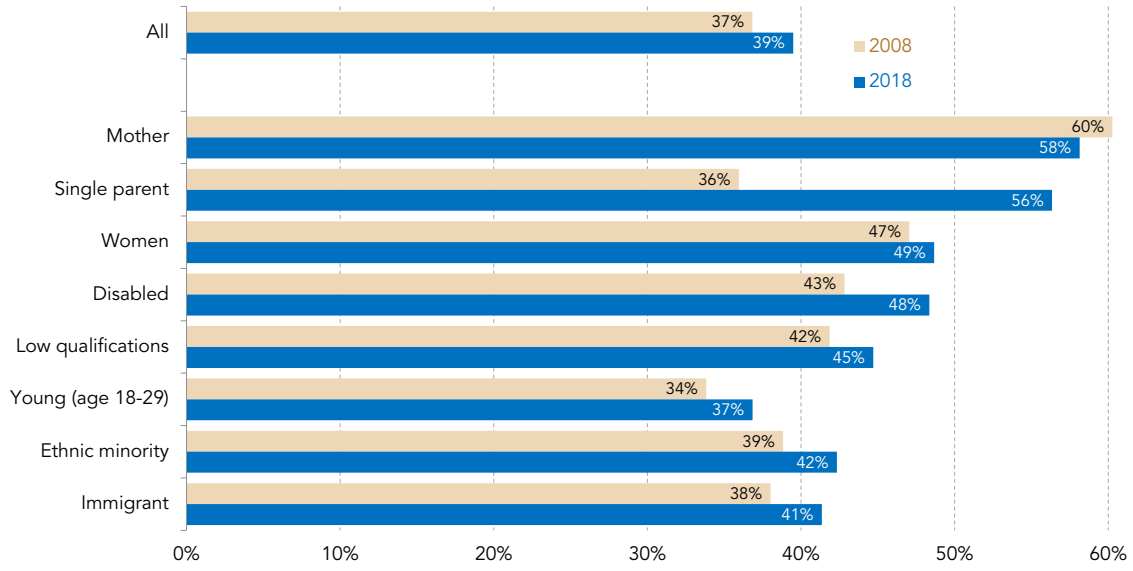
[29] We have chosen 2011 as our starting point as this is the first year for which data on agency workers is available and broadly maps onto the period in which employment started to grow as the economy recovered from the effects of the financial crisis.

they traditionally experience disadvantage in the labour market, in the shape of lower employment rates or lower pay. We can see that all of these groups have above-average rates of atypical work. For example, in 2018, 58 per cent of mothers (with dependent children) in employment were in atypical work. The other groups shown with above-average rates of atypical employment are single parents (56 per cent in 2018), women (49 per cent), those with disabilities (48 per cent), the third of workers with the lowest level qualifications (45 per cent), those aged 50-64 (43 per cent), ethnic minorities (42 per cent) and those born outside the UK (41 per cent).

All of these groups (apart from mothers) have also seen above-average increases in the proportion of their employment that is in atypical work. The overall increase (among 18-69 year olds) was 2.7 percentage points, from 36.8 per cent to 39.5 per cent. Groups with the largest increases include single parents (20.4 percentage point increase), those with disabilities (5.5 percentage points), ethnic minorities (3.5 percentage points) and migrants (3.3 percentage points).

Figure 33: Many groups have experienced an increase in atypical work over the past decade

Share of those employed that are in atypical work, 18-69 year olds



Notes: Only includes age 18 to 69. Immigrant is defined as those born outside the UK. Both mother and single parent groups include those with dependent children only.
Source: RF analysis of, ONS, *Labour Force Survey*

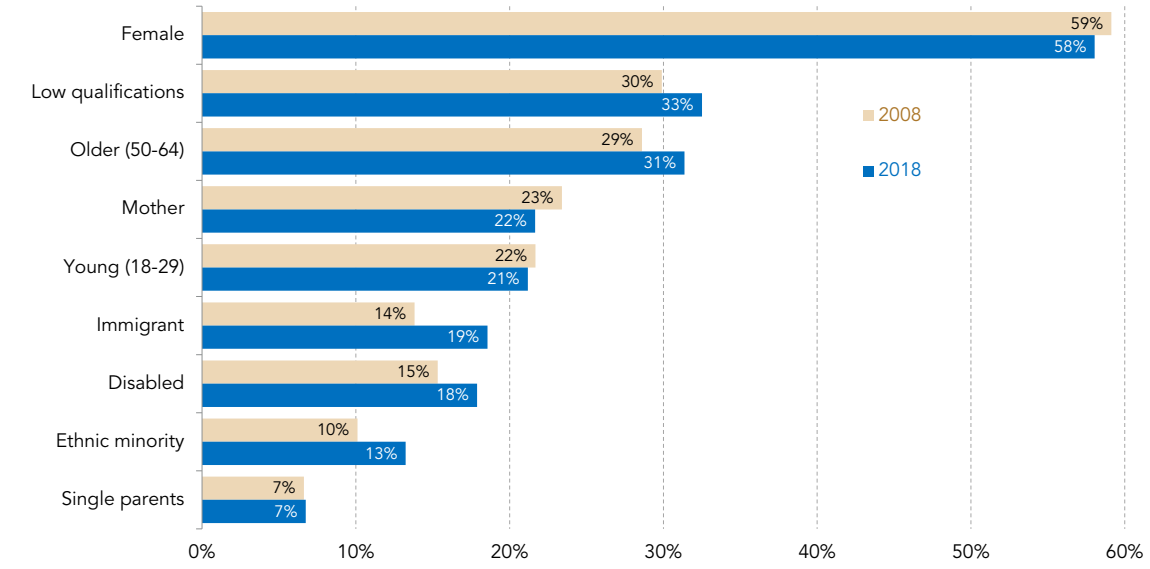
The increase in the atypical employment rate for single parents clearly stands out. However, single parents comprise a small proportion of overall employment, and therefore despite the notable increase in atypical work among this group, single parents still comprise only a small portion of atypical work – 7 per cent, the same as in 2008. As a proportion of the atypical employment groups, some significant constituent groups are women (who comprise 58 per cent of atypical employment), the bottom-third qualified (who comprise 33 per cent – proportional to their share of the population but larger than their share of those in employment given this group's below-average employment

rate), and older workers (who comprise 31 per cent). These three groups are all over-represented in atypical employment compared to their representation in overall employment (i.e. they have above-average rates of atypical employment, as shown in Figure 33).

There have been some changes in the composition of the atypical worker group since 2008, as shown in Figure 34. While the gender balance has hardly changed (women's share of the atypical group has fallen by 1 percentage point) other groups have experienced bigger changes. Groups that have experienced an increasing share of the atypical worker group include immigrants (from 14 per cent in 2008 to 19 per cent in 2018), people with disabilities (from 15 per cent to 18 per cent), and people with qualifications in the bottom third of the distribution (from 30 per cent to 33 per cent). This suggests that the atypical worker group has become somewhat more 'residualised' over the last decade (that is, comprised of groups who, historically, have had lower employment rates or faced labour market disadvantage).

Figure 34: The composition of the atypical worker group has become somewhat more 'residualised'

Share of atypical worker group, 18-69 year olds



Source: RF analysis of ONS, *Labour Force Survey*

We should be concerned about the rise in atypical employment

While the flexibility that accompanies atypical employment is a good thing for some, there are negative aspects of these types of contracts. One issue is the insecurity and one-sided flexibility (as highlighted by the Taylor Review and elsewhere) that accompanies many types of atypical employment.[30] This is now well documented.

Another issue, perhaps less discussed, is pay. It is not simply that average pay is lower among atypical workers, true as this is (in 2018 the average atypical worker earned £9.20

[30] Department for Business, Energy and Industrial Strategy, *Taylor Review of Modern Employment Practices*, 2017

per hour, compared to £12.80 for full-time employees[31]), after all much of this difference is explained by the different characteristics of those that do atypical work, and the type of work they do. But some of the gap is *not* explained by those differences, meaning there is a 'pay penalty'. After controlling for a range of personal and job characteristics (including occupation, industry, region, education level, years of experience, age, sex, and ethnicity), people in atypical employment earn less than their counterparts in non-atypical employment.[32] The pay penalty is 66p per hour for temporary workers (-6 per cent), 45p per hour for zero-hours contract workers (-5 per cent), and 29p per hour for part-time workers (-3 per cent).[33] This data is set out in Figure 35. One interpretation of the pay penalty is that we would expect atypical workers' earnings to increase by the amount of the penalty if they moved into a similar role in a more 'typical' form of work.

Figure 35: There is a pay penalty attached to atypical employment

Hourly pay in selected atypical categories – raw differentials and differentials after controlling for person and job characteristics: 2011-18

Notes: The pay penalty for part-time workers is only significant at 10 per cent level (p=0.052).
Source: RF analysis of ONS, *Labour Force Survey.*

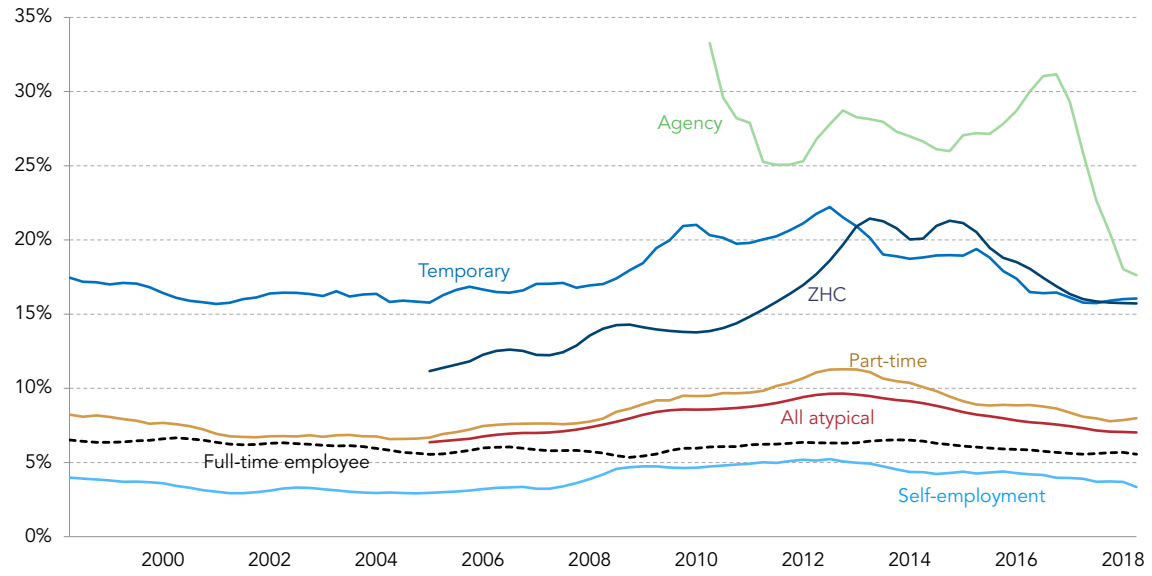
For some workers, the pay penalty and insecurity will be a price worth paying for the greater flexibility associated with atypical work. But some people may not benefit from this trade off, and would prefer typical employment. We do not know exactly what proportion of atypical workers are in this position, but responses in the Labour Force Survey to questions relating to job satisfaction and preferences about job type give us some idea.

[31] RF analysis of ONS, *Labour Force Survey*
[32] Note that we first undertook these calculations in 2016. See L Gardiner, *'A-typical year?'*, Resolution Foundation Blog, 30 December 2016.
[33] We do not include calculations for agency workers in this analysis as we have recently explored these in a separate project. See: L Judge, *The good, the bad and the ugly: the experience of agency workers and the policy response*, Resolution Foundation, November 2018. We cannot compute a pay penalty for self-employed workers because the data is not available in the Labour Force Survey.

First, we can look at the proportion of people employed in different types of work that say they would like a different job. Note that wanting a different job may not necessarily mean a person wants a different job *type*, so this is an imperfect measure. Nevertheless, it is a useful measure as it allows us to compare satisfaction with the status quo across job types. On this measure, dissatisfaction is higher for the atypical worker group than for full-time employees. In 2018, as Figure 36 shows, 5.6 per cent of full-time employees said they wanted different work, compared to 7.0 per cent of atypical workers. There is also substantially higher dissatisfaction among some sub-categories of worker: temporary workers, agency workers and ZHC workers. For these three categories, more than 15 per cent of workers would like a different job. For agency workers this was recently above 30 per cent. On the other hand, dissatisfaction is lower among the larger atypical sub-categories – part-time workers and the self-employed.

Figure 36: Atypical workers are more likely to want a different job

Share of people in employment who report wanting a different job, 18-69 year olds



Source: RF analysis of ONS, *Labour Force Survey.*

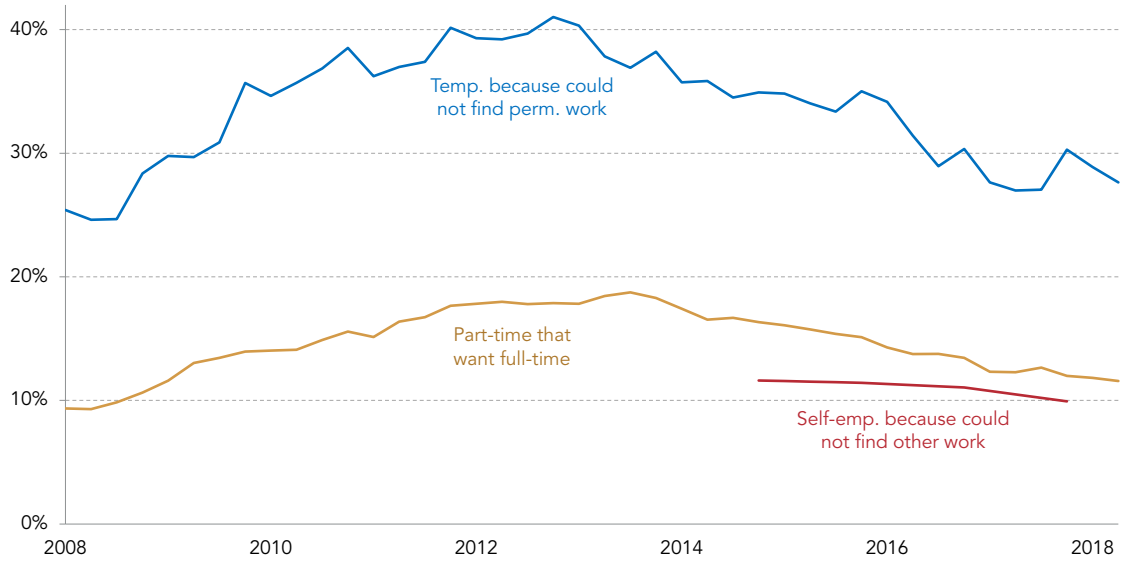
We can also look separately at some of the sub-categories of atypical work for more evidence of satisfaction levels. The Labour Force Survey asks temporary workers whether they are doing such work because they could not find a permanent job; asks part-time workers whether want full-time work; and (recently) asks the self-employed whether they couldn't find other employment. Unfortunately we do not have similar series available for agency workers and those on ZHCs. These measures are probably more credible as measures of dissatisfaction with *atypical employment* than the more general measure used above.

Figure 37 shows the proportion within each group that answer positively to these questions. The largest expression of dissatisfaction is among temporary workers, of whom close to 30 per cent say they are working this way because they could not find

permanent work. The figures for part-time workers and the self-employed expressing a preference for full-time and employee work are closer to 10 per cent.

Figure 37: Post-recession, there was an increase in the proportion of people doing atypical work not as a first choice

Proportion of those in selected atypical employment categories expressing dissatisfaction, 18-69 year olds



Source: RF analysis of ONS, *Labour Force Survey*

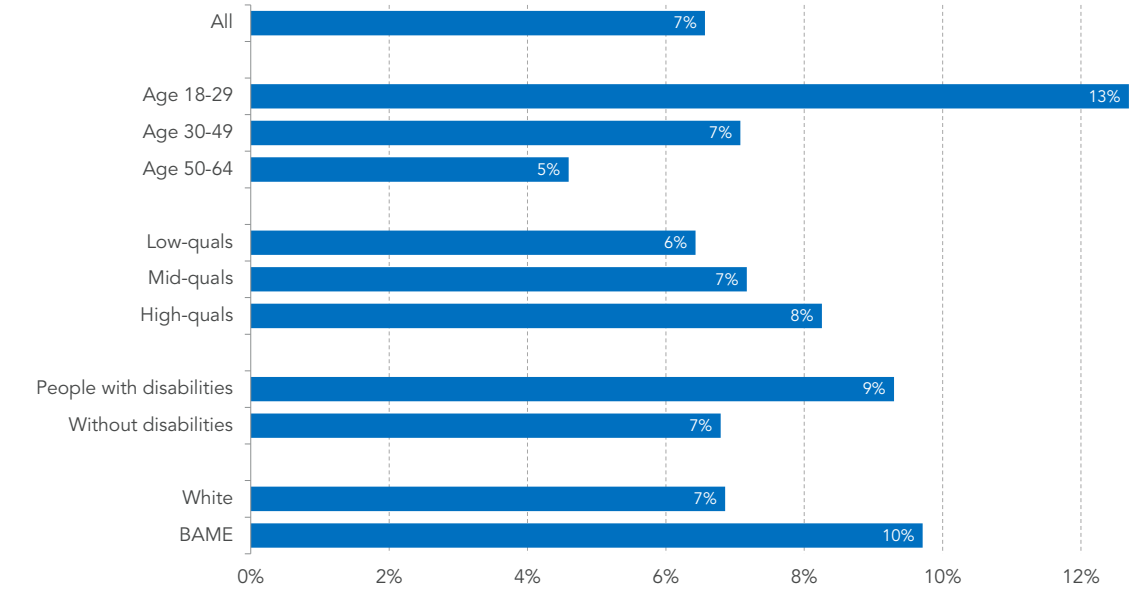
Finally, it is worth considering levels of apparent dissatisfaction associated with working atypically (using the less targeted measure shown in Figure 36) for different groups in the population. Dissatisfaction is most prevalent among young people, ethnic minorities, and people with disabilities, as shown in Figure 38. The prevalence of dissatisfaction among young people working atypically chimes with the less positive occupational change story told for young adults in the previous section, and previous Resolution Foundation research on the employment and pay experience of younger cohorts compared to their older counterparts.[34]

Therefore, there appears to be a sizeable group of atypical workers who would prefer to move to a more typical employment contract. The question is, what prospect is there that these workers will be able to do so?

[34] L Gardiner & P Gregg, *Study, Work, Progress, Repeat? How and why pay and progression outcomes have differed across cohorts*, Resolution Foundation, February 2017

Figure 38: Younger atypical workers are more likely to express dissatisfaction

Proportion of atypical workers that say they want a different job, age 18-69



Source: RF analysis of ONS, *Labour Force Survey*

Atypical employment has stopped growing, but is unlikely to fall back to pre-2008 levels without policy intervention

Earlier in this section we saw that atypical work accounts for two-thirds of the net employment growth since 2008. Atypical employment has since plateaued, driven by a tightening labour market. Some types of atypical employment (such as ZHCs) now falling. Will the rest of the atypical employment 'bulge' follow suit? Or are these jobs here to stay?

The continuation of a tight labour market should precipitate decreases in overall atypical employment. In our recent focus groups with agency workers, we found that those that had experienced poor or even illegal treatment could not 'up and leave' due to the weakness of the local labour market.[35] A tight labour market might allow them to do so, but to date we have not seen the move towards full-time employment driving dramatic falls in atypical work overall, even if it has coincided with big reductions in some elements, notably temporary work. Therefore, although improving labour market conditions stopped the increase in atypical employment, we should not simply assume the labour market alone will drive down atypical employment to pre-crisis levels.

This suggests we need to turn to structural factors, and policy intervention, if we are to see atypical employment fall back towards pre-crisis levels. Government has recently committed to various interventions relating to atypical employment in its 'Good Work Plan', its response to the Taylor Review.[36] The plan includes: banning an 'opt out' to equal pay rules for agency workers (the 'Swedish derogation'); improving access to information about employment rights; and stronger enforcement of existing rights, including rights to

[35] L Judge, *The good, the bad and the ugly: the experience of agency workers and the policy response,* Resolution Foundation, November 2018
[36] Department for Business, Energy and Industrial Strategy, *Good Work Plan*, 2018

holiday pay, for example. These changes should exert downward pressure on some forms of atypical work by making atypical employment relatively more costly for employers.

A bigger policy change would be to address the differential tax treatment of self-employment and employees. This difference is driven principally by the national insurance system, with the self-employed paying no employer national insurance, and paying personal national insurance at a lower rate. This means both employers and workers have an incentive to hire (or work as) a self-employed person rather than an employee.

Alongside policy, one final consideration is Brexit. Our recent research into agency workers found that uncertainty is a key reason why some firms intend to continue using or expand their use of agency workers. The uncertainty surrounding Brexit may therefore be exerting an upwards pressure on prevalence of atypical employment, perhaps limiting the effects of a tight labour market.

Conclusion

Seven years of near-continuous employment growth has certainly changed the UK labour market, but it has also changed the country. Employment rates have risen significantly for people with disabilities, ethnic minorities and people with the lowest levels of formal education. The result is that employment is more equally spread now than when the financial crisis began, although of course the groups mentioned (particularly people with disabilities) still have well-below-average employment rates, and so scope for further progress remains.

As well as changes in the people employed, there have also been significant shifts in the geography of jobs. It will come as a surprise to no one that London has been a big beneficiary; employment rates in the capital are now close to the national average for the first time since the early 1990s. However, the biggest beneficiaries have actually been urban areas outside the South East, with Merseyside and South Yorkshire leading the way. Unlike recoveries from previous downturns, the surge in employment that began seven years ago has been particularly progressive.

What's also astonishing is that these successes have been achieved in spite of some serious headwinds. The UK is an ageing society, with the proportion of prime-age workers shrinking, and even amongst the working-age population, work-limiting health problems have been rising. While these forces will continue to make themselves felt in the years ahead, the last decade shows that there is nothing inevitable about them bearing down on the employment rate if the employment rates of these groups can be increased as they grow in importance in our society.

In a decade in which good economic news has been in relatively short supply, policy makers can take heart that the country's jobs market has provided some. Nevertheless, we would do well not to rest on our laurels. Although fears that all the jobs are in prosperous parts of the UK, or that all the jobs that have been created are low-paid or insecure, are overblown, there are some significant blots on the record.

First is the fact that younger people have fared less well. Although the UK does not have an 'hourglass' labour market, it is starting to resemble one for those under 30. Second is that we should not lose sight of those places that have not benefitted from the employment surge. Employment growth has been relatively limited in rural areas (particularly for younger people) and in smaller urban areas (particularly outside the South East). Finally, we should not be complacent about the amount of insecure work. Although a tightening labour market has helped halt its growth over the past year or so, the numbers remain too high, and in this area further government action (beyond the welcome response to the Taylor Review) will be needed.

Politicians often talk about repairing the roof while the sun shines. Record-high employment provides an unprecedented opportunity to begin addressing some of the structural problems that prevent the UK from topping employment's international league table. Although we have come a long way since 2008, there is still a lot to do.

Annex 1: Data and definitions used in this analysis

Datasets

Most of the analysis in this report – the descriptions of historical and current labour market patterns – is based on the Quarterly Labour Force Survey (LFS), produced by the Office for National Statistics. In most cases, we make use of the cross-sectional (quarterly) micro-datasets, though we also access some data through NOMIS. We also use the Department for Work and Pensions' Family Resources Survey (FRS) and Households Below Average Income (HBAI) datasets.

Definitions

The 'low activity' groups discussed in this analysis are defined as follows:

- **Low qualified:** We use successive versions of the 'hiqual' variable in the LFS, which contains details of an individual's highest qualification, with the variable ranked in descending order. We then split the 18-69-year-old UK population into three equally-sized groups (randomly distributing those individuals with qualification levels that straddle the boundaries). We define the bottom third as 'low qualified' and the top third as 'high qualified'. By repeating this process in each quarter, we capture 'relative' qualification levels, and so control for the general improvement in the qualifications profile of the working-age population over time.
- **Disabled people:** We use the 1995 Disability Discrimination Act (DDA) definition of disability, which was the most commonly-used prior to that established by the Equality Act 2010 (the Equality Act definition excludes some specific groups from its 'core' measure that are included in the DDA definition). We do this because the DDA measure provides the longest consistent definition over time (and captures a population that tends to experience more acute labour market disadvantage than, for example, the 'work-limiting disabled only' group also captured in the data over this time-period). Changes to question-wording and questionnaire design mean that measures of disability in the LFS have discontinuities in 2010 and 2013, but we extrapolate back from 2013 using the most recent definition and trends before that based on older definitions.
- **Single parents:** Single parents are adults of either gender with dependent children and not living with partners. From 2006 onwards, this is defined using the 'type of family unit' variable – the same way as the ONS defines single-parenthood.

- **Non-single parent mothers:** Non-single parent mothers are women with dependent children living in couples.
- **BAME groups** and **younger** and **older** age groups are defined using the standard ethnicity and age variables available in the LFS.

Annex 2: Shift-share analysis

In this report we make extensive use of 'shift-share' analysis to decompose changes in employment rates into that which can be attributed to changes in the relative size of different groups (the 'between groups' effect) and that which can be attributed to changes in the employment rates of different groups (the 'within groups' effect). Formally, we use the employment rate of each group and their population share in 2008 and 2018 and then calculate:

'Within-groups' effect = Δemployment rate (2008 – 2018) * average(population share 2008, population share 2018)

'Between-groups' effect = Δpopulation share (2008 – 2018) * average(employment rate 2008, employment rate 2018)

These can then be summed to get the net effect. The sum of the net effects for each group equals the overall change in the employment rate across all groups.

Our results are summarised in the tables below. Employment rate totals differ slightly across these tables due to the exclusion of data missing from the category in question (and the fact that Table 5 covers 16+ year olds rather than 16-64 year olds).

Table 4: Employment and population changes by country of birth, 16-64 year olds: 2008-18

	Employment rate		Population share		Shift-share		
	2008	*2018*	*2008*	*2018*	*Change in employment rate ("within groups" effect)*	*Change in population ("between groups" effect)*	*Net effect*
UK	73.4%	75.8%	86.2%	81.9%	2.0%	-3.2%	-1.2%
EU14	74.0%	79.3%	2.3%	3.1%	0.1%	0.6%	0.7%
EU8	82.7%	86.0%	1.5%	2.6%	0.1%	0.9%	1.0%
EU2	83.5%	82.7%	0.2%	1.1%	0.0%	0.8%	0.8%
Other EU	72.5%	73.6%	0.1%	0.2%	0.0%	0.0%	0.0%
Rest of world	63.9%	68.7%	9.7%	11.2%	0.5%	1.0%	1.5%
All	72.7%	75.5%			2.7%	0.1%	2.8%

Source: RF analysis of ONS, Labour Force Survey

Table 5: Employment and population changes by age, 16+ year olds: 2008-18

	Employment rate		Population share		Shift-share		
	2008	*2018*	*2008*	*2018*	*Change in employment rate ("within groups" effect)*	*Change in population ("between groups"*	*Net effect*
16 - 17	33.0%	23.9%	3.2%	2.6%	-0.3%	-0.2%	-0.4%
18 - 29	70.6%	71.1%	19.9%	19.2%	0.1%	-0.5%	-0.4%
30 - 49	82.0%	85.0%	35.6%	32.3%	1.0%	-2.7%	-1.7%
50 - 64	65.6%	71.8%	22.6%	23.6%	1.4%	0.6%	2.1%
65+	7.6%	10.4%	18.6%	22.3%	0.6%	0.3%	0.9%
All	60.6%	61.0%			2.9%	-2.4%	0.4%

Source: RF analysis of ONS, Labour Force Survey

Table 6: Employment and population changes by qualification, 16-64 year olds: 2008-18

	Employment rate		Population share		Shift-share		
	2008	*2018*	*2008*	*2018*	*Change in employment rate ("within groups" effect)*	*population ("between groups" effect)*	*Net effect*
Masters	87.5%	86.5%	6.4%	10.6%	-0.1%	3.7%	3.7%
Degree	85.9%	86.2%	13.4%	19.3%	0.1%	5.1%	5.1%
Sub-degree HE	82.4%	81.0%	8.7%	8.8%	-0.1%	0.1%	-0.1%
A-level	76.0%	74.6%	18.0%	19.5%	-0.3%	1.1%	0.8%
GCSE	73.1%	71.8%	26.7%	23.9%	-0.3%	-2.0%	-2.3%
Below GCSE	49.0%	52.0%	17.9%	11.1%	0.4%	-3.4%	-3.0%
Other	72.3%	74.0%	8.2%	4.9%	0.1%	-2.4%	-2.3%
None	61.4%	70.7%	0.8%	1.9%	0.1%	0.7%	0.9%
All	72.6%	75.4%			-0.1%	2.9%	2.8%

Source: RF analysis of ONS, Labour Force Survey

Table 7: Employment and population changes by health problems of the disabled population, 16-64 year olds: 2008-18

	Employment rate		Population share		Shift-share		
	2008	*2018*	*2008*	*2018*	*Change in employment rate ("within groups" effect)*	*population ("between groups" effect)*	*Net effect*
Arms, hands	41.0%	56.0%	1.2%	1.3%	0.2%	0.1%	0.3%
Legs or feet	38.1%	58.1%	1.9%	2.3%	0.4%	0.2%	0.6%
Back or neck	40.0%	59.3%	2.6%	2.7%	0.5%	0.1%	0.6%
Sight	41.1%	42.6%	0.3%	0.3%	0.0%	0.0%	0.0%
Hearing	50.9%	68.9%	0.2%	0.2%	0.0%	0.0%	0.0%
Speech	32.6%	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Skin condition	66.1%	65.3%	0.2%	0.2%	0.0%	0.0%	0.0%
Chest, breathing	59.7%	53.8%	2.1%	1.4%	-0.1%	-0.4%	-0.5%
Heart, blood	54.0%	52.9%	2.2%	1.1%	0.0%	-0.6%	-0.6%
Stomach	55.2%	59.5%	0.9%	1.1%	0.0%	0.1%	0.2%
Diabetes	67.1%	57.4%	1.3%	0.7%	-0.1%	-0.4%	-0.4%
Depression	24.0%	50.0%	1.4%	3.5%	0.6%	0.8%	1.4%
Epilepsy	42.4%	29.7%	0.4%	0.3%	0.0%	-0.1%	-0.1%
Learning difficulties	20.1%	22.2%	0.4%	0.6%	0.0%	0.0%	0.0%
Mental illness	11.9%	24.5%	0.8%	1.4%	0.1%	0.1%	0.2%
Progressive illness	40.0%	47.1%	1.2%	1.5%	0.1%	0.2%	0.3%
Other	52.4%	54.2%	1.6%	2.2%	0.0%	0.3%	0.4%
Missing	29.1%	34.6%	0.1%	0.3%	0.0%	0.0%	0.1%
Not disabled	78.8%	78.8%	81.3%	79.0%	0.0%	-1.8%	-1.8%
All	72.5%	73.0%			1.9%	-1.3%	0.5%

Source: RF analysis of ONS, Labour Force Survey

Table 8: Employment and population changes by region, 16-64 year olds: 2008-18

	Employment rate		Population share		Shift-share		
	2008	*2018*	*2008*	*2018*	*Change in employment rate ("within groups" effect)*	*Change in population ("between groups" effect)*	*Net effect*
South West	73.3%	75.6%	8.3%	8.2%	0.2%	-0.1%	0.1%
Rest of SE	74.6%	75.6%	18.9%	19.0%	0.2%	0.1%	0.3%
Rest of WM	72.8%	75.3%	4.6%	4.3%	0.1%	-0.2%	-0.1%
Outer London	70.5%	75.1%	7.8%	8.3%	0.4%	0.4%	0.8%
Inner London	68.3%	74.5%	5.4%	6.1%	0.4%	0.5%	0.8%
East Anglia	72.8%	74.2%	3.8%	3.7%	0.1%	0.0%	0.0%
Rest of Scotland	73.8%	73.5%	4.8%	4.8%	0.0%	0.0%	0.0%
Rest of NW	69.9%	72.1%	4.0%	3.7%	0.1%	-0.2%	-0.1%
GM	67.5%	71.8%	4.3%	4.2%	0.2%	0.0%	0.1%
East Midlands	71.4%	71.8%	7.2%	7.1%	0.0%	0.0%	0.0%
Rest of Y&H	72.3%	71.7%	2.7%	2.6%	0.0%	-0.1%	-0.1%
South Yorkshire	64.6%	71.1%	2.1%	2.1%	0.1%	0.0%	0.1%
Wales	67.0%	70.5%	4.8%	4.7%	0.2%	-0.1%	0.0%
Rest of North	68.1%	70.5%	3.2%	3.0%	0.1%	-0.1%	-0.1%
West Yorkshire	69.5%	70.1%	3.6%	3.5%	0.0%	0.0%	0.0%
Strathclyde	68.2%	69.7%	3.6%	3.5%	0.1%	-0.1%	0.0%
Merseyside	62.9%	69.3%	2.2%	2.2%	0.1%	0.0%	0.1%
WM (met county)	63.7%	68.8%	4.2%	4.3%	0.2%	0.1%	0.3%
Northern Ireland	66.6%	67.6%	2.8%	2.8%	0.0%	0.0%	0.0%
Tyne and Wear	64.9%	67.3%	1.8%	1.8%	0.0%	0.0%	0.0%
All	73.1%	75.5%			2.4%	0.0%	2.4%

Source: RF analysis of ONS, Labour Force Survey

Resolution Foundation

The Resolution Foundation is an independent research and policy organisation. Our goal is to improve the lives of people with low to middle incomes by delivering change in areas where they are currently disadvantaged. We do this by:

- undertaking research and economic analysis to understand the challenges facing people on a low to middle income;
- developing practical and effective policy proposals; and
- engaging with policy makers and stakeholders to influence decision-making and bring about change.

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