Resolution Foundation
BRIEFING

# Counting the hours

*Two decades of changes in earnings and hours worked*

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## Summary

*The big pay story of the past decade or so has undoubtedly been the sustained and unprecedented squeeze on earnings that followed the financial crisis, with average weekly wages remaining some £15 lower today than in 2009 in real-terms. This squeeze, which restarted in 2017, has had significant and ongoing consequences for all parts of society.*

*As well as this squeeze there has been a more welcome shift. The minimum wage has provided some relief for the lowest paid. The National Minimum Wage (NMW) and the National Living Wage (NLW), introduced in April 2016 for those 25 and over, has raised the wage floor relative to the median and all but eradicated extreme low-pay in the UK labour market. In 1997, just over 4 per cent of employees earned the legal minimum; but by 2016, this had increased to 7.5 per cent. This proportion is expected to further increase as the National Living Wage continues to rise in value relative to median hourly pay.*

*At the other end of the distribution, we have also observed substantial variation in hourly pay trends among the very highest earners. Rapid earnings growth ahead of the financial crisis marked the arrival of the "top 1 per cent" in the UK labour market debate, and acted to increase earnings inequality in the top half of the distribution. Yet this same group experienced the sharpest corrections in pay following the start of the crisis, with subsequent trends increasingly obfuscated by complications relating to changes in tax policies.*

*Given these shifts at the top and bottom of the earnings distribution another area of concern that has dominated debate is whether or not the UK is experiencing a 'hollowing' out of the pay distribution similar to what has happened in the US. Fears that the earnings distribution is becoming bifurcated, with all the growth coming at the bottom and the top, have been driven in large part by concerns about shifts in the types of jobs people are doing. The argument is that increasingly the UK labour market is generating either low-skilled, low-paid roles or high-skilled, high-paid ones. There is some evidence that mid-paid jobs have been decreasing in the UK over the past two decades but little evidence that this is having an impact on the pay distribution.*

*However, new research in this paper suggests that some hollowing out has occurred, but only in relation to men. Furthermore this hollowing out, rather than being driven by occupational change is primarily the result of significant changes in the hours worked by men. The result is that this hollowing out is clearly seen in the weekly, but not the hourly, earnings distribution. Between 1997 and 2016 the share of male employees earning at or around the typical male weekly wage fell by approximately 15 per cent. At the same time, the share of men earning more than twice the male median increased by 15 per cent and the share earning around a third of the median increased by 70 per cent.*

*Changing hours worked is driving this change, but there are two key factors at play. The first is the large increase in the number of male employees working part-time, which has risen from 8.1 per cent in 1997 to 11.7 per cent in 2017. All else held constant, we'd expect such an increase in part-time work to increase the share of men earning towards the lower end of the weekly distribution. That impression appears to be borne out by the evidence. Of those men earning around one third the median weekly amount, 31 per cent worked part-time in 1997; but by 2016 that proportion had nearly tripled to 53 per cent.*

*The second driver of the 'hollowing out' of male pay over the last two decades is the reduction in average hours worked by the lower-paid (in terms of hourly pay) – over and above the shifting*

*balance between full-time and part-time working. That is, lower-paid men (measured on an hourly basis) working full-time still work longer hours than their higher-paid counterparts, but the gap has narrowed. The average number of hours worked by full-time men earning around two-thirds of male median hourly earnings fell from 44.3 hours in 1997 to 42.2 hours in 2016. At the same time hours worked increased for higher paid men: the equivalent figures for full-time workers earning around two and a half times typical hourly earnings were 36.8 hours and 37.3 hours. The result is that the difference in hours worked between some of the lowest and the highest earning men fell from 7.5 hours to 4.9 hours over the period.*

*Taking these two trends together, we find that the average number of hours worked by male employees fell from 39.8 in 1997 to 37.1 in 2016. But the drop is most pronounced for those towards the bottom of the earnings distribution, dropping from 36.4 to 34.1 for those in the second decile and from 36.5 to 35.4 for those in the third decile. In contrast, overall average hours worked by men in the top half of the hourly pay distribution are little altered (remaining at around 36 hours).*

*This isn't all bad news. On the one hand, we can welcome both the more equal distribution of part-time work between men and women and the curtailing of excessive hours among some lower-paid men. On the other hand however, these shifts have produced an unwelcome increase in 'involuntary' part-time work. Among part-time employees in the bottom fifth of the male weekly earnings distribution, 27 per cent would like full-time work compared to 8 per cent of those in the top fifth. And this distinction has widened in recent years: while the share of 'involuntary' part-time work has fallen to, or even below, pre-crisis levels for men in the top half of the earnings distribution, lower-paid men are much more likely to want full-time work than they did in 2007.*

*Looking more generally at levels of under-and over-employment, it is again worth scratching beneath the headlines of recent years. While under-employment remains elevated relative to its pre-crisis level, this outcome is driven primarily by trends in the bottom half of the earnings distribution. In contrast, changes in over-employment in recent years appear to have been broadly shared across the earnings distribution. On this measure, however, age plays a key role: over-employment is both more prominent and more likely to have increased in the period since 2001 among workers aged 55 and over. Reported under-employment has increased across all age groups in this same period.*

*However these changes are viewed, it is important that we better understand the relationship between hours and pay both within and across households. This is especially the case against the backdrop of an employment landscape that has increasingly incorporated the use of atypical forms of employment such as zero-hours contracts. The hourly earnings distribution can tell us much about the health of the labour market and the equality or otherwise of remuneration. But it is weekly pay which more directly feeds into questions of living standards. In that regard, counting the hours makes a lot of sense.*

## Pay trends have come to the fore of UK labour market debate in recent years, driven by an unprecedented squeeze on wage growth, better news on pay inequality and an anxiety about longer-term 'hollowing out'

Pay trends have consistently been at the top of the UK's news agenda over the past decade – perhaps more so than at any other time in history – with the unprecedented squeeze on earnings that has dogged workers in the UK since the financial crisis rightly dominating discussion. Average weekly earnings are still £15 below their pre-crisis peak, with inflation again outpacing wage growth over the course of 2017. While the squeeze is expected to ease in 2018, expectations of continued sluggish productivity growth means wages are not projected to return to 2009 levels until the mid-2020s.[1]

[1] Resolution Foundation, *Freshly Squeezed: Autumn Budget 2017 response*, November 2017

Scratching beneath this appropriately central headline finding, we also observe some interesting – and more encouraging – variation across the earnings distribution. Most obviously, minimum wage legislation has provided some qualified relief for the very lowest earners. Developments in the National Minimum Wage (NMW) and, more recently, the National Living Wage (NLW) have substantially lifted the wage floor relative to median earnings.

At the opposite end of the distribution, the post-crisis period has also been characterised by some large movements in pay growth for the very highest earners. In common with other financial crises, top earnings underwent the largest correction at the start of the downturn. This part of the distribution has experienced above-average growth in the last two years however, though the trends are complicated by shifts in tax policy that have encouraged movements in the timings of different forms of remuneration at the top.

Taking a slightly longer view, and reflecting the fact that median pay started to slow even before the financial crisis hit, the other area of concern that has dominated labour market discussion relates to a supposed 'hollowing out' of the pay distribution. The idea is that shifts in the types of jobs worked by employees has created a bifurcation, of the earnings distribution – with a shrinking of the middle accounted for by growth in the proportion of employees earnings either well above or well below the median.

The phenomenon is most apparent in the US context[2] but, amid concerns about automation and the destruction of mid-skilled routine jobs in recent years, it is a concept that is often assumed to apply to the UK too. Certainly in terms of differences in the growth rates of different types of *occupations* over time, a number of studies have identified parallels between the UK and US.[3] But the picture on *earnings* in the UK is more complex: the pattern simply doesn't hold when looking at how overall employee pay has evolved in this country over the past two decades.[4] There is evidence that there were big shifts in the earning distribution in 1970s and 1990s, recent work by Annalisa Cristini, Andrea Geraci and John Muelbauer have shown that earnings inequality increased significantly between 1975 and 1995, with earnings below the median falling and earnings above the median rising.[5] Their paper does not look at the distribution of employees (as we do below) but it does suggest that returns at the top of the earnings distribution rise significantly in the two decades to 1995, chiming with what happened to income inequality during the 1980s.

## To the extent that we can identify 'hollowing out' of the pay distribution in the UK over the past two decades, it relates to men only; and to *weekly* rather than *hourly* earnings

In this note, we provide new evidence showing that there *has* been some 'hollowing out' of the UK pay distribution over the last two decades – but only in relation to men. This makes some sense. After all, we know that occupational downgrading has been much more prevalent among men than among women in the UK: men – and young men especially – are far more likely to be working in lower-paid occupations than they were in the past.[6]

[2] Pew Research Centre, *The hollowing of the American middle class*, December 2015

[3] L Gardiner and A Corlett, *Looking through the hourglass: hollowing out of the UK jobs market pre- and post-crisis*, Resolution Foundation, March 2015. For a US discussion, see D Autor, "The Polarization of Job Opportunities in the U.S. Labor Market Implications for Employment and Earnings". *MIT Department of Economics and National Bureau of Economic Research.*

[4] Pew Research Centre, *Middle Class Fortunes in Western Europe*, April 2017

[5] A Cristini, A Geraci, & J Muellbauer, 'Sifting through the ASHE: Job Polarisation and Earnings Inequality in the UK, 1975-2015', *Institute for New Economic Thinking Working Paper*, December 2017

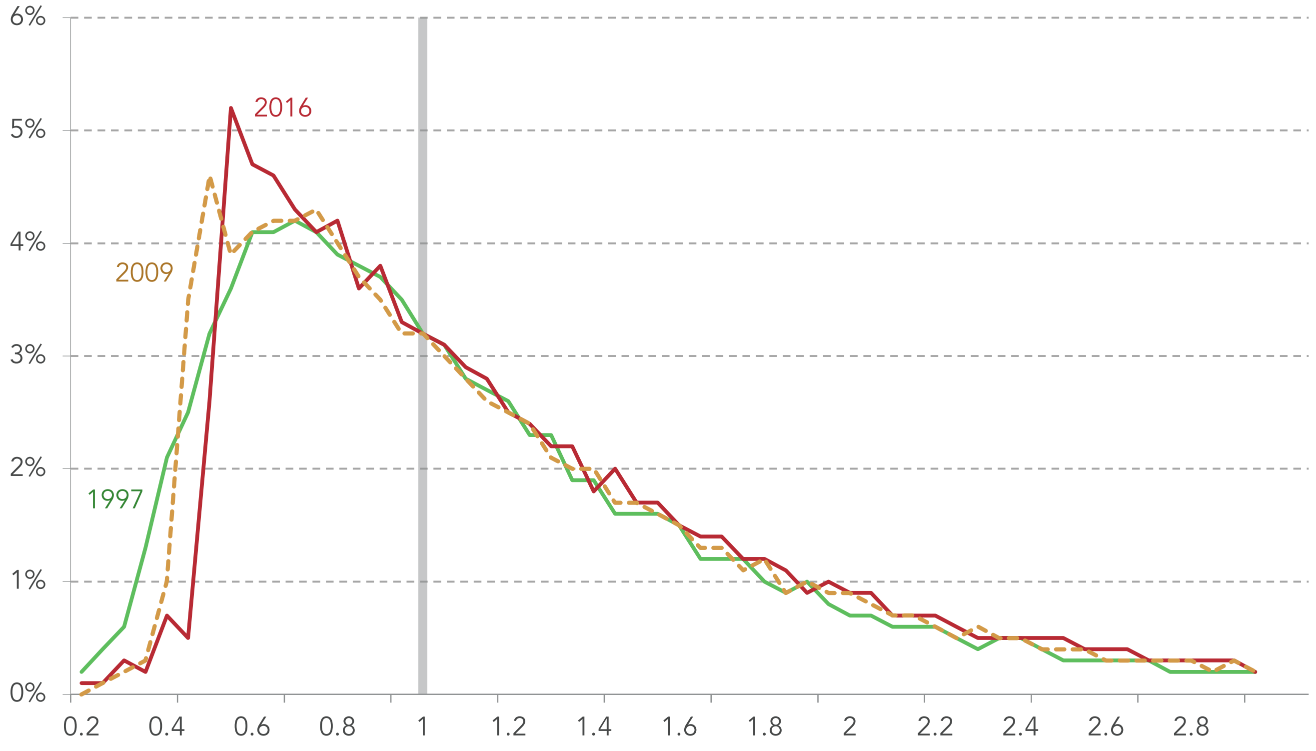
[6] D Tomlinson, *No country for young men?*, Resolution Foundation, February 2017. In contrast, occupations that tend to attract a disproportionate number of women – such as caring, teaching and roles in the health sector –have grown most rapidly since the 1990s.

Importantly however, we also show that this 'hollowing out' of the pay distribution has been driven *not* primarily by occupational 'hollowing out', but instead by significant changes in the hours worked by men.[7] By way of illustrating this point, below we compare and contrast the differing evolution of the hourly and weekly pay distributions among men over the last two decades.

Looking first at the hourly pay distribution, Figure 1 compares the picture for men in 1997, 2009 and 2016. If occupational 'hollowing out' were feeding directly into bifurcation of the earnings distribution, we'd expect to see it in this chart. But, while there was an increase in the share of employees earning more than twice the median between 1997 and 2009 (which remains in place in 2016), the overall pattern is more one of a general 'upgrading' (with the distribution edging towards the right) rather than a 'hollowing out'. The much bigger change revealed by this exercise relates instead to the introduction of minimum wage legislation. Successive increases in the wage floor had the effect of sharply reducing the share of male employees earning less than half the median between 1997 and 2016, with the share earning just above this threshold recording a related jump.[8]

**Figure 1: Little evidence of significant change in the distribution of hourly earnings for male employees**

*Share of employees in each pay band relative to median hourly pay: Men*




Notes: The share of employees paid more than three times the median is not shown

Source: RF analysis of ONS, *Annual Survey of Hours and Earnings*

[7] Other work has considered how changing hours of work have affected income and inequality, but this hasn't focused explicitly on the male earnings distribution. In particular see: C Belfield, R Blundell, J Cribb, A Hood and A N Keiller, [Two decades of income inequality in Britain: the role of wages, household earnings and redistribution](), IFS, January 2017

[8] The proportion earning 55 per cent of the median increased from 3.6 per cent to 5.2 per cent.

However, the picture changes once we switch to *weekly* pay. Figure 2 provides the evidence, contrasting the weekly distribution for men in 1997 and 2016. In this instance, we observe a significantly lower proportion of male employees earning between 75 per cent and 125 per cent of the median in 2016, with offsetting increases towards the bottom of the distribution and above 150 per cent of the median weekly wage. That is, we find a pattern that is much more consistent with the notion of 'hollowing out'.

**Figure 2: There has been a significant decrease in the proportion of men earning at and around median weekly pay**

*Share of employees in each pay band relative to median weekly pay: Men*

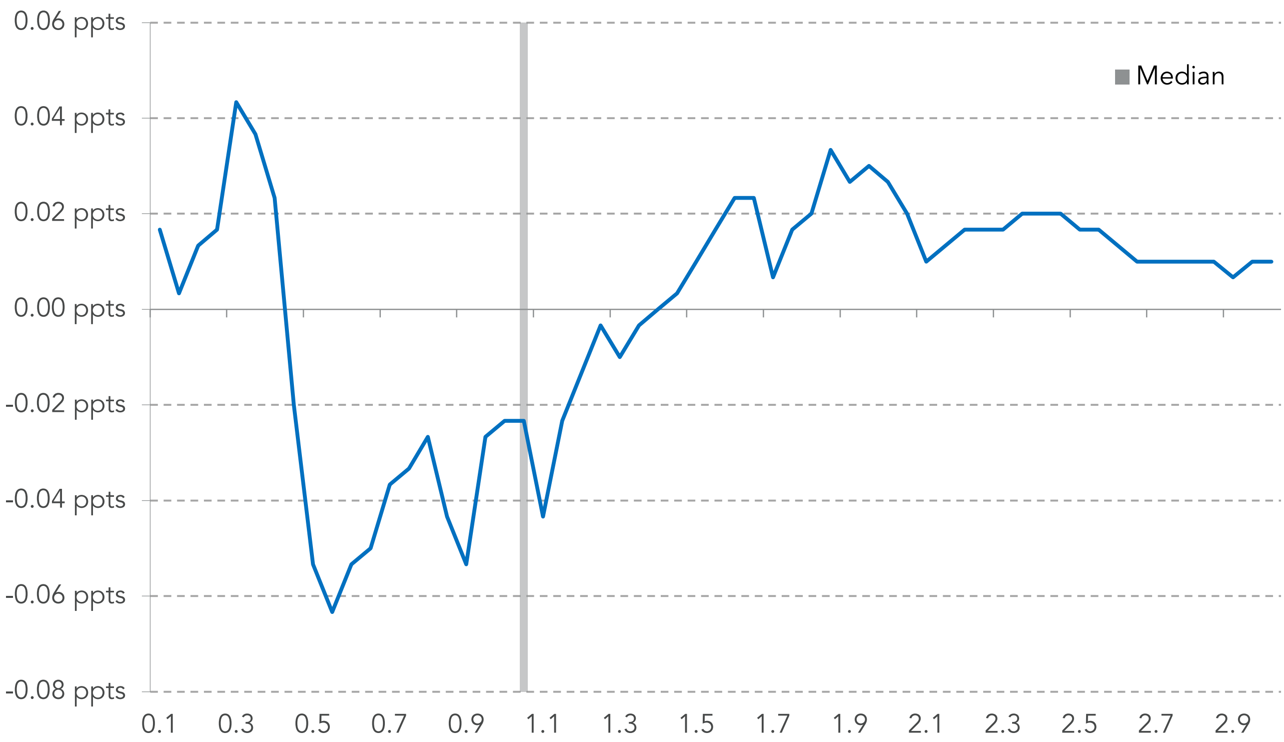

Notes: The share of employees paid more than 3 times the median is not shown

Source: RF analysis of ONS, *Annual Survey of Hours and Earnings*

These patterns are made clearer still in Figure 3. This shows the percentage point difference in the share of male employees located in each pay band between 1997 and 2016, and exhibits a pronounced U-shape.

**Figure 3: There have been significant increases in the share of male employees paid well above, and below, the median**

*Percentage point change in share of employees in each pay band relative to median weekly pay (averaged over three pay bands): Men (1997 – 2016)*




Notes: The change in the share of workers earning more than three times the median is not included.

Source: RF analysis of ONS, *Annual Survey of Hours and Earnings*

The implication of a pattern of 'hollowing out' that exists in relation to weekly pay but not hourly is that it is changes in the *hours worked* by men that represents the primary driver of the observed bifurcation.

Before drawing such a firm conclusion however, we must first dig further into the bits of Figure 2 and Figure 3 that are hidden from view: namely the 8.5 per cent of employees that earn more than 300 per cent of the median.[9] Is the increase in the share of male employees earning between 150 per cent and 300 per cent of the median a result of a shift upward of some employees from the middle of the earnings distribution, or a shift downward of some very high earning employees?

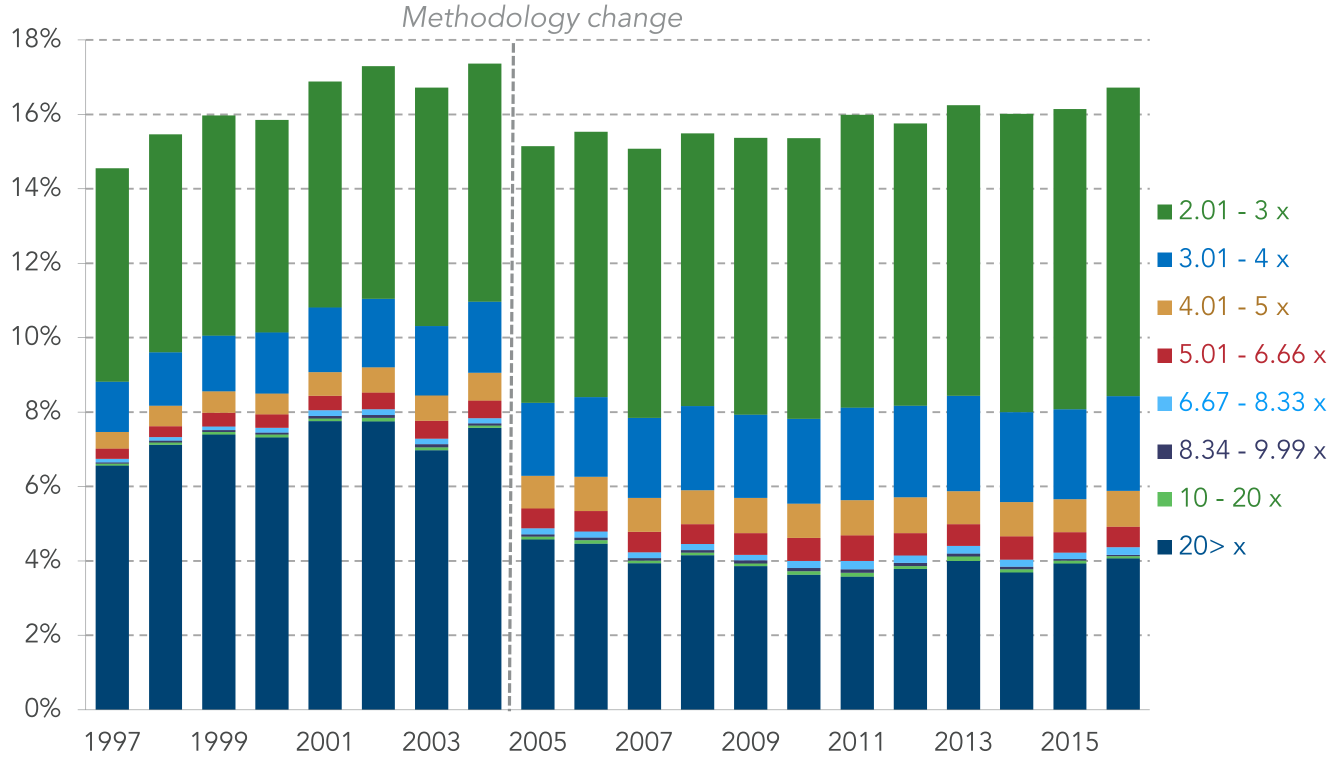
Figure 4 provides some answers, by 'zooming in' on the higher part of the male weekly pay distribution. Overall, the size of this group earning more than twice median earnings increased between 1997 and 2004 and again between 2005 and 2016, with the drop between 2004 and 2005 being driven by a change in the survey methodology.[10] This trend confirms our earlier contention that 'hollowing out' has been characterised in part by an increase in men earning significantly more than the median.

[9] This group is excluded from the charts because revealing the full length of the tail would require a compression of the x-axis that would make the chart harder to read.

[10] In this year the questionnaire was changed to better capture people's 'other' pay (this is distinct from an employee's 'basic' pay and includes payments such as allowances, e.g allowances for travel, clothing). Generally this methodological change affected lower-paid employees more higher-paid ones, but it did also have an impact on the recorded pay of very high earners.

**Figure 4: The share of employees paid twice the median has expanded while the share earning more than 20 times the median has fallen**

*Share of employees between different bands of the weekly earnings distribution: Men*




Source: RF analysis of ONS, *Annual Survey of Hours and Earnings*

However, the chart also suggests that some of the increase we observe in the part of the distribution stretching between 200 per cent and 300 per cent of the median stems from a shifting down of some higher earners. Ignoring the period before 2005 (so as to exclude any impact of the questionnaire change), the share of employees paid more than 834 per cent of the median has declined by around 11 per cent. Such a pattern fits with what we know about the relatively poor pay growth experienced by the very highest earners following the financial crisis.

Such a pattern implies that the evolution of the male weekly pay distribution may no longer fit a neat U-shape. Nevertheless, our central finding is largely unchanged. That is, we have observed a shrinking of the middle of the distribution that is explained by growth at both the bottom and top of the spectrum. The absence of a similar pattern in relation to hourly pay suggests – as we speculated earlier – that the key driver of this 'hollowing out' is a shift in working patterns.

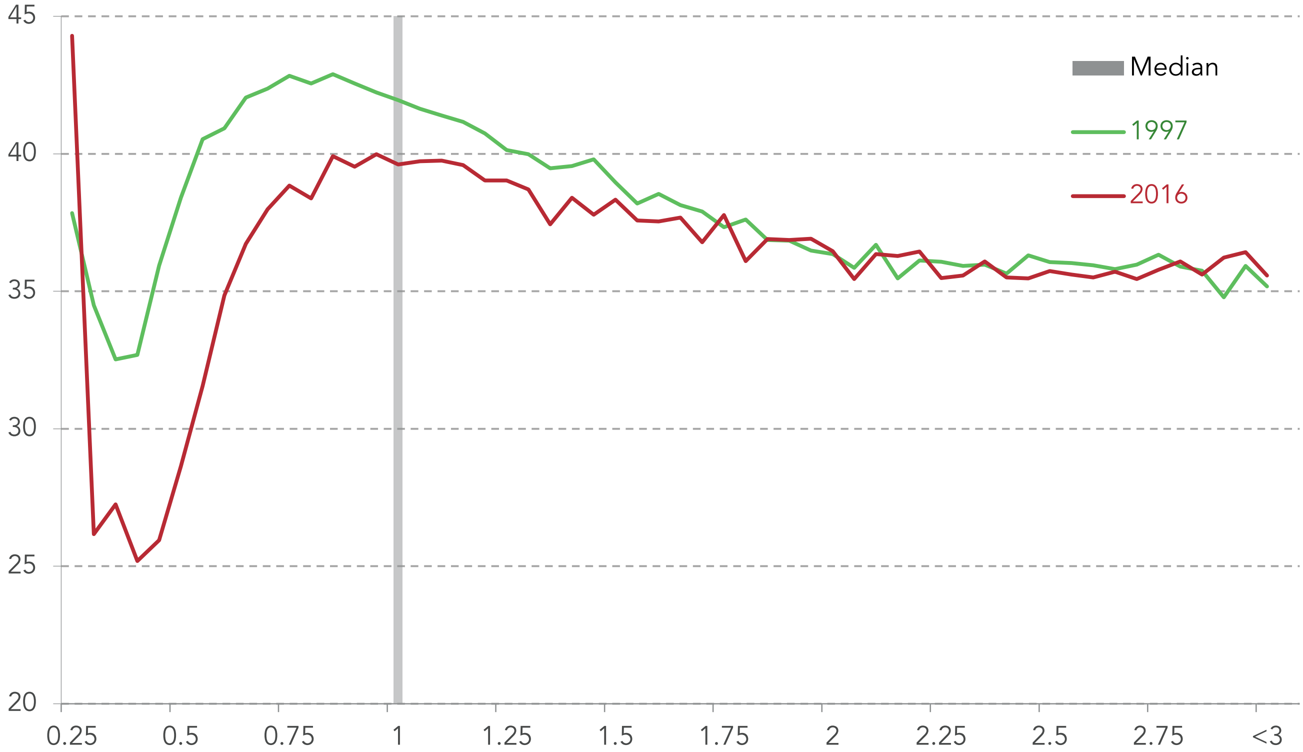
## This apparent 'hollowing out' in men's pay owes much to especially big falls in the average hours worked by lower paid men over the period

Large parts of the 20th Century were characterised by a decline in the average hours being worked each week by those in employment. That trend went into partial reverse following the financial crisis of 2008, with today's average broadly in line with the levels recorded in the early-2000s. The result is that over the period of focus in this report (1997 to 2016), and with an emphasis on employees rather than all in employment, the average working week remains constant at around 33.5 hours.

However, this constancy masks changes for different groups. Male employees have experienced a fall in hours worked, the average dropped from 39.8 in 1997 to 37.1 in 2016. As Figure 5 shows, however, the decline is far more pronounced for lower-paid men (measured in terms of hourly pay). Male employees with median hourly pay worked an average of 2.3 hours less per week in 2016 than they did in 1997, with the largest decline occurring for employees earning less than the median and no significant change for those earning more than 150 per cent of the median. Despite these trends however, men earning at and just below the median continue to work more hours on average than those with hourly earnings some distance above the median.

**Figure 5: Lower-paid men are working far fewer hours than they used to**

*Average hours worked by employees in each pay band relative to median hourly pay: Men*



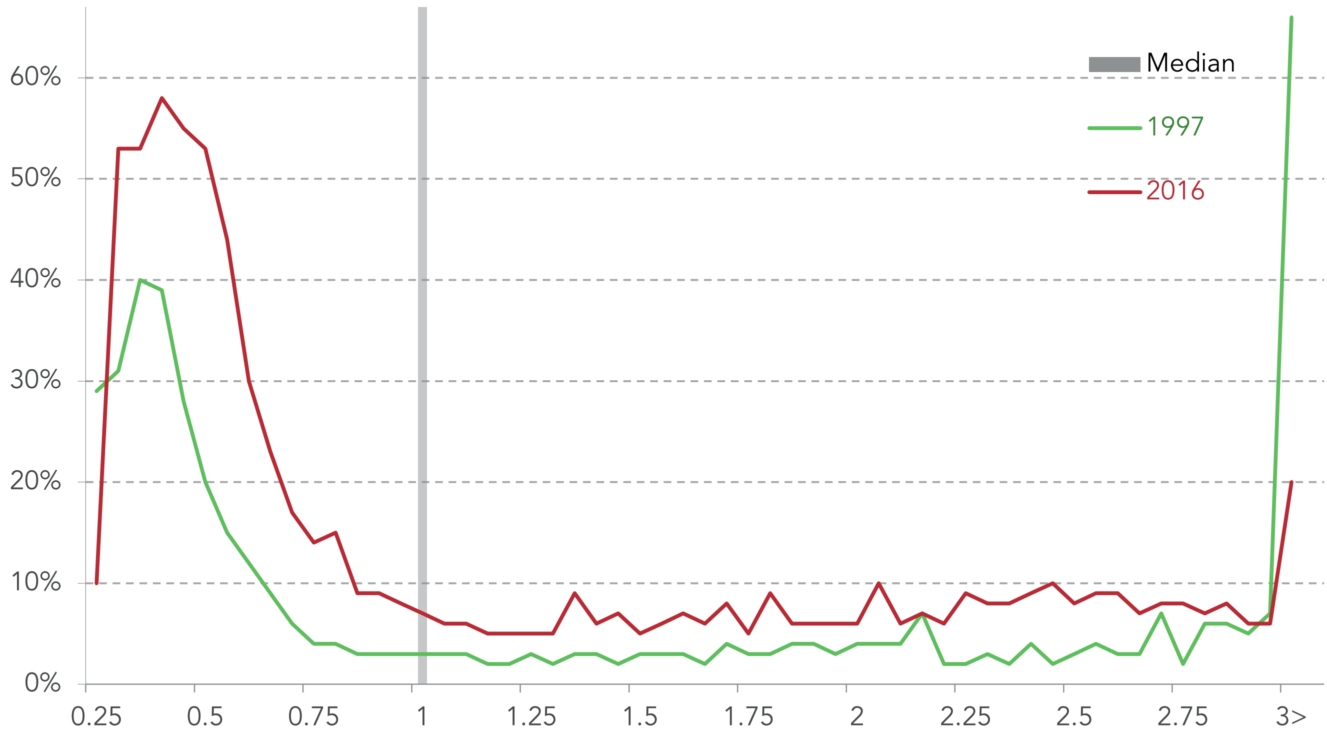

Source: RF analysis of ONS, *Annual Survey of Hours and Earnings*

The decline in average hours among men – and its differential shape across the earnings distribution – has been driven by two factors: a compositional shift from full-time to part-time work; and an additional fall in the average hours for full-time employees.

In terms of the first of these two factors, the proportion of male employees working part-time has risen from 8.1 per cent in 1997, to 11.7 per cent in 2017. As Figure 6 shows, this trend holds across the entirety of the hourly pay distribution (aside from right at the top where the share of very high earners working part-time has fallen). In absolute terms however, the increase between 1997 and 2016 was most pronounced among lower earners.

**Figure 6: There has been a large increase in part-time working among lower-paid men**

*Share of men working part-time in each pay band relative to median hourly pay*




Source: RF analysis of ONS, *Annual Survey of Hours and Earnings*

At the median, 3 per cent of men were working part-time in 1997; by 2016 this figure had risen to 7 per cent. However the biggest increases in part-time work are observed at the bottom of the distribution. Among those earning half of median hourly pay, the proportion working on a part-time basis increased from 20 per cent in 1997, to 53 per cent in 2016. The increase is even more pronounced when we look at the how part-time work has changed across the weekly pay distribution (not shown). Of those men earning around one third the median weekly amount, 31 per cent worked part-time in 1997; but by 2016 that proportion had nearly tripled to 93 per cent. Looking at those men earning 250 per cent of the hourly median, the increase in part-time working is again sizeable, but the absolute change (from 3 per cent to 8 per cent) is just 5 percentage points. Alongside broader societal changes, this widespread increase in part-time working among men may reflect self-employment trends.[11]

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

## Box 1: There is some evidence of a 'hollowing out' of the self-employed earnings distribution

The data used in this report only covers employees. Unfortunately there are relatively few sources of data on the earnings and incomes of the self-employed and we know far less about how the earnings of this group have developed over time. This is increasingly a problem as such workers constitute 15 per cent of all people in work, up from 13 per cent in 2008.

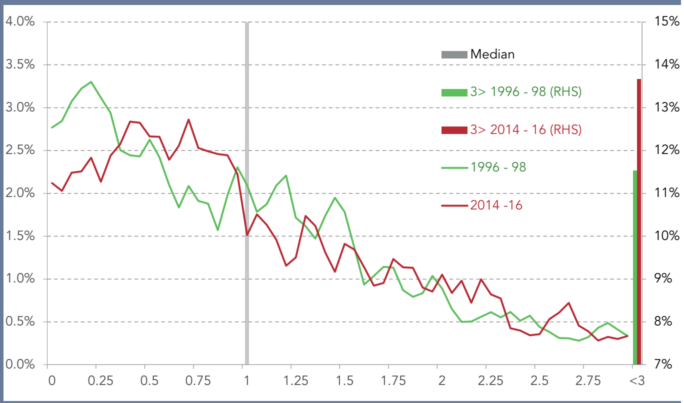
The main source for information on living standards of the self-employed comes from the Department for Work and Pension's (DWP) *Family Resources Survey* (FRS). This survey of around 20,000 households includes information on members of the household who are self-employed and how much they earn from their self-employment.

It is important to note that earnings are not the only source of income for the self-employed. Dividend payments are an important source for many self-employed people, and many company owner-managers benefit from profits and returns on investments. Nevertheless, using the FRS we can get some sense of how the share of people at different points of the self-employed earnings distribution has changed over time. This suggests that the share of very low-paid self-employed (those whose earnings are 25 per cent of the median) has declined (from 3.1 per cent to 2.1 per cent) and that there has also been a significant rise in the share earning 75 per cent of the median (from 1.9 per cent to 2.5 per cent). At the same time as these shifts at the bottom of the distribution, we observe a significant rise in the share of self-employed workers earning more than three times the median.

These shifts chime with what we know about changes to the self-employed workforce in recent years. A rise in the share of relatively low-paid self-employed people working in sectors such as construction, retail, care, hairdressers and taxi firms, has coincided with growth in the number of higher-paid self-employed lawyers, accountants and

**Figure 7: There has been a fall in the share of very low-paid self-employed people, and a large increase in the very well-paid**

*Share of self-employed in each pay band relative to median earnings (three-year rolling average)*




Source: RF analysis of DWP, *Family Resources Survey (FRS)*

management consultants. This shift has had an age dimension. Growth at the bottom has been dominated by younger workers, while it is older workers that seem to be benefitting from the growth in higher-paid self-employment.[1] Having previously concluded that the post-crisis earnings squeeze had much more of an impact on the self-employed,[2] in the future we hope to look at self-employed incomes (including dividend payments, profits and returns on investment) in greater detail.

[1] D Tomlinson and A Corlett, A tough gig? The nature of self-employment in 21st Century Britain and policy implication, Resolution Foundation, February 2017

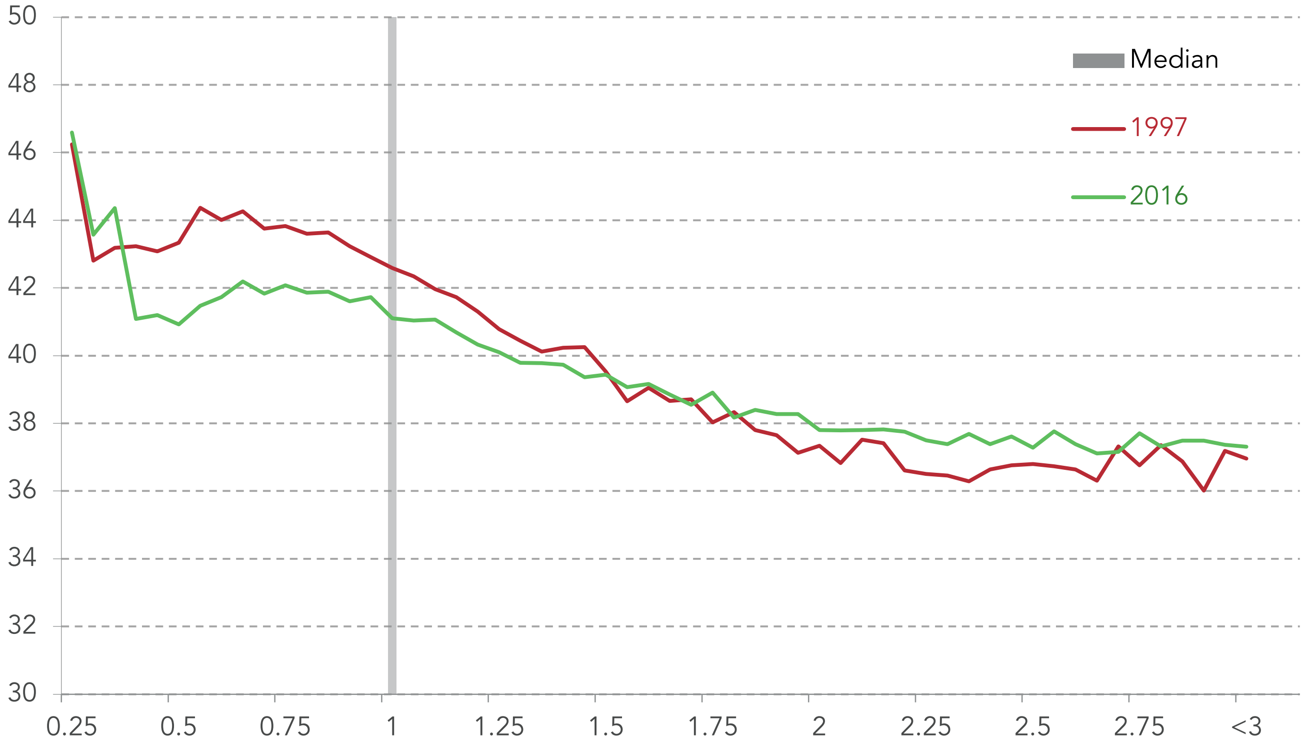
[2] A Corlett, The RF Earnings Outlook Q2 2016, Resolution Foundation, October 2016

While there has been a big increase in the prevalence of part-time work – particularly among lower-paid men – the average number of hours worked by full-time employees has remained constant at around 38 hours a week.

However, once again this constancy disguises some changes for different groups, in particular there is variation in this trend across the earnings distribution. Figure 8 shows that average full-time hours have fallen across those earning up to 150 per cent of the median, with the sharpest drop coming at around two-thirds of median hourly pay (from 44.3 hours in 1997, to 42.2 hours in 2016). But average hours have *increased* among those falling above 175 per cent of the median, with an increase from 36.8 hours to 37.3 hours among those earning roughly 250 per cent of the median. As a result of this the difference in hours worked between some of the lowest and the highest earning men fell from 7.5 hours to 4.9 hours over the period.

**Figure 8: Full-time higher-paid men are working more hours than they did in 1997**

*Average hours worked by employees in each pay band relative to median hourly pay: Full-time men*



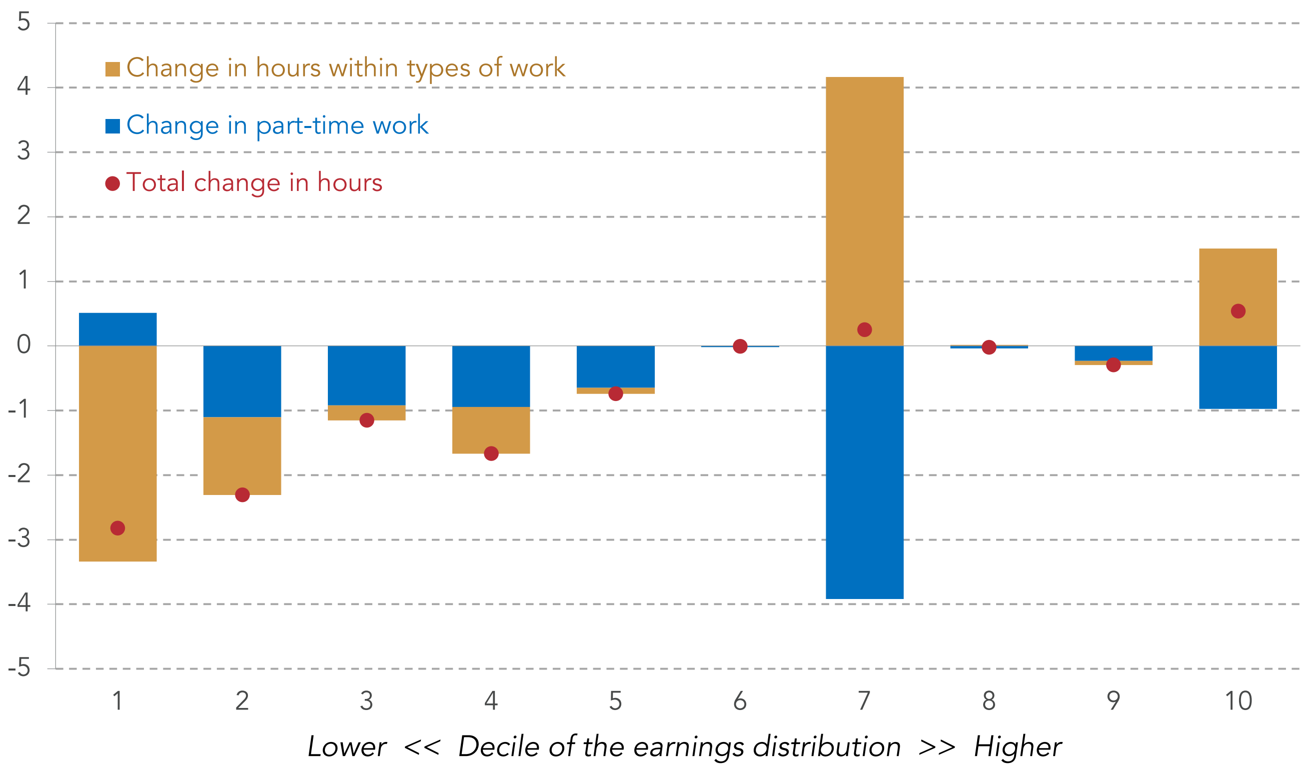

Source: RF analysis of ONS, *Annual Survey of Hours and Earnings*

While hours for full-time male employees have remained constant they have actually risen for part-time men. Average hours worked for part-time male employees rose from 16 to 18.2 hours between 1997 and 2016.

We can formally quantify the extent to which the overall drop in hours worked by lower-paid men reflects shifts into part-time working and the extent to which it is a product of shorter hours by means of a decomposition – or 'shift-share' analysis. Figure 9 shows the results of this analysis, in it we have broken down the change in average actual hours worked between 1997 and 2016 into two components; that which is related to changes between part-time and full-time work (blue bars) and that which is related to changes in the number of hours worked within each type of work (gold bars). The results show that hours have declined in the bottom half of the earnings distribution while remaining constant or rising in the top half. The declines in the bottom half are the result of both shifts into part-time work and falls in hours worked, however – aside from the bottom decile – shifts into part-time work have had the bigger impact.

**Figure 9: Shifts into part-time work have had a particularly pronounced impact in the bottom half of the earnings distribution**

*Contribution to changes in average actual hours worked per week: Male employees (1997 - 2016)*




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

This shift into part-time work explains the 'spike' in men paid around one third of the typical weekly age in 2016 (Figure 2), while increases in hours in the top decile explain the increase in the share of men earning multiples of the typical weekly wage in 2016. It is also very interesting that in the seventh decile large increases in part-time work (almost doubling from 2.9 per cent to 5.6 per cent) were more than offset by increases in hours (part-time hours in this decile rose from 18 in 1997 to over 20 hours in 2016).

## The extent to which this change in hours – and associated pay bifurcation – is a problem depends on how closely it matches employees' preferences

It is debateable whether or not we should be concerned about the trends described above. As discussed, lower-paid men still work more hours than their higher-paid counterparts, meaning that some reduction in hours in this part of the earnings distribution might reflect a more equal distribution of work.[12] The increase in part-time work among men is similarly likely to a welcome by-product of more women working full-time and more men taking on responsibilities beyond paid employment.[13]

[12] R Blundell, R Joyce, A N Keiller, & J P Ziliak, Income inequality and the labour market in Britain and the US, Institute for Fiscal Studies, Working Paper W17/25 October 2017

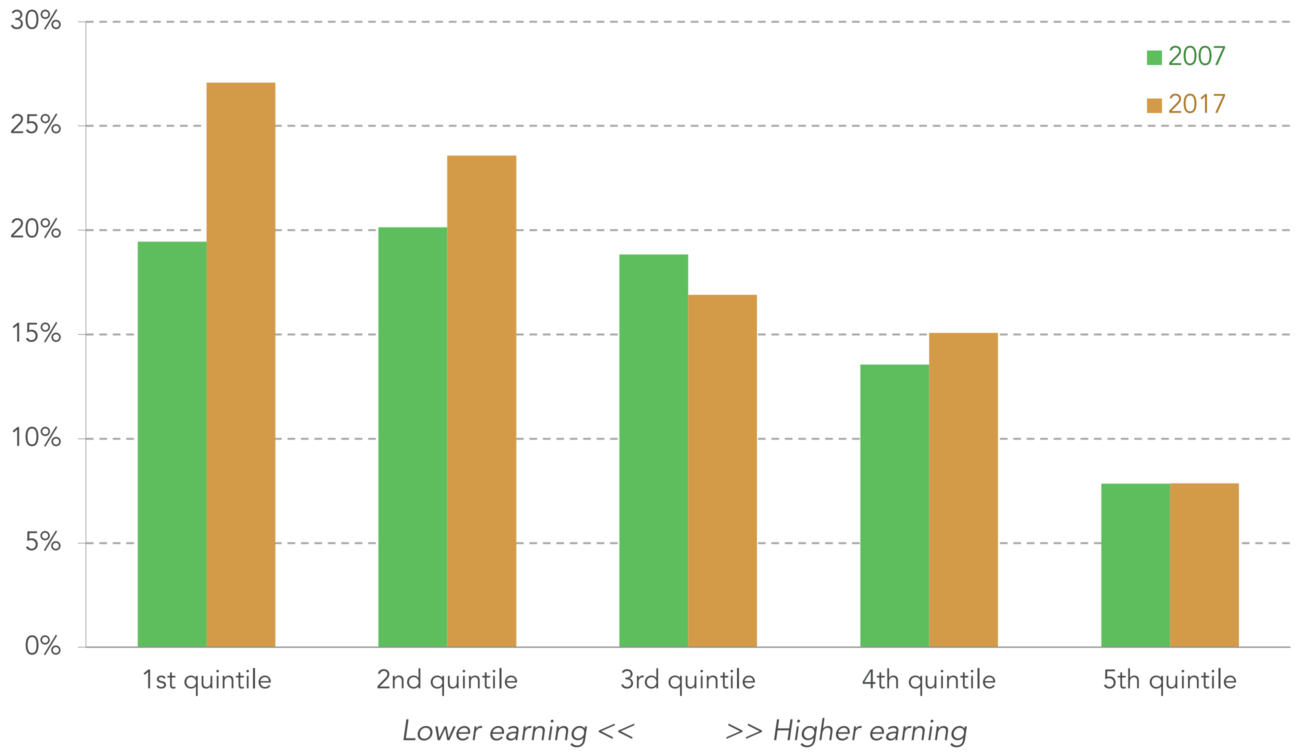
[13] C Belfield, R Blundell, J Cribb, A Hood, & R Joyce, Two decades of income inequality in Britain: the role of wages, household earnings and redistribution, Institute for Fiscal Studies Working Paper W17/01 January 2017

What should concern us, however, is that significant numbers of part-time lower-paid men appear to be unhappy with their circumstances. Although it has fallen from its post-crisis peak, the share who are working part-time but want full-time work – so-called 'involuntary' part-time workers – remains elevated. Around 20 per cent of part-time male workers (including those who are self-employed) are in this position, up from 15 per cent in mid-2005.

Furthermore there is evidence that this involuntary part-time work is not evenly distributed. The vast majority of men who want to work full-time are lower-paid, with 80 per cent located in the first or second quintile of the earnings distribution.[14] And, as Figure 10 shows, involuntary part-time working remains much more elevated towards the bottom end of the earnings distribution than it does at the top.

**Figure 10: 'Involuntary' part-time work is still elevated above pre-crisis levels for lower-paid workers**

*Proportion of part-time male employees who want full-time work*




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

## More generally, recent levels of under-employment have been more pronounced among younger and lower paid workers, while over-employment has been more prominent among older people

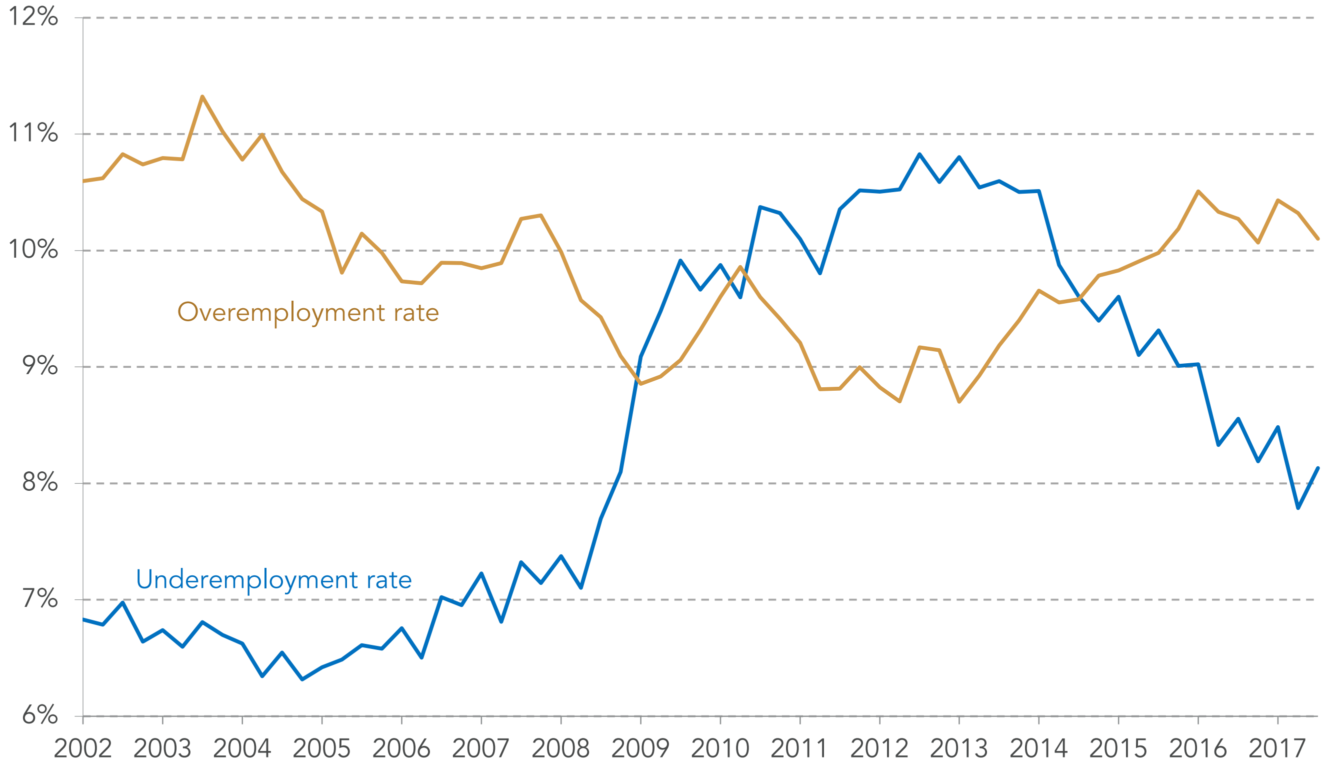
Given the importance of changes in hours to shifts in the pay distribution over the past two decades – for men at least – it's worth looking in more detail at recent trends in both under- and

[14] RF analysis of ONS, *Labour Force Survey*

over-employment (for both men and women, and including the self-employed).[15] Figure 11 sets out the evolution of both trends in the period since 2002. It shows that time-related under-employment rose substantially following the financial crisis, and has remained elevated ever since. In contrast, time-related over-employment fell immediately following the crisis but has since returned to its immediate pre-crisis level.[16]

**Figure 11: Under-employment is still above pre-crisis levels**

*Rates of over-employment and under-employment (as a proportion of total employment) 16+*




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

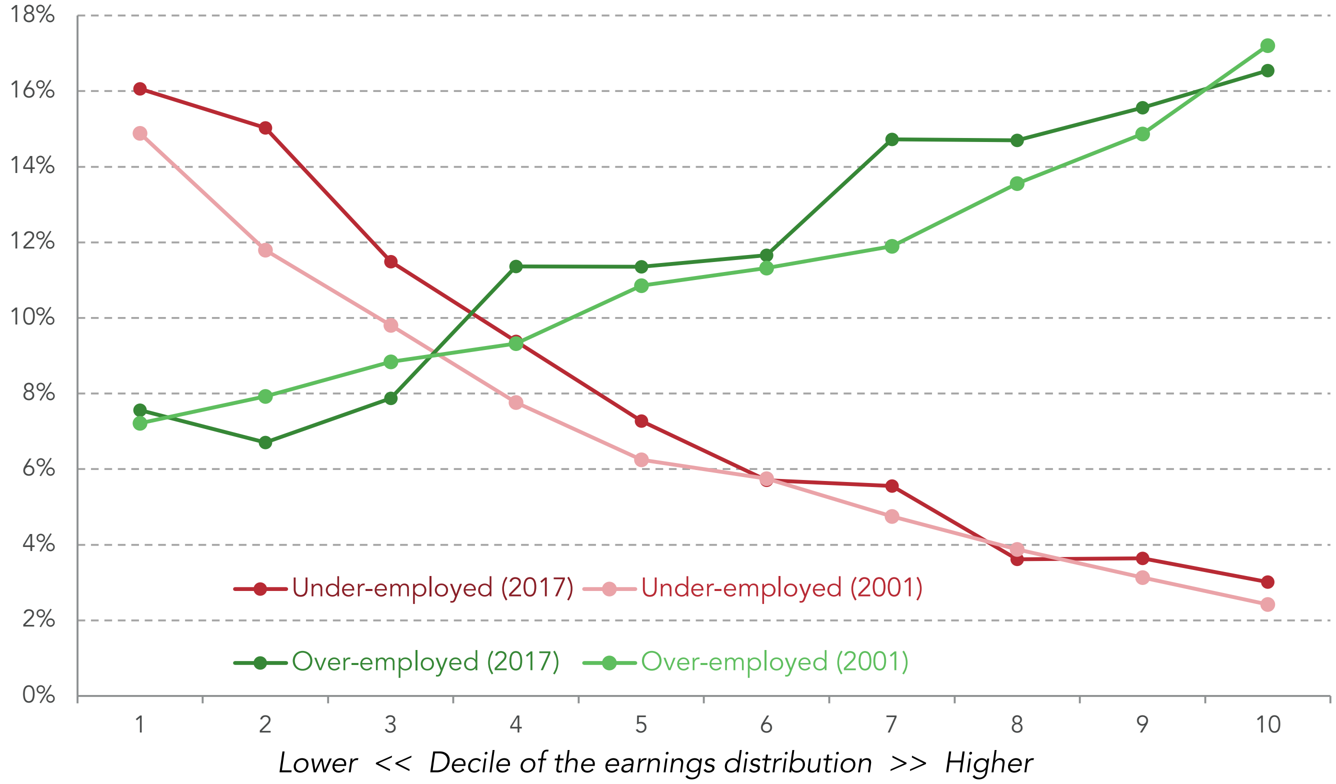
Digging into the composition of the two groups, Figure 12 shows that lower-paid workers are far more likely than higher-paid counterparts to want more hours, whereas the reverse is true in relation to over-employment. This is perhaps unsurprising given that lower-paid workers are less likely to be in a position to afford any reduction in hours and more likely to desire more hours as a way of boosting their income.

[15] Over-employment and under-employment are measured in the monthly *Labour Force Survey*, with respondents asked separately whether they would like to work more hours in a week and fewer hours in a week. Respondents are counted as over-employed if they first say they would like to work fewer hours per week, and then also answer in the affirmative when asked if they would choose shorter hours if this meant lower pay.

[16] The 8 per cent figure for the share of under-employed people is significantly lower than the 20 per cent of part-time men who want full-time because the latter is expressed as a share of the part-time workforce.

**Figure 12: Lower-paid employees are more likely to be under-employed and under-employment has increased for this group**

*Proportion of over-employed and under-employed workers by pay decile*



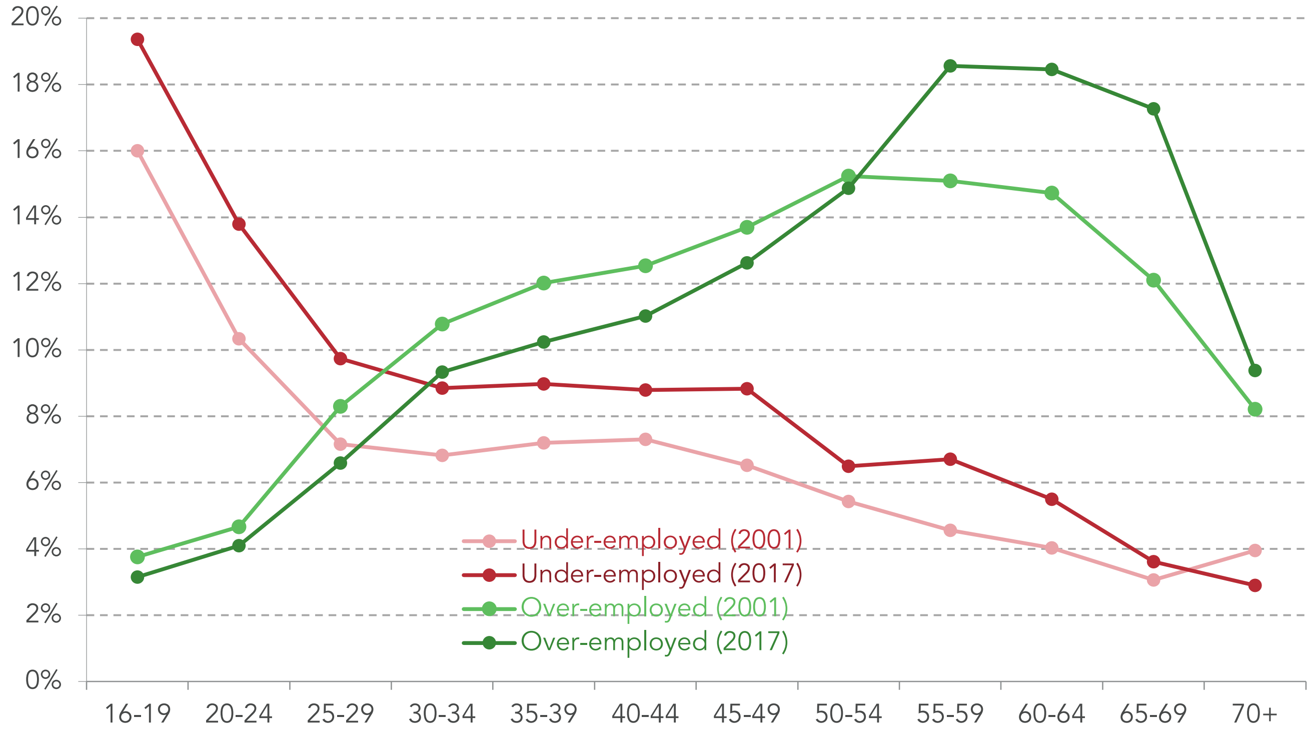

Source: RF analysis of ONS, *Labour Force Survey*

What stands out, however, is that the spread of under-employment across the earnings distribution has become more skewed since 2001. Under-employment has become more prevalent in the bottom half of the pay distribution, but remains little changed in the top half. In contrast, over-employment appears to have become more of an issue in the middle of the earnings distribution, but with little clear pattern over the period. Looking at this same data by sex (not shown), the picture remains broadly the same. The only significant difference is that the increase in under-employment for lower-paid men is more pronounced than that for lower-paid women.

Repeating this exercise by the age band of workers, Figure 13 shows that under-employment is much more prevalent among younger groups whereas over-employment is more prominent among older workers. Those aged between 65 and 69 were 2.5 times more likely to be overemployed than workers in their late 20s in 2017, while those aged between 25 and 29 were over 3 times more likely to be underemployed than those over 70. In terms of the change between 2001 and 2017, under-employment has risen for workers of nearly all ages (the exception being those over 70), but over-employment has fallen for all workers below 55 and increased (significantly in some instances) for workers over this age.

**Figure 13: Older workers are responsible for the rise in over-employment since the early 2000s**

*Rate of over-employment and under-employment by age band*

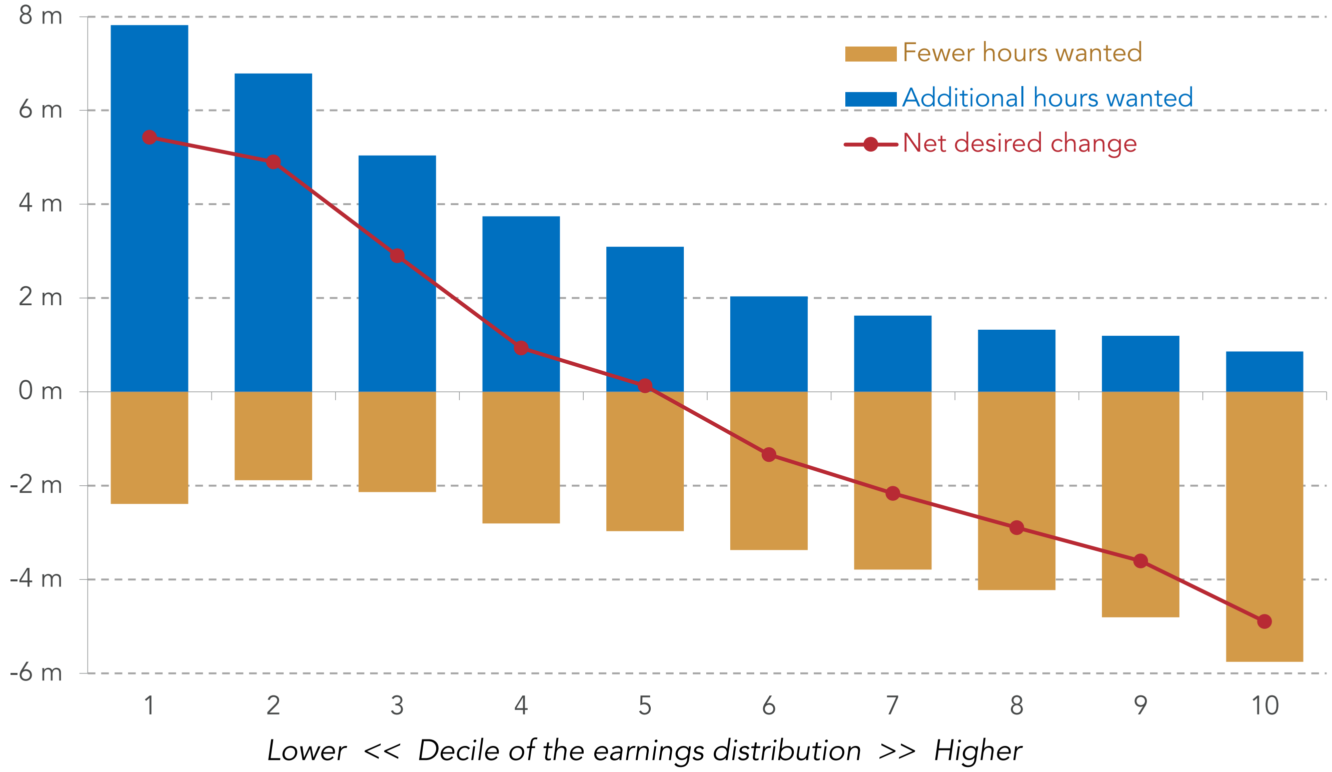



Source: RF analysis of ONS, *Labour Force Survey*

Figure 11 showed that the rate of over-employment is higher than the rate of under-employment. However, this gives no indication of the 'magnitude' of over- and under-employment; it could be the case that the people who are over-employed just want one or two fewer hours a week, while those that are under-employed want many more hours. We can understand more about the distribution of the total hours of over- and under-employment by looking at the total additional or reduced hours wanted, and how these are distributed across the earnings distribution. Such a picture is set out in Figure 14.

**Figure 14: Under-employed hours are concentrated at the bottom of the earnings distribution**

*Total additional and reduced hours wanted each week, by pay decile, 2016 (millions)*




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

The gross number of extra hours wanted (that is, the scale of under-employment) is highest in the bottom decile of the distribution, whereas the gross number of fewer hours wanted (that is, the scale of over-employment) is highest in the top decile. On a net basis too, the shift from under-employment to over-employment is roughly linear as we move up the earnings distribution. Across the labour market as a whole, the scale of under-employment is currently equal to that of over-employment. That is, there was approximately 34 million hours of over- and under-employment in 2016. This is a change from 2013 – when the under-employment rate peaked – when there were 10 million more hours of under- than over-employment.

## Conclusion

'Hollowing out' of the pay distribution is a real thing in the UK, but it is not as widespread as sometimes thought. Nor is it necessarily a product of automation and bifurcation of occupations as might be supposed. Instead, it is narrowly confined to men and to the weekly pay distribution in particular. The absence of a similar trend in relation to men's hourly pay implies that the real driver of this phenomenon is shifts in the hours worked by men over the past two decades.

Certainly, this has been a period of significant change. Men have increasingly moved into part-time rather than full-time work, and average hours have fallen, particularly towards the bottom of the earnings distribution. Some of this might reflect societal changes and the rebalancing of preferences within households, but there is also evidence that at least some of it is unwelcome.

As the labour market tightens, we might expect today's still-elevated levels of under-employment to fall further. Indeed, against a backdrop of record, but plateauing employment, sluggish productivity and pay growth and further cuts in working-age welfare, it may be that increasing the hours of those already in work offers one of the best options for boosting living standards over the course of 2018.

Whatever the future holds, our analysis has highlighted the importance of getting to grips with what is happening to working patterns. Trends in hourly pay will inevitably dominate the debate in the coming months, with everyone looking for an end to the pay squeeze and hoping for stronger growth ahead. But to truly understand how developments in the labour market are feeding through to wider income growth, it's important that we take time to count the hours too.

## Datasets

The report draws upon the *Labour Force Survey* (LFS) and *Annual Survey of Hours and Earnings* (ASHE). In the case of the LFS and ASHE we make use of the cross-sectional micro datasets.

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*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:*

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