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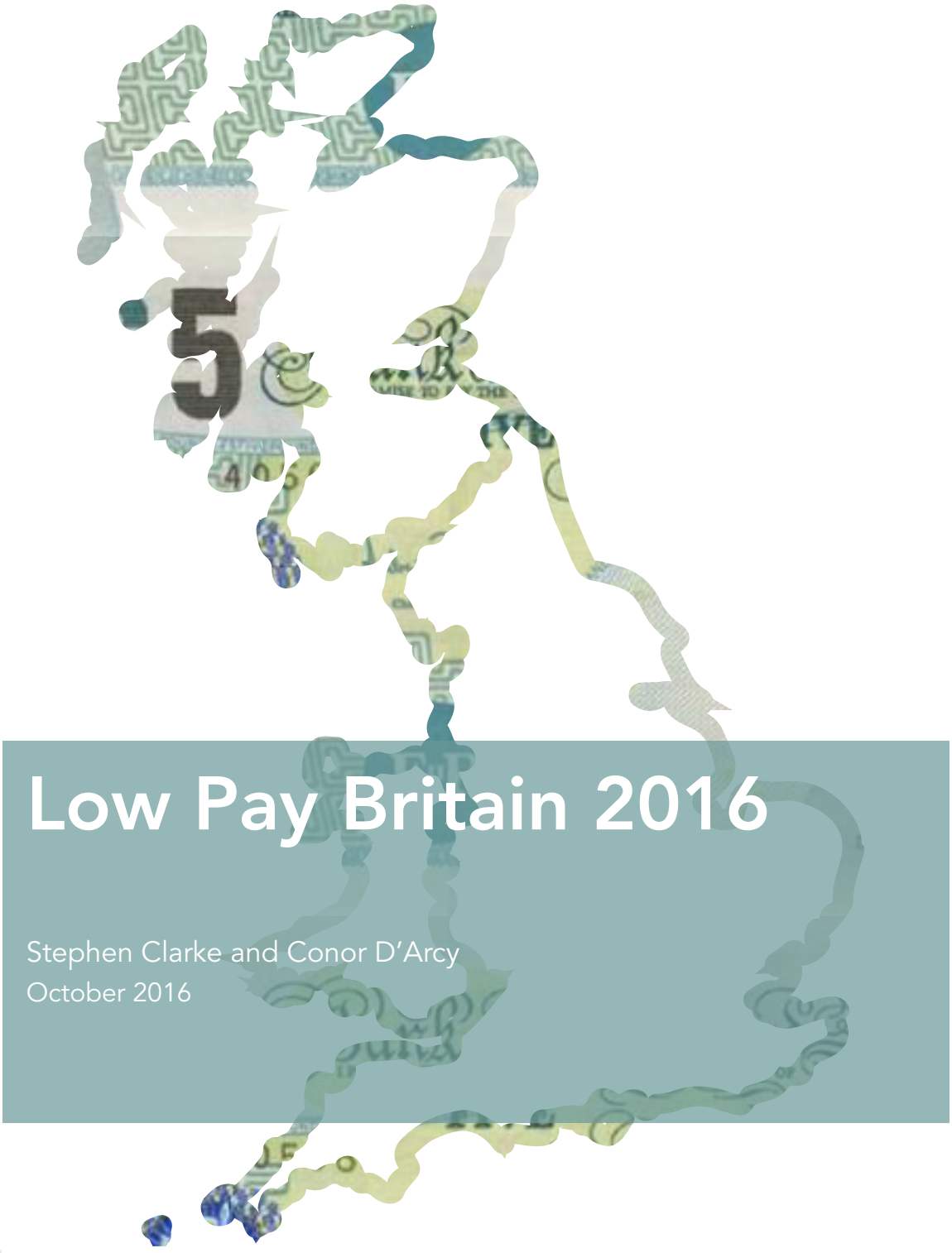
REPORT



Low Pay Britain 2016

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October 2016

Acknowledgements

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Executive Summary

Britain's low pay landscape is likely to shift in many ways in the coming years. The rollout of the National Living Wage (NLW) – introduced in April 2016 and set to rise relative to typical pay through to 2020 – will boost the pay of millions of lower paid workers. In doing so, it represents the most significant step forward in the battle against low pay since the introduction of the National Minimum Wage in 1999. But while this is undoubtedly good news, it comes against the backdrop of a deep and sustained squeeze on pay across the distribution and amid projections that suggest any return to pre-crisis pay levels remains some way off. Adding to the uncertain outlook, the result of June's EU referendum is set to have far-reaching consequences across the economy.

In this, our sixth annual report on the prevalence of low pay in Britain, we use the latest data available (April 2015) to map out the evolution of low pay in recent years and consider the potential impact of these new developments on the lower end of the labour market in the years to come.

Low pay Britain in the crisis and beyond

In the financial crisis and the years following, the pay of workers up and down the earnings distribution was squeezed. But after six years of falling real wages, in last year's Low Pay Britain we discussed the welcome return of pay growth in the final few months of 2014. This pay recovery gained momentum in the first half of 2015, with growth marginally outpacing the pre-crisis norm. However, this growth owed more to unusually low inflation than it did to strong pay settlements. And the apparent 'rebound' proved far too brief, with real-terms growth falling back below the pre-crisis trend from the middle of 2015 – even while inflation remained well below its 2 per cent target.

Record levels of employment have helped to offset the living standards impact of the pay squeeze to some extent, but the apparent lack of any period of 'catch-up' growth suggests that **the post-crisis downturn has left a persistent scar on average earnings**. With productivity growth continuing to disappoint, some question whether even a return to the pre-crisis level of pay growth is likely in the coming years.

While this generalised pay squeeze has impacted on all workers, the living standards challenge it poses is most acute for those towards the bottom of the pay scale. To understand what has happened, we analyse trends and patterns using three separate measures of low pay:

» Our core low pay definition captures those with gross hourly earnings (excluding overtime) below two-thirds of the median. This was equivalent to £7.83 an hour in April 2015. Our analysis shows that roughly **one-in-five employees (21 per cent, or 5.4 million individuals) were low paid in Great Britain in 2015**. There has been little change in this proportion over the past 20 years.

» Alongside this relative measure of low pay, we also consider a needs-based Living Wage measure which focuses on those earning less than the independently-set Living Wage rate that applies in their locality. We use both the London Living Wage rate set by the Greater London Authority and the UK Living Wage rate set by academics at the Centre for Research in Social Policy. As of April 2015, the two rates stood at £9.15 and £7.85 respectively. Using this approach, we find that **nearly one-quarter of employees (23 per cent, or 6 million individuals) were paid less than the Living Wage in 2015**. This represents a new high for this particular measure of low pay.

» Finally, we look also at the number of employees paid at or up to 1 per cent above the age-appropriate minimum wage rate. In April 2015, the wage floor for those aged 21 and over was £6.50 an hour. **One-in-twenty employees (6 per cent, or 1.4 million individuals) were on the minimum wage in this period**, a proportion which has been increasing steadily since the early 2000s.

» This year we have stopped calculating the number of people in extreme low pay (defined as those earning less than 50% of median earnings). This is because rates of extreme low pay have essentially fallen to zero except for the youngest workers, thanks to the introduction of the National Minimum Wage and subsequent increases. For details of these historic trends, see previous Low Pay Britain reports.

Out of necessity, these figures exclude the self-employed and therefore potentially understate the total number of those in work who might be

considered 'low paid'. Even with this omission however, it is clear that low pay is a sizeable issue. Indeed, the UK continues to sit at the wrong end of the international low pay table, with a relative low pay rate (among full-time employees) that is twice the level in Switzerland and almost seven times as high as Belgium.

Across all measures, those most likely to be low paid include women, the young, part-time and temporary employees, those in lower-skilled occupations, employees in very small firms and those employed in the hospitality, retail and care sectors.

Brexit and the National Living Wage

The result of the EU referendum is likely to have numerous impacts on the low paid. In terms of its direct effect upon the low paid, among the most notable will be how the consequences of the referendum shape the trajectory of one of the most crucial policies to tackle low pay – the NLW. **In April 2016, the minimum hourly pay of a worker aged 25 and over rose from £6.70 to £7.20, with an estimated 4.1 million employees receiving a pay rise as a result**. From its starting point of £7.20, the rate of the NLW will grow over the coming years, with its 'bite' – its level relative to median pay among those aged 25 and over – set to rise to 60 per cent by 2020. This will increase the challenge faced by some lower-paying firms, but it also represents a deliberate and useful link to underlying economic conditions.

However, with pay growth projected to slow in light of the referendum result, this means that the NLW is no longer on track to reach £9 an hour in 2020 as had been projected at the 2016 Budget. Based on the average projection for nominal pay growth across the independent forecasts collected by HM Treasury, **we estimate that the NLW will reach roughly £8.60 by 2020**, though that number will continue to shift as new pay data is released. As well as this lower nominal figure, assuming – as most independent forecasters do – that higher inflation will not be matched pound for pound by faster wage growth, pressure on employers is also likely to be reduced by higher than previously anticipated inflation (associated with the decline in the value of the pound).

With this in mind, it is important that the Low Pay Commission (LPC) resists any appeals for rowing back on the ambition of the NLW. Moving in a straight line towards an NLW worth £8.60 would **require an increase to £7.50 next**

April. This is 10p lower than the figure projected by the Office for Budget Responsibility in March 2016. While it is true that the vote for Brexit has changed the backdrop for business, the NLW's link to median pay and the partial offset from inflation should mean that the policy can be delivered without unduly negative effects on firms or on employment, which remains at record highs. Any backsliding would have a material effect on the low paid. For example, **maintaining the NLW's existing 'bite' rather than raising it to 60 per cent by 2020 would leave full-time NLW earners approximately £1,000 worse off.**

Equally though, it would be wrong to try to push the NLW too far. The path to a 60 per cent bite already moves the UK's wage floor into new territory. Sticking to an arbitrary £9 target for 2020 simply because it is a figure that has been discussed by politicians could be damaging if underlying economic conditions do not support such a level. Using the same scenario as outlined above based on independent forecasts, aiming for £9 even as nominal wage growth underperformed would take the all-worker bite of the NLW roughly 2 percentage points higher than the current policy, a significant step beyond existing plans.

Charting a course forward for an ambitious policy during uncertain times is a challenge but the in-built flexibility of the NLW and the close monitoring of its impact that the LPC provides means that the government should be able to press ahead with this transformative attack on low pay. As such, it is welcome Theresa May put the policy centre stage in her first speech as Prime Minister, and we can be optimistic that the government remains committed and can focus its attention on the challenge of implementing the policy.

Brexit and low-paying sectors

June's referendum will of course have much wider impacts beyond the NLW. The long-run implications of the result will depend on the negotiations between the UK government and the EU, as well as subsequent trade deals. Assuming that Brexit involves some combination of reduced migration and reduced trade however, theory would suggest that we can expect some form of supply shock to our productive capacity as a nation.

It remains too early however for the effects of the referendum to be visible in the labour market. While there has been some evidence of employers' hiring

intentions slowing, the limited data available so far show no discernible impact on employment. The contrast between weakened business confidence and stable consumer sentiment is likely to reflect the fact that employees are more greatly influenced by their job prospects than by what's going on in financial markets.

Because of the significant uncertainty surrounding the impact of Brexit, we make no attempt to speculate on its consequences for the numbers of employees that are low paid. But we can explore the extent to which lower-paying industries are likely to be affected by leaving the EU.

Although the impact will be complex with companies and industries affected to varying degrees by the extent to which they import and export, in the short-term, any consumption-led hit to demand in the economy is likely to be evenly spread across sectors, affecting high-paying industries as well as lower-paying ones. Business-led demand pressure is likely to be dominated by tradeable sectors in the shape of lower investment. Similarly, any medium-term supply shock will most directly affect those sectors most dependent on trade. Looking through a low pay lens, the sectors in which domestic value added-in exports are more important – *manufacturing, financial intermediation* and *research and development* – are not among the key low-paying sectors.

Lower productivity growth over the medium-term would feed into lower wages than expected all around. Taking the HM Treasury compilation of independent forecasts post-referendum projections, **average earnings are set to be around £850 a year lower in 2020 than had been expected before June's vote** – even after accounting for the Bank of England's monetary stimulus package. Of that downward revision, approximately £640 flows from lower expectations for nominal pay growth. The remaining £210 downgrade stems from higher inflation, with the weaker pound making imported goods more expensive.

Other Brexit-related changes may also have an impact. Recent Resolution Foundation research suggests that immigration has had a small negative impact on the wages of lower skilled workers in recent years. Any reduction in migration might therefore be expected to have a correspondingly small positive effect. However, this is unlikely to have a tangible influence in the short-term and would be dwarfed by the overall negative impact implied by the Bank's pay growth revisions. Migration changes may also lead businesses

to reassess their business models. For example, if low paid labour is less readily available, firms may choose to invest more in technology with knock-on effects for lower paid British workers in the relevant sectors.

Lifting the wage floor – the impact of the National Living Wage

But even prior to the referendum, the UK's low pay landscape had already begun to shift, most notably with the introduction of the NLW. While many of those benefiting from the NLW will be people who were previously earning less than the new wage floor, evidence on minimum wage increases indicates an additional 'spillover' effect, with the boost rippling up to workers earning more than the legal minimum.

It will be some time yet before a detailed picture can be painted of the effect the NLW has had, but the initial evidence is encouraging from the perspective of employees. Our economy-wide survey found that 36 per cent of affected firms have raised prices and 29 per cent have cut profits, with 14 per cent using less labour and 8 per cent reducing non-wage benefits. Our more detailed analysis of the social care sector indicates that large numbers of under-25s have also benefited from the policy.

We estimate that **the NLW will reduce the number of Britons who are low paid from the 2015 figure of 5.4 million to 4.6million by 2020**. This is a major step forward, representing the first structural reduction in low pay in Britain for decades. In addition to moving significant numbers to the 'right' side of the low pay threshold, the NLW will also reduce the *depth* of low pay for many of those remaining on the 'wrong' side. Nonetheless, other action from government and business will be required to alter the UK's position in the bottom half of the low pay league internationally.

Positive though the NLW is, it is likely to sharpen the challenge of pay *progression* for many lower paid workers. That is, by grouping more people at or close to the wage floor, it might restrict opportunities for promotion and pay rises. Our analysis suggests that, barring other big changes occurring in our labour market, **the proportion of workers on the wage floor will rise from 6 per cent in 2015 to an unprecedented 15 per cent by 2020.** This will naturally vary across groups and the country, with that proportion being much higher in the groups, industries and areas with a higher share of low pay. For example, one-in-five employees in Liverpool and Nottingham and

45 per cent of those in *accommodation and food service activities* are set to be on the wage floor by 2020. This landmark policy will clearly make inroads into Britain's low pay challenge but the broader effects it will have on firms and industries across the country will need to be managed to ensure the NLW is a success.

Navigating this report

This year's Low Pay Britain report is divided into four sections:

- Section 1 touches on the latest developments in the labour market, before sharing the most interesting findings from our annual snapshot of the state of low pay Britain.
- Section 2 considers the relationship between the NLW and low pay, looking both at the benefits it brings to employees and the challenges it poses – particularly in the light of Brexit.
- Section 3 considers the impact that the EU referendum might have on low pay, both in the near-term and further out.
- Section 4 provides fuller, descriptive statistics on low pay for researchers who want a more comprehensive and detailed account. It sets out low pay trends and projections by a variety of employee and job characteristics, including age, sex and region; occupation, working hours and contracts; and industrial sector and firm size.

The Annex provides technical details of the data sources used and the methods adopted to produce a consistent low pay time series and projections to 2020.

Section 1

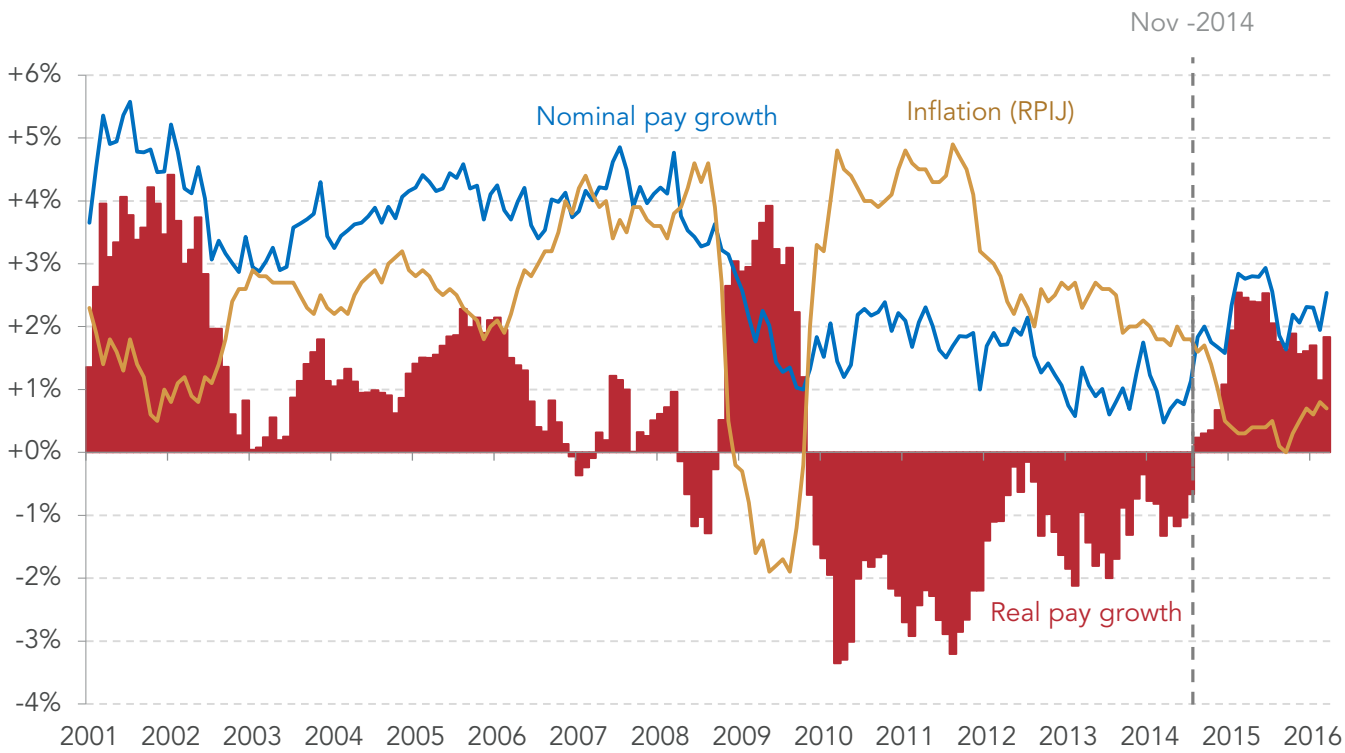
Low Pay in 2016

Steady but unspectacular pay growth means the effects of the post-crisis squeeze are still being felt.

Typical pay growth underwent an unprecedented squeeze in the UK in the years following the financial crisis of 2008. As Figure 1 shows, nominal pay growth fell from a pre-crisis average of roughly 4 per cent a year to around 2 per cent. Inflation (measured here using RPIJ; a slightly different picture emerges if using CPI – see Box 1) moved in the opposite direction (other than a temporary period of negative inflation in 2009 related to sharp cuts in mortgage interest rates), causing real-terms pay to contract by around 3 per cent a year in 2010 and 2011. Inflation then fell back in 2012 and 2013, but so too did nominal pay growth (dropping to an average of around 1 per cent), meaning that real earnings continued to shrink.

Figure 1: The evolution of inflation, nominal and real pay

Year-on-year change in RPIJ inflation, nominal and real average weekly earnings



Sources: RF analysis of ONS, *Average Weekly Earnings* & ONS, *Labour Market Statistics*

As we reported in last year's Low Pay Britain, real-terms pay finally started to grow again from late 2014. This recovery has continued since but, other than a brief period in the middle of 2015, there has been no sign of any 'rebound' in pay as might have been expected after such a deep and sustained fall. Furthermore, the growth we have seen appears to owe more to unusually low inflation than to any significant pick-up in nominal pay. With inflation rising off the floor in recent months (though still remaining low by historic standards), real-terms pay growth averaged just 1.6 per cent in the first six months of 2016 – well below the pre-crisis norm.

i Box 1: Inflation measures

Trends in real-terms earnings and incomes are of course affected by choice of deflator. Several options exist – with no definitive 'right' choice. Until the 2000s, the Retail Prices Index (RPI) was the most commonly used measure – in relation to wage negotiations and benefit uprating for instance. However, concerns over the way in which it is calculated led to the RPI losing its 'National Statistic' tag in 2013.

The government's 'preferred' measure of inflation (and the subject of the Bank of England's inflation target) is now the Consumer Prices Index (CPI). This was established in 1996 in order to aid international comparison – specifically in relation to the EU's Maastricht Treaty.

In addition to the way in which it is calculated, the CPI differs from the RPI in relation to important aspects of its coverage. Most obviously, it excludes several measures of housing costs, including council tax, mortgage interest payments and house prices. These differences mean that the CPI fails to adequately reflect the inflation experiences of households.

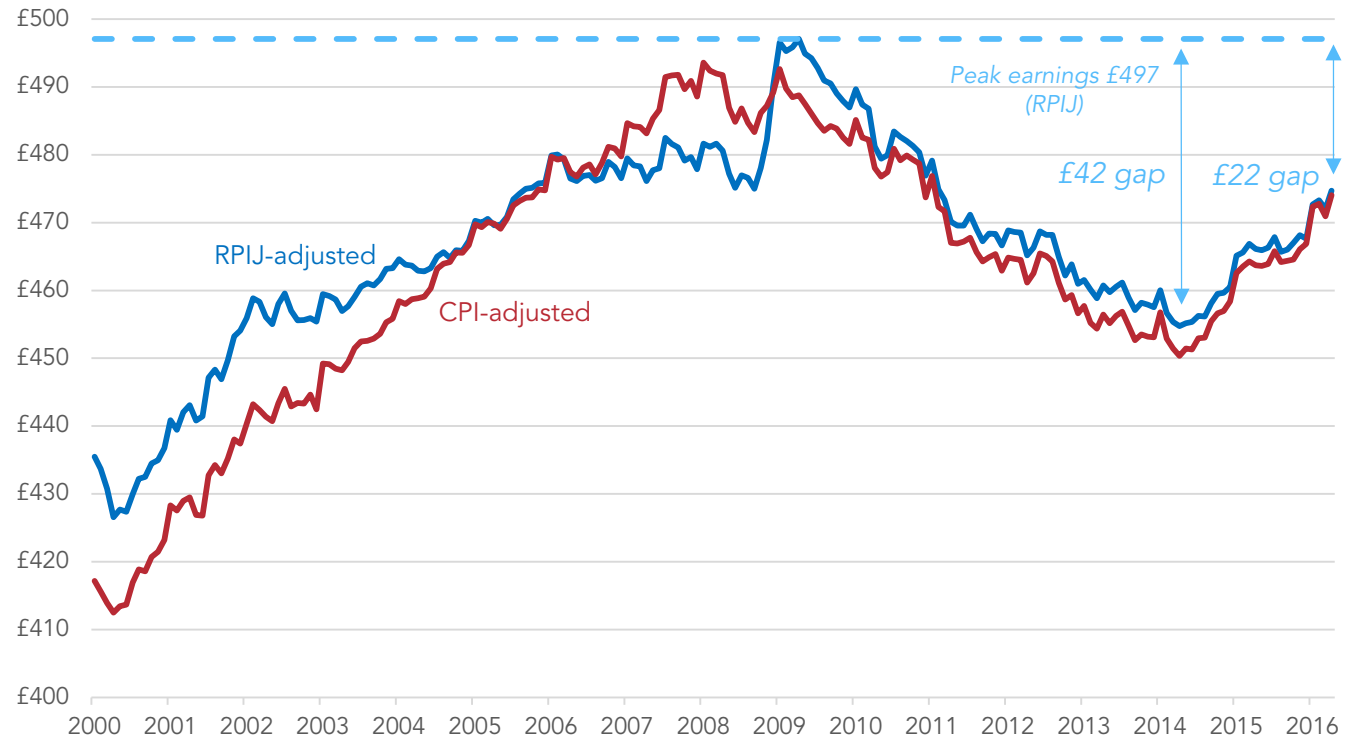
With the RPI discredited and the CPI providing incomplete coverage, our preferred inflation measure is RPIJ. This measure has a similar coverage to RPI, but is calculated in a similar way to the CPI.

Our default inflation measure in this report is RPIJ. However, we additionally present CPI for comparison. One drawback with using the RPIJ is that the OBR and other most other forecasters do not provide an official projection for the index in the same way that they does for RPI and CPI (because both are used in relation to the public finances, whereas RPIJ is not). Therefore when we need a measure of inflation projected into the future we use CPI.

The size of the squeeze and the sluggish nature of the post-2014 recovery means that typical pay remains well below its mid-2009 peak. Figure 2 shows that average weekly earnings are £22 below the peak of £497, having been £42 below peak at their lowest point.

Figure 2: Pay – peak and trough

Average weekly earnings (regular pay) RPIJ-adjusted to 2016 prices



Sources: RF analysis of ONS, *Average Weekly Earnings*

Doing no more than returning to the pre-crisis norm for pay growth means accepting a 'lost-decade' or longer; but there are some concerns that even this outcome might prove out of reach. With productivity growth continuing to disappoint and pay settlement data remaining subdued, there is little sign of any imminent take-off in the earnings recovery. Indeed, post-referendum expectations for lower nominal pay growth and higher inflation mean that the point at which the pay peak is restored appears some way off yet.

The post-crisis squeeze on pay has affected groups to differing degrees. Figure 3 shows for example that typical earnings among men fell by 10.8 per cent between their 2009 pay peak and 2015, whereas female wages dropped by 'just' 7.5 per cent (the reductions were greater still when using 2014 as the comparison year). The divergence of experience across age groups is even starker. Typical pay among older workers, those between 50 and 59 and those over 60, fell by 6.6 per cent and 3.7 per cent respectively over the same period. In contrast, median earnings among those aged 22 to 29 were subject to a 12 per cent squeeze.

i Box 2: Pay data sources and measures

This report focuses on hourly pay among employees. While annual or weekly pay are likely the best measures for describing living standards, hourly pay provides the best means of comparison when trying to assess whether an individual is 'low paid' and allows for comparison with the minimum wage and Living Wages. However, as not everyone is paid hourly, the conversion of reported hours and earnings into hourly pay can introduce error into any analysis.

There are a number of surveys that are used to capture trends in pay. Each has its own strengths and limitations. They include the following:

» The Annual Survey of Hours and Earnings (ASHE) is based on a random 1 per cent sample of employee jobs, asking employers about the pay of these staff in April of each year. Although not without its problems[1] it is considered the most accurate measure of employee earnings and particularly their distribution. As such, the ASHE microdata forms the basis of most of the analysis in this report.

» The Labour Force Survey (LFS) is a smaller, quarterly survey of households, including the earnings of individuals within each household. It is considered a timely indicator of pay trends, and contains a wide range of information, but is a less reliable source on levels of hourly pay.

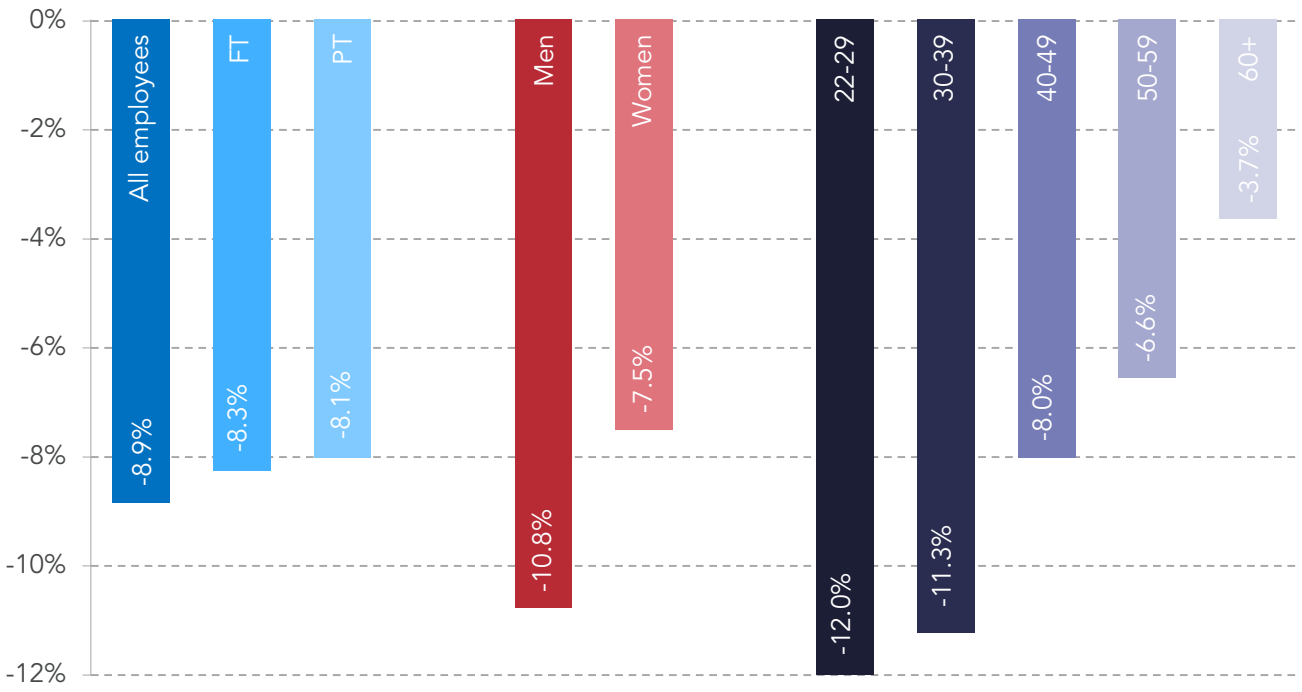
» The Average Weekly Earnings (AWE) measure is derived from Monthly Wages and Salaries Survey (MWSS), which is a survey of businesses with at least 20 employees (with corrections made using ASHE to attempt to account for smaller firms). AWE's monthly releases make it the most up-to-date barometer of both regular and bonus pay, but its focus on averages hides the distribution, and it does not capture hourly earnings.

[1] The Institute for Fiscal Studies judges that figures based on ASHE likely underestimate the prevalence of low pay, due to sampling issues and the tendency for employers not to capture all unpaid overtime. By combining data from the LFS and FRS it estimated a higher proportion of workers paid below the Living Wage (London and non-London) in 2013 than implied by our calculations. The IFS concludes that the true figure is likely to lie somewhere in between ours and its. See: Institute for Fiscal Studies, Green Budget 2014, February 2014

As well as differences across workers, we can observe geographical variation too. Figure 4 shows that the experiences of England, Wales and Northern Ireland were all broadly similar, with cumulative falls in typical pay of between 8.9 per cent and 9.9 per cent between 2009 and 2015. Scotland fared significantly better with pay falling by 5.7 per cent. Within England there was significant variation: London and the East Midlands fared particularly badly for example, while the North East and South East fared better.

Figure 3: The pay squeeze: 2009 - 2015

Cumulative change in real-terms median hourly pay, ex. overtime (RPIJ-adjusted)



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

In some respects these divergences reflect the different trade-offs between employment and pay experienced across the country in the post-crisis period. For example, London's particularly sharp fall in pay came alongside a 4.4 per cent increase in its employment rate – the largest increase of any area. In contrast, the South East and North East performed much less well on employment and Scotland was the only area that hadn't at least returned to its 2009 employment rate by 2015.

Compared to the years immediately following the financial crisis, today's pay picture looks relatively benign. However, the prospect of a 'lost decade' of pay growth, very mixed experiences across workers and regions and concerns over the potential for a new (lower) normal for year-on-year increases mean that the issue is set to remain at the top of the political and economic agenda for some time to come.

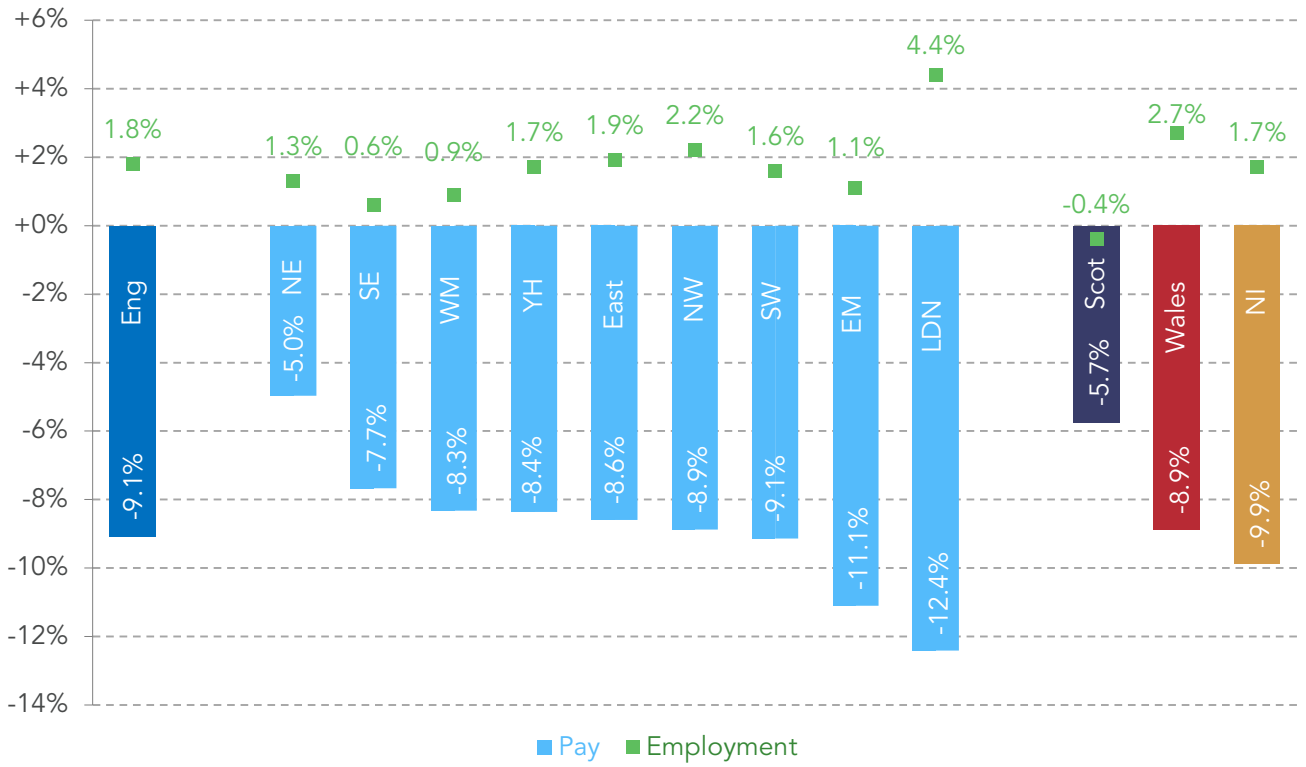
In Sections 2 and 3 we'll consider how the EU referendum and the introduction of the National Living Wage (NLW) will alter the picture in the coming years. But first we consider some of the low pay headlines from the bottom end of the labour market in 2015.

Relative low pay measures have been flat in recent years, but the absolute living standard problem has become more acute

There are lots of specific definitions of low pay, but broadly these can be classed into two types: relative and absolute measures. *Relative* measures of low pay classify someone as low-paid if they earn below an amount proportional of something else (commonly the mean or median pay rate). *Absolute* measures of low pay classify someone as low-paid if they earn below a specific amount. We use both types of measures. Specifically, the three measures that we use are:

Figure 4: Change in pay and employment: 2009 - 2015

Cumulative change in real-terms median hourly pay, ex. overtime (RPIJ-adjusted) & employment rate (ppt)



Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings* & ONS, *Annual Population Survey/Labour Force Statistics*

» A *core low pay definition:* this is based on the standard approach and captures those employees with gross hourly earnings (excluding overtime) less than two-thirds of the national median. This threshold was equivalent to £7.83 an hour in April 2015.

» A *needs-based low pay definition:* this aims to relate pay levels to the cost of living by capturing those employees earning less than the Living Wage rate in their area. We use the two widely accepted and independently-set rates in place at April 2015: the London Living Wage rate of £9.15 set by the Greater London Authority; and the UK Living Wage rate of £7.85 set by academics at the Centre for Research in Social Policy. We take a workplace approach, so that individuals are considered low paid if they earn less than the appropriate Living Wage in the area where they work.

» A *wage floor definition:* this captures those employees earning at (or up to 1 per cent above) the age-appropriate minimum wage. In April 2015, the wage floor for those aged 21 and over was £6.50 an hour (going forward, the floor will of course shift to the NLW for those aged 25 and over).

» This year we have stopped calculating the number of people in *extreme low pay* (defined as those earning less than 50% of median earnings). This is because rates of extreme low pay have essentially fallen to zero except for the youngest workers, thanks to the introduction of the National Minimum Wage and subsequent increases.

Figure 5 sets out time series for each of these three measures. It shows that the share of employees paid below two-thirds of the median (the core low pay definition) has remained relatively constant since the early 1990s. It fell sharply in the 1970s, in part due to the introduction of sex discrimination legislation, but rose again in the 1980s as wage inequality took off.

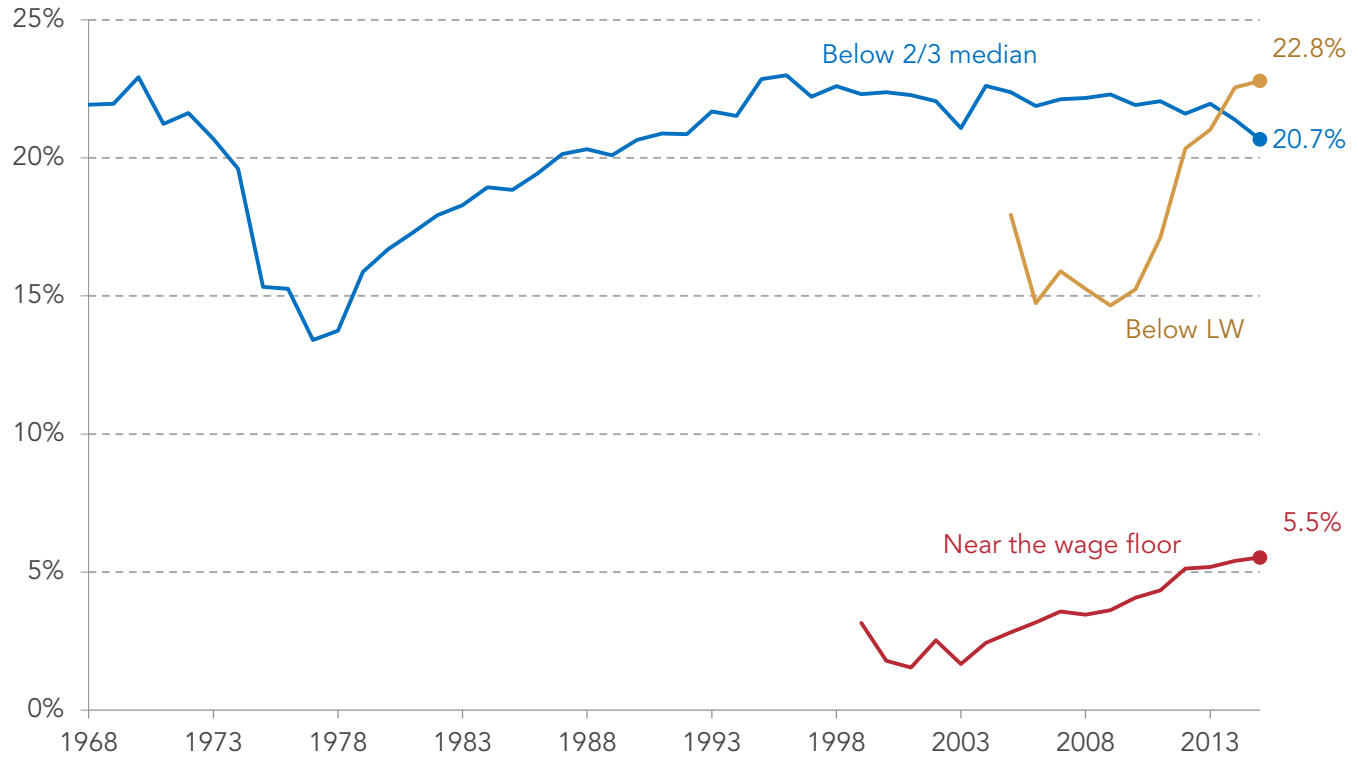
In April 2015, 20.7 per cent of employees were low-paid. That's lower than last year's figure of 21.4 per cent and equivalent to the figure in 1990. The *number* of low paid employees in April 2015 stood at 5.4 million, a fall of approximately 100,000 since 2014. The lack of any increase in the proportion of low paid employees in the post-crisis period may come as a surprise to some. But it is a feature of the generalised pay squeeze which has meant that the median pay benchmark against which the relative low pay threshold is set has also fallen. Indeed, National Minimum Wage (NMW) policy over recent years means that the lowest earners have enjoyed some limited protection, with wages falling but by less than across the rest of the earnings distribution.

However, looking at the need-based measure of low pay provided by the Living Wage threshold, we see that the proportion of employees who might be considered low paid in absolute terms has increased sharply. Having stood at 14 per cent in 2009, the proportion reached a new high of 22.8 per cent in 2015 (equivalent to 6 million people).

Looking finally at the wage floor measure, we see that the proportion and number of people paid at or up to 1 per cent above the minimum wage has increased steadily since the early 2000s. In April 2015 it stood at 6 per cent, contrasting with just 2 per cent in 2001. This means that nearly 1.54million employees were paid the minimum wage in 2015. This is certainly a welcome improvement for many workers from the situation before the minimum wage was introduced, but it poses new challenges. In particular, ensuring that workers can still experience earnings progression in a world of apparently greater wage compression at the bottom end of the distribution becomes more difficult. Further minimum wage improvements – not least the introduction of the NLW – will increase this pressure (see Section 2).

Figure 5: The evolution of low pay in Britain

Proportion of all employees below selected low pay thresholds



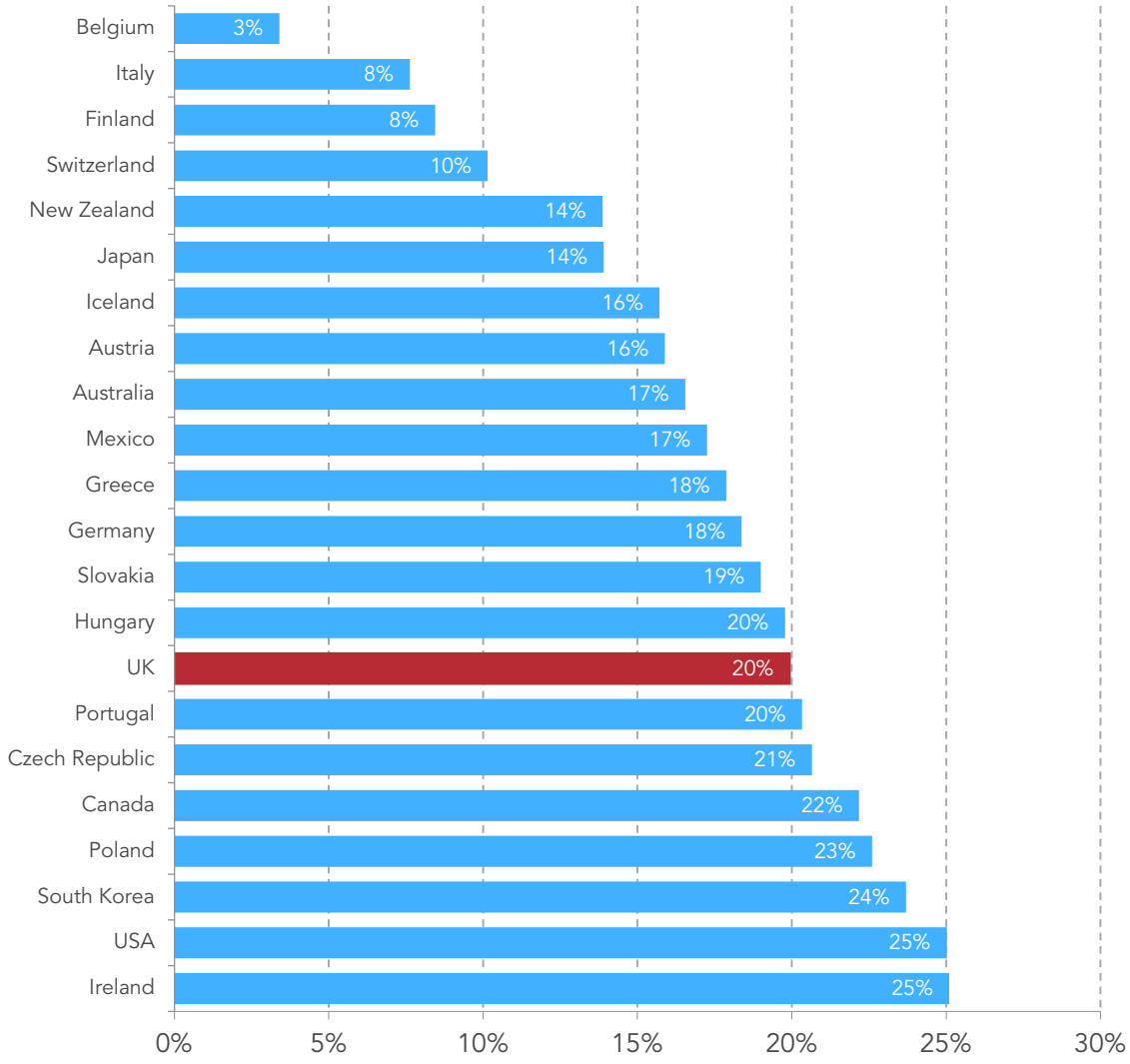
Sources: RF analysis of DWP, *Family Expenditure Survey (1968-1981)*; ONS, *New Earnings Survey Panel Data (1975-2013)*; ONS, *Annual Survey of Hours and Earnings (1997-2015)*

Britain's low pay problem is much deeper than in many other advanced economies

Internationally, the evidence is that the UK performs poorly compared to its peers in terms of low pay. Looking at selected OECD countries for which data from 2014 or 2015 is available, the UK has a relatively high proportion of employees on low pay. The data in Figure 6 overleaf is not directly comparable to the figures presented above due to the fact that the OECD low pay definition focuses on those in *full-time* employment and on *weekly* pay. Nevertheless their approach is consistent across countries and suggests that the UK is in the bottom half of countries.

Figure 6: Low pay across the OECD: 2014 - 2015

*Selected **OECD** countries: proportion of full-time employees earning below 2/3 full-time median weekly pay*



Notes: The incidence of low pay refers to the share of full-time employees earning less than two-thirds of median earnings. This is different to our measure because we refer to all employees and our data is from ASHE whereas the OECD data is drawn from their Employment and Labour Market Statistics Database

Sources: RF analysis of OECD, *Wage levels*, 2016

As with the variation across different parts of the country discussed above, it could be argued that the UK's poor pay performance relative to other countries reflects a trade-off for a better picture on employment. However, two points suggest that more is at work than this. First, the UK has a higher rate of low pay than many countries with similarly high levels of employment such as New Zealand and Switzerland. Second, the UK's level of low pay has remained relatively constant for some time, despite oscillating experiences of employment and unemployment.

More important are likely to be factors such as inequality (which rose more in the UK in the 1980s and 1990s than in some other developed economies). Productivity (where the UK's performance has been poor relative to many other developed economies for decades) and labour market policies (such as the generosity of the minimum wage and scope for collective bargaining). The importance of the last of these three factors is clear when considering the effect that the NLW will have on low pay (Section 2).

Experiences of low pay differ across types of people and types of jobs

While the UK as a whole performs relatively poorly in terms of low pay, it is far from a uniform problem across jobs and across workers. Full details of the characteristics of the low paid, and the evolution of this group over time, are provided in Section 4. Below we provide a snapshot of some of the key differences.

Table 1 sets out the prevalence and distribution of low pay across the personal characteristics of employees. It shows that women are much more likely than men to be low paid, comprising 61 per cent of low paid employees in the country. As at April 2015, one-quarter (25 per cent, or 3.3. million) of female employees were low paid, compared with 16 per cent (or 2.1 million) male employees. However the proportion of female employees who are low paid has fallen significantly since 1990, from 32 to 25 per cent. In contrast, the share of male employees who are low paid has risen by 4 percentage points. The longer time series provided in Section 4 show that these changes are a continuation of trends stretching back to the mid-1980s.[1]

[1] Going back further still, Section 4 also shows a very sharp decline for women in the early 1970s. This is likely to reflect the impact of the Equal Pay Act of 1970 and the incomes policy of the 1974-1977 Labour government.

Table 1: Personal characteristics and low pay

	Proportion of workers who are paid below 2/3 median			Share of low paid	Number
	1990	2015	Change	2015	
Age					
16-20	58%	77%	20%	19%	1,051,000
21-25	22%	40%	18%	14%	772,000
26-30	13%	20%	6%	13%	717,000
31-35	14%	15%	1%	8%	443,000
36-40	15%	13%	-2%	7%	381,000
41-45	16%	14%	-2%	8%	446,000
46-50	17%	14%	-2%	9%	488,000
51-55	18%	15%	-3%	8%	439,000
56-60	19%	16%	-3%	6%	340,000
61-65	23%	18%	-5%	4%	202,000
66+	57%	27%	-29%	3%	141,000
Sex					
Male	12%	16%	4%	39%	2,129,000
Female	32%	25%	-7%	61%	3,290,000

Notes: GB. Hourly earnings excluding overtime and pay premia. See Annex for full details.

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

Looking by age, we see that the youngest workers are most likely to be low-paid. Over three-in-four (77 per cent) of employees aged 16-20 were low paid at April 2015. This may reflect the fact that many are undertaking part-time work or have not yet completed their education, and the composition of employees in this age bracket is likely to have shifted over time as increasing numbers of young people have stayed in education. Nevertheless, an elevated share (40 per cent) of employees aged 21-25 are also low paid, with the proportion increasing by 18 percentage points between 1990 and 2015.

In contrast, the proportion of employees aged 66 and over who are low paid has been falling over time. There are of course fewer workers overall in this age group, but the drop in the low paid proportion from 57 per cent to 27 per cent in 2015 is noteworthy. This divergence in the fortunes of younger and older workers is one of the most marked changes in the nature of low pay in recent decades.

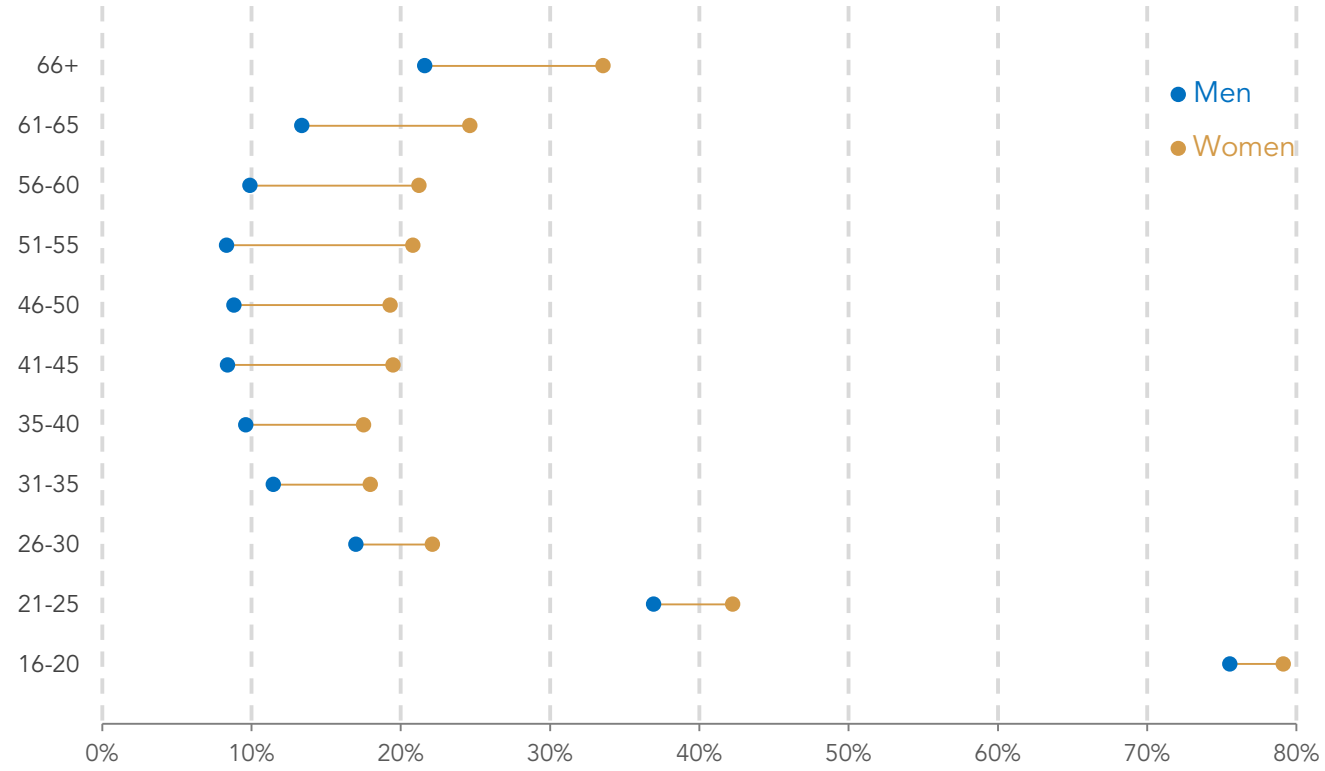
The decline in the proportion of female employees who are low paid over recent decades represents a qualified success. Nevertheless, the gap between men and women in terms of low pay prevalence remains significant. And this remains the case for women of all ages. Figure 7 shows that the relationship between age and low pay set out above holds for both men and women, with low pay prevalence falling over the lifecycle. However, there is a marked widening of the proportion of female and male employees who are low paid as we move up the age scale. The implication is that as workers get older their relative performance in the labour market is more closely related to their sex. Just as the gender pay-gap for all workers increases with age,[2] so does the difference in the proportion of men and women who are low paid. In addition to this female

[2] ONS, *Annual Survey of Hours and Earnings: 2015 Provisional Results*, November 2015

pay could be lowered by the fact that older female employees who began their careers some time ago would have started with lower pay than their male counterparts and their pay would have remained lower throughout their careers.

Figure 7: Low pay by gender: 2015

Proportion of male and female employees who are low paid (%)



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

Table 2 focuses on the prevalence of low pay by job – rather than personal – characteristic. It shows, for example, that part-time employees (41 per cent) are much more likely to be low paid than full-time ones (12 per cent). Nevertheless, it remains the case that 2.3 million full-time workers are low paid, representing 43 per cent of the total. Low pay is not just a part-time story.

Table 2: Job characteristics and low pay

	Proportion of workers who are paid below 2/3 median			Share of low paid	Number
	1997	2015	Change	2015	
Hours worked					
Full time	14%	12%	-2%	43%	2,333,000
Part time	48%	41%	-6%	57%	3,087,000
Industry					
Agriculture	42%	33%	-9%	1%	47,000
Manufacturing	15%	14%	-1%	7%	360,000
Construction	16%	11%	-5%	2%	101,000
Retail	39%	40%	1%	29%	1,579,000
Accomodation	67%	65%	-2%	17%	909,000
Financial services	5%	3%	-2%	1%	27,000
Public administration	8%	2%	-7%	0%	22,000
Education	20%	11%	-8%	8%	437,000
Health & social work	22%	17%	-5%	12%	677,000
Other sectors	20%	17%	-2%	23%	1,261,000
Occupation					
Managers	5%	5%	0%	2%	117,000
Professionals	3%	1%	-2%	1%	54,000
Associate professionals	4%	3%	-1%	2%	121,000
Administrative	16%	13%	-3%	8%	418,000
Skilled trades	17%	17%	0%	7%	366,000
Personal services	42%	35%	-6%	17%	925,000
Sales & customer services	55%	55%	0%	23%	1,234,000
Process operatives	23%	24%	0%	7%	364,000
Elementary occupations	55%	57%	2%	34%	1,819,000

Notes: GB. Hourly earnings excluding overtime and pay premia. See Annex for full details.

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

Retail is the largest low paid sector, with 1.6 million people working in the sector being low paid in April 2015 (accounting for 29 per cent of all low paid workers). Other large low paying sectors include *accommodation and food services* and *health and social work* (between them accounting for a further 29 per cent of the low paid population).

A majority of low paid employees work either in *sales and customer services* or in *elementary occupations* (cleaners, security guards and unskilled roles across different industries). There are also large numbers of low paid who are *personal service* workers (17 per cent of the total low paid population).

Britain's low pay landscape has altered in recent years, and is set to shift again

Pay has been at the top of the agenda in recent years, thanks to an unprecedented squeeze on earnings that has affected all parts of the pay scale. But, for those affected, the issue of low pay is a matter of urgency even during the best of economic times.

Despite a relatively static picture in terms of the headline low pay measure – with one-in-five employees consistently earning less than two-thirds of median pay from the mid-1990s onwards, the low pay landscape has actually shifted in a number of ways in recent years. The problem of *absolute* low pay has sharpened, with rewards failing to keep pace with changes in the cost of living. And the issue has become more concentrated among the young and a little more male.

The NMW has had a profound impact at the bottom end of the labour market, all but ending *extreme* low pay (where people earn less than half of the median) and reducing the *depth* of low pay for millions. But the UK remains at the wrong end of the low pay league table.

Looking forward, our view of low pay is set to shift again as a result of two developments which are likely to dominate the next few years. In Section 2 we'll look at the potential impact of the introduction and evolution of the NLW.

Section 2

Lifting the wage floor - the impact of the National Living Wage

The NLW is projected to lift 800,000 people out of low pay, marking the biggest single step forward since the introduction of the NMW

The NLW was announced by the then Chancellor George Osborne as part of the 2015 Summer Budget. The policy, with its aim to significantly raise the wage floor for workers aged 25 and over, took employees and employers alike by surprise but was met with broad support. The higher wage floor was subsequently introduced in April 2016, lifting the legal minimum from £6.70 an hour to £7.20. The ambition for the policy over the rest of the parliament is for it to reach 60 per cent of what the typical worker aged 25 and over earns by 2020.

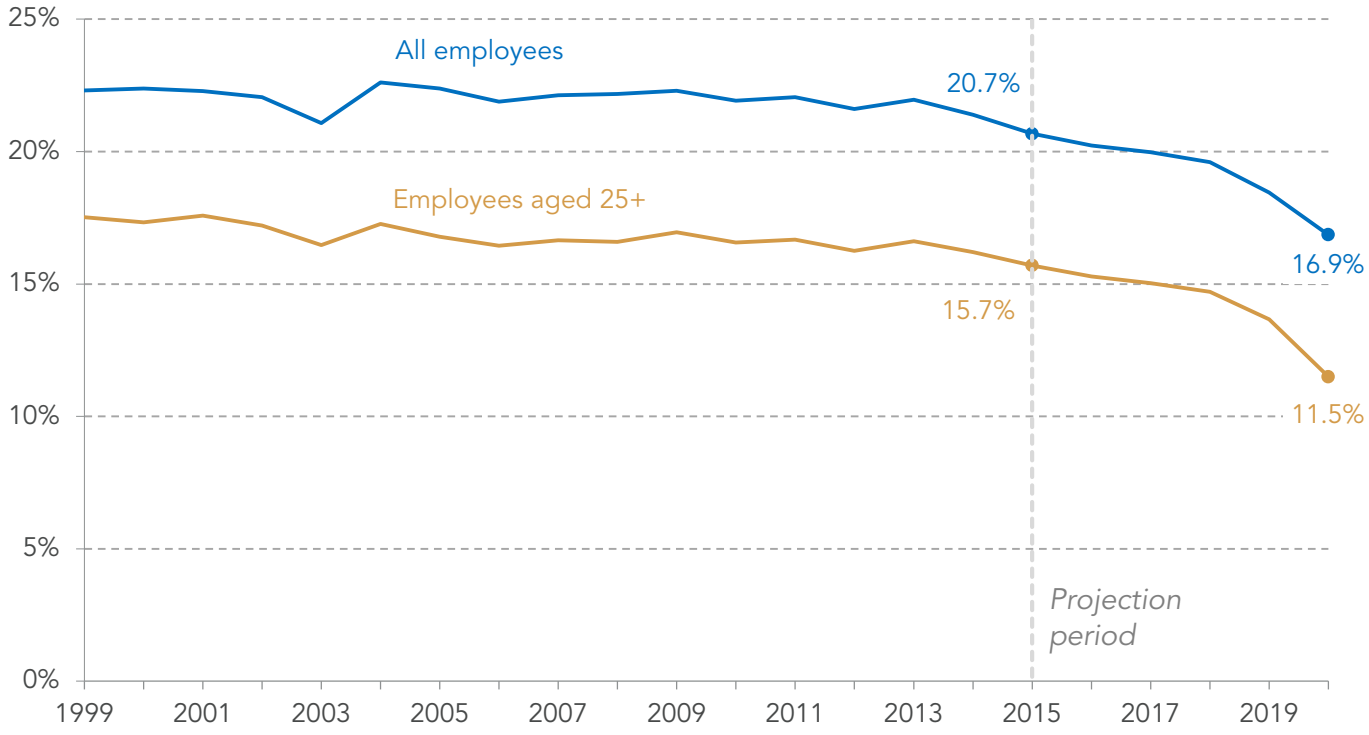
The policy represents perhaps the most meaningful action on low pay since the introduction of the National Minimum Wage (NMW). Previous Resolution Foundation analysis estimated that 4.5 million employees would receive a pay rise as a result in 2016.[3] This of course includes those who were previously earning less than the new minimum threshold, but evidence on minimum wage increases indicates an additional 'spillover' effect, with the boost rippling up to workers earning more than the legal minimum as well.

Figure 8 illustrates the huge impact the NLW will have on low pay in coming years, absent other shifts in the labour market. From its April 2015 level of 20.7 per cent, the share of all workers who are low paid is projected to have fallen to 16.9 per cent by 2020. A similar drop is visible when considering only those directly affected by the policy, falling from 15.7 per cent among those aged 25+ today, to 11.5 per cent in 2020. For both groups, the steepest drop in low pay occurs in the latter years of the policy, falling by 2.7 percentage points – equivalent to nearly 700,000 people – between 2018 and 2020.

[3] C D'Arcy, A Corlett and L Gardiner, *Higher ground: Who gains from the National Living Wage?*, Resolution Foundation, September 2015

Figure 8: The impact of the NLW on the proportion of employees in low pay

Proportion of employees below 2/3 of all-employee median pay



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

Overall, our analysis estimates the NLW will reduce the number of Britons who are low paid from the 2015 figure of 5.4 million to 4.6 million by 2020. This represents the first structural drop in low pay in decades. It also achieves something which the introduction of the NMW could not manage (though the policy's impact on extreme low pay – people earning below half of the median hourly wage – was massive).

While clearly a major step forward, the NLW will not eliminate low pay entirely however. This is because 60 per cent of median earnings among those aged 25+ has generally been lower than two-thirds of the all-worker median (the low pay threshold). It will however reduce the *depth* of low pay for those benefiting from the policy who do remain below the low pay threshold.

Before presenting a more in-depth analysis of those at the wage floor, the uncertainty behind these figures must be underlined. Employer reactions to the NLW – particularly in a post-referendum world – will be vital in determining the extent to which these low pay projections are borne out.

While clearly a positive step for low paid workers, the NLW presents new complications in the form of compression at the wage floor

While the NLW will clearly have a large and positive effect on the UK's lowest earners, the rapidly rising wage floor risks becoming a 'going rate' for increasing numbers of workers.

Our analysis suggests that the proportion of workers on the wage floor will rise from 6 per cent in 2015 to an unprecedented 15 per cent by 2020. In contrast with our projections for low pay, the largest increase in the numbers at the wage floor occurs in 2016. In part, this is because the increase from April 2015 to April 2016 was 70p (from £6.50 to £7.20), encompassing both the October 2015 MW increase to £6.70 and the NLW's introduction at £7.20.

Wage compression is set to affect some workers, industries and regions more than others – reflecting existing distributions of pay above the wage floor. As Table 3 highlights, the proportion of the workforce paid at the wage floor is projected to top one-in-four by 2020 in *wholesale and retail* (27 per cent) and *administrative & support service activities* (27 per cent). Other sectors set to be disproportionately affected include *agriculture and fishing* (24 per cent), *other service activities* (24 per cent) and *arts, entertainment and recreation* (22 per cent). But it is *accommodation and food services* that looks most exposed, with the proportion due to be on the wage floor set to rise from an already high one-in-four (25 per cent) to nearly half (45 per cent).

Table 3: The proportion of employees at the wage floor is set to grow

	Near or below NMW/NLW			
	2015		2020	
	Number (000s)	% of group	Number (000s)	% of group
All employees	1,450	6%	4,150	15%
Sex				
Women	840	6%	2,610	19%
Men	605	5%	1,540	11%
Age group				
16-20	220	16%	275	20%
21-24	250	13%	350	17%
25-30	210	6%	700	19%
31-35	130	4%	430	14%
36-40	115	4%	375	13%
41-45	115	4%	435	13%
46-50	125	4%	475	14%
51-55	115	4%	430	14%
56-60	85	4%	335	15%
61-65	50	5%	200	18%
66+	40	8%	140	27%
Hours worked				
Part time	920	12%	2,500	30%
Full time	600	3%	1,920	9%
Industry				
Hotels & restaurants	360	24%	695	45%
Wholesale & retail	360	9%	1,190	27%
Admin & support services	240	12%	545	27%
Other service activities	65	13%	120	24%
Agriculture	10	8%	35	24%
Arts & recreation	45	8%	120	22%
Health & social work	145	3%	585	14%
Water supply & waste	5	3%	15	10%
Manufacturing	85	3%	290	10%
Education	60	2%	415	10%
Real estate	10	2%	30	8%
Construction	40	4%	80	8%
Prof. & technical	45	3%	125	7%
Transport & storage	25	2%	85	7%
Info. & comms.	15	2%	35	3%
Finance	5	1%	20	2%
Public admin	5	0%	20	1%
City region				
Greater Lincolnshire	40	10%	100	24%
Nottingham	35	8%	90	20%
Liverpool	45	8%	125	20%
Tees Valley	20	8%	55	20%
Sheffield	50	7%	130	19%
Newcastle	55	7%	160	19%
Birmingham	85	7%	215	18%
East Anglia	65	6%	195	17%
Cardiff	35	6%	110	17%
Leeds	70	6%	190	17%
Manchester	75	6%	205	17%
Bristol	30	5%	85	14%
Glasgow	45	5%	120	14%
London	140	3%	360	8%

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

In practice of course, it's not just the volume of employees on the wage floor which will make a difference to firms; the practical impact of a compressed workforce will depend also on organisational structure and the response opted for within the industry and by employees themselves. Nevertheless, having the pay of such significant numbers of employees dictated by the government will undoubtedly have a profound impact within the affected industries.

Crucial too will be how the wage compression plays out by area, with the potential for lower paid workers in some parts of the country to face few opportunities significantly above the wage floor. Turning first to the regional/country level, in both the East Midlands and Wales 20 per cent of workers are expected to be on the wage floor by 2020, rising from 8 and 7 per cent respectively in 2015. The compression effect at the wage floor is likely to be less evident in London, rising from 3 per cent to 8 per cent – although it may be that alternative slightly higher 'going rates' come into place (at the level of the London Living Wage for instance) instead.

Perhaps most relevant in terms of thinking about how local labour markets operate and respond to a higher wage floor is to assess the impact on cities. Table 3 also shows how proportions of employees on the wage floor are set to rise in the metro areas that will introduce mayors from 2017 onwards.

In Greater Lincolnshire, not usually considered a 'city' but which agreed a devolution deal in March this year, currently one-in-ten workers (10 per cent) are on the wage floor. However that is set to rise to nearly one-in-four by 2020 (24 per cent), with the relative importance of agriculture playing a key role. While Greater Lincolnshire stands out, significant numbers are also set to have their pay determined by the NLW in Tees Valley, Nottingham and Liverpool. How these larger, more urban areas adapt will be crucial.

The NLW also represents a challenge for employers with significant low paid workforces

As well as posing a challenge for low paid employees, wage compression will potentially make recruitment, retention and progression more difficult for some employers too. But the challenge of implementing the NLW goes much further of course, incorporating increases to wage bills and other linked payments like employers' National Insurance and pension contributions as well.

It will be some time yet before a detailed picture can be painted of the effect the NLW has had. There are however some early indicators that we can draw upon to assess what the impact has been to date. Initial evidence from our economy-wide survey suggests 36 per cent of firms affected have raised prices with 29 per cent cutting profits. Only 14 per cent responded that they had used less labour, with 8 per cent reducing non-wage benefits (although a handful of high-profile employers have chosen to do so).[4] As set out in Box 3, a more detailed analysis of social care providers suggest the policy has been implemented with little impact on hours.

[4] C D'Arcy and M Whittaker, *The first 100 days: Early evidence on the impact of the National Living Wage*, Resolution Foundation, July 2016

i Box 3: The National Living Wage in social care

While detailed data on the impact of the NLW will not be available for some time, social care - one of the sectors that will be most affected by the NLW - benefits from a comprehensive and timely pay data set from adult social care providers in England. A Resolution Foundation investigation of these data in the run up to and months following the NLW's introduction in April found no evidence that working hours had been reduced to offset the added cost of the NLW.

Among those social care providers observed to have implemented the NLW, most extended it to staff aged under 25, with over four-fifths of workers in this category who were previously below the NLW now paid £7.20 or higher.

There is evidence of wider 'spillover' effects across all age groups too. Average pay for workers aged 25+ who were previously below the NLW increased by 9.2 per cent following its introduction, more than a third higher than the increase providers had to offer in order to just satisfy legal minimums. Across the workforce as a whole, providers have invested more than twice as much in raising pay over this period than if they had only satisfied NLW requirements and nothing more. Not all of this will directly relate to the NLW, as pay naturally tends to rise over time, but it appears likely that it has played an important role here and provides useful context for the NLW's impact on low pay more widely.

Nonetheless, one third of the social care workforce is now paid £7.20, up from one quarter during June-September 2015. This bunching raises concerns about opportunities to progress within the sector, and increases the risk of non-compliance when time not covered by contracted pay rates but legally covered by minimum wages is accounted for.

Section 3

Brexit and low pay

NLW's in-built flexibility is an asset in the post-referendum labour market

With the vote to leave the EU raising economic uncertainty and damaging business confidence, it is perhaps unsurprising that some business groups have questioned the efficacy of sticking to the original NLW trajectory. As noted in the previous section, the ambition for the NLW is that it should reach 60 per cent of median pay by 2020. This 'bite' was expected to equate to roughly £9 an hour at the time of the March 2016 Budget, leading some to use the cash figure as shorthand for planned trajectory. In practice, the number was always likely to rise and fall as earnings projections were refined as 2020 approached. With wage projections subject to downward revision in the light of the EU referendum, the NLW looks less likely to reach £9 in 2020 than had previously been thought.

How fast the NLW rises in April 2017 will be influenced by the Low Pay Commission who in October will be finalising their recommendations to Theresa May's government on an issue she chose to put centre stage in her first speech as Prime Minister. But in the wake of the referendum, some have called for the policy and its trajectory to be abandoned. At the same time, others have argued for going beyond £9 to provide a 'real' living wage. Only time will tell what impact the referendum result will have on the labour market. As this Section discusses, most low-paying sectors however are not heavily dependent on trade meaning the some of the most direct impacts of leaving the EU – renegotiating trade deals among them – will not be of great concern. That said, lower demand across the economy would affect many low-paying sectors as well as high-paying ones.

There are two factors which suggest the government need not abandon its planned path. First, the policy's ambition for 2020 is expressed in terms of the 'bite' of the NLW rather than pursuing an arbitrary cash figure. This link in the policy to median earnings means that if typical wages are rising more slowly than had previously been expected, so too will the NLW. Using post-referendum wage projections from independent forecasts compiled by HM Treasury, the NLW is on track to be approximately £8.60 in 2020. Moving towards that figure in a 'straight line' in terms of the increase in the bite suggests the NLW should be £7.50 from April 2017.

Second, as well as this lower nominal figure, the real-terms value of the NLW is also likely to be lower. While much of the post-referendum economic landscape is difficult to map, higher inflation as a result of the fall in the value of the pound looks set to bring faster rising prices. Most forecasters do not expect nominal earnings to rise in step with inflation, meaning a lower real-terms value of the NLW than had previously been expected. Whatever cash figure the NLW reaches by 2020, in a world in which inflation is higher than had been expected pre-referendum, the NLW will be worth less in real terms, and therefore easier for employers to afford.

Together, these factors suggest that the previously set-out trajectory still represents a path forward for the NLW that will raise the wages of the lowest-paid workers without jeopardising their employment and the success of the policy. Abandoning the NLW's trajectory would mean a double hit for the low paid. As well as the negative impact Brexit is expected to have on wages up and down the pay ladder, if the government opted to hold the bite of the NLW at same level as it

currently is, this would represent a hit of approximately £1,000 to the gross earnings of a full-time NLW worker, relative to the existing trajectory.

On the other hand, aiming for the arbitrary cash figure of £9 would increase the risk of damage to the employment prospects of low-paid workers. Exactly how much would again depend upon the actual performance of wages but the worse the performance of nominal wages, the more potentially damaging the impact of a fixed cash target would be. Using the same scenario as outlined above based on independent forecasts, sticking to £9 even as wage growth underperformed would take the all-worker bite of the NLW approximately 2 percentage points higher than the current policy.

Together, this means the National Living Wage could be worth somewhat less than what had been expected when it was launched and more manageable for employers. But this shouldn't detract from the major step forward on low pay the policy represents – or the challenge some employers in the lowest-paying sectors will still face. The NLW was always set to be a challenge to implement and the referendum result does not fundamentally rebalance that. Instead, the Prime Minister should stick to her guns and ignore calls from either side on what its value should be – and quickly turn to the far more challenging task of successfully implementing it.

The effect of the referendum decision on the low pay landscape is unclear at this stage

While at this early stage there is very little we can conclude definitively about the impact of Britain's decision to leave the European Union in June's referendum, we can be sure that it will have important economic effects over the near- and longer-term.

In the short-term, the expectation is that uncertainty will feed into demand – from consumers and from business – resulting in a slowdown in spending and investment. It's this potential opening of spare capacity which prompted the Bank of England to produce a £170 billion monetary stimulus package at the August meeting of the Monetary Policy Committee (with the MPC standing ready to do more if necessary). There are also set to be direct effects associated with the sharp fall in the value of sterling which has lifted the cost of imports. To date this hasn't fed through to consumer prices, but it is being felt in factory prices and is expected to work its way through over the coming months.

Longer-term, the effect of the UK sitting outside of the EU will of course depend on just what form of arrangement it established with our former European partners and with other countries around the world. In theory, the constraint on our trading options associated with exiting the single market would represent a supply shock, reducing the country's productive capacity. Restriction on the movement of people would also have implications, particularly for those industries and firms most reliant on cheap imported labour.

At this stage, we are barely beyond the speculation period, with the limited hard economic data that is available painting a very mixed picture. To the extent that any themes are emerging, there appears to be something of a disconnect between business concern and consumer resilience. This potentially reflects the degree to which these two sectors pay attention to either the financial markets (where much has happened) or the labour market (where little has changed).

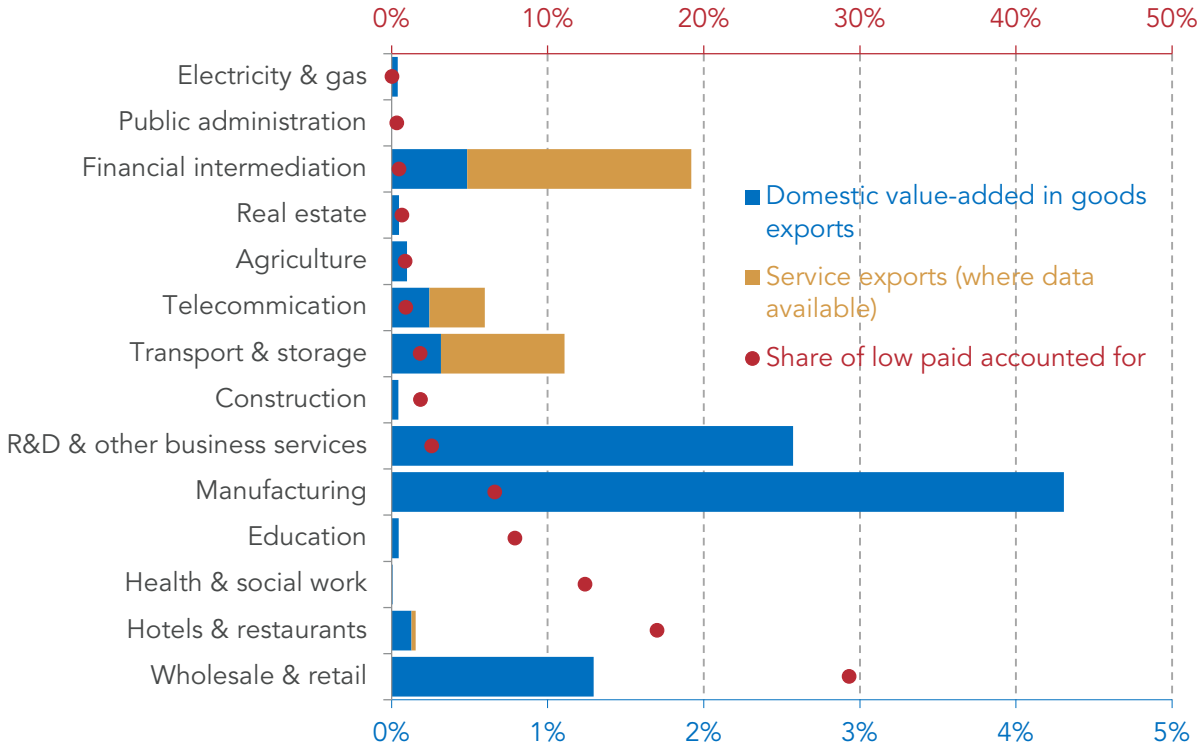
In relation to low pay there is little evidence that wages have been negatively affected yet and, while there has been some evidence of hiring slowing, the limited data available so far shows no impact on employment. As a result we make no attempt here to measure the effect of Brexit on the number of workers who are low paid. Instead we explore how leaving the EU may impact low-paid workers via its effect on the industries and regions in which they are located. We consider also the effect of potential changes in immigration policy and, ultimately, earnings.

Lower paying parts of the economy do not look set to be disproportionately affected by Brexit

In the near-term, any referendum-related fall in demand from businesses or consumers could lead to job losses or slower wage growth. To date, survey evidence[5] suggests that consumer spending is holding up. This could of course change over time but, even if it does, there is nothing to suggest that lower paying parts of the economy will be any more exposed to a slowdown than higher paying industries. In terms of business demand, we might expect to see the biggest effects in the UK's tradeable sectors. The same is likely to be true when we consider longer-term supply effects. The impact of Brexit will be complex with, for instance, some industries and firms benefiting from the fall in the value of sterling while others that are more dependent on imported materials facing higher costs. One perspective however is that those industries most reliant on trade will be most exposed. As Figure 9 shows, the sectors with the largest value of exports to the EU – manufacturing, business services and financial intermediation – have relatively low levels of low pay.

Figure 9: Sectoral low pay and trade with the EU: 2011

Domestic valued-added of good exports and service exports (% of national GVA) and share of low paid population accounted for by each sector



Notes: Exports of goods are measured as the domestic valued added in gross exports. According to the National Institute of Economic and Social Research (NIESR) domestic GVA from exports is a good measure of how much the domestic economy benefits from trade. This measure subtracts the value of imported inputs, leaving us with just the economic activity that took place in the UK..[6] Exports of services are measured as the value of service exports by sector, for some sectors this is not available due to commercial sensitivity.

Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings & OECD*, Trade in value-added

[5] GfK, *Consumer Confidence Barometer*, August 2016

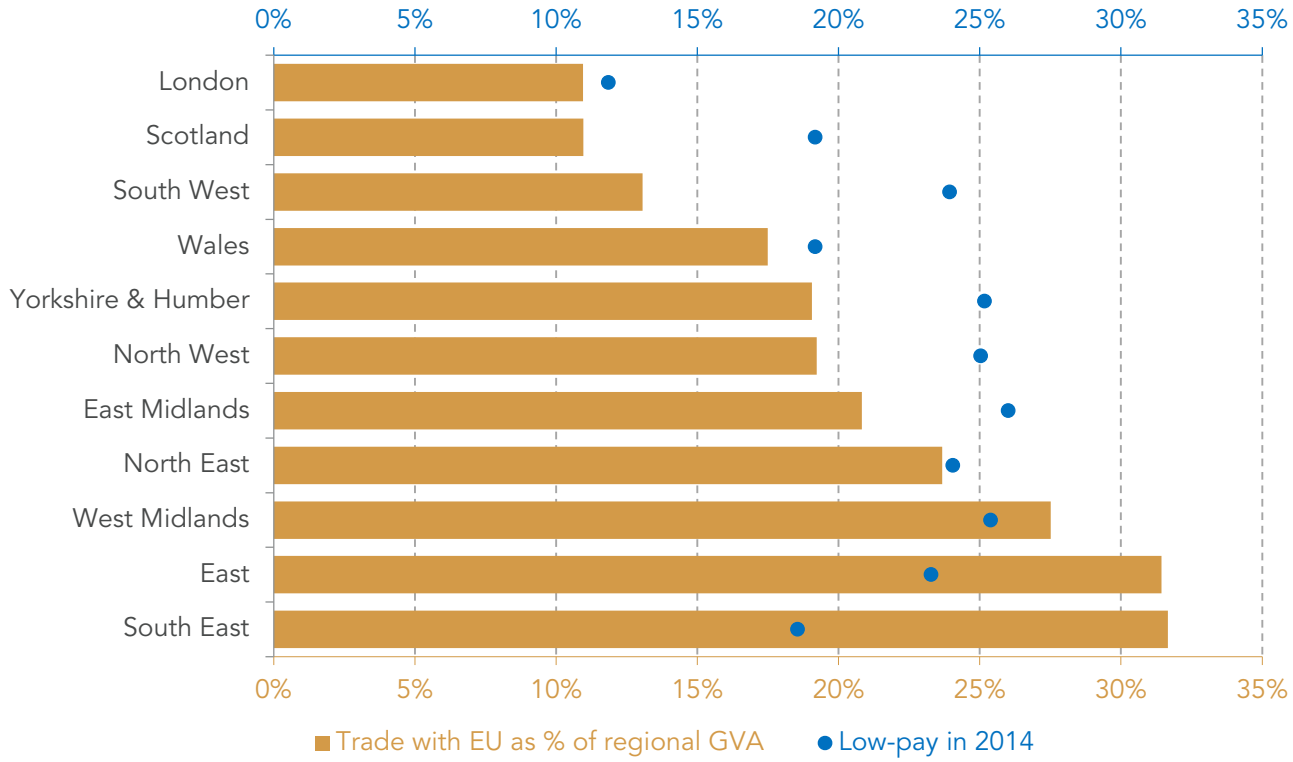
The best and most recently available data on trade by sector from the OECD shows that while over 4 per cent of national GVA is accounted for by manufacturing goods exports to the EU, manufacturing employs less than 10 per cent of low-paid workers. By contrast the wholesale and retail sectors account for around 30 per cent of low paid workers but exports to the EU only make up around 1 per cent of the country's gross value added.

The fact that the sectors most at risk in any trade negotiations tend not employ large numbers of low paid workers does not mean such negotiations will not affect the low paid – there are over 350,000 low-paid employees in the *manufacturing* sector for example. But it does suggest that the negative effects of a possible deterioration in trade with the EU will not be disproportionally borne by the low paid.

Similarly the parts of the country most connected to the EU in terms of trade do not contain disproportionate numbers of low paid workers. Figure 10 shows that the two parts of the UK with the highest trade in goods (note, these figures exclude services and therefore significantly understate London's position), the South East and the East of England, are very much in the middle of the pack on low pay.

Figure 10: Regional low pay and trade with the EU: 2014

Employees on low pay (%) and trade in goods with EU as a share of regional GVA (%)



Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings* & HMRC, *Overseas Trade Statistics*

But the lower paid are vulnerable to any generalised negative effects on pay

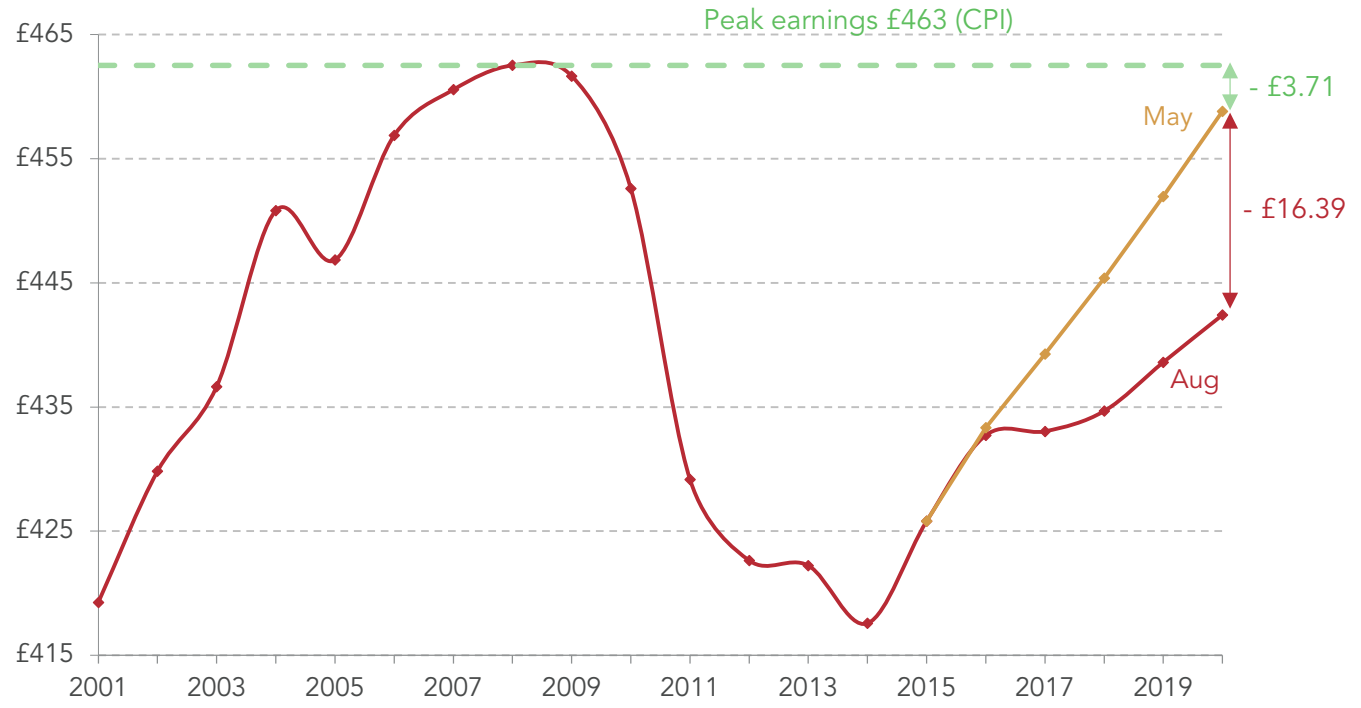
While there is little to suggest that low paid employees will be disproportionately affected by Brexit, the current consensus among economists is that the decision to leave the EU is likely to have a generalised negative impact on real wage growth in the coming years – something that will of course be hardest to bear for those with the lowest earnings.

Downward revisions in projections for wage growth across economic forecasters (including the Bank of England) reflects both concerns about the effect of lower short-term demand and longer-term productivity slowdown on nominal pay and expectations for higher inflation as a result of the fall in the value of sterling.

Looking across the projections published in August's HM Treasury compilation of independent forecasts implies that average weekly wages are set to be 3.6 per cent lower in 2020 in real-terms than had been forecast in May, before the referendum – as shown in Figure 11. That's a downgrade of roughly £16 a week, or £850 a year. Approximately three-quarters of this revision is projected to be due to slower nominal wage growth, with the remaining quarter the product of higher inflation.

Figure 11: Average weekly earnings projections: 2001 - 2020

Average weekly earnings (real terms, CPI)



Notes: Average weekly earnings projections based on a consistent group of forecasts from the August 2016 Treasury summary of independent forecasts. Nominal earnings growth and growth in CPI are used to project earnings to 2020. We use CPI here (rather than our preferred RPIJ measure) because no projections for RPIJ exist – see Box 1).

Sources: RF analysis of ONS, *Average Weekly Earnings*

What of any offsetting benefits of Brexit for low paid workers, such as a fall in migration and thus less competition for low wage jobs? Unfortunately such benefits are likely to be very small in comparison. In previous research, we've estimated that a reduction in net migration to 99,000 from 2018 would lift the wages of low-skilled workers by between 0.2 and 0.6 per cent. This impact is clearly dwarfed by the generalised wage slowdown set out above and is perhaps hard to envisage given that net migration in 2015 stood at 327,000.[6]

[6] S Clarke, *A brave new world: how reduced migration could affect pay, jobs and the labour market*, Resolution Foundation, August 2016

Section 4

Detailed low pay statistics

This Section provides more detailed statistics on who is low paid and how that has changed over time.

Table 4: Low pay in April 2015

	Below 2/3 median hourly pay			Near or below NMW/NLW			Below Living Wage		
	Number (000s)	% in group below	% of all below threshold	Number (000s)	% in group below	% of all below	Number (000s)	% in group below threshold	% of all below
All employees	5,420	21%	100%	1,450	6%	100%	5,975	23%	100%
Sex									
Women	3,290	25%	61%	840	6%	58%	3,820	29%	64%
Men	2,130	16%	39%	605	5%	42%	2,450	19%	41%
Age group									
16-20	1,050	77%	19%	220	16%	15%	1,145	84%	19%
21-24	770	40%	14%	250	13%	17%	890	46%	15%
25-30	715	20%	13%	210	6%	14%	840	23%	14%
31-35	445	15%	8%	130	4%	9%	520	17%	9%
36-40	380	13%	7%	115	4%	8%	445	16%	7%
41-45	445	14%	8%	115	4%	8%	530	16%	9%
46-50	490	14%	9%	125	4%	9%	580	17%	10%
51-55	440	15%	8%	115	4%	8%	520	18%	9%
56-60	340	16%	6%	85	4%	6%	405	19%	7%
61-65	200	18%	4%	50	5%	3%	240	22%	4%
66+	140	27%	3%	40	8%	3%	165	32%	3%
Region									
East Midlands	490	26%	9%	145	8%	10%	565	30%	9%
West Midlands	545	24%	10%	155	7%	11%	630	27%	11%
Wales	290	25%	5%	80	7%	6%	335	28%	6%
Yorkshire & the Humber	525	25%	10%	150	7%	10%	605	28%	10%
North West	685	24%	13%	200	7%	14%	790	27%	13%
North East	240	23%	4%	75	7%	5%	275	27%	5%
South West	525	23%	10%	120	5%	8%	610	27%	10%
East	545	22%	10%	135	5%	9%	635	25%	11%
Scotland	450	19%	8%	110	5%	8%	515	22%	9%
South East	665	18%	12%	145	4%	10%	775	21%	13%
London	450	11%	8%	130	3%	9%	530	13%	9%
City region									
Greater Lincolnshire	120	31%	2%	35	10%	2%	130	35%	2%
Nottingham	110	26%	2%	35	8%	2%	125	30%	2%
Sheffield	155	25%	3%	45	7%	3%	185	29%	3%
Liverpool	145	25%	3%	45	8%	3%	160	28%	3%
Newcastle	180	23%	3%	55	7%	4%	210	27%	4%
East Anglia	250	23%	5%	60	6%	4%	285	27%	5%
Tees Valley	60	23%	1%	20	8%	1%	70	27%	1%
Cardiff	125	22%	2%	35	6%	2%	145	26%	2%
Leeds	230	22%	4%	65	6%	4%	265	26%	4%
Birmingham	250	22%	5%	80	7%	6%	290	26%	5%
Manchester	245	22%	5%	70	6%	5%	285	25%	5%
Bristol	110	20%	2%	25	5%	2%	130	23%	2%
Glasgow	145	18%	3%	40	5%	3%	165	21%	3%
London	450	11%	8%	130	3%	9%	530	13%	9%
Occupation									
Elementary	1,820	57%	34%	595	19%	41%	2,055	65%	34%
Sales & customer service	1,235	55%	23%	275	12%	19%	1,380	61%	23%
Personal services	925	35%	17%	195	7%	13%	1,110	42%	19%
Process & machinery ops.	365	24%	7%	95	6%	7%	420	27%	7%
Skilled trades	365	17%	7%	115	5%	8%	425	20%	7%
Admin & secretarial	420	13%	8%	95	3%	7%	520	17%	9%
Managers & senior officials	115	5%	2%	30	1%	2%	145	6%	2%
Associate prof. & technical	120	3%	2%	30	1%	2%	150	4%	3%
Professional	55	1%	1%	15	0%	1%	70	1%	1%
Hours worked									
Part time	3,085	41%	57%	880	12%	61%	3,510	47%	59%
Full time	2,335	12%	43%	570	3%	39%	2,760	15%	46%
Hours worked and sex									
Part-time women	2,185	39%	40%	585	10%	40%	2,505	45%	42%
Part-time men	900	48%	17%	295	16%	20%	1,005	54%	17%
Full-time women	1,105	15%	20%	255	3%	18%	1,315	18%	22%
Full-time men	1,230	11%	23%	315	3%	22%	1,445	13%	24%

	Below 2/3 median hourly pay			Near or below NMW/NLW			Below Living Wage		
	Number (000s)	% in group below	% of all below threshold	Number (000s)	% in group below	% of all below	Number (000s)	% in group below threshold	% of all below
ontract type									
Temporary/casual	795	34%	15%	265	11%	18%	905	39%	15%
Permanent	4,625	19%	85%	1,180	5%	81%	5,365	22%	90%
rm structure									
Sole proprietors	240	52%	4%	100	22%	7%	265	57%	4%
Partnerships	225	36%	4%	80	13%	6%	260	41%	4%
Private companies	4,255	25%	79%	1,170	7%	81%	4,825	29%	81%
Non-profit bodies and mutuals	315	14%	6%	60	3%	4%	390	18%	7%
Local authorities	285	10%	5%	30	1%	2%	355	13%	6%
Central government	90	3%	2%	10	0%	1%	175	6%	3%
Pub. corps & nationalised ind's	0	1%	0%	:	:	:	5	1%	0%
roud sector									
Private sector	4,725	25%	87%	1,350	7%	93%	5,350	23%	90%
Third sector	315	14%	6%	60	3%	4%	390	18%	7%
Public sector	375	6%	7%	40	1%	3%	530	19%	9%
rm size									
XS (0-9 employees)	720	34%	13%	300	14%	21%	800	38%	13%
S (10-49 employees)	985	27%	18%	320	9%	22%	1,110	30%	19%
M (50-249 employees)	735	22%	14%	210	6%	14%	850	26%	14%
L (250-4,999 employees)	1,145	19%	21%	305	5%	21%	1,320	22%	22%
XL (5,000+ employees)	1,460	30%	27%	270	6%	19%	1,660	34%	28%
unclassified	375	:	7%	45	:	3%	235	:	4%
dustry									
Hotels & restaurants	910	65%	17%	345	25%	24%	995	71%	17%
Wholesale & retail	1,580	40%	29%	345	9%	24%	1,785	45%	30%
Admin & support services	600	33%	11%	230	12%	16%	680	37%	11%
Agriculture	45	33%	1%	10	8%	1%	50	37%	1%
Arts & recreation	175	34%	3%	45	8%	3%	195	38%	3%
Other service activities	140	30%	3%	60	13%	4%	160	34%	3%
Health & social work	675	17%	12%	135	3%	9%	850	22%	14%
Manufacturing	360	14%	7%	80	3%	6%	420	17%	7%
Real estate	40	10%	1%	10	2%	1%	45	13%	1%
Education	435	11%	8%	60	2%	4%	545	14%	9%
Construction	100	11%	2%	40	4%	3%	115	12%	2%
Water supply & waste	15	11%	0%	5	3%	0%	20	13%	0%
Prof. & technical	140	8%	3%	45	3%	3%	165	10%	3%
Transport & storage	100	9%	2%	20	2%	1%	120	11%	2%
Info. & comms.	50	5%	1%	15	2%	1%	65	6%	1%
Finance	25	3%	0%	5	1%	0%	35	4%	1%
Public admin	20	2%	0%	5	0%	0%	30	2%	1%

The change in low pay

Having looked at low pay in Britain in April 2015, we now look at the change in low pay over the last four decades. Box 4 takes a look at how low pay could evolve up to 2020, particularly how low pay is likely to be affected by the NLW. Looking at how low pay has evolved across different regions, employee and job characteristics we note the following trends up to 2015:

Women still make up a larger share (approximately 66 per cent) of low paid workers, but the **proportion of low paid women has fallen significantly since the 1970s**, while that of men has risen. (Figure 12).

The **biggest falls in low pay has been recorded for older workers**. Less than 20 per cent of 56-65 year olds are now low paid. In contrast nearly 80 per cent of 21-25 year olds are now low paid, up from around half in the mid-1970s. (Figure 13).

Low pay is a problem across Britain. While low pay remains above 20 per cent across the north and midlands **some regions, such as the North East and Yorkshire and the Humber have seen modest falls in low pay in recent years**. In most other regions the share of low paid workers has remained relatively constant. (Figure 14).

Around 60 per cent of workers in sales and elementary occupations are low paid. By contrast fewer than 2 per cent of professionals are low paid. The **proportion of low paid workers across most occupations has remained relatively constant since 1997**. (Figure 15).

Approximately 40 per cent of all part-time workers are low paid. The **proportion of part-time workers who are low paid has fallen from over 50 per cent in the mid-1980s. Full time workers now make up over half of all low paid workers**, up from a third in 1975. (Figure 16).

The highest proportion of low paid workers is found in the hotels and restaurants sector. **Around two-thirds of workers in the hotels sector are low paid, a proportion that has not changed since 1997.** The share of low paid workers in some sectors has fallen, particularly education where now only 10 per cent of workers are low paid. (Figure 17).

The share of **low paid workers in local authorities has fallen from 20 per cent to 10 per cent since 2000. By contrast the share of workers in the private sector who are low paid has remained relatively constant** at around 25 per cent. (Figure 18).

i Box 4: How low pay could evolve up to 2020

Our estimates for 2020 model the impact of the NLW but not any other changes in the jobs market or pay distribution. Particularly when looking only at subgroups, they should not be considered projections. In many cases, other factors and long-term trends may reduce or even cancel out the impact of the NLW, or act in the same direction.

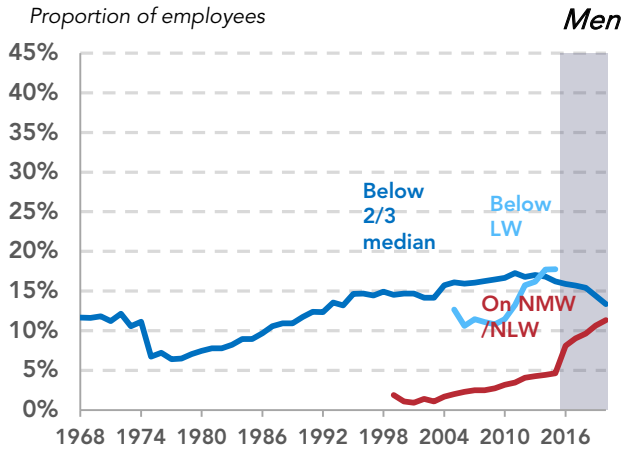
For example we expect around 45 per cent of workers in the hotels and restaurants sector to be paid the NLW by 2020. This is based on the current distribution of pay in that industry, however changes to business models in the sector could mean a greater or lesser share of workers are paid the legal minimum by 2020.

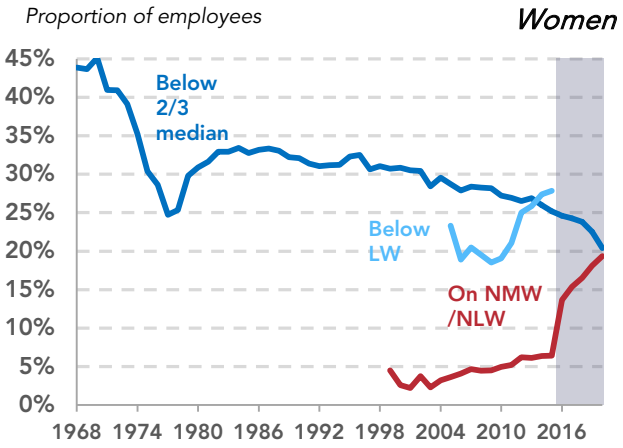
Projections for the future worth of the voluntary Living Wage, and therefore the proportion paid less than this, are particularly uncertain and so have not been shown.

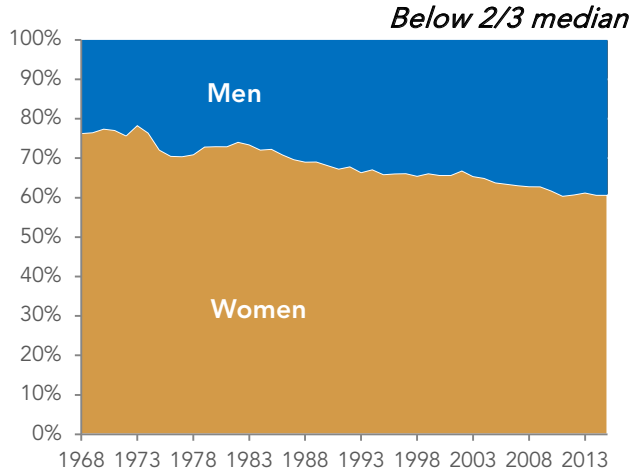
As we outlined in last year's Low Pay Britain the introduction of the NLW will have a big effect on low pay by 2020. In most cases the falls in low pay between 2015 and 2020 are mirrored by a rise in the share of workers on the NLW. This is unsurprising given that the explicit aim of the policy is to ensure that all workers over 24 earn 60% of median earnings by 2020 - our low pay threshold.

As a result similar proportions of workers across many industries, occupations, regions and jobs are expected to be on the NLW as are low paid by 2020. Where there are greater proportions of low paid than those on the NLW this is due to the fact that workers under 25 do not qualify for the NLW, although our research suggests that many will indirectly benefit.

Figure 12: Proportion of employees below selected low pay thresholds & distribution of low by sex: 1968-2020

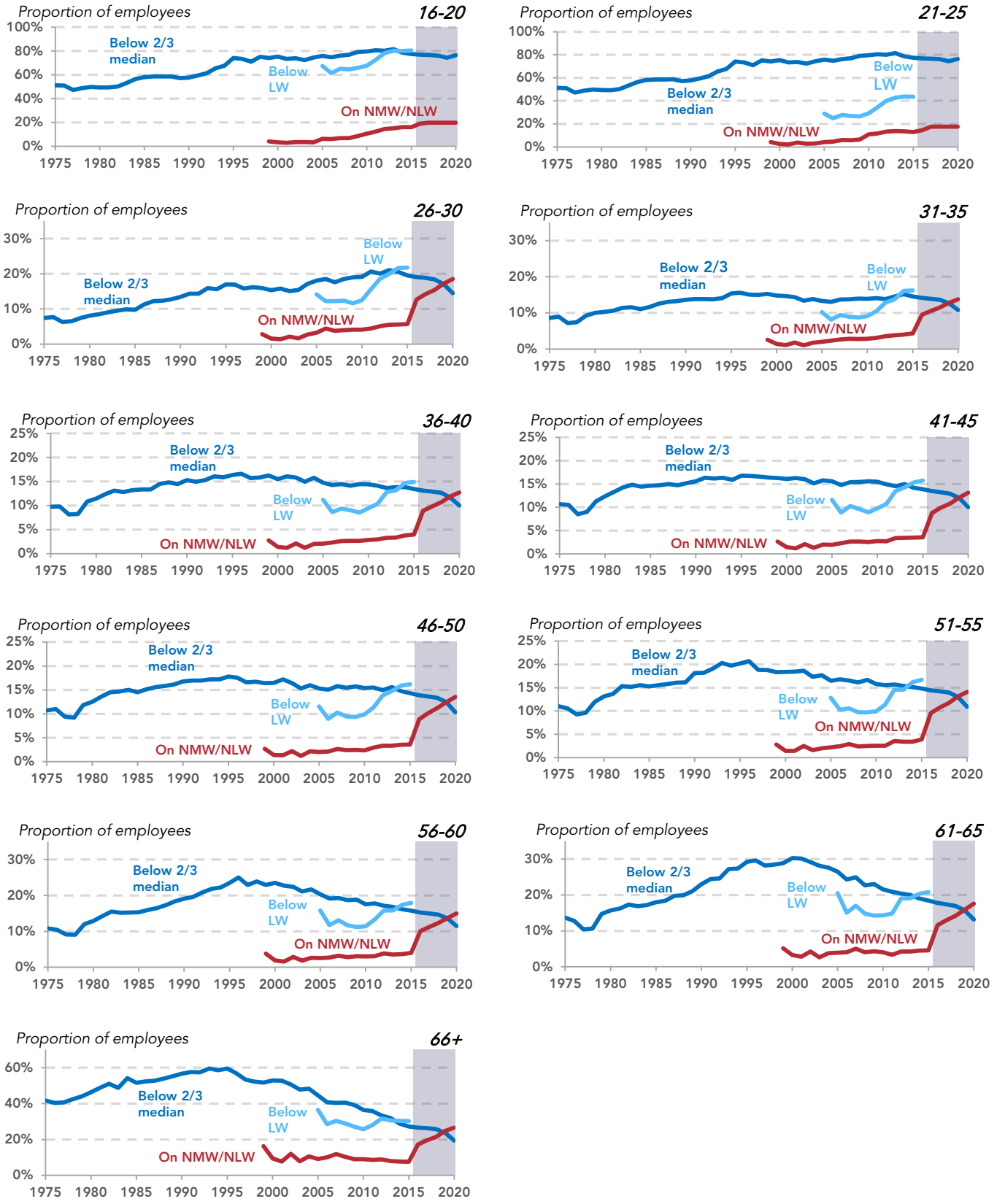






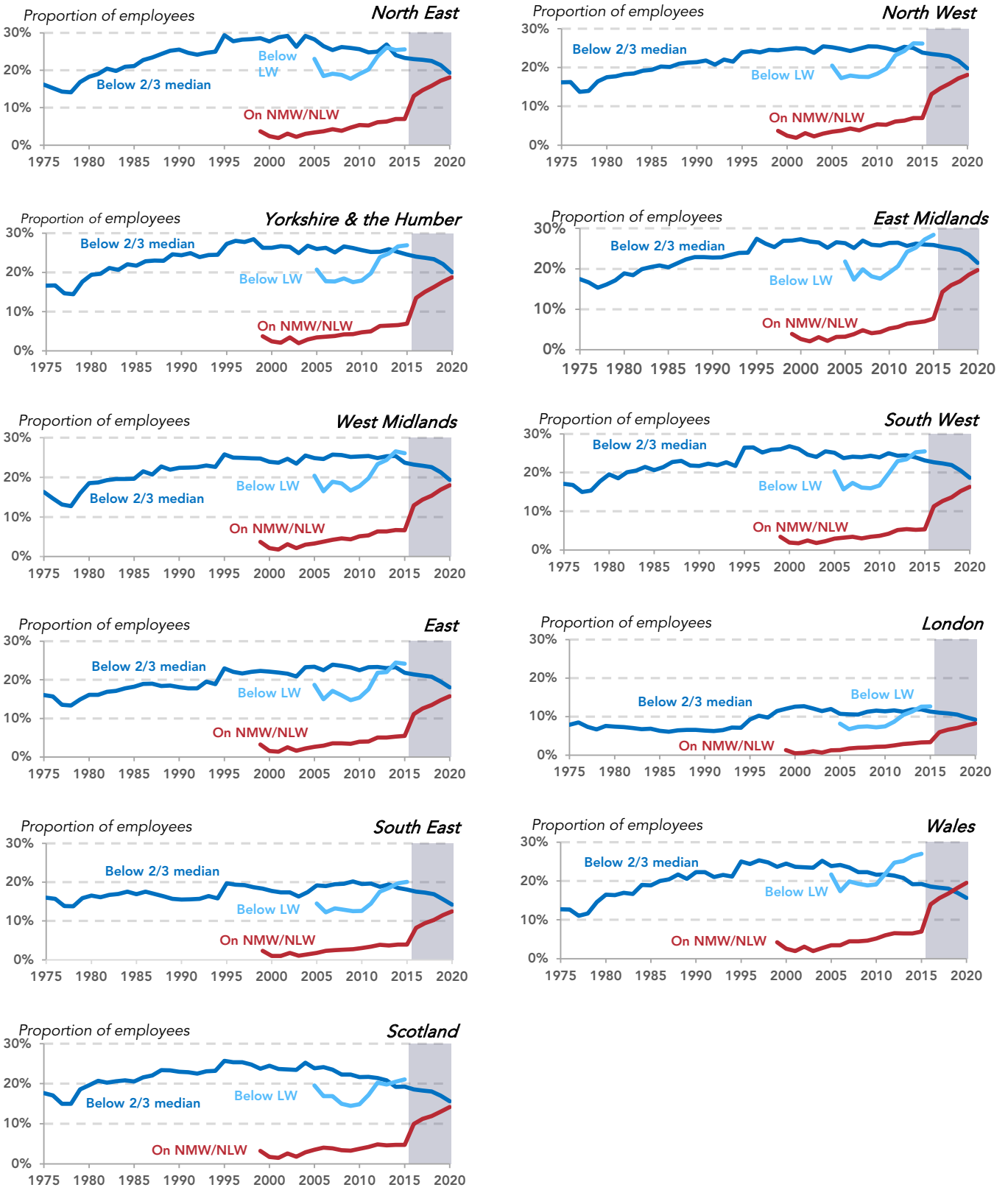
Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings*

Figure 13: Proportion of employees below selected low pay thresholds by age: 1975-2020



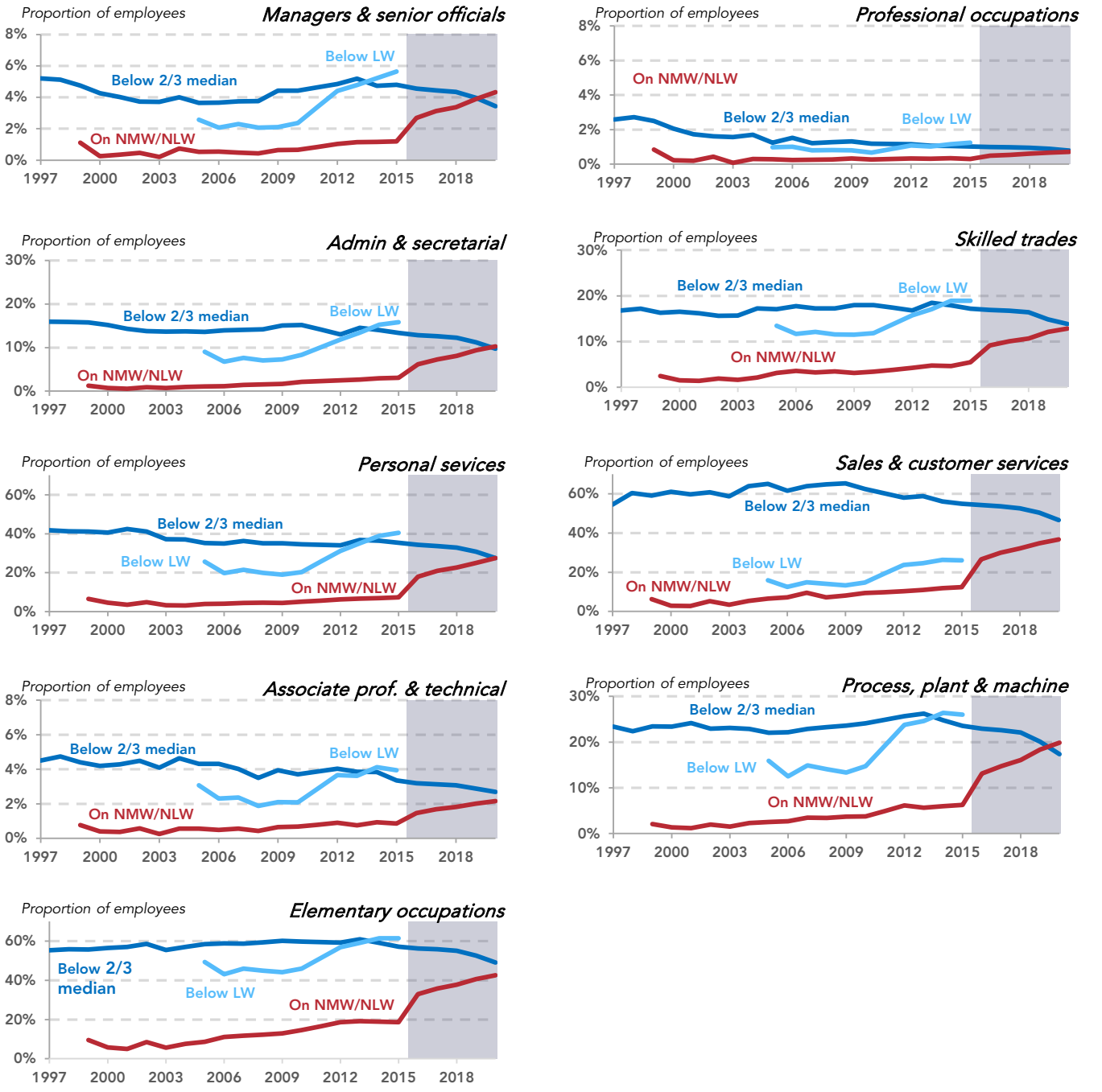
Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings*

Figure 14: Proportion of employees below selected low pay thresholds by region: 1975-2020



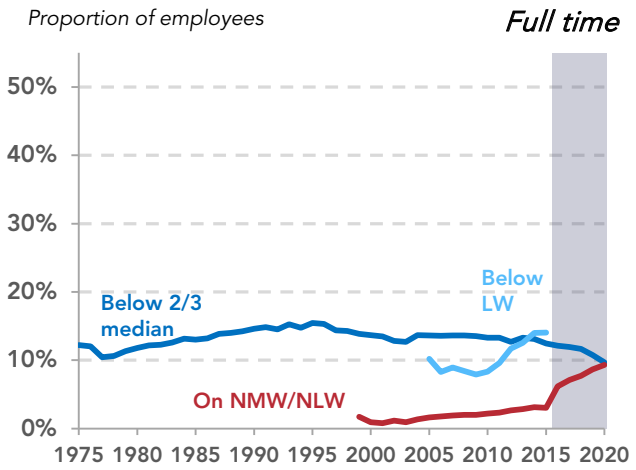
Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings*

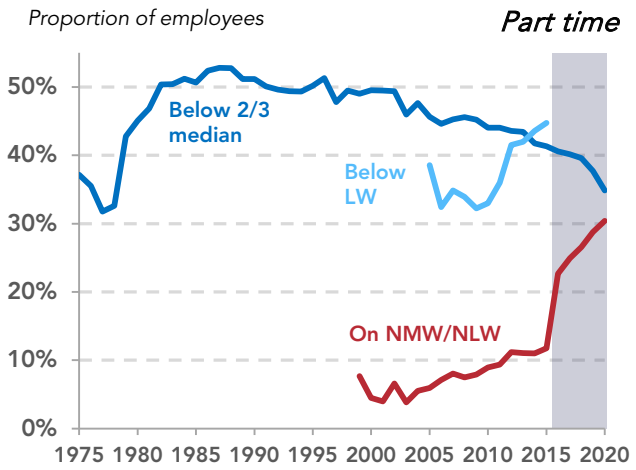
Figure 15: Proportion of employees below selected low pay thresholds by occupation: 1997-2020

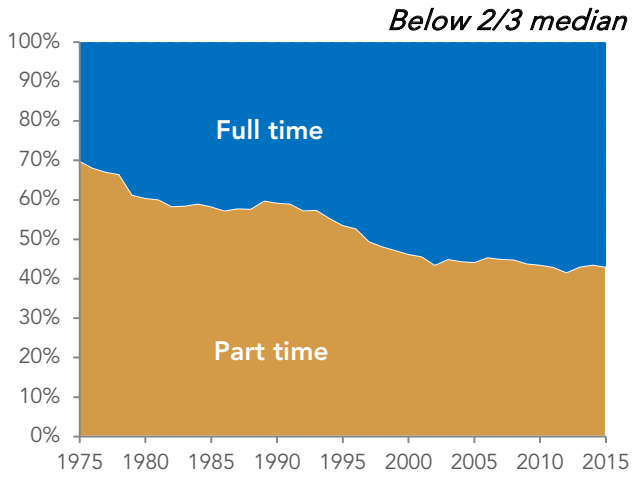


Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings*

Figure 16: Proportion of employees below selected low pay thresholds & distribution of low pay by hours worked: 1975-2020

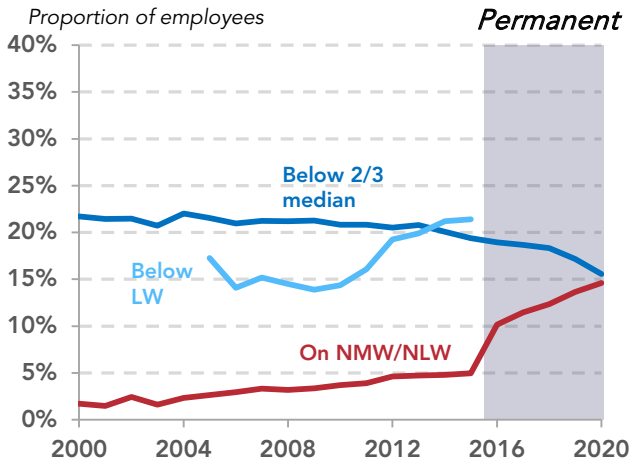


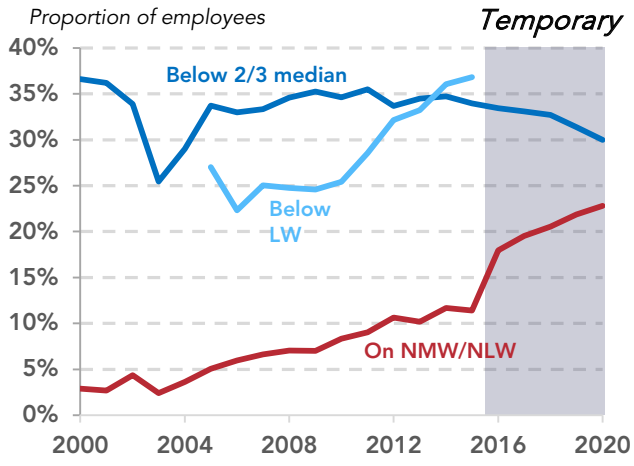


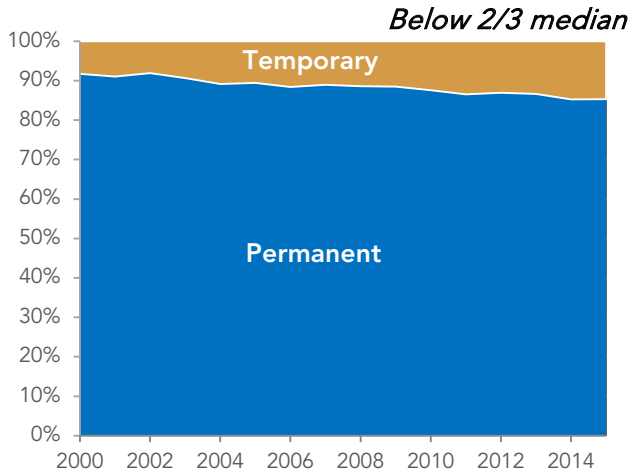


Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings*

Figure 17: Proportion of employees below selected low pay thresholds & distribution of low pay by work status: 1975-2020

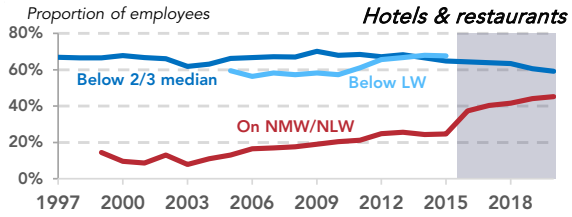


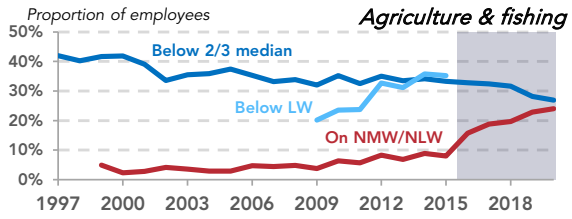


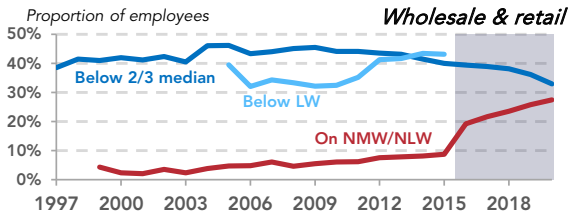


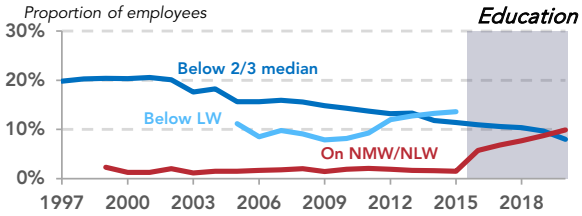
Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings*

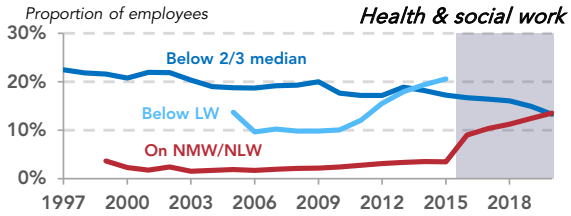
Figure 18: Proportion of employees below selected low pay thresholds by industrial sector: 1975-2020

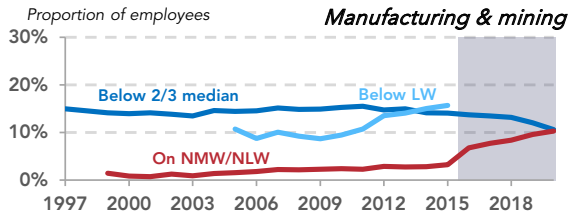


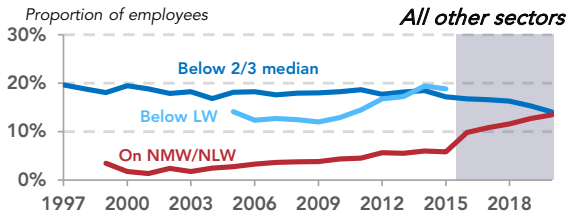


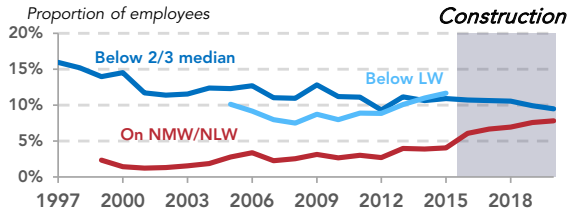


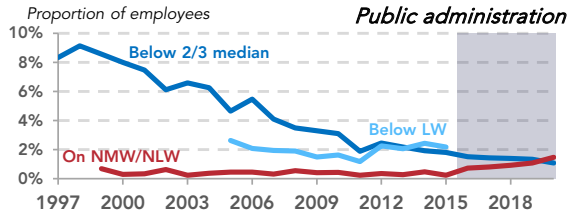


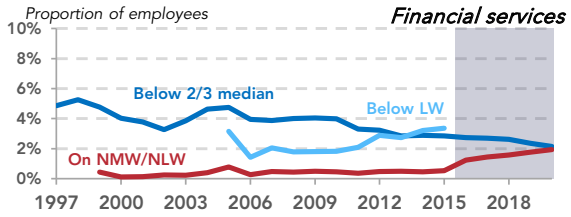






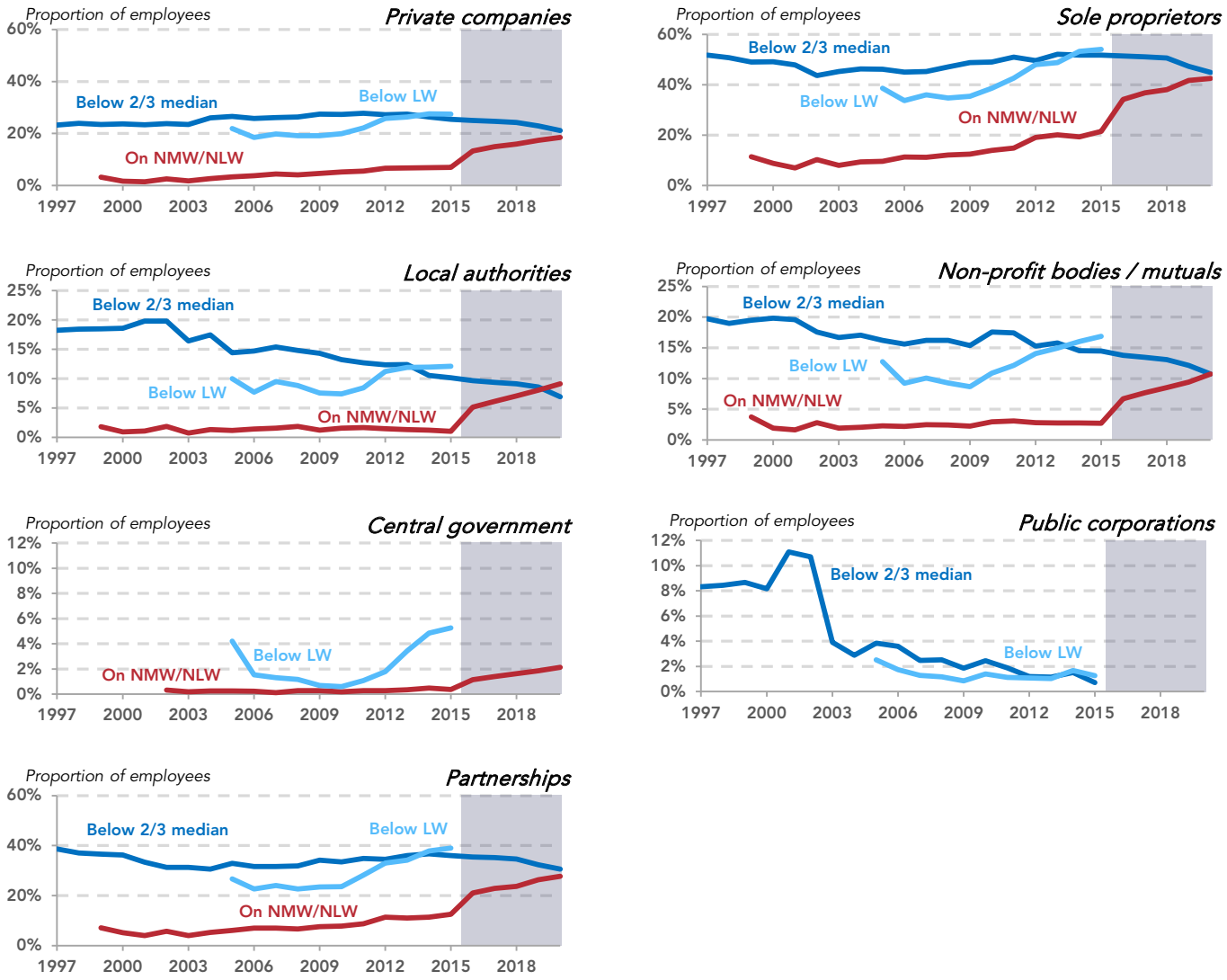






Sources: RF analysis of ONS, *Annual Survey of Hours and Earnings*

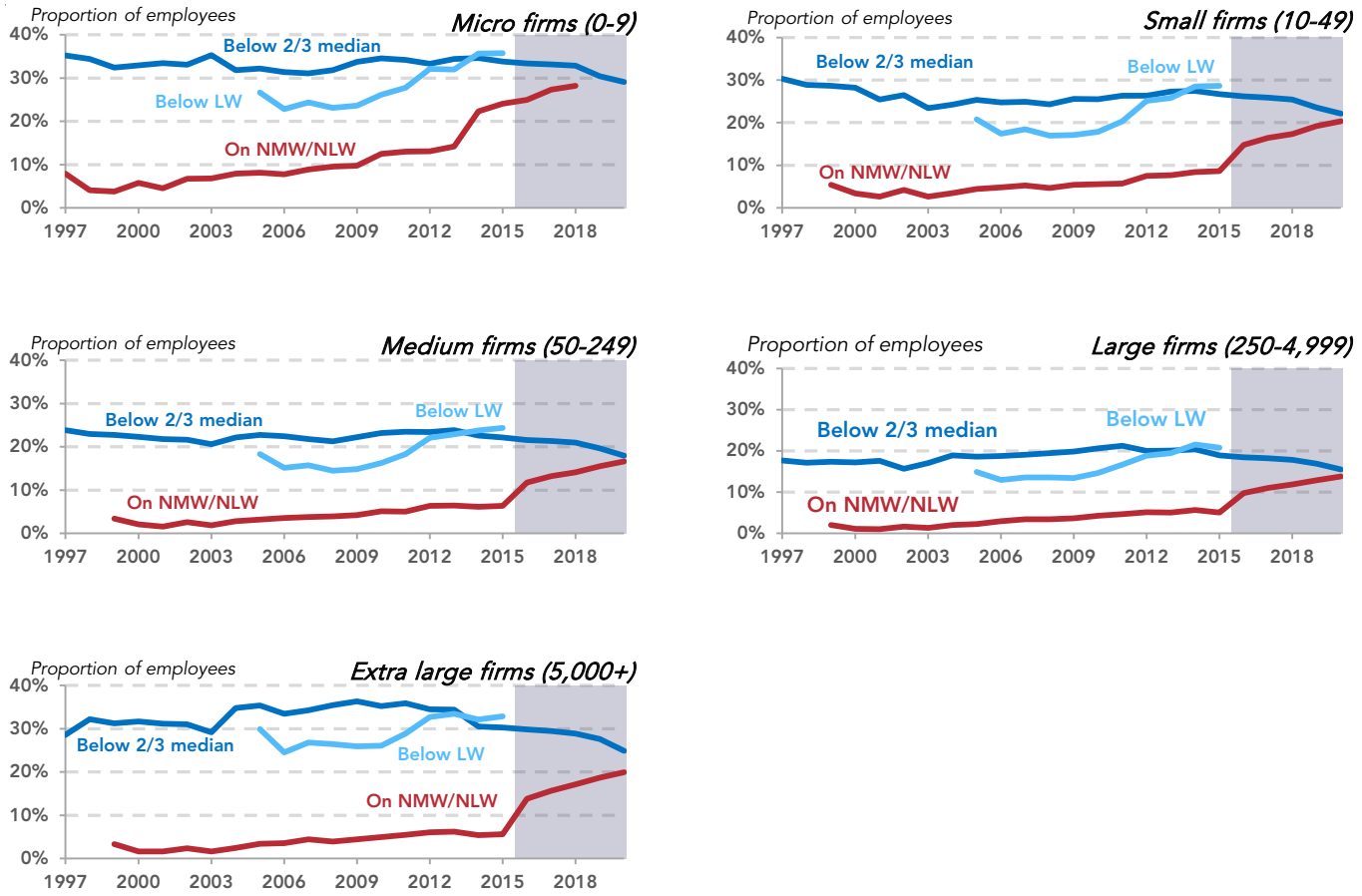
Figure 19: Proportion of employees below selected low pay thresholds by firm structure: 1997-2020



Notes: Data is not available for those below two-thirds of the median in central government and those in the wage floor in public corporations due to the fact that such information could be disclosive.

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

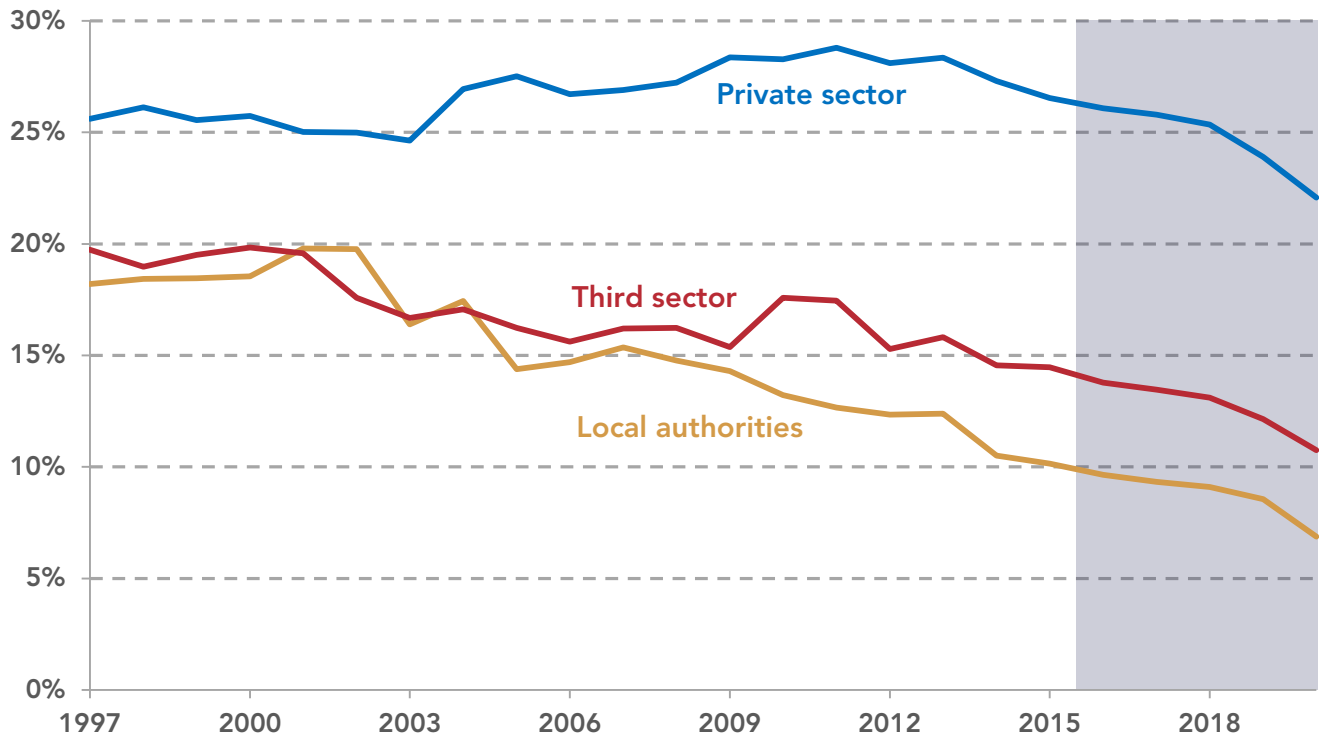
Figure 20: Proportion of employees below selected low pay thresholds by firm size: 1997-2020



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

Figure 21: Proportion of employees in low pay by broad sector, 1997-2020

Proportion of employees below 2/3 all-employee median pay



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

Annex: Data sources and methodology

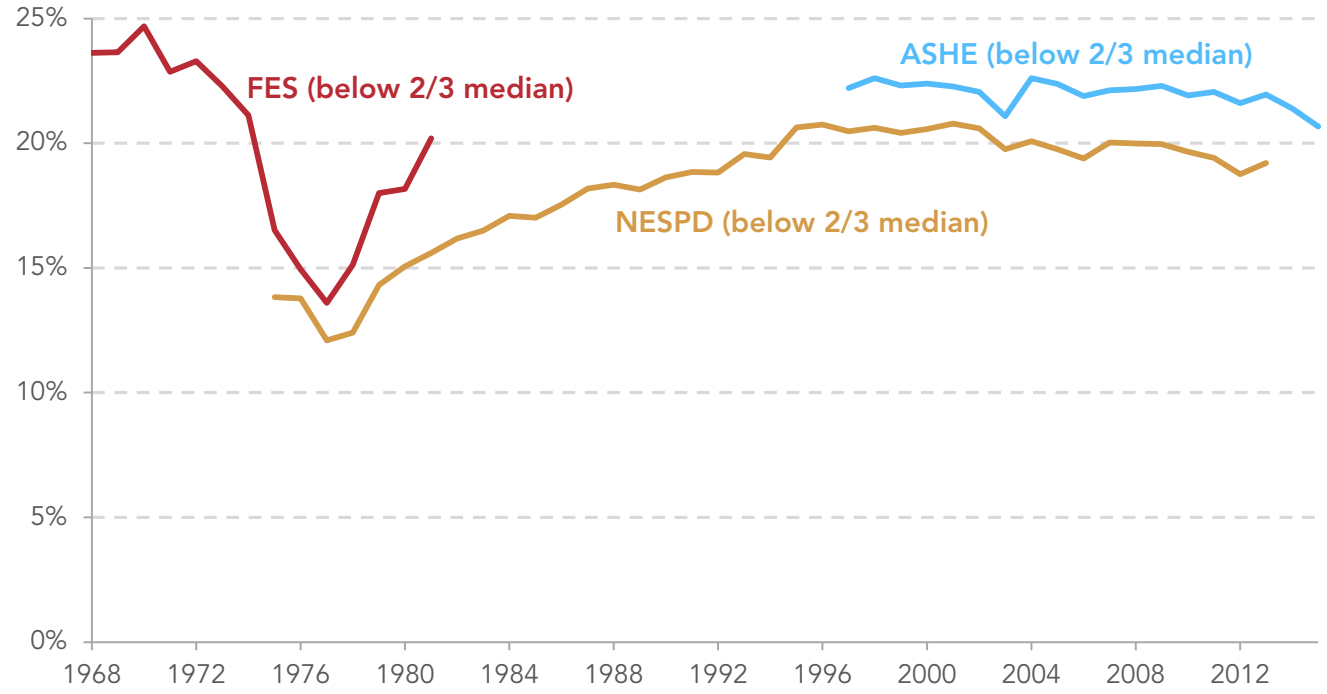
In this Annex we describe the data sources and methods used throughout this report.

Combining different datasets to track low pay over time

As detailed in the main report, where we present time series stretching back before 1997, the figures are drawn from multiple sources. We use hourly pay data across full-time and part-time employees from three sources: the Family Expenditure Survey (FES) covering 1968 to 1981; the New Earnings Survey Panel Data (NESPD) between 1975 and 2013; and the Annual Survey of Hours and Earnings (ASHE) for the period between 1997 and 2015.

As the largest of the three surveys, ASHE provides the greatest level of accuracy. The FES data in particular should be treated with caution, with its derivation depending on the self-recording of 'normal weekly pay' and 'normal weekly hours worked'. In order to provide a consistent basis for our time series, we have adjusted both the FES and NESPD data to bring them into line with the ASHE figures. To do this, we consider the size of the gap between the various sources in the years in which they overlap and inflate or deflate over the remaining period accordingly. Figure 21 presents figures from the three sources in their raw form.

Figure 22: Proportion of all employees below selected low pay thresholds in different data sources, 1968-2015



Notes: GB. Family Expenditure Survey data is based on the derived hourly normal pay figure (code: p011) for all adults aged 18 and over. New Earnings Survey Panel Data and Annual Survey of Hours and Earnings data refer to hourly earnings excluding overtime and shift and premium payments and cover all employees aged 16 and over who report a valid work office region and who have not had their pay affected by absence in the time covered.

Sources: RF analysis of DWP, *Family Expenditure Survey (1968-1981)*; ONS, *New Earnings Survey Panel Data (1975-2013); and ONS, Annual Survey of Hours and Earnings (1997-2015)*

Measuring low pay in ASHE

The data cleaning processes and assumptions we apply to ASHE microdata are similar to those used by the ONS. We use an hourly pay variable that excludes overtime and shift premia and we exclude jobs in which pay has been affected by absence from our analysis. In addition, we exclude jobs with missing or zero hourly pay data when calculating the prevalence of low pay, but then apply the resulting proportions to the total number of employees as measured in the ONS's Labour Force Survey (considered the best survey for measuring employment totals) in order to report the number of low paid people.

While ASHE statistics published by the ONS cover the UK as a whole, the microdata available to researchers is for Great Britain only, therefore the majority of the analysis in this report excludes Northern Ireland. We have made some changes to the way we calculate the number of people who are low paid in Britain, see Box 5.

Box 5: Changes in methodology

The two important changes we have made to the methodology this year are:

- We have changed the weighting we use to generate the numbers paid below the various thresholds from the Annual Survey of Hours and Earnings. For 1997 to present with previous proportions of low-paid adjusted to reflect this. We now use a specific low pay weight to improve comparability with ONS and Low Pay Commission figures.
- In an hourly wage calculations we have excluded not just overtime payments, but also shift shift premia and similar. This better reflects the fact that if someone falls below our low pay threshold for many years but then manages to rise above it by doing more night shifts, we would not consider this rising out of low pay. This also reflects the approach taken by the Low Pay Commission. This affects the results from 1997 to the present with previous proportions of low-paid adjusted to reflect this.

As a result some of the figures calculated in Low Pay Britain 2016 may not match last year's or previous reports.

To calculate the number and proportion of employees 'on' the National Minimum Wage (and National Living Wage) we capture employees earning up to 1 per cent above their age-specific NMW/NLW rate (i.e. this measure includes those earning below the NMW due to non-compliance). The 1 per cent buffer is applied due to uncertainty in the hourly wage data and because many employees are paid a few pence above the rate itself in order that their employers not be considered 'minimum wage businesses'. However, in practice, their wages are strongly determined by the rate of the NMW, not least because the NMW has grown by at least 1 per cent each year since 2001, meaning that those up to 1 per cent above it are likely guaranteed a pay increase. Apprentices paid more than their legal minimum (£2.68 in April 2014) but less than the usual minimum for their age group are nonetheless counted as 'on' the NMW/NLW.

Assessing the impact of the National Living Wage on low pay

In Section 2 of this report we cast forward to how Britain's prevalence of low pay might look in 2020, when current estimates suggest it could be around £8.70. To do this we follow the same methodology used in our two previous reports on the potential impact of the NLW.[7] For a detailed description of our approach refer to the annexes to these reports. A summary of some of the key steps is as follows:

- » To cast forward to 2016 and 2020, we identify the values that are 55 and 60 per cent of median earnings of those aged 25 and over in the 2015 ASHE microdata. This is in line with the stated intention that the NLW be equivalent to 55 per cent of median earnings for those aged 25 and over in 2016, rising to 60 per cent by 2020.
- » We apply these estimates of the NLW to the wage distribution, adjusting affected individuals' wages up to (at least) the new minimum.
- » As well as direct effects on employees whose pay is below the new minimum, we incorporate indirect or 'spillover' effects, where wage increases ripple higher up the wage distribution, for example in order to preserve the earnings differentials that existed prior to the new wage floor. These are modelled on the basis of the latest academic literature on their size and incidence in the UK.
- » The resulting estimates of the number of people in low pay are uprated to 2016 and 2020 using OBR projections for employment growth.
- » We assume a linear progression in the prevalence of low pay between 2015 and 2016, and between 2016 and 2020. Note that in practice the pattern will be different, particularly because it is up to the Low Pay Commission to determine how the NLW moves from its starting rate in April 2016 to its 2020 target value.

[7] C D'Arcy, A Corlett & L Gardiner, *Higher ground: Who gains from the National Living Wage?*, Resolution Foundation, September 2015; C D'Arcy & A Corlett, *Taking up the floor: Exploring the impact of the National Living Wage on employers*, Resolution Foundation, September 2015

Resolution Foundation

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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