National Minimum Wage

Low Pay Commission

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Low Pay Commission Report 2017

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Low Pay Commission Report 2017

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by the Secretary of State for
Business, Energy and Industrial Strategy
by Command of Her Majesty

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Introduction

1. Our annual report this year (the 19th annual report of the Low Pay Commission) responds to a request by Government to make recommendations on the rates for the National Living Wage (NLW) and the National Minimum Wages (NMW) to apply from April 2018. This is our second annual report in the new cycle following the introduction of the NLW, and as such enables us to reflect over the last 12 months and identify, albeit in a limited way, the impact the changes have brought to the low pay end of the UK labour market.

2. As for our previous report (Autumn 2016), our recommendations this year are made against a backdrop of significant change and uncertainty. This year has seen a snap General Election, a significant review into 'good work' relevant to the work of the Commission, and the appointment of Sir David Metcalf as Director of Labour Market Enforcement. And there remains continuing concern and uncertainty about the performance of the UK economy, now and for the future, following the decision last year to end the UK's membership of the European Union.

3. Following the General Election, the Government made clear its continuing commitment to achieving a goal of 60 per cent of median earnings by 2020 for the NLW, subject to sustainable economic growth. There is also a clear commitment from this Government to maintain this target after 2020. As a result, the NLW will continue to track changes in median hourly earnings, meaning that pay for workers on this rate is reflective of changes in wages more generally. In the future, subject to the view of any future Government on the NLW, this should mean that there will be greater (although not absolute) certainty and predictability about future NLW rates, although they may still pose a challenge to employers.

4. Although the economy remains stronger than many had predicted following the decision that the UK should end its membership of the European Union, it is clear from a number of indicators that the economy is showing signs of slowing. Productivity remains stubbornly around pre-recession levels and Gross Domestic Product (GDP) growth is weakening. Inflation is picking up, while wage growth lags behind. However, growth in employment and hours, key indicators we use in making our recommendations to Government on new rates, remains strong. While growth remains below trend, the UK labour market remains particularly resilient.

5. The inevitable uncertainty about the UK's future relationship with the European Union and, as a consequence, future relationships with other countries, underpins the downbeat assessments of the future performance of the UK economy. As negotiations on the terms for the UK's exit from the European Union continue at pace, much more is now known both about the framework for these talks, and the challenges to securing agreement. The final terms secured, and the resultant different relationship with the EU, have the potential to reshape the UK's economic and social model.

So while the economy is currently performing better than expected following the decision to leave the EU, the economic outlook remains unclear, and will do for some time.

6. The devaluation of sterling and the slowdown in migration from EU countries heighten the uncertainty businesses and employers feel they face. Devaluation makes exports more attractive, but imports are more costly and sectors which rely on high proportions of migrant labour may also experience an impact. This continuing sense of being in transition to an unclear end point makes it difficult for businesses to plan ahead and invest. In this uncertain fiscal climate, the 2020 target for the NLW is perceived by businesses as a risk, albeit one which has lessened as its projected final cash value has decreased.

7. This year, there have been a number of initiatives relevant to our work and focus, including: the Government-commissioned Taylor Review into modern work practices; the appointment of Sir David Metcalf to lead a new directorate on labour market enforcement; the Government's response to a consultation on corporate governance, which highlighted concerns about large disparities in pay ratios between the lowest and highest paid in companies and organisations; and a Green Paper on Industrial Strategy. We look forward to seeing the White Paper on Industrial Strategy later this year, especially given the Secretary of State's comments on furthering the approach brought about by the introduction of the NLW, improving weekly earnings of the lowest paid workers, by boosting earning power throughout the country (Clark, 2017).

8. As part of our programme of activity this year we met with Matthew Taylor to discuss his review of modern work practices in the UK. We shared our thoughts on his high level objectives, reflecting on our experience and knowledge, and its relevance to our work. We welcome the report published earlier this year, its focus on improving the quality of work in the UK, and in particular its highlighting of practices around low paid workers and short hour contracts, which in some cases result in one-way flexibility benefiting only the employer. Our view has always been that 'good work' is relevant to all workplaces, irrespective of earnings or hours worked, and we are pleased to see this set out in a clear and forthright way in the report of the review. We look forward to the Government's response to the review, expected later this year, and supporting, where we can, any changes identified to improve the quality of work for people in low paid jobs.

9. We also welcome the creation of a single directorate bringing together responsibility for labour market enforcement, led by Sir David Metcalf. He has been asked to set strategic priorities for the Gangmasters and Labour Abuse Authority (GLAA), the Employment Agency Standards Inspectorate (EAS Inspectorate) and HMRC's National Minimum Wage Enforcement team. Bringing together the intelligence from these three agencies will improve the information available on and ability to tackle labour market abuses, including failure to pay the National Living and National Minimum Wages. We look forward to the publication of the 2018/19 enforcement strategy and particularly to what it has to say on enforcing the National Minimum Wage. The Commission has already made clear, including in our recent report on non-compliance (LPC, 2017), that while greater investment in the enforcement of the National Minimum Wage has made a real difference, there is more that can be done, both in terms of enforcement and awareness raising of the National Minimum Wage.

10. The new cycle of reporting which the National Living Wage introduces means that when we make our assessment there is more information available on the current rate, but the time available for analysing the main earnings series is less. It also means that notice of the new rates is now just over four months rather than six.

11. We also highlighted how the introduction of the NLW constituted a real step change for rate setting and, given its speed of introduction, a genuine challenge for affected employers, some of which were previously outside of the NMW regime. Unlike the other rates, for the NLW the Government factored in a tolerance for some employment loss, recognising the trade-off between a much higher minimum for workers aged 25 and over, and the rapid increased cost for employers. Last year, it was too early to assess whether there had been any substantive employment effects. There was some evidence that employers had made a range of decisions in response to the introduction of a new rate which was significantly higher than the previous adult rate of the NMW, in order to successfully manage and contain its impact. All the same, employers were, and indeed remain, worried about the impact of the NLW on their businesses' profitability, and their ability to invest and grow at least in the short term.

12. Alongside strong employment, last year we noted that while there were signs that the economy was softening, the UK was growing below trend. Our assessment of the evidence and economic data informed our decision to keep to a straight path for the NLW, recommending an increase in April 2017 to £7.50 an hour, and an indicative rate of £7.80-£7.90 for April 2018 to reach 60 per cent of median earnings by 2020. As wage growth had slowed, so the cash value of the predicted NLW by 2020 declined (as it is designed to do). This means, in effect, that the cash steps to achieving the target of 60 per cent are necessarily smaller and may on the face of it appear more achievable. However, it is still challenging for employers and businesses, and may become more so if the economy were to slow.

13. For the other rates, including the rate for workers aged 21-24, we recommended increases which took into account that the youth rates (for workers aged under 25) had been uprated six months previously. As for the NLW, we recognised that a second round of increases in a short period of time was a challenge for employers. However, the evidence and data, in our assessment, indicated that there was scope to do this without damaging employment prospects for young people, our primary guiding principle in recommending changes to the youth rates. For young people aged over 18, this assessment has been borne out by the strong employment rates. This is not the case for 16-17 year olds, but their particular position must be assessed against a different policy context of encouraging this age group to remain in full-time education or formal training, such as apprenticeships, in preference to full-time work.

14. In setting our remit this year, the Government asked the Commission to recommend new rates to apply from April 2018, for the National Living Wage, the National Minimum Wage rates and the accommodation offset. In considering our recommendations for new rates:

- We have monitored and evaluated the NLW, as far as the available evidence and data permits, in order to make recommendations on meeting the Government's ambition of reaching 60 per cent of median earnings, subject to sustained economic growth.

- We have monitored, reviewed and evaluated the NMW rates (including the accommodation offset) to make recommendations on each without damaging employment prospects for workers aged under twenty five.
- In order to achieve each of the above, the Commission has taken into account evidence and information on: the health and sustainability of the economy; employment and unemployment levels, including any impact of the rates; and relevant policy changes.

15. In our Spring 2016 Report, the Commission made its initial assessment of the likely impact of the introductory rate of £7.20 for the National Living Wage. In our Autumn 2016 Report, we weighed up the merits of either front or back loading the path to 2020, and concluded that the evidence supported maintaining the straight line towards the Government's stated ambition of reaching 60 per cent of the median by 2020. We therefore recommended an increase to £7.50. While some economic indicators showed signs of weakening, employment remained strong and the evidence indicated that economic growth was sustainable, the key consideration the Government had set for the Commission in making its recommendation on the rate for the NLW.

16. In making this recommendation, the Commission took into account the additional pressure employers told us they faced as a consequence of the introduction of the NLW and the expectation of continued upratings to achieve the Government's stated goal by 2020. These pressures appeared to be stronger in some sectors more than others; for example, social care, childcare and hairdressing. However, in reviewing all the available evidence, it was clear to the Commission that the pressure on employers came from a combination of factors, such as pension auto-enrolment and changes to business rates, and not simply from the introduction of the NLW.

17. This year, as detailed later in the report, there is a similar overall picture of pressure on employers, albeit with some different emphases, including the introduction of the Apprenticeship Levy and changes to business rates. Some employers have struggled to identify how they can make use of the levy, and say that they are in effect viewing it as a tax, rather than as a pot of money they can draw down on. Given that levy payments can be claimed back within a 24 month period, it is too early to say with confidence whether the levy will continue to be viewed as negatively as is currently the case, or whether new apprenticeship offers will be developed enabling the levy to be accessed more widely than appears to be the case now.

18. This complex set of factors makes it difficult to identify the specific impact of the NLW on business planning. Nevertheless, the Commission weighs up all the available relevant evidence, alongside views from businesses, employer representatives and workers, to assess both whether the NLW is having the desired impact, and whether it has negatively affected employment beyond the tolerance the Government has stated it is willing to contemplate.

19. In both our reports last year, the Commission noted the substantial gains to workers from the introduction of the NLW. The difference the NLW makes is apparent also when we meet people on our site visits to different workplaces. In international terms, the UK has a relatively high minimum wage and high coverage. The evident ability of businesses so far to cope with the NLW, resulting in continued high levels of employment, highlights both the underlying strength of the UK economy and the commitment to fair pay for those in low-paying work.

20. The application of the NLW to workers aged 25 and over also resulted in a new National Minimum Wage for 21-24 year olds. This report is the first opportunity to look at this new 21-24 Year Old Rate over a period of time – albeit still a short one. Low uptake of this rate last year may have stemmed from reluctance among some employers to make a distinction in pay when previously all low-paid workers aged 21 and over had been entitled to the same statutory minimum rate. This year, use of the 21-24 Year Old Rate actually fell, with similar numbers now paid at the 21-24 Year Old Rate and the NLW. Again, it seems reasonable to assume that low use of the 21-24 Year Old Rate stems at least in part from employers preferring not to make this distinction in their workforce.

21. Increases to the youth rates and the Apprentice Rate in October 2016 and April 2017 meant that, in effect, there were above average increases to these rates. This year, there were also important changes to apprenticeship policy, including the introduction of the Apprenticeship Levy, although its operation is different across the constituent parts of the UK. Youth employment overall remains strong, a key consideration for the Commission in making its recommendations for these rates.

22. The different approaches to and different factors we must take into account in setting these rates compared with the target set for the NLW could result in widening further the differential between the NLW and the youth rates. In the longer run, it may be that if the differential widens, there could be an impact on transition to the NLW, something which as a Commission we need to weigh up as the evidence base improves. However, overall, while businesses and employers tell us that the upratings, especially for the NLW, pose a real challenge, employment remains strong indicating that there has been capacity to accommodate the extra cost.

23. While some employers and businesses make tough decisions in order to be compliant with the statutory rates, others fail to meet this requirement, whether deliberately or because of error. Earlier this year, we published a stand-alone report on non-compliance, and do not specifically cover avoidance of the National Living Wage and the National Minimum Wages. However, it is worth briefly recapping the main findings here:

- As many as one in five low-paid workers could be paid less than the legal entitlement.
- Compliance increases in the months following uprating – suggesting that there is more to do in raising awareness and helping employers to be compliant.
- While underpayment is difficult to measure, overall underpayment as a percentage of coverage fell, but the number of workers aged over 25 who were underpaid increased following introduction of the NLW.
- Just over two fifths of those paid below the NLW are salaried workers (people who are paid monthly and do not have a stated hourly rate), even though this group makes up just over 10 per cent of people paid at the NLW.
- While better enforcement and communications regarding the NLW have delivered results, with record numbers of underpaid workers and arrears owing identified, we think the Government can do more.

- The majority of underpaid workers are female, part-time and hourly paid; this reflects the characteristics of minimum wage workers as a whole.
- Far too many workers are still unaware of their right to be paid the minimum wage, how to complain and that they can claim arrears.

24. We do recognise that the majority of employers are and want to be compliant. The recent round of 'naming and shaming' (August 2017) showed that some companies have been inadvertently non-compliant, and are willing to work with HMRC to become compliant. Others, for whatever reason, fail to keep step with the April uprating, introducing new rates later in the year. But in our view there remains a rump of employers and businesses that consider the low likelihood of enforcement worth the non-compliance gamble. There have been real improvements in enforcement activity, following the shift to more proactive investigations by HMRC and greater use of self-correction. This has led to higher levels of arrears being uncovered, and a greater number of affected workers being identified, helping to understand the scale of non-compliance. While we welcome these developments, we still think that there is more the Government can do to encourage compliance and crack down on non-compliance.

25. In particular, we recommended that HMRC establishes information systems allowing Government to learn as much as possible about the nature and extent of non-compliance from the cases it investigates. It could also gather intelligence from other parts of Government; for example, working with the Jobcentre Plus Jobmatch Team to identify online job adverts that appear non-compliant. Other areas we identified include:

- evaluating communications efforts around the 2017 NLW and NMW upratings to identify what works, as awareness of the minimum wage can contribute to increased compliance;
- improving guidance around the technical errors employers have made, so that others can learn from and avoid their mistakes;
- more regular and predictable naming of non-compliant employers to build on the momentum of this policy;
- publicising the increase in enforcement activity, to try and increase employers' awareness of the risk of being found non-compliant; and
- 'nudges' for employers, such as a 'tick box' declaration on payroll software, asking an employer to confirm that staff are paid the minimum wage could also be helpful.

26. Our commitment to evidence remains the guide for making recommendations on the new rates for the NLW and NMW. We have, as in previous years, drawn on four broad sources:

- formal written and oral consultation with employers, workers and unions;
- in-house economic analysis looking both backwards at trends in growth, employment and pay, and forwards at leading indicators of economic and labour market performance;

- independently published research, plus our own commissioned independent research from universities, thinktanks and research bodies; and,
- visits to organisations and workers around the country, which bring to life the impact of the policy.

27. The change in our reporting cycle impacts on the time available for some elements of our in-house analysis. On the new cycle, we have one quarter of Labour Force Survey (LFS) data available to us covering the period following the April 2017 uprating. This is too short a timeframe to assess whether there have been any negative effects from the uprated NLW, other than that so far there is no evidence of large scale job loss. We have complemented this by using surveys carried out by stakeholders and case studies which add insights and help add to the picture.

28. For our in-house analysis of the economy, we drew on data available up to 20 October 2017. This included: ONS labour market data; pay settlement data from various pay researchers; economy and pay forecasts from the Bank of England's August 2017 Inflation Report and the Treasury's independent panel up to October, but not the autumn forecasts of the Office for Budget Responsibility (OBR), which are largely produced and published after the date we are required to deliver our findings to the Government. We note the forecasts from the OBR's March 2017 Economic and Fiscal Outlook. The first (provisional) GDP data for the third quarter of 2016, covering the post-election period, will not be released until 27 October. Therefore we use GDP data up to the second quarter.

29. The issue of available data is also relevant for the other rates, and not just the NLW. As we noted last year, it will take time to establish the effect of the NLW on the employment and pay of younger workers. Our recommendations take into account the delicate balance between setting a pay floor for younger workers without pricing them out of the jobs market or encouraging substitution of older workers. In our last report we concluded that the genuine differences in labour market performance meant that the pay floor for younger workers could not be set at the same level as the NLW without risking employment levels.

30. Last year, we said we would consider the balance between the rate of increase in the pay floor for younger workers against the risk of too large a gap opening up. In our discussions this year, we noted the differential experience of the youngest workers (16-17 year olds) and the changes to apprenticeships following the introduction of the levy and a move in England from standards to frameworks. Iin weighing this up we also reflected on the better than expected performance of the economy, together with strong employment and earnings outcomes for younger workers.

31. The recommendations of this report, if accepted, will take effect in April 2018. Next year, as well as looking more closely at emerging evidence of some employment effects of the NLW (although this is in the light of strong overall employment) we intend to undertake a review of the youth rates, including the Apprentice Rate.

This report

32. The report broadly follows the same structure as in Autumn 2016:

- Chapter 1 sets out the evidence on the economy, looking back over 2016 and the first half of 2017.
- Chapter 2 evaluates the NLW, building on our preliminary assessment of its impact.
- Chapter 3 analyses the labour market position and earnings of workers aged 16-24 with a view to informing our recommendations on the 16-17 Year Old Rate, the 18-20 Year Old Rate and the 21-24 Year Old Rate.
- Chapter 4 analyses the labour market position and earnings of apprentices, with a view to informing our recommendation on the Apprentice Rate.
- Chapter 5 sets out our evidence about the economic prospects for the UK economy, stakeholder views on future rates and other regulatory costs facing business.
- Chapter 6 provides our recommendations for all the rates for the year from April 2018. It also gives our view on the 2019 indicative rate for the NLW.

Evidence gathering

33. We are very grateful to organisations and individuals that have provided evidence to assist the Commission in reaching its recommendations for new rates.

34. We received more than 55 responses to our consultation. A total of 15 organisations presented at our regular Commission meetings between March and October, and representatives of 35 organisations came to our oral evidence sessions. Our Secretariat held regular meetings with stakeholders. Appendix 1 records those who responded to our call for evidence and who agreed to be listed.

35. We also visited employers, workers and others affected by the National Minimum Wage, talking to more than 50 organisations. Six visits took place over the course of our work for this report. We visited: Margate, Leeds, Glasgow, Belfast, Newport and Melton Mowbray. We would like to record our gratitude to everyone who gave their time to meet with us.

36. A number of commissioned external research projects informed this report. The findings are used to supplement other evidence throughout this report, and a summary is provided in Appendix 2.

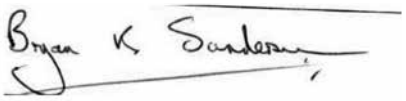
37. We have met formally as the Low Pay Commission eight times since our previous report, including two days to take oral evidence from representative organisations, and an all-day meeting in October to take presentations from the Government and a number of expert stakeholders on economic and labour market issues. In addition, we met in late October for two days to review and assess the evidence relevant to our remit, and to agree all the recommendations contained in this report.

Conclusion

38. Our recommendations to Government on new rates to apply from April 2018 are agreed by all Commissioners. In making our recommendations for the NLW rates, the Commission has taken into account the sustainability of economic growth. For the other rates, we have made recommendations aimed at helping as many low-paid workers as possible, without damaging their employment prospects. We have also decided to set out an indicative rate for April 2019 for the National Living Wage, as part of the path to reach the Government's continuing commitment of 60 per cent of the median by 2020, and for the NLW to track against 60 per cent of the median thereafter.

The Commissioners

Bryan Sanderson (Chair)
Chairman, Florence Nightingale Foundation



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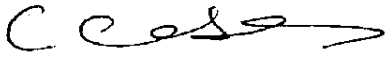

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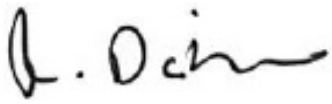

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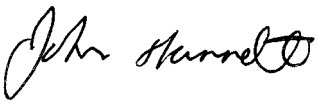

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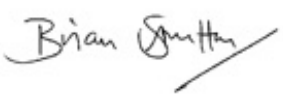

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The Government's Remit to the Low Pay Commission

NATIONAL MINIMUM WAGE AND NATIONAL LIVING WAGE – LOW PAY COMMISSION REMIT 2017

The Government is committed to delivering an economy that works for everyone. Through the National Minimum Wage and National Living Wage, the Government is ensuring the lowest paid are fairly rewarded for their contribution to the economy. The independent work of the Low Pay Commission (LPC) continues to play a central role in helping to achieve these ambitions.

The LPC's recommendations will continue to guide the Government as it sets the National Minimum Wage rates with the objective of helping as many low-paid workers as possible, without damaging their employment prospects. The Government would like the LPC to monitor, evaluate and review the levels of each of the different National Minimum Wage rates (16-17, 18-20, 21-24 age groups and apprentice rates) and make recommendations on the increase it believes should apply from April 2018 in light of this objective.

The National Living Wage was introduced in April 2016 for workers aged 25 and over and has already directly benefitted over a million hard-working people across the UK. The Government asks the LPC to monitor and evaluate the National Living Wage and recommend the level to apply from April 2018. The ambition is that it should continue to increase to reach 60% of median earnings by 2020, subject to sustained economic growth. After 2020, the National Living Wage will rise by the rate of median earnings, so that people who are on the lowest pay benefit from the same improvements in earnings as higher paid workers.

The accommodation offset was introduced in 1999 and remains the only benefit in kind which is taken into account when calculating the minimum wage. The Government asks the LPC to recommend the accommodation offset rate which will apply from April 2018.

In making these recommendations the LPC is asked to consider the pace of the increase, taking into account the state of the economy, the impact upon employment and unemployment levels, and relevant policy changes.

Timing

The LPC is asked to provide a report in response to this remit to the Prime Minister and the Secretary of State for Business, Energy and Industrial Strategy by October 2017.

Executive summary

1. This is the 19th Low Pay Commission (LPC) report, and the second in which we have recommended a rate for the National Living Wage (NLW), the minimum wage for workers aged 25 and over that was introduced in April 2016. It is also the second report in which we have recommended all the rates to come into effect on 1 April.

2. For the NLW, the Government set a target of 60 per cent of median earnings by 2020, subject to sustained economic growth; the 2017 LPC remit asks that we recommend the level to apply from April 2018. In contrast with the other rates, the Government introduced the NLW with a greater tolerance of risk to employment. Analysis by the Office for Budget Responsibility (OBR), when the NLW was first announced, estimated that its introduction would mean 20,000-110,000 fewer jobs by 2020 than would otherwise have been the case, albeit set against wider net employment growth of 1.1 million jobs in the period 2015-2021.

3. For the other rates, which cover 21-24 year olds, 18-20 year olds, 16-17 year olds, and apprentices, we were asked to recommend rates for April 2018 'with the objective of helping as many low-paid workers as possible, without damaging their employment prospects'.

4. The 60 per cent target is a relative one, with the trajectory of the NLW moving in response to actual and forecast median earnings growth. This flexibility in the NLW's design balances the presumption of an increase that is implicit with the 2020 target, and helps us take account of the uncertain position of the UK economy in executing our remit. Increases in the NLW are also 'subject to sustained economic growth', and the LPC can, in principle, alter the path of the NLW to backload or frontload the increases.

5. At the time of our Autumn 2016 Report, due to lags in the emergence of evidence, we had limited data on which to base our decision. This year, we have employment and hours data for the whole of the first year of the NLW. We also have additional research and a further round of stakeholder evidence to support our analysis, with the organisations we received evidence from also having had over a year to assess the effects of the NLW.

6. The increases implied by the NLW's path have an effect on the way we consider the other rates. On the one hand, workers aged under 25 have higher unemployment and lower average pay than older workers, suggesting caution in setting their pay floor. Further to this, any economic slowdown is likely to affect younger workers more.

7. On the other hand, the shelter provided by the NLW might mean that pay for younger workers could be higher than it otherwise might be. There is also evidence that too large a gap between rates can be problematic for younger workers when they reach threshold ages and require a steep increase in their pay. Furthermore, we have heard concern from both employer and

employee representatives that too large a gap presents issues of fairness in the workplace and enhances the risk of substitution.

Chapter 1: The economic context

8. In our Autumn 2016 Report we recommended that from 1 April 2017, the NLW increase by 4.2 per cent to £7.50 per hour. For the other rates, we recommended a second increase in six months – the rates having increased in October 2016 based on recommendations in our Spring 2016 Report. All of our recommendations are set out in Table 1; they were all accepted by the Government and implemented on 1 April 2017.

Table 1: LPC Autumn 2016 NMW rate recommendations

NMW	Oct-2016	Apr-2017	Equivalent annual increase (per cent)
National Living Wage	£7.20	£7.50	4.2
21-24 Year Old Rate	£6.95	£7.05	3.2
18-20 Year Old Rate	£5.55	£5.60	3.1
16-17 Year Old Rate	£4.00	£4.05	2.8
Apprentice Rate	£3.40	£3.50	4.5

9. When we agreed these recommendations, the UK economic forecasts had recently been subjected to considerable uncertainty resulting from the EU Referendum result. Discussions therefore focused on the outlook for the economy and the labour market, in the wider context of that decision for the UK to leave the EU, but particularly for 2017-18. Early concerns about an immediate recession following the Referendum result in June had not come to pass, and a number of economic indicators had been much better than feared. We judged that the automatic adjustment in the on-course rate, reflecting the effect of lower pay forecasts on the relative goal, was sufficient to manage any economic risks.

10. However, the consensus of forecasters remained that the UK faced lower growth – around 1 per cent in 2017 compared with a previous expectation of over 2 per cent – and higher unemployment (as weaker hiring and investment intentions fell short of continued working age population growth). Between the end of 2015 and October 2016, sterling depreciated by nearly 20 per cent against the dollar, the euro, and a trade-weighted basket of currencies. Although this might have helped boost trade, it was also likely to lead to a pick-up in consumer price inflation as input and raw material prices from overseas increased. With productivity remaining stubbornly flat, there was a risk of real wage reductions. We had little clear evidence in the official data of any discernible impact of the NLW on employment, although some survey data had pointed to some difficulties in particular sectors. But it was still too early to judge.

11. Having grown in line with forecasts in 2016 (1.8 per cent), GDP growth slowed in the first half of 2017, but was still stronger than the immediate post-Referendum forecasts had predicted. This slowing has been evident in the deceleration of consumer spending that has occurred as inflation – resulting mainly from the depreciation of sterling – has squeezed real incomes. In contrast, the increased tourism encouraged by the depreciation has helped to boost the retail and hospitality sectors. That depreciation had been expected to boost trade and indeed it did in the second quarter

of 2017 after acting as a drag in the first quarter. Investment has also picked up, but is not much higher than in 2015.

12. The forecasts available for our Autumn 2016 Report had expected employment to be flat or fall slightly, with unemployment growing by around 250,000 to reach an unemployment rate of around 5.5 per cent in 2017. However, employment growth has again been much stronger than projected, with an increase in workforce jobs of 1.2 per cent in 2017, while unemployment has continued to fall – down by 175,000 over the year to July 2017. The unemployment rate is, at the time of writing, just 4.3 per cent. Total employment, total hours worked, working age employment rates and vacancies all reached record highs in 2017. There has also been stronger growth among full-time workers rather than part-time workers, and in permanent jobs rather than temporary ones, over the last year. Redundancies have also slowed and are below pre-crisis levels.

13. Sluggish output growth alongside strong employment growth has led to more or less stagnant productivity growth. Output per hour was the same in the second quarter of 2017 as it was nine years earlier in the second quarter of 2008, while output per worker and output per job was only around 1.5 per cent higher across the whole period. Prior to the recession, trend productivity growth on all three measures had been around 2.0 per cent a year.

14. The depreciation of sterling and the increase in oil prices have added to inflation, with Consumer Price Index (CPI) inflation reaching 3 per cent in September 2017. This was higher than the consensus of forecasts made last autumn, which were around 2.0-2.5 per cent. Retail Price Index (RPI) inflation reached 3.9 per cent at the end of the third quarter of 2017 – again higher than the consensus forecasts of around 3.2 per cent.

15. Despite rising inflation, the growth in employment, and concerns that the labour market was getting tighter, pay settlements and earnings growth remained subdued. At around 2 per cent, they were lower than the OBR or Bank of England forecasts (3.0-3.6 per cent), but they were in line with the consensus forecast from the HM Treasury panel of independent forecasts. The median for those aged 25 and over in the Annual Survey of Hours and Earnings (ASHE) was also in line with that consensus.

16. With increasing inflation and subdued wage growth, real wages started falling again in April 2016. Real total pay including bonuses fell by around 1.2 percentage points between April 2016 and August 2017, and remains around 3.5 per cent below its level in April 2008. Real regular pay that excludes bonuses has fared better, falling around 0.5 per cent between November 2016 and August 2017, and is around 2.8 per cent below its level in April 2008. These are considerable, sustained reductions in real wages that are unprecedented in post-war Britain.

17. Overall, the economy and employment have been stronger than the forecasts available when we last made our recommendations in the autumn of 2016, albeit weaker than forecasts produced when the NLW was first announced. Inflation has been higher while average wage growth has been as forecast, or lower, resulting in real wage falls since the spring of 2016.

Chapter 2: The National Living Wage

18. The introduction of the NLW on 1 April 2016 was a significant intervention in the labour market. The subsequent 4.2 per cent increase to £7.50 per hour also represented a relatively large rise in the pay floor for workers aged 25 and over. While both the employer and employee representatives who have submitted evidence since the introduction of the NLW welcomed the objective of higher pay, there were differences of opinion regarding the effects of the rates so far, and the outlook for future increases.

19. Employer representatives were very concerned when the NLW was announced, and told us that the substantial increases that were forecast would put businesses under severe pressure and lead to a reduction in employment. It appears that this concern has softened, aided by the fact that the NLW is now not expected to increase as fast as initially projected. In our consultation this year, we did not receive widespread warnings of employment effects stemming from the NLW. However, this does not mean it has been easy for businesses, and many have had to take action to mitigate the increased labour costs. Also, while some stakeholders are less concerned than they were about the initial NLW rates, some are worried that problems will occur in one to two years' time when the NLW rises further.

20. Survey data we received from stakeholders suggested that a similar number of employers to last year saw their wage bills increase – around half in the large surveys we received. Smaller surveys by employer representatives in sectors that are particularly exposed, such as convenience retail, hair and beauty, and agriculture, revealed that labour costs have increased for most of their members.

21. In a pattern consistent with the evidence we received last year, the most common responses to the NLW so far have been for businesses to accept a reduction in profits or to raise prices. We also heard that the NLW has led to cuts in or delays to investment, particularly for smaller businesses. In discussions with businesses, we heard that differentials have been reduced across a range of sectors, both on the introduction of the NLW and with its subsequent increase.

22. Some of the actions taken by businesses have affected employment, we heard, with convenience retail most vocal in informing us about job losses. Reducing staff hours and slowing recruitment were, in most cases, more common responses than making redundancies. It is not possible to tell from stakeholder evidence what the scale of any employment effect is and whether it constitutes an aggregate drop in employment.

23. Reduction of other aspects of workers' benefit packages by employers has been suggested as a response to the NLW. However, stakeholders thought the extent to which the NLW has affected changes in pay packages has been exaggerated. Unions and employers both thought it was a longer-term trend and that it has not accelerated since April 2016. Reducing overtime, bonuses or other benefits feature as a common response in employer surveys, but these do not reveal the number of people such changes affect, and can refer to a wide range of benefits.

24. We heard relatively few specific examples of firms increasing productivity in response to the NLW, but there is widespread understanding that this is an important avenue for businesses endeavouring to cope with the rising rate. In practice, we heard that this often means an aggregation of small efficiencies. Almost a third of firms affected by the NLW in a Chartered Institute of

Personnel and Development (CIPD) survey said they had raised productivity, though this number was much lower in a Federation of Small Businesses (FSB) survey, suggesting a possible divergence between smaller and larger businesses. Looking further ahead, as the NLW increases we heard that more businesses will seek to improve productivity, some by more fundamental changes like restructuring their workforce.

25. The sectors that reported the NLW causing the most serious problems for businesses were social care, convenience retail, and hair and beauty. The Association of Convenience Stores (ACS) reported a 9 per cent drop in employment (against a backdrop of growing sales in the sector). The National Hairdressers' Federation (NHF) reported reduced hours and slowed hiring, and warned of redundancies in the future. Social care remains under considerable pressure from funding shortfalls, exacerbated by rising wage costs, with widespread reports of providers handing back contracts. This does not seem to have led to employment effects yet, but representatives of the sector told us the situation is still deteriorating, and that business failures and redundancies will become more common.

26. Acknowledging that there are some sectors which have faced greater challenges from the introduction of the NLW, it was clear to us from oral and written evidence and visits, that overall the NLW was not the sole factor driving some of these behaviours, and that employers had coped better with the NLW than they had thought they would when it was originally introduced. Other important factors alongside the NLW included other costs to business (the Apprenticeship Levy, business rates, and increased pension auto-enrolment contributions), as well as continuing uncertainty about the outcome of negotiations for leaving the EU and long-term plans to change workforce structure.

27. Unions generally said little about the effects of the NLW so far, instead arguing that it has been a positive change for workers, and that businesses have been able to manage the increased cost. The Trades Union Congress (TUC) pointed to high employment levels and business profitability as evidence that employers can afford minimum wage increases. Most unions did not think the NLW had caused businesses to scale back jobs, hours, or wider benefit packages. In Northern Ireland though, representatives of the Irish Congress of Trade Unions (ICTUNI) thought the NLW had adversely affected workers as they had lost hours and seen their terms and conditions reduced.

28. We have also undertaken statistical and econometric analysis to gain a quantitative understanding of how the introduction of the NLW and the subsequent uprating affected the labour market. We saw that there have been significant changes in pay and differentials, a possible impact on prices, and limited evidence of an impact on hours and employment.

29. The increase in the NLW – 4.2 per cent – was higher than the recorded increase in median hourly wages for those aged 25 and over – 2.1 per cent – leading the bite (its value relative to the median) of the NLW to increase to 57.6 per cent in April 2017.

30. The 2017 increase in the NLW was milder when measured in real terms, due to the higher level of inflation experienced since the EU Referendum. The real value of the NLW increased by 1.4 per cent adjusting by the Consumer Price Index and just 0.6 per cent using the Retail Price Index. Nonetheless, the main minimum wage rate is still at its highest real level since its introduction in April 1999.

31. Despite the sizable increase in the NLW, the number of jobs covered has remained flat at around 1.6 million, possibly reflecting that the increase was lower than anticipated. As the number of jobs in the economy has grown, the rate of coverage has fallen slightly to 6.4 per cent of those aged 25 and over (from 6.7 per cent in April 2016). However, due to issues with the timing of the data collection, we do not believe that much can be read into small changes in coverage. We believe that the evidence supports the assumption that coverage was broadly flat.

32. Our measure of coverage decreased for all age groups, with the exception of those aged over 65, and by all the job characteristics we examine. Coverage is still significantly higher across all of these aspects than in April 2015, before the introduction of the NLW. Workers aged 25-29 and those aged over 60 are more likely to be covered by the NLW, as are those who are part-time, female, in temporary jobs and working in the private sector. Over a quarter of employees in textiles, hospitality, cleaning and maintenance, and hair and beauty occupations are covered by the NLW.

33. The 2017 increase in the NLW created ripple effects up to the 30th percentile. Wage differentials were squeezed beyond the 10th percentile, with increases in hourly pay for those earning between the 11th (£7.60 per hour in 2016) and 45th (£11.80) percentile of less than the 30 pence increase in the NLW. A significant proportion of those aged 16-24 will have seen a larger increase in their pay due to the increase in the NLW. We estimate that around two-fifths of jobs held by 16-24 year-olds are in the part of the pay distribution where wages are affected by the NLW.

34. Employment has grown for all the groups we identify as being more exposed to the impact of the NLW more quickly than with their comparator groups. Their unemployment rates have generally also fallen more rapidly. There is some evidence that the number of jobs and hours may have started to fall in low-paying occupations as a whole, but this has been more than compensated for by an increase in other occupations in low-paying industries and in non low-paying sectors. There have been sizable regional differences in the growth rates of employment in low-paying and non low-paying sectors, but there appears to be no clear pattern in the changes.

35. In terms of competitiveness, prices seemed to increase slightly faster for 'minimum wage goods and services' at the time of the introduction of the NLW. However, our analysis did not find a similar effect in April 2017. There is some evidence of recent improvements in productivity in retail and hospitality, which is in stark contrast to that in the whole economy. Provisional data suggests that low-paying sectors saw slight increases in the number of firms entering insolvency, but that these remain at historically low levels.

36. The research we commissioned this year provides further insights. We again have some evidence that firms, particularly large ones, have adjusted pay structures and had sought to review non-wage costs. There was also some evidence that some firms in certain sectors had sought to make greater use of the youth rates of the minimum wage and employ more young workers. This evidence also reported that firms had also looked to increase prices and improve productivity where possible, while others had accepted a reduction in margins.

37. One ongoing study we commissioned identified quite large effects on employment retention in some specifications and for some groups. However, the same study did not find significant effects using another data source that also accounted for hires. Further robustness analysis is planned for this research before it reports in full. In contrast, another study had found no significant employment or hours effects when looking at the impact of the NLW in Northern Ireland, although it had found

significant effects for the introduction of the NMW in 1999. A project looking at the impact of the UK minimum wage on automation and offshoring found much smaller effects than in a similar study for the US.

38. Insights from workers on non-standard contracts and from migrant-owned small firms suggested that the challenge of the NLW may lead to greater use of flexible contracts and increased non-compliance.

39. In summary, the NLW has had a large impact on pay for individuals at the bottom of the pay distribution, with some spillover effects on the lowest paid 30 per cent of workers, but with evidence of squeezed wage differentials. In both our analysis of the aggregate data and stakeholder engagement we are not yet seeing much impact in terms of employment effects. However, changes in the economy more widely could be masking any impacts from the NLW, and we cannot measure what changes would have occurred without the NLW. Some of our commissioned research has suggested that the NLW may have had an impact on employment, but these are preliminary findings and further work is planned. We will continue to monitor the situation closely.

Chapter 3: Young people

40. A consistent finding this year was of divergent fortunes for 18-24 year olds and 16-17 year olds, with the former group seeing considerably more progress on earnings and employment. Hourly pay at the median increased by 5.2 per cent for 21-24 year olds and by 4.2 per cent for 18-20 year olds, compared with earnings growth of 1.8 per cent for 16-17 year olds. Similarly, use of the minimum wage rates to pay young workers fell for 18-20 year olds and 21-24 year olds, but increased for 16-17 year olds.

41. Labour market patterns showed the same divergence. Over the year to June 2017, the employment rate for young people not in full-time education continued to rise for 21-24 year olds (up 1.2 percentage points) and 18-20 year olds (up 0.6 percentage points); while falling for 16-17 year olds (down 2.1 percentage points). Unemployment rates for those not in full-time education showed the same pattern, with the unemployment rate continuing to fall for 21-24 year olds (down 1.1 percentage points) and 18-20 year olds (down 1.7 percentage points), but rising for 16-17 year olds (up 1.0 percentage point).

42. Measurement of the bite was complicated by the change to the Commission's annual report cycle, with the bite now being measured in April, when the upratings are applied, rather than six months later. Taking account of this change, the bite fell for 21-24 year olds, while increasing slightly for 18-20 year olds and 16-17 year olds. The increases for the younger groups are due in part to the changed cycle; measured six months later their bites may well be lower than the April 2016 bites (particularly for 18-20 year olds who have seen relatively high pay growth in the recent period).

43. The changed cycle also complicated the measurement of underpayment, where some apparent underpayment may be simply a lag in employers uprating pay. Taking account of this, the proportion of young workers paid below their applicable minimum wage rate did not appear to have increased over the year.

44. A further consideration was the differential between the youth rates and the adult rate – now the 21-24 Year Old Rate. The differential increased from 2009, as we recommended smaller increases for the youth rates in order to protect youth employment, following the 2008 recession. We had hoped to begin to restore the rates relativities once the youth labour market had recovered, provided that it was appropriate to do so. Consideration of the appropriateness of restoring the former rates relativities included changes over time to the youth labour market, with increasing participation in full-time education and reducing employment in full-time jobs.

Chapter 4: Apprentices

45. In recent years there have been unprecedented changes to apprenticeship policy, which predominantly affect the system in England, and are an important part of the context for the LPC's recommendations for the Apprentice Rate this year. In October 2015, the Apprentice Rate increased by 57 pence (21 per cent) to £3.30, by far its largest ever increase. More recently, the Government has introduced a £3 billion Apprenticeship Levy for larger employers, a requirement for 10 per cent co-investment for small firms in England employing apprentices, a simplification of funding by moving away from a complex formula to fixed funding bands, greater guidance and enforcement of off-the-job training, a target for public sector employers, and an across the board change of the content of apprenticeships in the form of the move from 'frameworks' to 'standards'. All of this comes alongside the ongoing commitment to reach three million apprenticeship starts by 2020.

46. Commissioned research into the first change – the 21 per cent increase in the Apprentice Rate – did not find any negative impacts on apprenticeship starts or apprenticeship quality in England. Nor did it find any impact on the composition of apprenticeships.

47. While the impacts of the other policy changes are still working their way through the system, the evidence on apprenticeship starts suggests significant initial effects. In the quarter before the changes were introduced – February to April 2017 – there was an upswing in apprenticeship starts of 47 per cent on the year, as employers and training providers sought to bring their apprentice recruitment forward to avoid the forthcoming changes. In the following quarter, there was a fall of even greater magnitude.

48. The net effect is that in the 2016/17 academic year starts were 4 per cent lower than in 2015/16. The falls were concentrated in Level 2 apprenticeships, which fell by 11 per cent over the year – or 32,000 starts. In contrast, there was a welcome increase in starts at Level 3 and Level 4 of 3 per cent and 32 per cent respectively. There has also been a significant increase in the use of 'standards' over 'frameworks'.

49. There was also a diverging pattern by age; apprentices aged 25 and over saw year-on-year growth of 2 per cent, while starts for 16-18 and 19-24 year old apprentices fell by 8 per cent each. This latter decline was because far fewer starts for those aged under 25 were brought forward than for the 25 and over age group, which in turn may be down to the influence of academic timetables. Many of these younger potential apprentices would have been in the midst of studying and taking exams at the time when the starts for those aged 25 and over spiked, and so were unable to take up any potential places.

50. However, the Apprenticeship Levy still represents a powerful incentive for employers to get involved with apprenticeships. The policy allows employers 24 months to make use of their levy funds, and our stakeholder evidence suggests that many employers are utilising this time to consider how best to do so before committing to any actions.

51. Stakeholders also gave us their views on the level of Apprentice Rate, with some representatives of both employers and employees calling for it to rise. Some, including the FSB, recommending that the gap with the 16-17 Year Old Rate be progressively closed. Representatives from the hair, childcare and textiles sectors called for the rate to apply for the whole apprenticeship, not just the first year.

52. The ASHE survey took place in April of 2017, in the midst of the policy changes. It found that earnings of apprentices rose by 4 per cent compared with 3 per cent for non-apprentices. However, the most significant finding was of very high growth for first year 16-18 apprentices, whose earnings rose by more than 21 per cent over the year. This group tends to have the highest bite and is therefore judged to be most at risk from too a high rise in the Apprentice Rate. This significant rise in earnings meant that their bite fell substantially, potentially reducing the risk from future rate rises.

Chapter 5: Looking ahead – economic outlook and stakeholder views

53. The economy is growing and several indicators, notably business confidence, investment and employment intentions, have improved. Last year we reported that GDP growth for 2017 was forecast to be around 1 per cent, but the outturn has surpassed this, with growth now likely to be around 1.5-1.6 per cent for the year as a whole.

54. Importantly, jobs growth forecasts have been significantly revised upwards. Last year the Bank of England and the HM Treasury panel of independent forecasts anticipated 0 per cent and -0.1 per cent respectively for 2017, while the outturn was 1.2 per cent or 420,000 jobs. For 2018, the Bank and HM Treasury panel forecast 0.4 per cent and 0.5 per cent respectively, which would mean an additional 125,000-175,000 jobs. The OBR's July 2015 forecast of 1.1 million additional jobs by 2020 has already been met and unemployment is at its lowest since the 1970s.

55. Performance of other indicators we reviewed however gave cause for concern. While economic growth has been sustained since 2010, it slowed in 2017. GDP per head has grown, but only by some 2 per cent since 2008, reflecting weak productivity. Overall, productivity has remained relatively flat since 2007, despite the strong labour market. Investment as a whole remains about the same as in 2015. We also noted that inflation is growing, albeit expected to peak later this year. Consumer spending has weakened; as real incomes have fallen, net borrowing has increased, with likely increases in personal debt.

56. In written and oral evidence employers remained concerned about the impact of the National Living Wage. Some sectors, notably hair and beauty and convenience retail remained very concerned. However, the evidence from stakeholders also suggested that employers have coped better with the NLW than they originally anticipated and few called for a move off the path. However, this was a greater challenge for small and medium-sized enterprises, compared to large companies with greater capacity to absorb the costs and planning adjustments necessitated by the

introduction of the NLW and its subsequent uprating. Some employers also felt that the likelihood of a straight line path to 2020 enabled them to plan ahead for future increases, while others highlighted concerns about the challenge of future increases. To some extent, these responses reflect the lower than originally predicted upratings when the NLW was first introduced, an outcome of the flexible design of the NLW. Compared with our Autumn 2016 Report, many more employers have now factored the NLW into planning, and while the predicted cash value for 2020 has reduced, the likely large upratings still required to achieve the target of 60 per cent of median earnings by 2020 remain challenging.

57. Employee stakeholders were more positive, pointing to continued strong labour market performance, better than expected economic performance, and survey data suggesting that most employers had adapted to the NLW. They called for (at a minimum) a recommendation for an on-course rate as a fair outcome, given strong employment, low unemployment rates, and rising inflation.

Chapter 6: Recommended rates and implications

58. The core decision for our report was whether the most recent economic evidence met the condition of sustained economic growth to enable the NLW to be uprated in line with the path to 60 per cent of median earnings. Compared to when we last reported, fears of a recession following the decision to leave the European Union have abated and short-term confidence appears stronger. However, uncertainty about the medium-term is likely to remain high until there is greater clarity on the terms for leaving the EU.

59. We have weighed the available evidence carefully and judged that it was consistent with the NLW remaining on its path to 60 per cent of median earnings by 2020. Having discussed whether to round to the nearest 5 pence, and having decided to neither frontload nor backload, our recommendation is that the NLW should increase to £7.83 an hour in April 2018, an uplift of 33 pence or 4.4 per cent. This approach fulfils our remit, while also taking into account the issues raised by both employers and workers.

60. In line with our original intention, this is the on-course rate using the median of available forecasts from the HM Treasury panel of independent forecasts (and adding the views of the Bank of England). (We did not have access to the Office for Budget Responsibility's forthcoming November forecasts, though in recent years the HM Treasury panel forecasts have come somewhat closer to the outturn.) It is also in line with the indicative on-course rate that we set out in our Autumn 2016 Report and thus supports employers in their forward planning.

61. For 2019, we estimate an indicative on-course rate of £8.20 an hour, with the HM Treasury panel and Bank of England forecasts implying a NLW within an interquartile range of £8.17 to £8.24. A material worsening in economic performance and prospects would lead us next year to consider whether to recommend that the NLW should not increase relative to median earnings, moving below a straight line path to 60 per cent in 2020, to safeguard employment.

62. Looking further forwards, using the available HM Treasury panel and Bank of England forecasts, we estimate that 60 per cent of median earnings in 2020 will equate in cash terms to an NLW of £8.61 an hour, within an interquartile range of £8.54 to £8.67. Again, this is the same as the estimate made in our Autumn 2016 Report, although it is lower than our estimate in Spring 2016 (£9.16) or when the policy was announced in July 2015 (£9.35).

63. While organisations have adapted through accepting lower profits, squeezing differentials and, where possible, increasing prices, we recognise that most will still find it a continuing challenge to accommodate the NLW. However, it was clear to us from oral and written evidence and visits, that the NLW was not the sole factor driving some of these behaviours, and employers had coped better with the NLW than they had thought when it was originally introduced. Some employers also highlighted their continuing concerns about managing continued upratings to achieve and then maintain the 2020 target of 60 per cent of median earnings. Continuing uncertainty about the outcome of negotiations for leaving the EU and long-term plans to change workforce structures were also important. We will continue to closely monitor the impacts of the NLW, bearing in mind the tolerance for some job loss built in to this policy.

64. Last year we made recommendations for the NMW rates that would take effect just six months after the previous uprating as these rates moved to synchronise with the April upratings of the NLW. We were concerned that two increases in a short space of time presented additional risks and so we have monitored the evidence carefully.

65. In the aftermath of the recession, we made recommendations for lower percentage increases to the youth rates in order to protect the employment position of younger workers, bearing in mind the particular risks of scarring effects for these workers. The evidence suggests that this was the right decision, but a necessary consequence was that these rates lost some of their relative value. In our reports from 2011 to 2014, we made a commitment to restore these differentials as soon as economic conditions had improved sufficiently to do so with minimum risk. This year we judged that there was sufficiently strong evidence to justify being more ambitious regarding the rates for younger workers:

- Employment in the UK continues to grow more strongly than forecast and is at record levels.
- Unemployment has fallen to its lowest rate since 1975.
- There have been ongoing improvements in the employment and unemployment rates of 18-24 year olds, despite two increases in their NMW rates in quick succession in the last year.
- Wage growth for those aged 18-24 has been higher than for those aged 25 and over for the last three years. As a result, the bite, which is the NMW as a percentage of median earnings and a key measure of pressure, has fallen for workers of these ages.
- Both employers and unions raised the importance of fairness and employee relations between age groups in the workforce.

- The concerns we raised in our Autumn 2016 Report, about two increases to these rates over six months, were not reflected in stakeholder evidence. Rather, analysis shows that the use of these rates for the two older age groups (21-24 and 18-20 year olds) has fallen because more employers are choosing to pay above those minimum rates.
- Finally, the evidence does not suggest a particular compliance problem in relation to these rates.

66. In weighing up this evidence, we also considered the risks of substitution and exploitation, as well as widening employment and unemployment disparities, while keeping in mind that our objective for younger workers is to recommend a rate that should not reduce employment prospects.

67. Taking all of the above into account, this year we have agreed percentage upratings which match or exceed that for the NLW for all NMW rates, with the exception of the 16-17 Year Old Rate. For the 21-24 Year Old Rate, while the evidence shows that a majority of workers in this age bracket are paid above the minimum hourly rate, we noted the important protection it provides for the 120,000 workers paid at the rate. We recommend an increase of 4.7 per cent to £7.38 an hour from 1 April 2018. Assuming our recommendation of £7.83 an hour for the NLW is accepted, this recommendation, if also accepted, will maintain the penny gap of 45 pence between this rate and the NLW, something we considered important for transition to the higher rate.

68. Employment, unemployment and pay of 18-20 year olds have all continued to improve strongly. Our view is that this supports a significant increase for the pay floor for 18-20 year olds and a move towards restoring the relative value of this rate compared with the 21-24 Year Old Rate. Therefore, we recommend an increase in the 18-20 Year Old Rate of 5.4 per cent to £5.90 an hour from 1 April 2018. If accepted, this increase will restore the real value of the 18-20 Year Old Rate.

69. For 16-17 year olds, we noted that the evidence on employment was less positive than for the older age groups. Pay growth for this group was also less than half that seen by 18-24 year olds. A greater proportion of 16-17 year olds in work are paid at or just above the minimum rate for their age compared with the two older age groups, indicating that greater protection is afforded by the pay floor for this age group. We therefore considered it prudent to recommend a smaller increase for this group to £4.20 an hour. If accepted, this recommendation represents an increase of 3.7 per cent, balancing an above inflation increase for this group with their greater vulnerability in the labour market.

70. We also noted the ongoing and welcome increase in the proportions of 16-17 year olds remaining in full-time education. This suggests that the original rationale for this rate – protecting 16-17 year olds in full-time work (with no training) from exploitation – has become less relevant over time.

71. Overall, it appeared to us that there is merit in looking more closely at the operation and effectiveness of the NMW rates, both in the light of the impact of the NLW, as well as in relation to social and policy changes. We will continue to monitor this and consider what it might imply for the age-banded rates.

72. For apprentices, we found that the group most affected by the Apprentice Rate – 16-18 year old apprentices – had seen high growth in their earnings, with a consequent fall in its bite. Furthermore, research into the 21 per cent increase in the Apprentice Rate in October 2015 found no evidence of an impact on the volumes or composition of apprenticeships. On that basis we recommend an increase to £3.70 an hour. This recommendation, if accepted, would deliver an increase of 5.7 per cent on the year. However, we also note that apprenticeship policy in England is in the midst of a significant transition, and therefore we will look carefully at the function and impact of the Apprentice Rate next year, when the new funding policy is bedded in and better evidence is available in the form of the biennial Apprenticeship Pay Survey.

73. Finally, we recommend a 60 pence increase in the accommodation offset to £7.00 in keeping with our aim to bring it up to the level of the 21-24 Year Old Rate, as long as that rate is rising in real terms. This means that the rate better reflects the costs of providing accommodation and helps the horticulture sector in particular.

Recommendations

The National Living Wage and other minimum wage rates

We recommend that the National Living Wage should increase by 33 pence or 4.4 per cent to £7.83 per hour from 1 April 2018.

We recommend that the 21-24 Year Old Rate should also increase by 33 pence. This is an increase of 4.7 per cent to £7.38 from 1 April 2018.

We recommend that the 18-20 Year Old Rate should increase by 30 pence (or 5.4 per cent) to £5.90 from 1 April 2018.

We recommend that the 16-17 Year Old Rate should increase by 15 pence (or 3.7 per cent) to £4.20 from 1 April 2018.

We recommend that the Apprentice Rate should increase by 20 pence (or 5.7 per cent) to £3.70 from 1 April 2018.

Accommodation offset

We recommend that the accommodation offset should be increased by 60 pence to £7.00 a day from 1 April 2018.

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Chapter 1
Economic context

Introduction

1.1 In our Autumn 2016 Report, we made recommendations that moved increases in all of the minimum wage rates to the same cycle, with implementation in April instead of October. This has had implications on the timing of the report – now written in October and published in November, rather than written in February and published in March – with consequent impacts on the availability of evidence.

1.2 We start this report – our 19th – by looking at how the economy has performed since we agreed our recommendations in October 2016, and compare it with the forecasts available and our expectations at that time.

Economic context and forecasts

1.3 When we agreed the Autumn 2016 Report recommendations, the UK economic forecasts had recently been subjected to considerable uncertainty resulting from the EU Referendum result. Discussions focused on the outlook for the economy and the labour market, in the wider context of that decision for the UK to leave the EU, but particularly for 2017-18.

1.4 We bore in mind that we had different remits for workers aged 25 and over and those aged under 25. For the former, we recommend the pace of increases towards 60 per cent of median hourly earnings subject to 'sustained economic growth'. For younger workers and apprentices we are required to make recommendations that 'help as many low-paid workers as possible without damaging their employment prospects'.

1.5 The central debate in relation to the NLW was the degree to which automatic adjustment in the on-course rate, reflecting the effect of lower pay forecasts on the relative goal, was sufficient to manage any economic risks.

1.6 For the rates for younger workers, discussions concerned the balance between the strong performance in the labour market observed for young people over the past year and any possible softening in the economy going forwards, which would likely affect younger workers first and most severely.

1.7 Early concerns about an immediate recession following the Referendum result in June 2016 had not come to pass, and a number of economic indicators had been much better than feared. However, as shown in Table 1.1, the consensus of forecasters remained that the UK faced lower growth – around 1 per cent in 2017 compared with a previous expectation of over 2 per cent – and higher unemployment (as weaker hiring and investment intentions fell short of continued working

age population growth). We also noted that the Government announced in July 2016 that it was no longer pursuing its fiscal surplus target, with some GDP forecasts possibly meeting the definition of an economic shock set out in its fiscal framework – and thus questioning whether we would continue to have sustained economic growth.

1.8 Between the end of 2015 and October 2016, sterling depreciated by nearly 20 per cent against the dollar, the euro, and a trade-weighted basket of currencies. Although this might help boost trade, it was also likely to lead to a pick-up in consumer price inflation as input and raw material prices from overseas increased. With productivity remaining stubbornly flat, there was a risk of real wage reductions.

1.9 We had little clear evidence in the official data of any discernible impact of the NLW on employment, although some survey data had pointed to some difficulties in particular sectors. It was still too early to judge – especially as the policy allowed some tolerance of job loss. Employers generally urged caution in view of economic uncertainty, with some arguing for lower increases now, or moving away from the 2020 target altogether. By contrast, employee stakeholders urged ambition, pointing to the continued strong labour market performance and limited hard evidence of economic harm post-Referendum.

1.10 Having weighed these considerations carefully, we judged that there was insufficient evidence to move away from the path to 60 per cent of median hourly earnings, and therefore recommended an increase of 30 pence or 4.2 per cent to £7.50 an hour in April 2017. This was the on-course rate using the median of available forecasts from the HM Treasury panel of independent forecasts with the Bank of England added. We did not have access to the Office for Budget Responsibility (OBR) November 2016 forecasts that were published at the same time as our Autumn 2016 Report. The recommended rate was a significant increase at a time of average pay growth of 2-3 per cent, but it is substantially below the £7.64 we projected in our Spring 2016 Report, reflecting actual and forecast weaker pay growth.

1.11 Looking ahead, the HM Treasury panel and Bank of England forecasts implied a NLW within an interquartile range of £7.80 to £7.91 in 2018, and £8.50 to £8.71 in 2020, with central estimates of £7.85 and £8.61 respectively. The 2020 target was considerably below our projections of £9.16 in our Spring 2016 Report, and £9.35 when the policy was announced in July 2015. We estimated that more than half of the revision occurred before June, with slightly less than half of the revision afterwards.

1.12 We also noted that a material worsening in economic performance and prospects would lead us to consider whether to recommend that the NLW should not increase relative to median earnings, moving below a straight-line path to 60 per cent in 2020, to safeguard employment.

1.13 We now consider what actually happened.

1.14 UK economic growth had been relatively robust, with the UK economy growing by 3.1 per cent in 2014 and 2.2 per cent in 2015. As shown in Table 1.1, the OBR in March 2016 – prior to the EU Referendum – was expecting growth to slow marginally to around 2.0 per cent. Pre-Referendum, the Bank of England and (the median of the) HM Treasury panel of independent forecasts were also forecasting similar GDP growth in 2016-18 at around 2.2 per cent (not shown in Table 1.1).

1.15 After the EU Referendum, growth forecasts for 2017 and 2018 were revised down sharply with 2016 little affected, as shown in Table 1.1. The Bank of England and HM Treasury panel forecasts available when making our recommendations in our Autumn 2016 Report were made in the immediate aftermath of the EU Referendum and were quite pessimistic – with forecast growth falling to 1.0 per cent or below in 2017 but picking up in 2018, albeit remaining well below recent trends.

Table 1.1: Forecasts available in October 2016, UK, 2016-2018

	OBR forecasts (March 2016)			Bank of England forecasts (August 2016)			Median of HM Treasury panel (August/October 2016)		
	2016	**2017**	**2018**	**2016**	**2017**	**2018**	**2016**	**2017**	**2018**
GDP Growth (whole year)	2.0	2.2	2.1	2.0	0.8	1.8	1.9	1.0	1.4
Average Earnings AWE (whole year)	2.6	3.6	3.5	2.75	3.0	3.5	2.2	2.2	2.9
Inflation RPI (Q4)	1.9	2.6	3.4				2.1	3.2	3.0
Inflation CPI (Q4)	1.0	1.7	2.2	1.2	2.0	2.4	1.1	2.5	2.2
Employment growth (whole year)[3]	1.3	0.3	0.6	0.5	0	0.75	1.3	-0.1	
ILO unemployment rate (Q4)	5.0	5.0	5.2	5.0	5.4	5.6	5.1	5.5	5.7

Source: OBR (2016b); Bank of England (2016c); and HM Treasury panel of independent forecasts (2016i and j). Forecasting ONS data on: GDP growth (ABMI), total employment as measured by workforce jobs (DYDC), and ILO unemployment (MGSC), quarterly, and AWE total pay (KAB9), monthly, seasonally adjusted; RPI (CZBH) and CPI (D7G7), quarterly, not seasonally adjusted, UK (GB for AWE), 2016.
Note: Bank of England forecast of ILO unemployment rate for the third quarters, 2016-18. OBR and HM Treasury panel forecasts of claimant unemployment were also used to inform our economic outlook but the quality of these data have been affected by the roll-out of Universal Credit.

1.16 GDP growth in 2016 did slow but GDP still increased by 1.8 per cent – a little below forecasts. Further, as shown in Table 1.2, growth has continued to be sluggish in the first half of 2017 – growing only by a cumulative 0.5 per cent – and is now likely to turn out to be about 1.5-1.6 per cent for the whole of 2017. This is still above the EU Referendum-affected forecasts for 2017 but below those of the OBR, that had not been adjusted for the Referendum result.

1.17 As also shown in Table 1.2, the forecasts had expected employment growth to slow sharply or even for jobs to be lost in 2017. Although workforce job growth slowed from 1.9 per cent in 2016 to 1.2 per cent in 2017, it was still strong – the average annual growth since 1960 is just 0.6 per cent. Growth in employee jobs also remained strong, at 1.4 per cent in 2017, albeit down from 1.8 per cent in 2016. As a consequence, unemployment has also turned out lower than forecast. The headline ILO unemployment rate was down to 4.3 per cent in the three months to August 2017 – considerably below the 5.4-5.5 per cent forecasts for the end of 2017.

Table 1.2: Forecast and out-turn data, UK, 2016-2017

Per cent	Actual data	Forecasts for 2017				Actual data
		OBR		Bank of England	HM Treasury panel	
	2016	July 2015	March 2016	August 2016	August/ October 2016	2017 (Actual whole year or latest)
GDP growth (whole year)	1.8	2.4	2.2	0.8	1.0	1.4-1.6[a]
Average earnings AWE (whole year)	2.4	3.9	3.6	3.0	2.2	2.1[b]
Inflation RPI (Q4)	2.2	2.8	2.6		3.2	3.5[c]
Inflation CPI (Q4)	1.2	1.6	1.7	2.0	2.5	2.7[c]
Employment growth[d] (whole year)	1.9	0.3	0.3	0.0	-0.1	1.2
ILO unemployment rate (Q4)	4.9	5.2	5.0	5.4	5.5	4.5[e]

Source: HM Treasury panel of independent forecasts (2016i and j), OBR (2015a and 2016b), Bank of England (2016c), and LPC estimates based on ONS data: GDP growth (ABMI), total employment as measured by workforce jobs (DYDC) and ILO unemployment rate (LF2Q), quarterly, and AWE total pay (KAB9), monthly, seasonally adjusted; RPI (CZBH) and CPI (D7G7), quarterly, not seasonally adjusted, UK (GB for AWE), 2014-16.
Notes:
a. Estimate of economic growth based on latest ONS data and LPC estimates that the third and fourth quarter out-turn in 2017 will be around 0.4-0.5 per cent in each quarter.
b. Estimate of average earnings growth based on January 2017-July 2017 compared with the same period a year earlier.
c. Inflation data are for Q2 2017.
d. OBR forecasts employment levels rather than growth. Growth forecasts shown here reflect the percentage differences between these forecast levels.
e. The ILO unemployment rate is for Q2 2017.

1.18 The Bank of England and the OBR had again forecast wages to pick up. Wage growth had remained at around 2 per cent while inflation had picked up faster than forecast, leading to falling real wages. With weak output growth and stronger employment growth, productivity was also stagnant.

Implications for the National Living Wage

1.19 As well as change in the economy relative to our expectations in October 2016, we are also interested in change relative to the position when the NLW was announced, which reflected the Government's expectations for the policy. As Table 1.2 showed, in July 2015 the OBR forecast stronger wage and price inflation and weaker employment growth in 2016 than in the November 2015 forecast that we used in our Spring 2016 Report. Nevertheless, they were also similar to the (median) forecasts from the HM Treasury panel of independent forecasts from January 2016.

1.20 In our Spring 2016 Report, the latest OBR earnings forecasts available (from November 2015) and the 2015 Annual Survey of Hours and Earnings (ASHE) implied a target rate of the NLW of £9.16. As shown in Table 1.3, this was 19 pence lower than that projected when the NLW policy was first announced in July 2015 (£9.35), which used OBR forecasts made in July 2015 and the 2014 ASHE data. In March 2016 (just after our Spring 2016 Report was published) the OBR updated its wage forecasts. This had the effect of further reducing the target – to £9.02. Thus, between the announcement of the policy in July 2015 and its implementation in April 2016, the expected 'target' rate had fallen by 3.4 per cent, or 33 pence an hour.

Table 1.3: Previous paths for the NLW, UK, 2015-2016

	July 2015 OBR			LPC Spring 2016			LPC Autumn 2016		
ASHE	**2014**			**2015**			**2016**		
Hourly earnings forecasts	**OBR EFO July 2015**			**OBR EFO November 2015**			**HM Treasury panel/BoE August/October 2016**		
	Implied NLW	**Implied April median**	**Implied October bite**	**Implied NLW**	**Implied April median**	**Implied October bite**	**Implied NLW**	**Implied April median**	**Implied October bite**
2015	6.70	12.44	53.0	6.50	12.39	53.1	6.70	12.38	53.3
2016	7.20	12.87	54.8	7.20	12.82	55.1	7.20	12.77	55.8
2017	7.68	13.41	56.1	7.64	13.31	56.3	7.50	13.06	56.8
2018	8.19	13.97	57.4	8.12	13.83	57.5	7.85	13.37	57.9
2019	8.74	14.57	58.7	8.61	14.37	58.8	8.23	13.77	58.9
2020	9.35	15.23	60.0	9.16	14.96	60.0	8.61	14.16	60.0

Source: LPC estimates using ASHE, April 2014-16, standard weights, UK; OBR forecasts for hourly earnings (OBR, 2015a and b); HM Treasury panel of independent forecasts median of average wage forecast (HM Treasury 2016i and j); Bank of England (BoE) average wage projections (2016c).

1.21 For our Autumn 2016 Report, we had access to new earnings data – 2016 ASHE – but there were no new OBR forecasts. The latest had been published in March 2016 (before the EU Referendum) and the next were not due until the time of the Autumn Statement, after our Autumn 2016 Report had been submitted. Therefore, we used forecasts by the Bank of England (2016c) and the HM Treasury panel of independent forecasts (2016i and j). These again suggested that the target rate for 2020 had fallen – reflecting further revisions to wage forecasts out to 2020 (both before and after the EU Referendum). The path was again revised down. As shown in Table 1.3, the target for 2020 was £8.61 – nearly 8 per cent below the original target.

1.22 In March 2017, we noted the latest OBR March 2017 forecasts would have led to a slightly higher path although, as we note later, its forecasts for wage growth have tended to be too optimistic. That said, the implied target for 2020 using those OBR forecasts was £8.75 – still 60 pence below the original July 2015 projection.

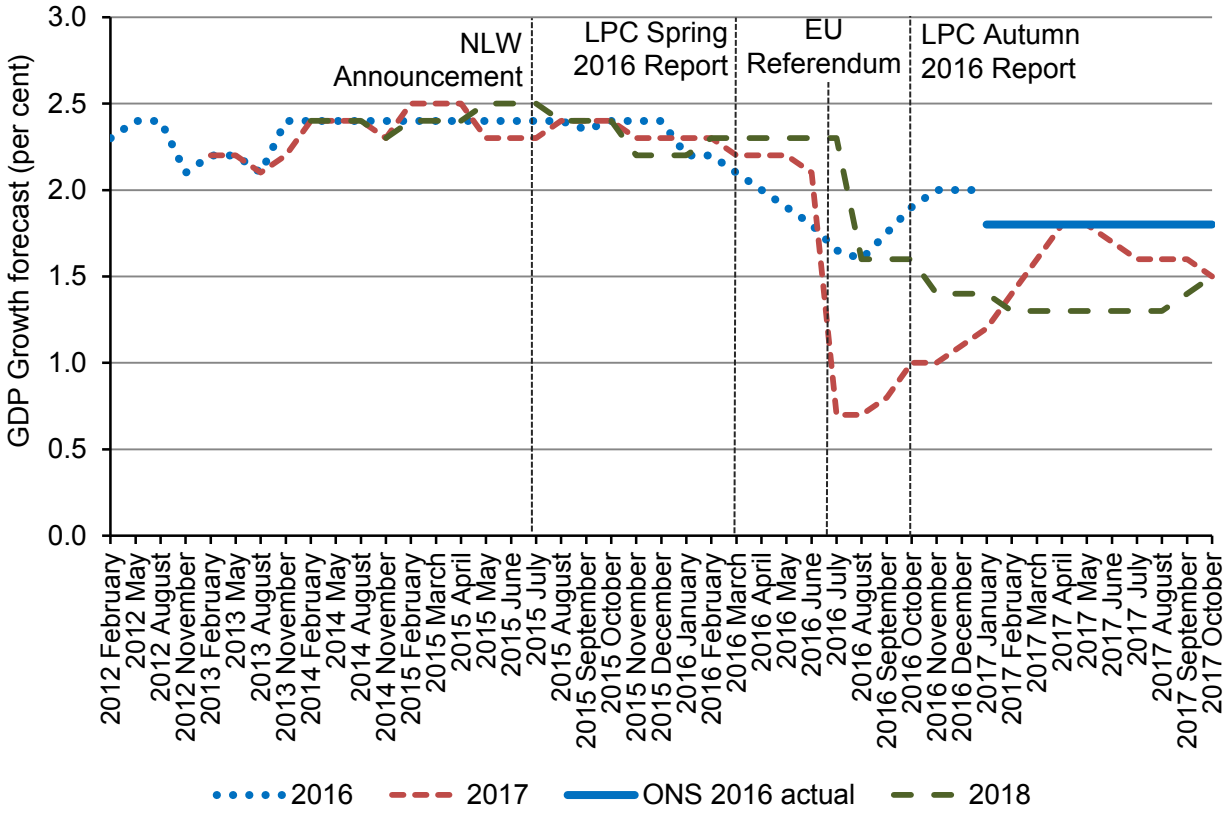
1.23 We consider these forecasts and the implications for the NLW path further in Chapter 5. We now look at what has happened to the economy in 2016 and the first half of 2017 in more detail.

GDP growth

1.24 When we met in October, the forecasts available to us suggested some uncertainty that the UK would have sustained economic growth over the next two years, with real GDP increasing by around 0.8-1.0 per cent in 2017 and 1.4-1.8 per cent in 2018. These forecasts had been made in the immediate aftermath of the EU Referendum. The forecasts had generally only partially taken account of any Bank of England reaction – lower interest rates and increased quantitative easing (QE). There was also political uncertainty as a new Prime Minister was selected and a new Cabinet appointed. There was also a great deal of uncertainty about the form that Brexit would take. Thus, the forecasts might have been considered a bit pessimistic and indeed they were generally revised upwards over the next few months as shown in Figure 1.1. However, those revisions remained well below the forecasts that had been made prior to 23 June 2016. Up until that point GDP growth was forecast to

be around 2.2-2.4 per cent in each of the three years – 2016, 2017 and 2018. By October 2016, when we last made our recommendations, these were 1.9 per cent, 1.0 per cent and 1.6 per cent respectively. Since then the forecasts have generally been revised upwards. Growth in 2016 turned out to be 1.8 per cent. The latest forecasts suggest growth of around 1.6 per cent in 2017 and 1.4 per cent in 2018. These are both around a third less than the forecasts prior to June 2016.

Figure 1.1: Revisions to GDP growth forecasts for 2016, 2017 and 2018, UK, 2012-2017

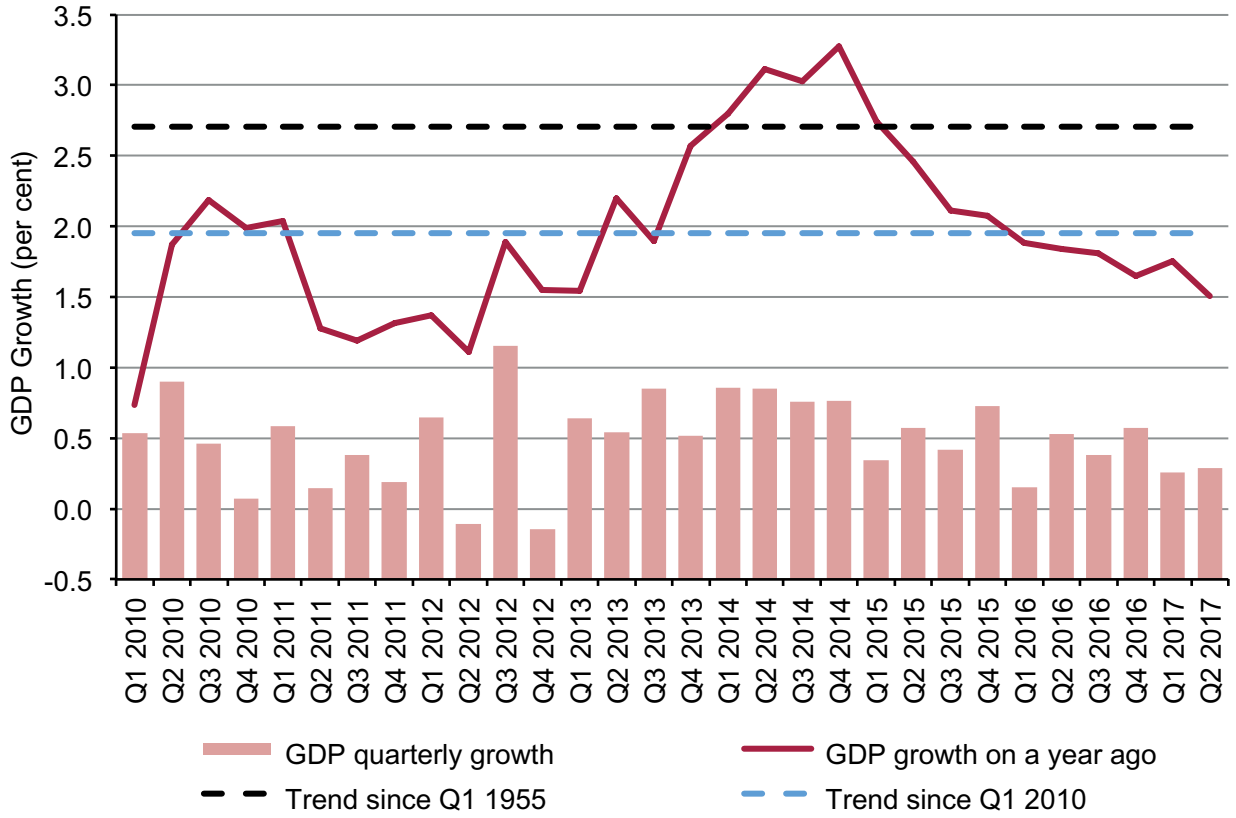


Source: HM Treasury panel of independent forecasts, quarterly, February 2012-August 2017; and monthly, February 2015-October 2017.

1.25 The latest data show that growth remained reasonably strong in the second half of 2016 – growing roughly in line with the post-2010 trend. However, this was much weaker than the pre-crisis trend. Further, that growth has appeared to weaken in the first half of 2017 with growth of just 0.3 per cent in each of the first two quarters. Looking at growth on a year ago, as shown in Figure 1.2, this has declined from over 3 per cent at the end of 2014 to just 1.5 per cent in the second quarter of 2017.[1]

1 ONS released its preliminary estimate of GDP in the third quarter of 2017 on 25 October. It showed growth of 0.4 per cent on the quarter and 1.5 per cent on the same quarter a year ago.

Figure 1.2: GDP growth, UK, 2010-2017



Source: LPC estimates using ONS data: quarterly change in GDP (ABMI), quarterly, seasonally adjusted, UK, Q1 2008-Q2 2017.
Note: GDP data for the third quarter of 2017 was not available at the time of our deliberations.

1.26 Despite that slowing, economic growth has continued to be sustained – growing by at least 1 per cent on a four quarter rolling average – since the first quarter of 2010. However, it is at its slowest for four years. Moreover, this is still the weakest peace-time recovery for at least a century and measured on a per head basis is even weaker. Furthermore, population increases have been larger in the most recent period. GDP per head recovered to reach its pre-recession levels only in the second quarter of 2015, seven years (29 quarters) after the start of the recession – compared with just over three years (13 quarters) after the recessions of 1980s and 1990s. GDP per head was 2.1 per cent higher in the second quarter of 2017 than it was in the first quarter of 2008. After 37 quarters of the recessions in the 1980s and 1990s, it was 26.4 per cent and 19.7 per cent higher respectively.

1.27 GDP growth is made up of household and government consumption, investment and trade. Household spending accounts for about 63 per cent of GDP, investment for about 17 per cent (of which around 9 per cent is business investment), and government spending for 19 per cent. Exports and imports each account for around 27-30 per cent of GDP, thus more or less offsetting each other in the national accounts.

1.28 The outcomes for the lowest-paid workers (including young workers, older workers, part-time workers and women) will be affected by what is happening in the economy as a whole. They will also depend to a considerable extent on how firms are performing, especially in the particular low-paying sectors which employ them. These outcomes will also be different across the economy and the low-paying sectors. Most minimum wage workers work in industries that are dependent on household spending (such as those in retail and hospitality); government spending (such as those in

social care and childcare); and trade (including agriculture, horticulture, manufacturing of textiles and food processing).

1.29 The largest low-paying sectors, in terms of employment, are those that are consumer-facing – notably retail, hospitality and leisure. Their outcomes will depend on trends in real incomes, employment, wealth and the ability to borrow. In recent years, consumer spending has driven growth in the economy. The traded low-paying sectors, such as textiles, agriculture, and food processing, will also depend on demand for their products overseas as well as their price – the latter affected by changes in the exchange rate.

1.30 A third group of low-paying sectors, such as cleaning and employment agencies, are more dependent on business-to-business activity. Demand for these services is likely to be closely related to the general performance of the economy – with consumer spending, business investment, profitability, and government spending all playing key roles. Profitability of these sectors will also depend on the ability of companies to pass additional costs onto other businesses and ultimately consumers. A final group of low-paying sectors are those directly affected by government funding, such as childcare and social care. As well as the level of government spending, which in turn reflects the fiscal position, these sectors will also depend on the strength of consumer demand and the ability of providers in these sectors to raise prices.

1.31 Table 1.4 shows the evolution of these income components of GDP since 1998. The quarterly average from 1998-2007 shows the trend growth in each component prior to the financial crisis. We can see that household consumption has weakened since the middle of 2016 and was just 0.2 per cent in the second quarter of 2017. This is well below the 0.9 per cent quarterly growth in the first half of 2016 and the pre-crisis trend.

Table 1.4: Average quarterly growth for expenditure components of GDP, UK, 1998-2017

Percentage changes on a quarter earlier							
	Quarterly averages						
	1998-2007	2008-09	2010-15	2016 H1	2016 H2	2017 Q1	2017 Q2
Household consumption	0.9	-0.5	0.4	0.9	0.5	0.4	0.2
Investment	0.7	-3.1	0.9	1.2	0.6	0.5	0.6
Business investment	1.0	-3.4	1.2	0.4	0.6	0.8	0.5
Dwellings investment	0.3	-4.8	1.1	1.9	0.0	3.2	-1.6
Government consumption	0.7	0.5	0.2	0.5	0.1	0.2	0.1
Change in inventories	0.4	-1.5	0.3	0.8	0.0	-0.3	-1.0
Domestic demand	0.8	-0.8	0.6	0.2	0.2	0.7	-0.1
Exports	1.2	-1.0	0.9	0.0	1.7	-0.3	1.7
Imports	1.5	-1.2	1.1	0.4	1.1	1.0	0.2
GDP	**0.7**	**-0.7**	**0.5**	**0.3**	**0.5**	**0.3**	**0.3**

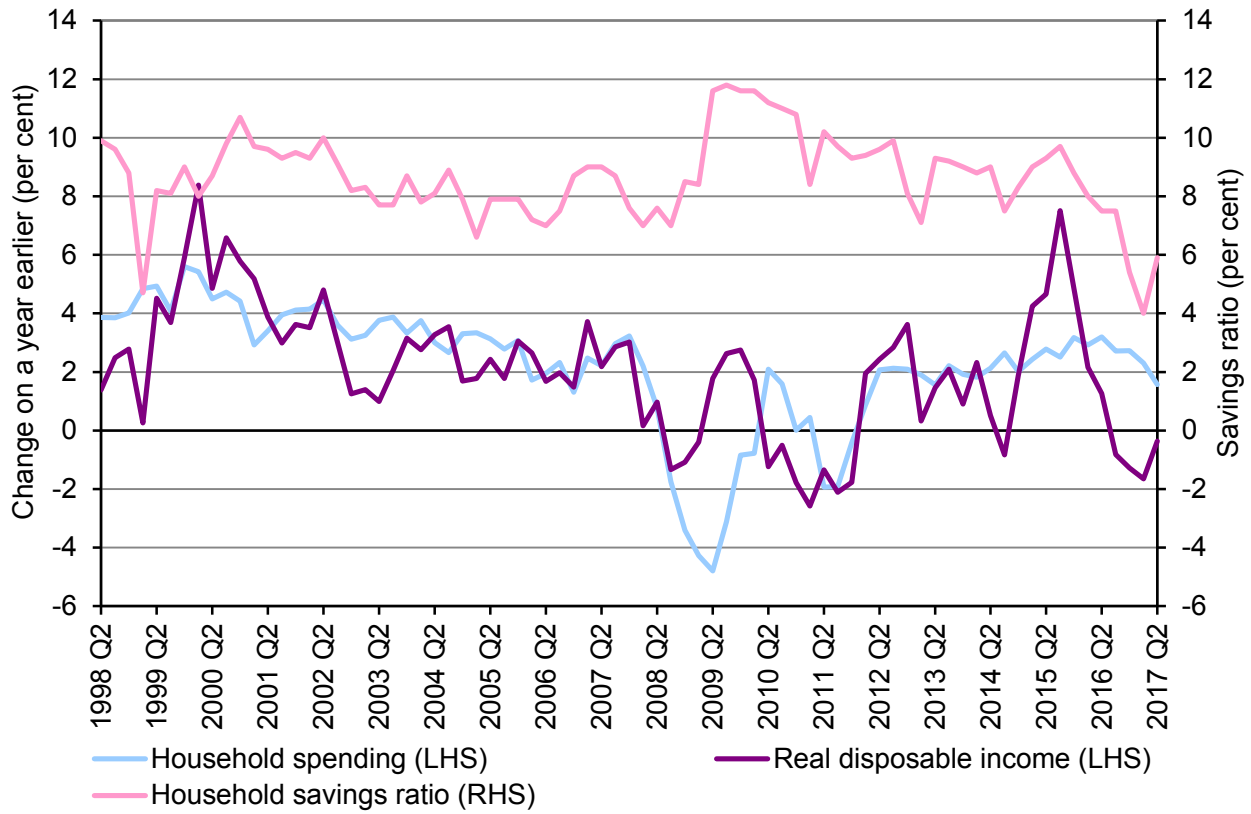
Source: LPC estimates using ONS data: household consumption (ABJR); total investment (NPQT); business investment (NPEL); dwellings investment (DFEG); government consumption (NMRY); change in inventories (CAFU); domestic demand (YBIM); exports (IKBK); imports (IKBL); and GDP (ABMI), quarterly, seasonally adjusted, Q4 1997-Q2 2017.
Note: Change in inventories includes an alignment adjustment (DMUM) that was particularly large and negative in the second quarter of 2017.

1.32 General investment and business investment has been growing, but remains below its pre-crisis trend and indeed the growth experienced between 2010 and 2015. Inventories also appear to have been run down in the first half of 2017, although that may be due to a large alignment adjustment.[2]

1.33 Government consumption has also weakened since the first half of 2016, but is close to its post-2010 trend, albeit considerably lower than its pre-crisis trend. In contrast, trade has been volatile. The depreciation of sterling appears to have generally boosted exports, with strong growth in the second half of 2016 carrying through into 2017, albeit with some weakness in the first quarter of 2017. On the other hand, imports have generally increased more slowly, although they grew strongly in that first quarter. Together, net trade acted as a drag to GDP in the first quarter of 2017, but was an important boost to GDP in the second quarter of 2017 – accounting for all its growth.

1.34 We now look in more detail at each of these components. We start with consumer spending. Figure 1.3 shows that household spending has grown at an annualised rate of around or just over 2 per cent for the last five years, but that growth appears to have slowed since the middle of 2016. For much of that period, growth in real household disposable income kept pace, but since the end of 2015 it has slowed, becoming negative in the third quarter of 2016 as inflation began to rise as a result of the depreciation of sterling.

Figure 1.3: Consumer spending, real household disposable incomes and the savings ratio, UK, 1998-2017



Source: LPC estimates based on ONS data: household spending (ABJR), real disposable income (NRJR), household saving ratio (NRJS), quarterly, seasonally adjusted, UK, Q2 1998-Q2 2017.

2 Change in inventories includes an alignment adjustment (DMUM) that was particularly large and negative in the second quarter of 2017. This alignment adjustment aligns GDP estimates from the three methods used to estimate it: expenditure, output and income. It is volatile and does lead to some volatility in the measure of domestic demand (for example, it was -1.1 per cent in the fourth quarter of 2016 and 0.7 per cent in the first quarter)

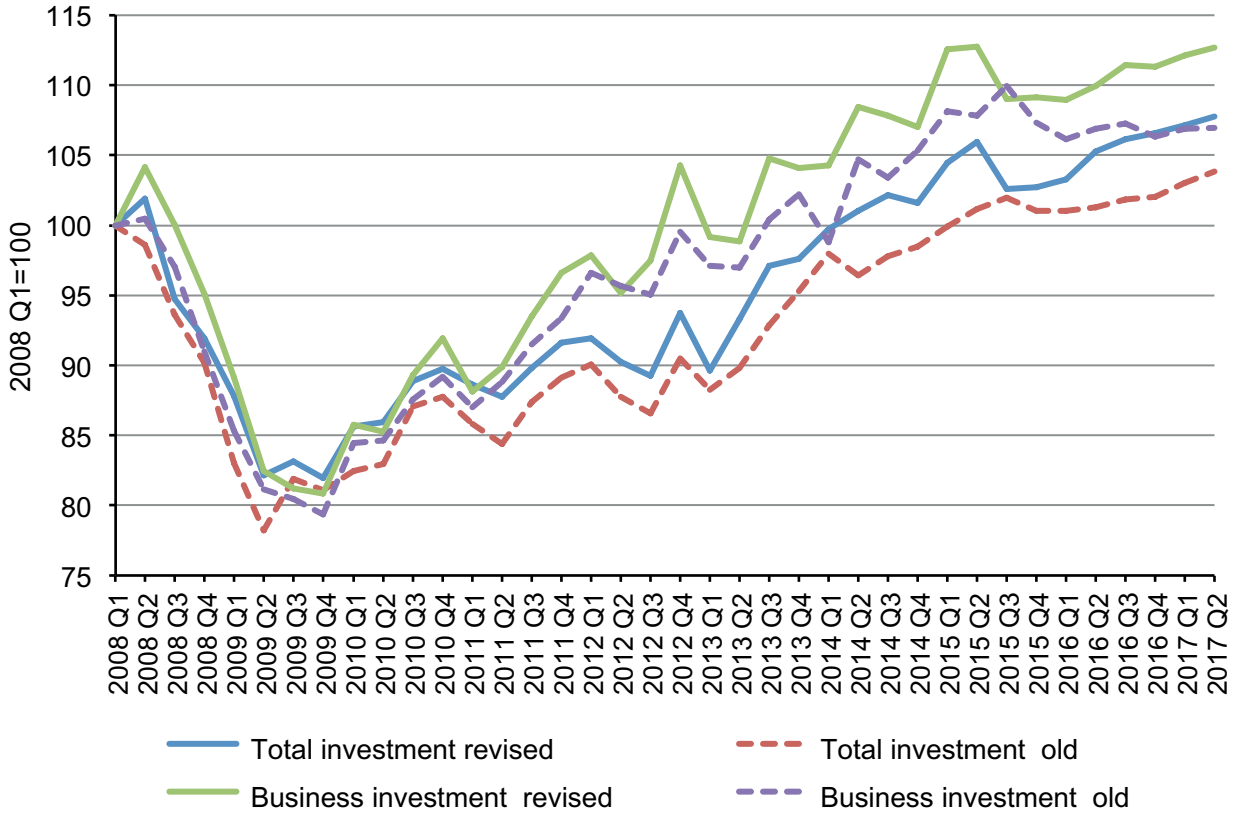
1.35 Spending has been considerably above real household disposable income since the first quarter of 2016. It has been funded by a fall in savings – the household savings ratio has fallen from around 10 per cent in the second half of 2015 to around half of that in the first six months of 2017. Personal Protection Insurance (PPI) pay-outs, equity release and the early release of pension pots have helped enable the spending to continue.

Investment

1.36 ONS revised its investment series upwards in September 2017 and that changes what we thought was happening, particularly with regards to business investment. Previously, we had thought that both total and business investment had generally been increasing since the end of the recession in mid-2009, but that the pace of growth of total investment had slowed since the start of 2015 while that for business investment was flat. Figure 1.4 shows that investment (both total and business) has grown faster than previously thought, particularly since the third quarter of 2015, albeit not enough to affect overall GDP growth. It also now shows a sharp decline between the second and third quarters of 2015.

1.37 Business investment had been thought to be particularly sluggish since the beginning of 2015, with the previous ONS data suggesting that the level of business investment had fallen by 1.1 per cent between the first quarter of 2015 and the second quarter of 2017. However, the series was revised in September 2017 to suggest that business investment had actually grown by 0.1 per cent over that period. The revised series does show some recent growth – between the third quarter of 2015 and the second quarter of 2017, it grew by 3.4 per cent – but the level of business investment in the second quarter of 2017 was no higher than in the second quarter of 2015.

Figure 1.4: Total and business investment, UK, 2008-2017

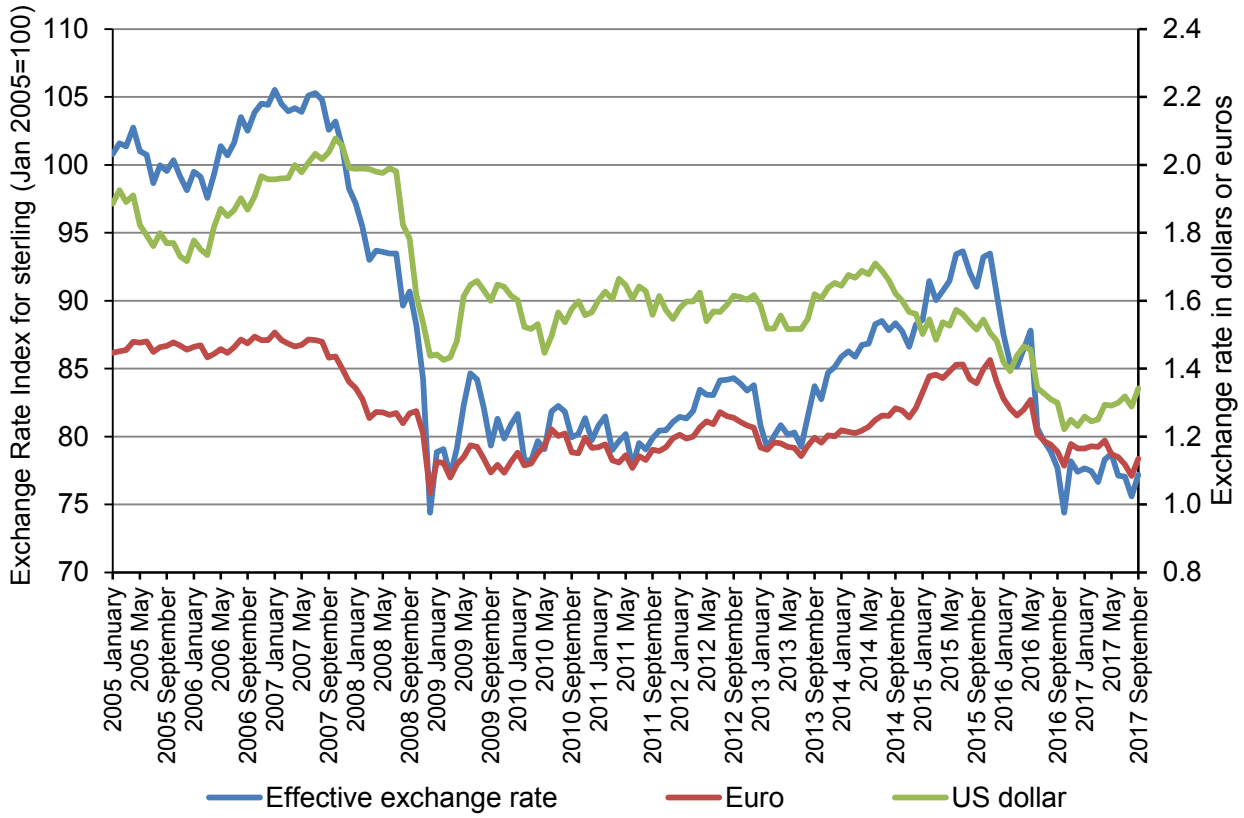


Source: LPC estimates using ONS data: total investment in whole economy (NPQT) and business investment in whole economy (NPEL), quarterly, seasonally adjusted, UK, Q1 2008-Q2 2017.

Trade

1.38 The fall in the value of sterling, as shown in Figure 1.5 (reducing the price of exports but increasing the price of imports), alongside the uncertainty about future trading relations with the EU and the rest of the world, has led to trade being even more volatile than usual since the beginning of 2016. Between the end of 2015 and September 2016 the pound fell by around 14 per cent against the US dollar and 19 per cent against the euro. It also depreciated by around 17 per cent on a trade-weighted basis against a basket of currencies. Between September 2016 and September 2017, the pound has changed little on a trade-weighted basis – it has appreciated by about 3.3 per cent against the US dollar, but depreciated by a further 1.8 per cent against the euro.

Figure 1.5: Value of sterling, UK, 2005-2017



Source: Bank of England data: Effective exchange rate index (XUMLBK67), Sterling (average in Jan 2005=100); Spot exchange rate, euro into sterling (XUMLERS); Spot exchange rate, US dollars into sterling (XUMLUSS), end month, January 2005-September 2017.

1.39 In the second quarter of 2017, exports had grown strongly while imports had weakened, thus boosting GDP by 0.4 percentage points. That followed the first quarter of 2017, when net trade had acted as a drag on GDP growth of similar magnitude. The most recent trade data from ONS (up to August 2017) suggest that this positive boost had been reversed and that net trade will again act as a drag in the third quarter of 2017. Between June 2017 and August 2017, the value of exports fell by 0.8 per cent while the value of imports rose by 3.5 per cent.

Sectors

1.40 We can also look at the sectoral composition of growth. The largest sector – services – accounts for about 80 per cent of UK output, with production accounting for around 14 per cent (made up primarily of manufacturing – 10 per cent), construction around 6 per cent and agriculture less than 1 per cent. That distribution is also reflected in employment. In line with the rest of the UK workforce, most minimum wage workers work in services with relatively few in construction, agriculture and production (including manufacturing). Table 1.5 shows that growth across the economy between 2010 and 2015 had been relatively balanced, but had been weaker than before the financial crisis.

1.41 The exception, as in that pre-crisis period, has been manufacturing – growing much more slowly than other sectors in the economy, notably services. However, helped by the falling pound and a pick-up in world trade, manufacturing had grown reasonably strongly throughout 2016 and into the first quarter of 2017. But manufacturing output fell in the second quarter.

1.42 Construction had grown strongly since the end of the recession but it also weakened in the second quarter of 2017, falling by 0.6 per cent. Agriculture, which had held up better than other sectors during the recession had also grown quite strongly between the end of the recession and the end of 2015, but it had weakened in 2016 and continued to be weak in 2017.

Table 1.5: Average quarterly growth, by sector, UK, 1998-2017

Percentage changes on a quarter earlier

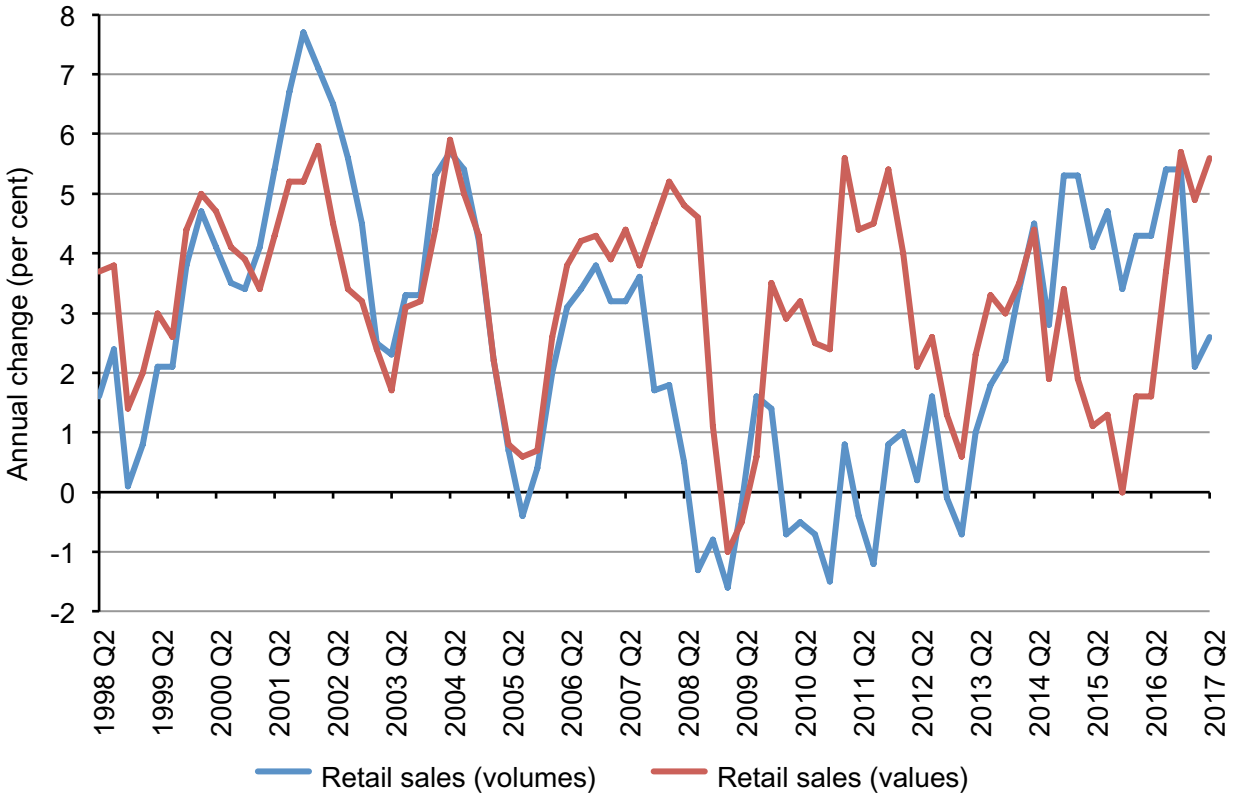
	Averages						
	1998-2007	2008-09	2010-15	2016 H1	2016 H2	2017 Q1	2017 Q2
Services	0.9	-0.5	0.6	0.6	0.6	0.1	0.4
Manufacturing	0.1	-1.4	0.2	0.8	0.4	0.6	-0.3
Construction	0.5	-2.1	0.8	1.3	1.3	1.9	-0.6
Agriculture	0.3	0.1	0.7	-2.5	0.4	-0.3	-0.1
Retail and hospitality	0.6	-1.0	0.7	1.3	1.5	-0.8	0.9
Retail	0.5	-1.0	0.7	1.4	1.4	-1.2	0.9
Hospitality	0.7	-1.0	0.7	1.1	1.9	0.5	1.2
Whole economy	**0.7**	**-0.7**	**0.5**	**0.3**	**0.5**	**0.3**	**0.3**

Source: LPC estimates based on ONS data: whole economy GDP (ABMI); services (L2NC) manufacturing (L2KX); construction (L2N8); agriculture, fishing & forestry (L2KL); distribution, hotels and restaurants (L2PZ); wholesale & retail trade; motors and repairs (L2NE); and hotels & restaurants (L2NQ), quarterly, seasonally adjusted, UK, Q4 1997-Q2 2017.

1.43 Services had grown by around 0.6 per cent on average between the end of the recession and the end of 2016, but that growth weakened in the first half of 2017. The two largest low-paying sectors – retail and hospitality – account for about 17 per cent of the output of services (and around 14 per cent of the whole economy). They had both grown strongly between 2010 and 2015, and were even stronger throughout 2016. However, that growth weakened noticeably in the first quarter of 2017, and especially in retail (when output fell by 0.5 per cent). Despite the fall in real disposable income, retail and hospitality both grew strongly in the second quarter of 2017. Both sectors have been helped by the increase in tourism as the fall in the pound has made it cheaper to visit the UK.

1.44 Looking at retail in more detail, we can see from Figure 1.6 that retail sales volumes had grown relatively strongly between the start of 2014 and the end of 2016, but have slowed in the first half of 2017. However, they are much stronger than they were between 2008 and 2013. On the other hand, retail sales values have tended to be the mirror image and have been strongest when inflation has picked up. The growth in volumes between 2014 and 2016 was accompanied by falling prices that left retail sales values relatively weak in 2015 and much of 2016. However, the fall in sterling since the end of 2015 has led to a pick-up in prices and hence to rising values – at the same time as volumes have fallen.

Figure 1.6: Retail sales, UK, 1998-2017



Source: ONS data: Retail Sales Inquiry all retail including fuel values (J5ES) and volumes (J5EB), quarterly, seasonally adjusted, UK, Q1 1997-Q2 2017.

1.45 Table 1.6 shows that, over the last year, there appears to be a distinct difference between food and non-food retail, with the former seeing no change in volumes while the latter has continued to grow, although that growth has been focused in clothing stores and other (specialist) stores. Sales of household goods and in department stores have been weak. Internet sales continue to grow strongly.

Table 1.6: Average quarterly growth, by retail sector, UK, 2016-2017

Percentage change on a year ago	Quantity bought (volume)	Amount spent (value)	Average store price
Predominantly food stores[1]	0.0	2.6	2.6
Predominantly non-food stores[2]	2.8	6.2	3.2
Non-specialised stores[3]	0.7	3.4	2.7
Textile, clothing and footwear stores	3.4	7.9	4.2
Household goods stores	-0.9	2.3	3.2
Other stores	5.9	8.9	2.6
Non-store retailing	15.5	19.0	3.3
Fuel stores	-1.1	4.0	5.0
Total	2.4	5.6	3.2

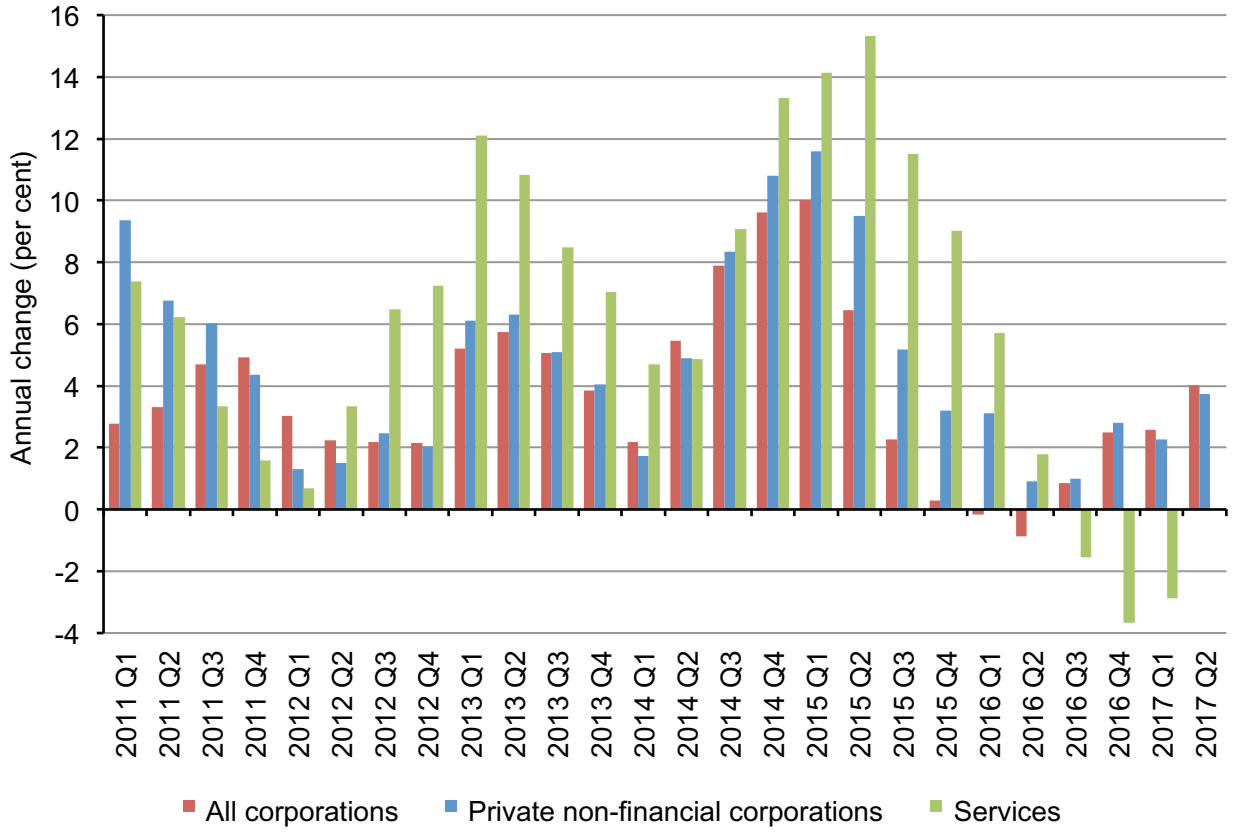
Source: ONS data: Retail sales in Great Britain: August 2017 Table 2, monthly, seasonally adjusted, UK, August, 2016-17.
Notes:
1. Supermarkets, specialist food stores and sales of alcoholic drinks and tobacco.
2. Non-specialised stores, textiles, clothing and footwear, household goods and other stores.
3. Department stores.

Profits

1.46 An indicator of the affordability of minimum wage increases is the extent of profitability across the economy. Unfortunately, detailed sectoral and size of firm data on profits are not available in a timely manner. The latest available are for 2015 and pre-date the introduction of the National Living Wage. However, more aggregated and timely data are available. We can look at three measures of profitability across the economy – gross operating surplus, profit share and return on capital employed.

1.47 As shown in Figure 1.7, gross operating surplus grew strongly across the economy in 2014 and the first half of 2015, but then slowed until mid-2016. Since then gross operating surplus has grown solidly, but not as strongly as in that earlier period. Gross operating surplus grew strongly in the service sector throughout 2014 and 2015, but has slowed in 2016 and actually fell on a four-quarter rolling basis in the second half of 2016 and the first quarter of 2017. On a non-rolling basis, it fell in every quarter in 2016 but did increase in the first quarter of 2017.

Figure 1.7: Gross operating surplus, UK, 2011-2017

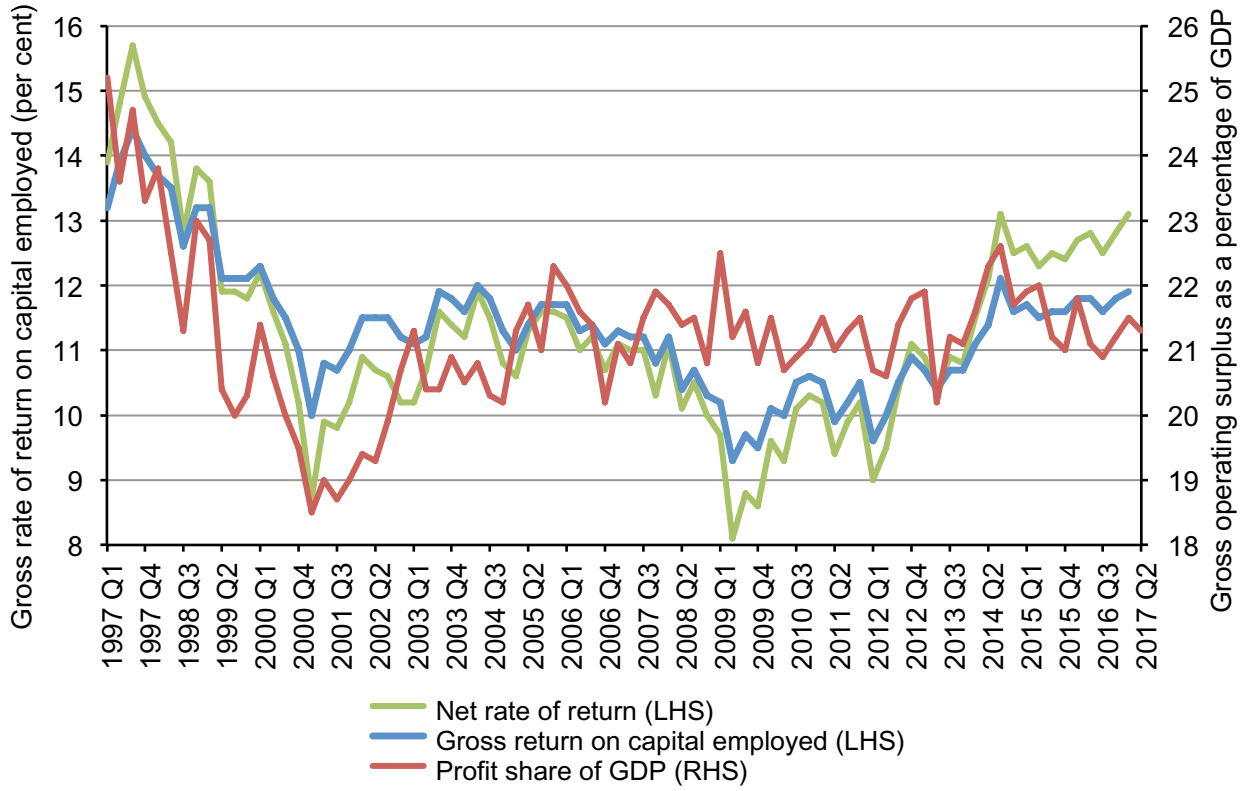


Source: LPC estimates using ONS data: gross operating surplus for whole economy all corporations (CGBZ); non-finance private corporations (CAER); and services (LRYF), four quarter rolling average, seasonally adjusted, UK, Q2 2009-17.

1.48 We now consider two other measures of profit – profit share (gross operating surplus as a proportion of GDP) and the gross rate of return on capital employed. Figure 1.8 shows that the gross rate of return on capital employed fell more or less continuously from 14 per cent in 1997 to just above 9 per cent at the end of the recession (in the second quarter of 2009). It then bounced back to around 12 per cent in the third quarter of 2014. It has remained at just under 12 per cent since then. The net rate of return has followed a similar pattern albeit a bit higher since the end of 2013. The net rate of return is higher now than it has been since the late 1990s.

1.49 The profit share of GDP fell from around 25 per cent in 1997 to a low of 18.5 per cent in the first quarter of 2001. It then increased to above 22 per cent at the end of 2005. It has remained just below this level (fluctuating between 21 and 22 per cent) ever since. In contrast to the previous evidence, neither of these measures is suggestive of strong recent increases in corporate profitability. However, nor do they indicate much of a decline.

Figure 1.8: Rate of return and profit share, UK, 1997-2017



Source: ONS: gross rate of return (LRXO); net rate of return (LRXP); and gross operating surplus as a percentage of GDP (IHXM), quarterly, UK, Q1 1997-Q2 2017.

Start-ups and failures

1.50 Another potential indicator of general affordability across the economy is the stock of firms – which takes account of the number of new firms created and the number of firms that have gone out of business.

1.51 According to the latest Business Demography statistics (for 2015), 383,000 new firms were created (up 9.3 per cent from 351,000 in 2014) – the highest recorded since comparable records began in 2000 – while 252,000 ceased operating (up by 2.1 per cent from 247,000 in 2014). This meant that there were 2.67 million firms in the UK in 2015, an increase of 131,000 (or 4.9 per cent) on 2014. The birth rate (14.3 per cent) was also at its highest since records began, while the death rate was at its lowest since 2006 (9.4 per cent). In line with the whole economy, births of firms were generally greater than deaths across broad industries, including the low-paying sectors.

1.52 However, in contrast to the strong growth in the number of firms across the economy in 2015, the growth in retail (up 0.5 per cent to 216,000) and accommodation and food (up 1.8 per cent to 171,000) was much weaker. The birth rate in hospitality (14.3 per cent) was similar to that in the whole economy, while that for retail was much lower (10.7 per cent). The death rates in both low-paying sectors were higher than for the whole economy – 12.4 per cent in accommodation and food, and 10.1 per cent in retail, compared with 9.4 per cent for the whole economy.

1.53 Focusing on employer demography (businesses with at least one employee) gives a similar picture, albeit slightly stronger. The number of employer firms grew by 6.0 per cent to 2.4 million with 366,000 births and 222,000 deaths. The birth rate was 15.2 per cent compared with a death rate of 9.2 per cent. The growth in the number of employer firms was also weaker for the two main low-paying sectors than in the whole economy – 1.6 per cent in retail and 1.8 per cent in accommodation and food.

1.54 More timely data on firm deaths is available from the Insolvency Service. Insolvency in Scotland and in Northern Ireland is governed by separate legislation, albeit broadly similar, to England and Wales. Thus, the data for the three jurisdictions are reported separately. It should be noted that the data in England and Wales have been affected by changes to claimable expenses rules that led to large one-off increases in personal service companies entering creditors' voluntary liquidation in the fourth quarter of 2016 and the second quarter of 2017. Even excluding these, the latest data for the third quarter of 2017 showed a pick-up in the number of insolvencies in England and Wales to 4,512, up 14.5 per cent on a year ago. This followed a general decline from over 6,000 at the beginning of 2009 (during the recession) to 3,625 in the third quarter of 2016. By contrast, company insolvencies in Scotland have generally been lower in the first three quarters of 2017 (around 200) than they were between 2013 and 2016 (around 250 on average). Northern Ireland follows a similar trend to Scotland. It had only 58 company insolvencies in the third quarter of 2017, compared with an average of around 90 between 2012 and 2016.

1.55 There has been an increase in individual insolvencies in England and Wales since the middle of 2015 from around 20,000 to around 25,000. That increase in individual insolvencies has also been observed in Scotland (from around 2,200 to 2,600) and, to a lesser extent, in Northern Ireland (up from around 675 to 750) over the same period.

1.56 The latest detailed industry data available are only up to the second quarter of 2017. They showed that the increase in insolvencies in the year to the second quarter of 2017 was slower in the two main low-paying sectors – wholesale and retail (up 1.5 per cent to 524) and accommodation and food (up 14.8 per cent to 422) – than in the whole economy (up 24.4 per cent to 17,968). However, these data were affected by the one-off events concerning personal service companies described above.

Output summary

1.57 Overall, in the period from the announcement of the NLW in July 2015 to the end of the second quarter of 2017 (which included the implementation of the NLW in April 2016 and its first uprating in April 2017), the UK economy continued its recovery albeit with growth slowing in the first half of 2017 – well below its pre-recession pace – and only recently recovering its pre-recession level measured on a per worker basis.

1.58 This chapter now goes on to look at employment, productivity and pay in more detail.

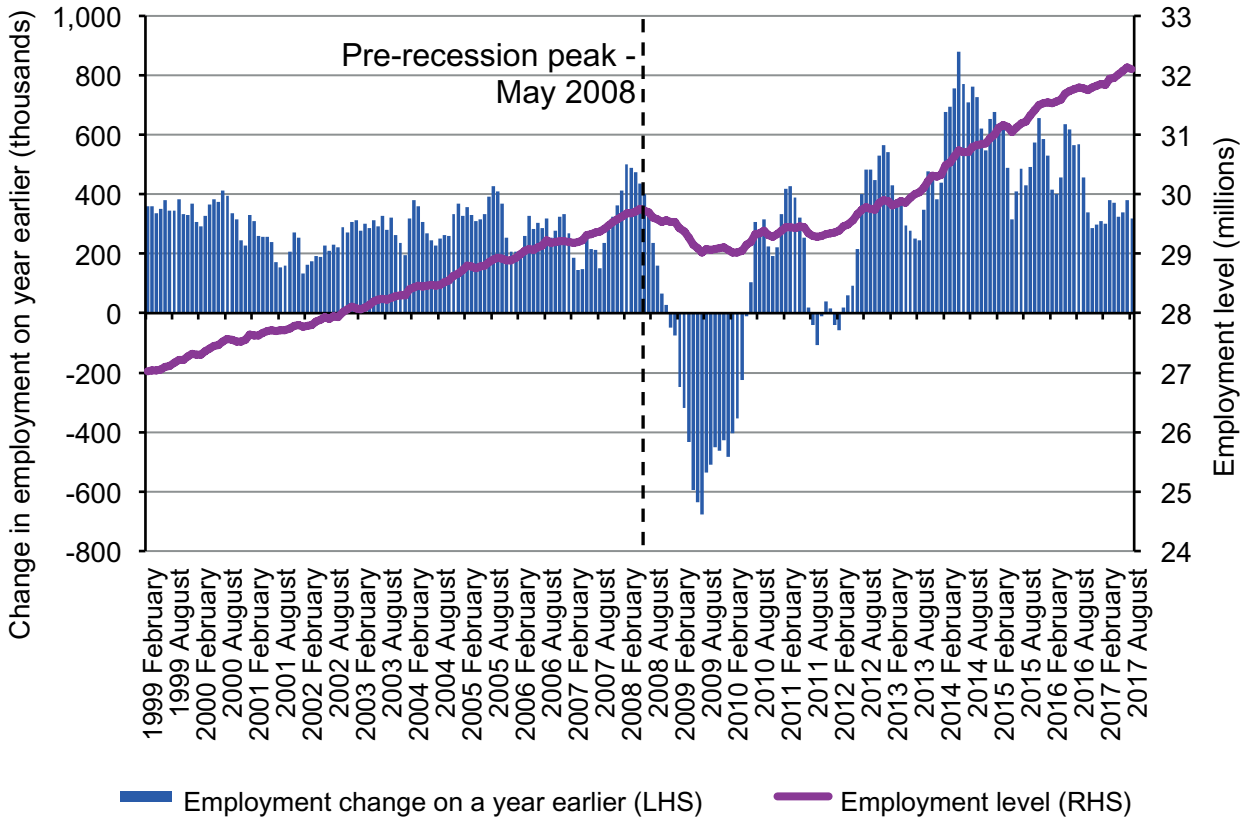
Labour market

1.59 Changes in employment are our key test of the impact of the minimum wage, reflecting the main risk in the policy – namely that wage floors set too high can price people out of jobs. In this section, we look at three ways of measuring the aggregate strength of employment with a view to understanding the impact and affordability of the NLW and the other rates: the number of people in employment; the number of jobs; and the number of hours. On all three measures, the UK labour market continued to perform strongly, with the numbers of people in employment; workforce jobs and total hours worked reaching record levels in 2017.

Employment and employee jobs

1.60 We begin with the number of people in employment. Figure 1.9 shows the change in employment and the total level since the introduction of the NMW in April 2009. The last twelve months have continued to see strong growth in employment. This has pushed the total employment level in the UK to over 32.1 million.

Figure 1.9: Employment, UK, 1999-2017



Source: LPC estimates using ONS data: total employment (MGRZ), monthly, seasonally adjusted, UK, 1999-2017.

1.61 The employment rate for those aged 16 to 64 in the three months to July 2017, 75.3 per cent, was at its highest since comparable records began in 1971. The latest data, for the three months to August 2017 was only just below (75.1 per cent) and was considerably higher than a year ago (74.5 per cent). While the growth in total employment has slowed since August 2016, it is still at a level equivalent to that observed before the 2008 crisis – around 300,000 additional jobs a year.

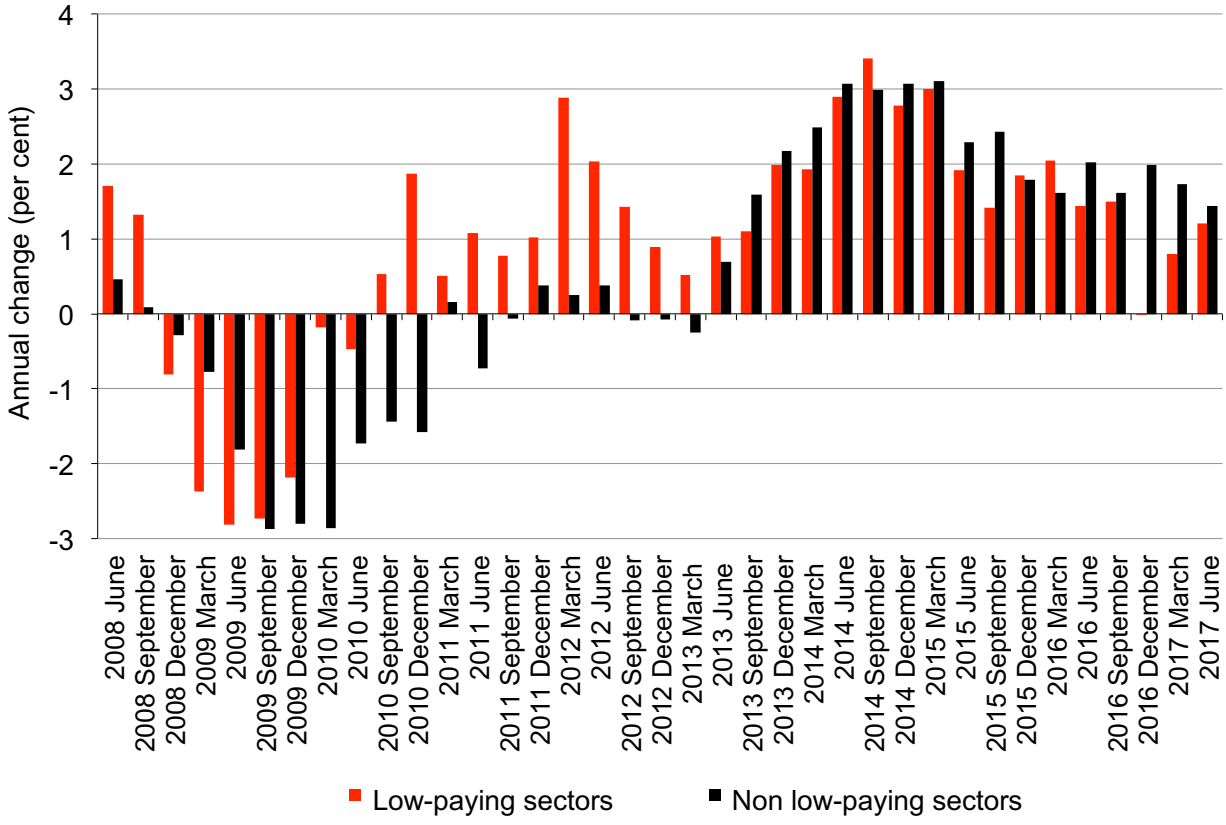
Total employment is up by over 5 million since the introduction of the National Minimum Wage and is up by over 500,000 since the National Living Wage was introduced.

1.62 The increases seen in the year to June 2017 are also well above forecast increases. In October 2016, the median forecast of the HM Treasury panel was for a slight fall in workforce jobs, whereas there has been an increase of 1.2 per cent.

1.63 The number of people in employment who are aged 16 and over has increased by almost a million since the announcement of the introduction of the NLW in the Summer Budget 2015, growth that was expected to take until 2021.

1.64 Figure 1.10 shows the growth in employee jobs, another measure of employment. It shows the split between low-paying sectors and non low-paying sectors. In historic terms, there have been sizeable increases in employment both in low-paying and non low-paying sectors over the last twelve months – both increasing by over 1 per cent compared with an average of 0.5 per cent in the whole economy since 1960. Albeit, the growth in 2017 has been much weaker than in 2014-16. Since the introduction of the NLW in April 2016, the increases have been higher for the non low-paying sectors.

Figure 1.10: Annual change in employee jobs, by sector, GB, 2008-2017



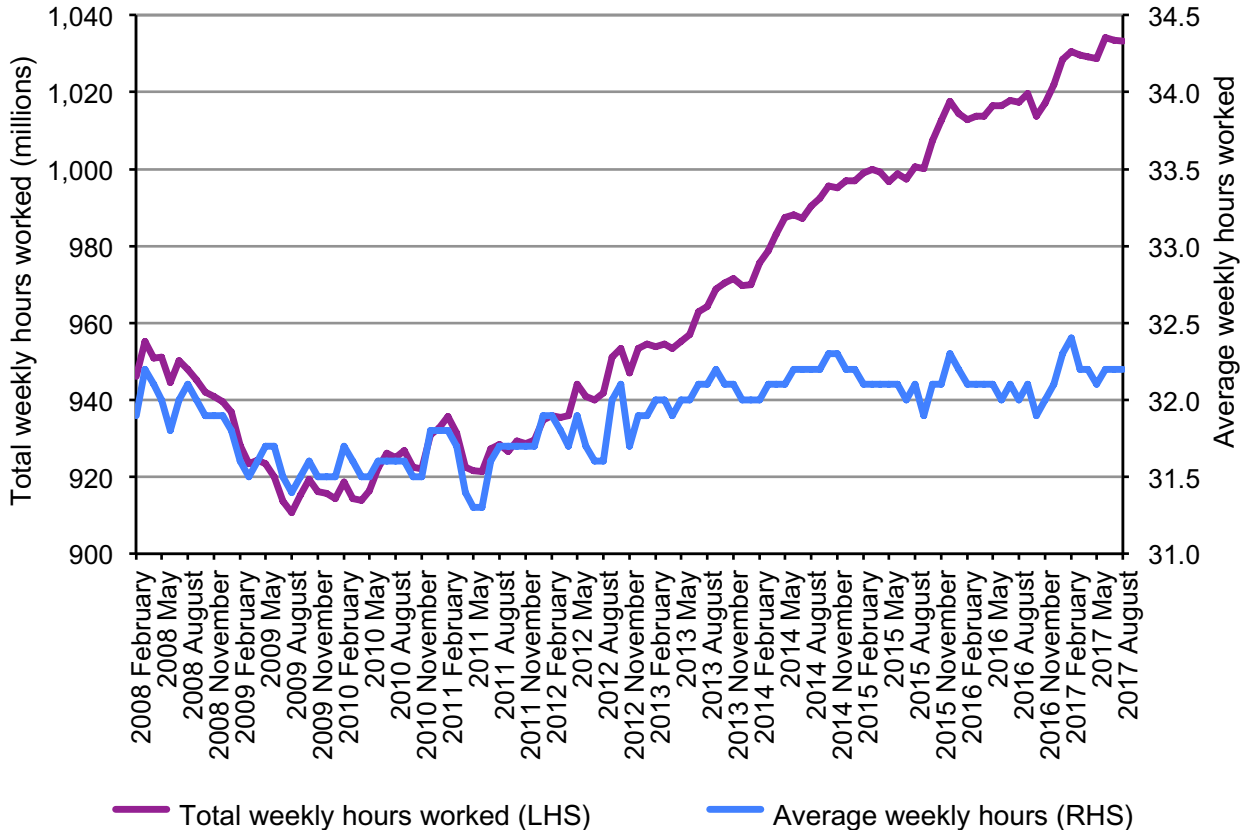
Source: LPC estimates using ONS data: employee jobs series, every three months, not seasonally adjusted, GB, 2008-17.

1.65 Overall, employment growth in 2016 and 2017 has been very healthy, especially given the high base. Growth has outstripped expectations, and been much higher than expected given diminished GDP growth expectations.

Hours

1.66 Another measure of changing trends in employment is the total number of paid hours worked in the economy. Economic evidence, and our stakeholder analysis, suggest that firms are more likely to reduce hours in response to minimum wages than to reduce employment. Figure 1.11 shows that the number of hours worked has increased over the last year. The total number of hours worked are up by 1.6 per cent since August 2016, while average hours worked per week grew by 0.6 per cent and employment by 1.0 per cent.

Figure 1.11: Total and average weekly hours worked, UK, 2008-2017



Source: ONS data: total weekly hours (YBUS) and average hours worked per week (YBUV), monthly, seasonally adjusted, UK, February 2008-August 2017.

Employment type

1.67 We now turn to look at the type of employment that individuals are in. As noted in a previous section, the number of individuals employed is at record highs, and we now look at what types of jobs have contributed to this strong growth in employment.

1.68 Table 1.7 shows that between August 2015 and August 2016 there was particularly fast growth in self-employment, with numbers up 6 per cent, more than 5 times the growth seen in employees. Since August 2016 growth is more evenly split, with the number of employees up by 1.0 per cent (257,000) and self-employment up by 1.5 per cent (70,000).

Table 1.7: Employment by status, age, hours and permanency, UK, 2015-2017

Thousands	Latest Data (Aug 2017)	Change on Aug 2016	Change on Mar 2016	Change on Aug 2015
Employment	32,105	317	539	885
Employees	27,069	257	400	564
Self-employed	4,855	70	153	341
Other	180	-11	-15	-21
Employment by Age				
16-17	344	-2	-25	-24
18-24	3,524	-52	-75	-39
25-34	7,460	194	267	371
35-49	10,807	25	33	53
50-64	8,788	199	343	501
65+	1,181	-47	-6	22
Work Status				
Full-time Employees	20,077	346	391	471
Part-time Employees	6,992	-89	9	93
Contract Type				
Permanent Employees	25,469	312	452	618
Temporary Employees	1,600	-55	-52	-54

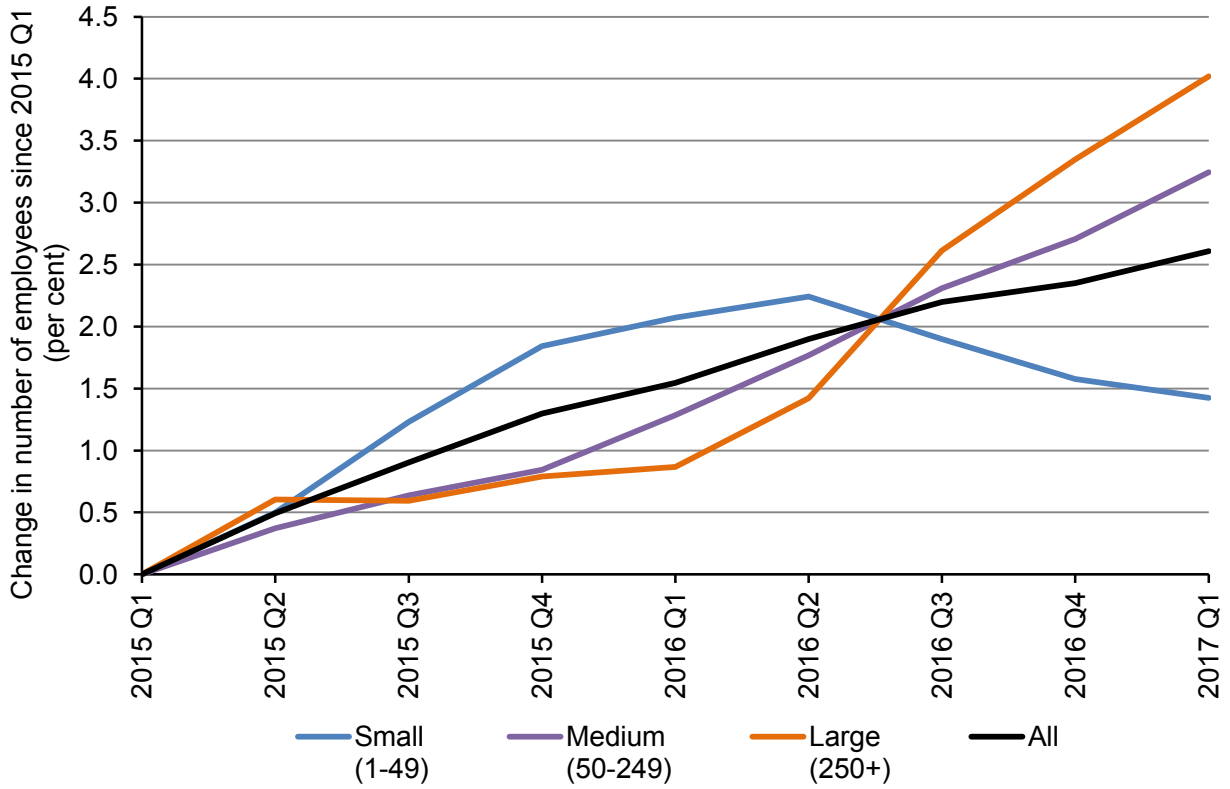
Source: LPC estimates using ONS data: employment (MGRZ); employees (MGRN); self-employment (MGRQ); other combines unpaid workers (MGRT) and government supported trainees (MGRW); full-time employees (YCBK); part-time employees (YCBN); permanent employees (MGRN-YCBZ); temporary employees (YCBZ); employment by age groups: 16-17 (YBTO); 18-24 (YBTR); 25-34 (YBTU); 34-49 (YBTX); 50-64 (LF26); and 65 and over (LFK4), monthly, three month average, seasonally adjusted, UK, 2015-17.
Notes: Totals may not sum due to rounding.

1.69 Growth in employment is also being driven by increases in full-time employment, with the number of part-time employees having fallen back to the level seen in August 2015. The increase in permanent employment has more than offset the fall in temporary employment.

1.70 The changes in employment levels at different age groups are influenced by demographic changes. The ageing of the UK population will increase the population of those aged 50-64, while reducing it for those aged 35-49, over the next few years. At the same time the population of 16-24 year olds is falling. These demographic changes will be reflected in the employment numbers. Thus, it is also useful to compare employment rates. These show that the employment rate for 18-24 year olds was 62.0 per cent in the three months to August 2017. That compares with 61.7 per cent in the three months to August 2015. Over the same period the employment rate for 35-49 year olds increased from 83.3 per cent to 84.6 per cent, and that for 50-64 year olds from 69.3 per cent to 71.1 per cent.

1.71 Figure 1.12 shows the change in employment by workplace size. Since 2015 employment in workplaces of all sizes has grown. However, employment in small workplaces (workplaces with 49 or fewer employees) has decreased since the second quarter of 2016. Growth was highest in workplaces with more than 250 employees.

Figure 1.12: Change in employment, by workplace size, UK, 2015-2017



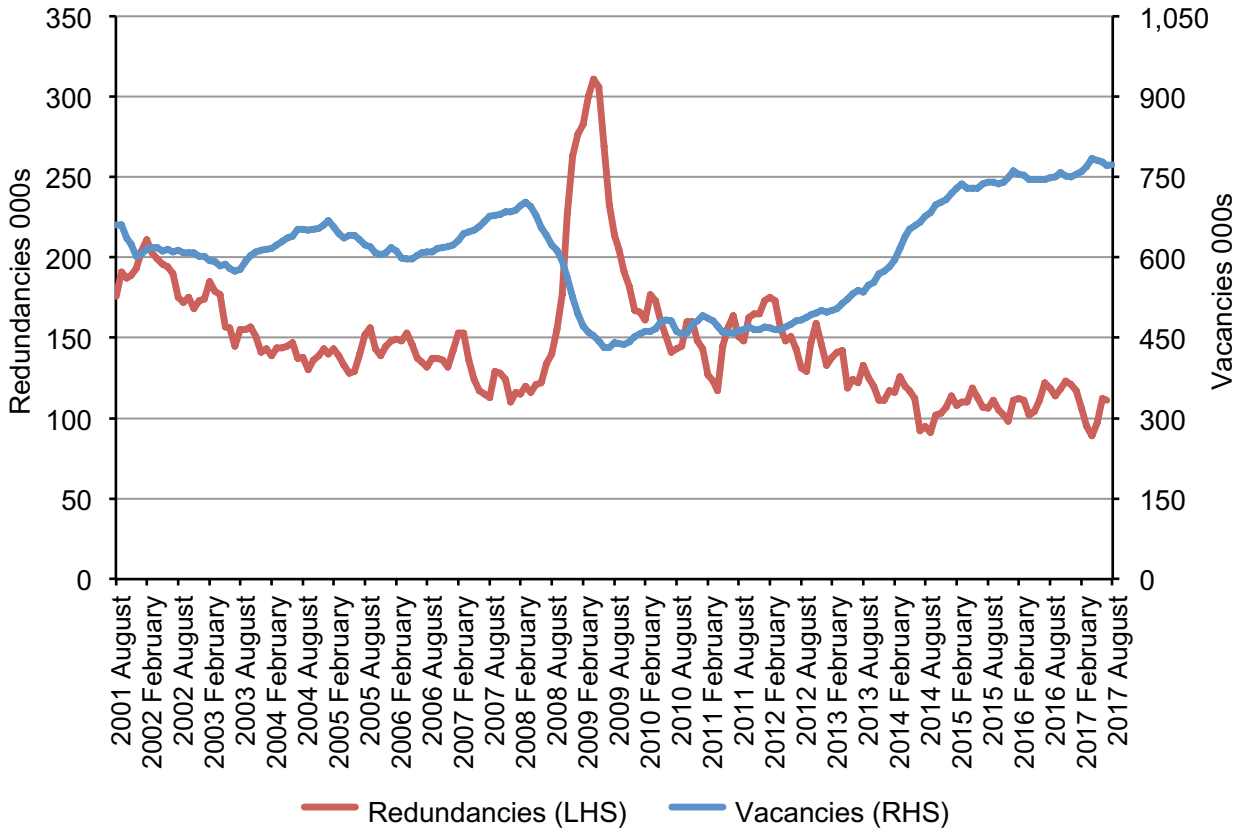
Source: LPC estimates using LFS Microdata, quarterly, four quarter moving average, not seasonally adjusted, UK, Q2 2015-17.

1.72 The share of the total workforce that are migrant workers, as measured by non-UK born workers, increased by 0.6 percentage points between the second quarter of 2016 and the second quarter of 2017. This was slower than in the previous twelve months, but was still broadly in keeping with the trend since the 2008 recession.

Vacancies and redundancies

1.73 Figure 1.13 shows that the number of vacancies grew by 3.2 per cent in the year to September 2017 to 784,000, which is over 11 per cent higher than the pre-crisis peak. This shows that there remains strong demand for labour in the economy. Similarly, redundancies fell by 6.1 per cent to 107,000, which is 2.7 per cent lower than the pre-crisis trough. In April 2017 redundancies reached the lowest level seen this millennium. Vacancies are significantly up and redundancies down from the level seen in the middle of the 2008 crisis.

Figure 1.13: Vacancies and redundancies, UK, 2001-2017



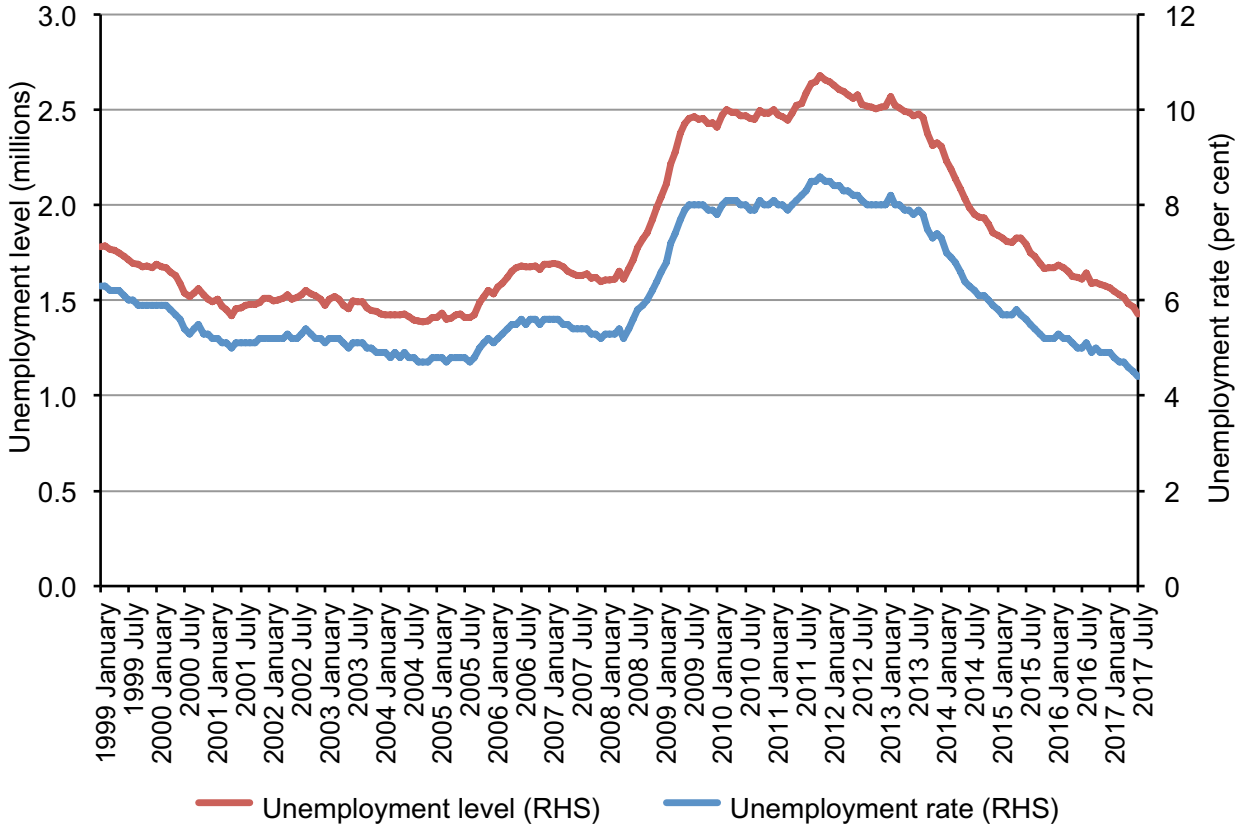
Source: ONS: vacancies (AP2Y) and redundancies (BEAO), monthly, seasonally adjusted, UK, 2001-17.

1.74 The falling numbers of redundancies and continuing growth in vacancies support coupled with the increased levels of employment and hours, suggest that the labour market remains strong with firms increasing their demand for workers.

Unemployment

1.75 The UK unemployment rate fell to 4.3 per cent in the three months to August 2017, down from 5.0 per cent for the same period last year. This is the lowest rate since 1975. Figure 1.14 shows that the number of people who were unemployed fell 224,000, or 13.6 per cent, to 1.42 million. For the first time since the financial crisis, the number of unemployed has fallen below its pre-crisis level. This is despite an increase in the labour force. The fall in the unemployment rate was significantly below the forecasts made at the time of our Autumn 2016 Report.

Figure 1.14: ILO unemployment level and rate, UK, 1999-2017



Source: ONS data: 16-64 unemployment levels (LF2I); 16-64 unemployment rates (LF2Q); monthly, seasonally adjusted, UK, 1999-2017.

Summary of the labour market

1.76 The UK labour market has continued to perform strongly, with record numbers of jobs, people in employment, and total hours worked. Although growth on all of these measures has slowed since 2014, it continues to be robust. Unemployment has fallen to its lowest level since 1975.

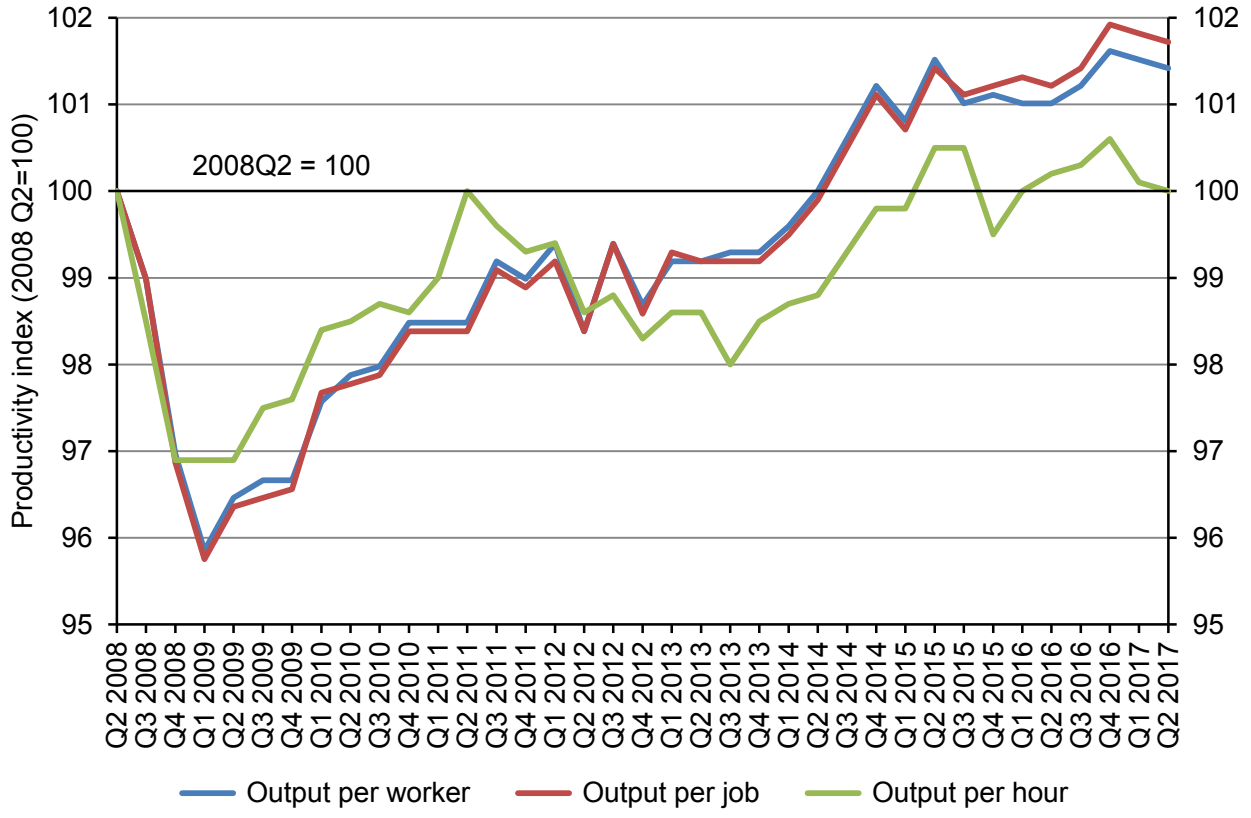
1.77 We have now considered two of the four factors that we had thought necessary for future increases in the minimum wage: sustained economic recovery and job growth (especially in low-paying sectors). We now turn to a third – productivity – before going on to discuss the fourth – pay.

Productivity

1.78 As discussed above, the UK labour market has shown a remarkable degree of resilience in recent years. Combined with weak output growth, this has implications for productivity growth that we discuss in this section.

1.79 Figure 1.15 shows that productivity on all three measures – output per worker, output per job or output per hour – has been sluggish since 2008 and that it has taken a long time for productivity to recover. Output per hour in the second quarter of 2017 was only around what it was at the start of the financial crisis in the second quarter of 2008. Output per job and per worker were slightly better but were only 1.7 per cent and 1.4 per cent respectively above pre-crisis levels.

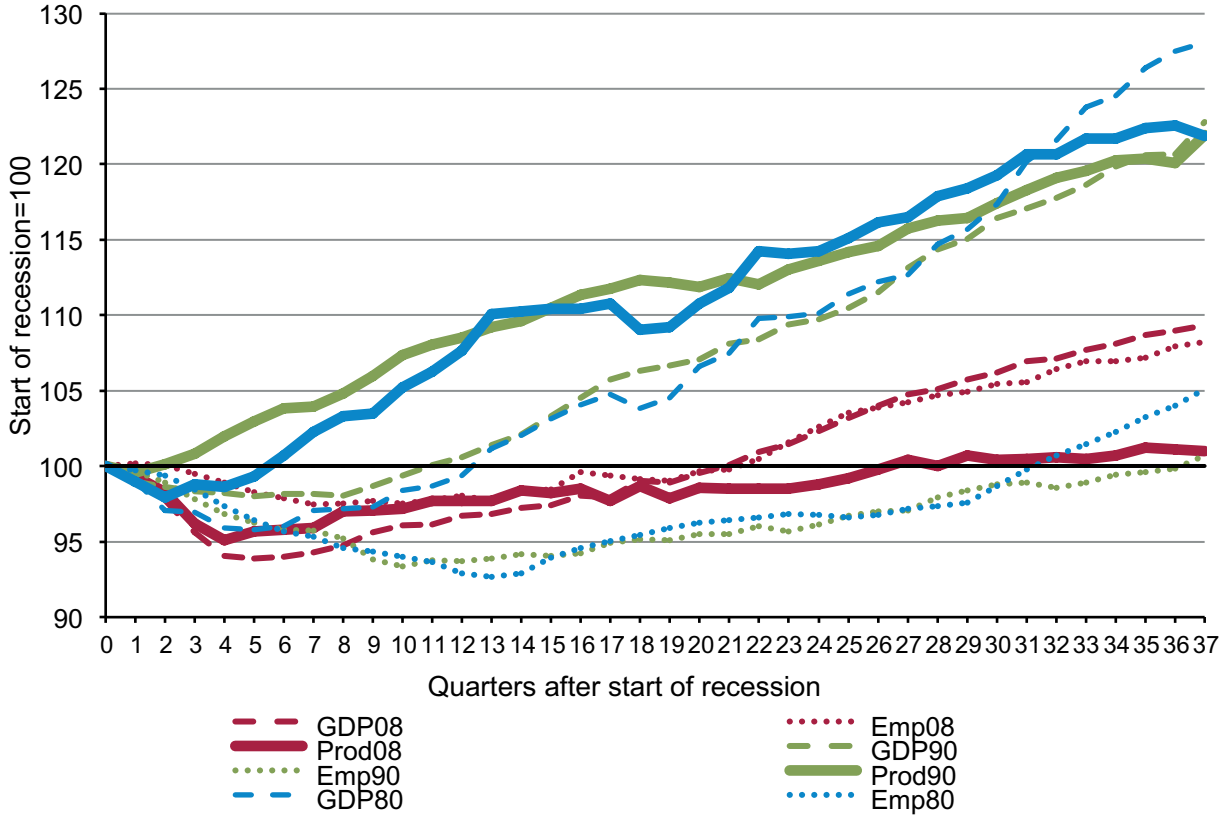
Figure 1.15: Productivity (output per worker, hour and job), UK, 2008-2017



Source: LPC estimates using ONS data: output per worker (A4YM), output per job (LNNN), output per hour (LZVB), quarterly, seasonally adjusted, UK, Q2 2008-17.

1.80 The recent poor performance with regards to productivity can clearly be seen in Figure 1.16 and Table 1.8, along with the divergent performance in output and employment across the years. The productivity performance after the recessions of the 1980s and 1990s was very similar, with productivity per job increasing by around 22 per cent, 37 quarters after the onset of each recession. However, that masked a difference in output and employment growth in the two decades. In the 1980s output increased by 28.1 per cent and the number of jobs grew by 5.1 per cent. That compared with output growth of 22.8 per cent in the 1990s, but just 0.7 per cent job growth. The aftermath of the 2008 recession has been very different. Job growth, at 8.2 percent, has been much stronger than after either of the other recessions, while output growth of 9.3 per cent has been much weaker. That has led to an increase in productivity of just 1.0 per cent since 2008 – around 21 per cent lower than at a similar point after the previous two recessions.

Figure 1.16: Recoveries from recessions, UK, 1979-2017



Source: LPC estimates using ONS data: GDP (ABMI), employment (MGRZ) and output per worker (A4YM), quarterly, seasonally adjusted, UK, Q3 1979-Q2 2017.

1.81 The 2008 recession was much deeper than the other two recessions, with output falling by 6.1 per cent, compared with 4.2 per cent in the 1980s and 2.0 per cent in the 1990s. However, job losses were less in the 2008 recession – 1.7 percent – than in the other two recessions – around 3.6 per cent in both. The recovery after 2008 also shows stronger job growth and weaker employment growth than in the other two recessions.

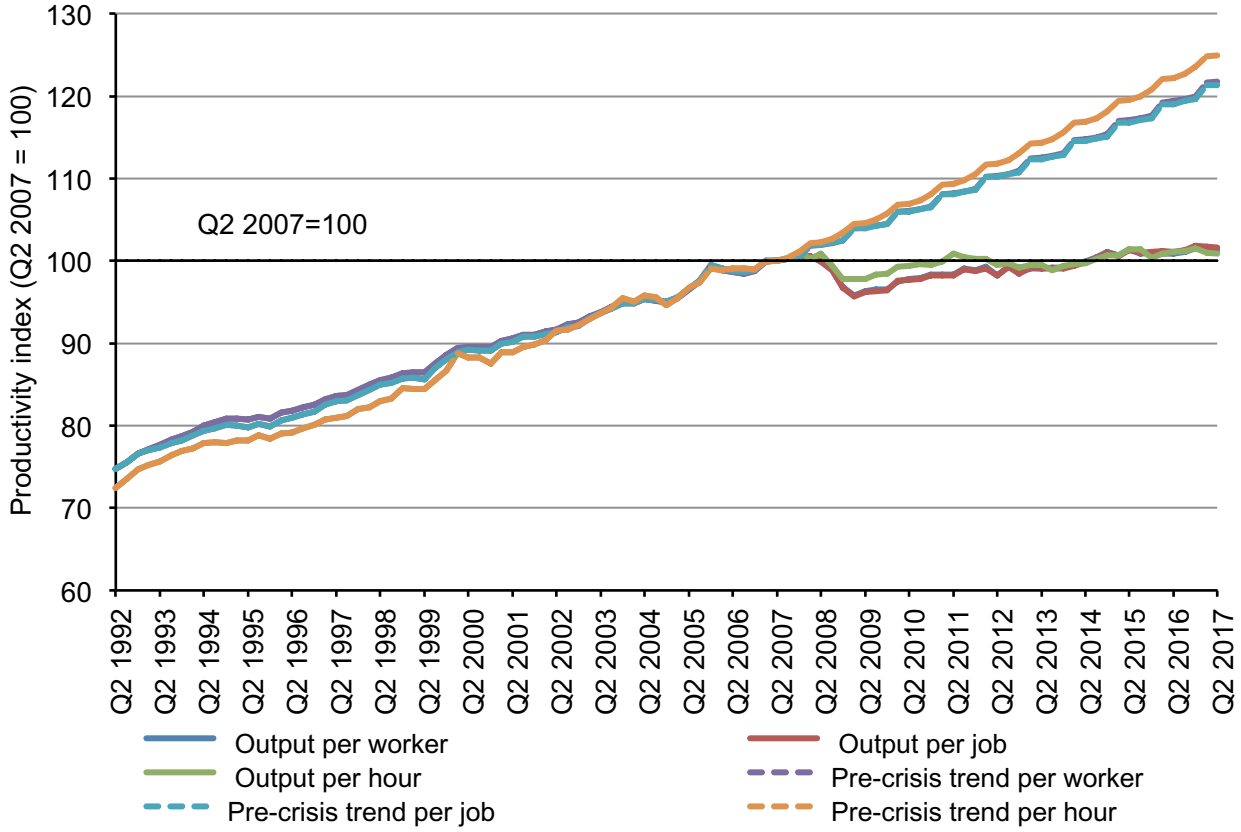
Table 1.8: Growth in output, employment and productivity across recessions, UK, 1973-2017

	Output (GDP)	Workforce jobs	Productivity Output per job
2008Q1-2017Q2	9.3	8.2	1.0
1990Q2-1999Q3	22.8	0.7	22.0
1979Q4-1989Q3	28.1	5.1	21.9
1973Q2-1982Q3	8.2	-4.6	12.7
Recovery			
2009Q2-2017Q2	16.4	10.1	5.6
1991Q3-1999Q3	25.3	4.6	18.4
1981Q1-1989Q1	33.7	6.5	27.1
1975Q3-1983Q3	19.5	-4.0	23.5
Recession			
2008Q1-2009Q2	-6.1	-1.7	-4.3
1990Q2-1991Q3	-2.0	-3.7	3.0
1979Q4-1981Q1	-4.2	-3.6	-0.7
1973Q2-1975Q3	-5.3	-0.3	-5.2

Source: LPC estimates using ONS data: GDP (ABMI), workforce jobs (DYDC) and output per job (LNNN), quarterly, seasonally adjusted, UK, Q3 1972-Q2 2017.

1.82 This is in marked contrast to the period 1955-2007, when productivity on all three measures increased in a more or less monotonic linear fashion, all growing on average by about 2.3 per cent a year. Between 1992 and 2007, output per job and per worker grew more slowly – by 2.0 per cent a year – while output per hour continued to grow at 2.3 per cent. Figure 1.17 shows what would have happened to productivity had the 1992-2007 trends continued. Output per hour and per job would now be around 20 per cent higher with output per hour 24 per cent higher. This current slowdown in productivity is unprecedented.

Figure 1.17: Productivity (output per worker, hour and job), UK, 1992-2017



Source: LPC estimates using ONS data: output per worker (A4YM), output per job (LNNN), output per hour (LZVB), quarterly, seasonally adjusted, UK, Q2 1992-Q2 2017.

1.83 We now go on to look in more detail at prices, pay and earnings, in order to consider the fourth and final factor that we thought enabled future minimum wage increases – sustained real earnings growth.

Inflation, pay and earnings

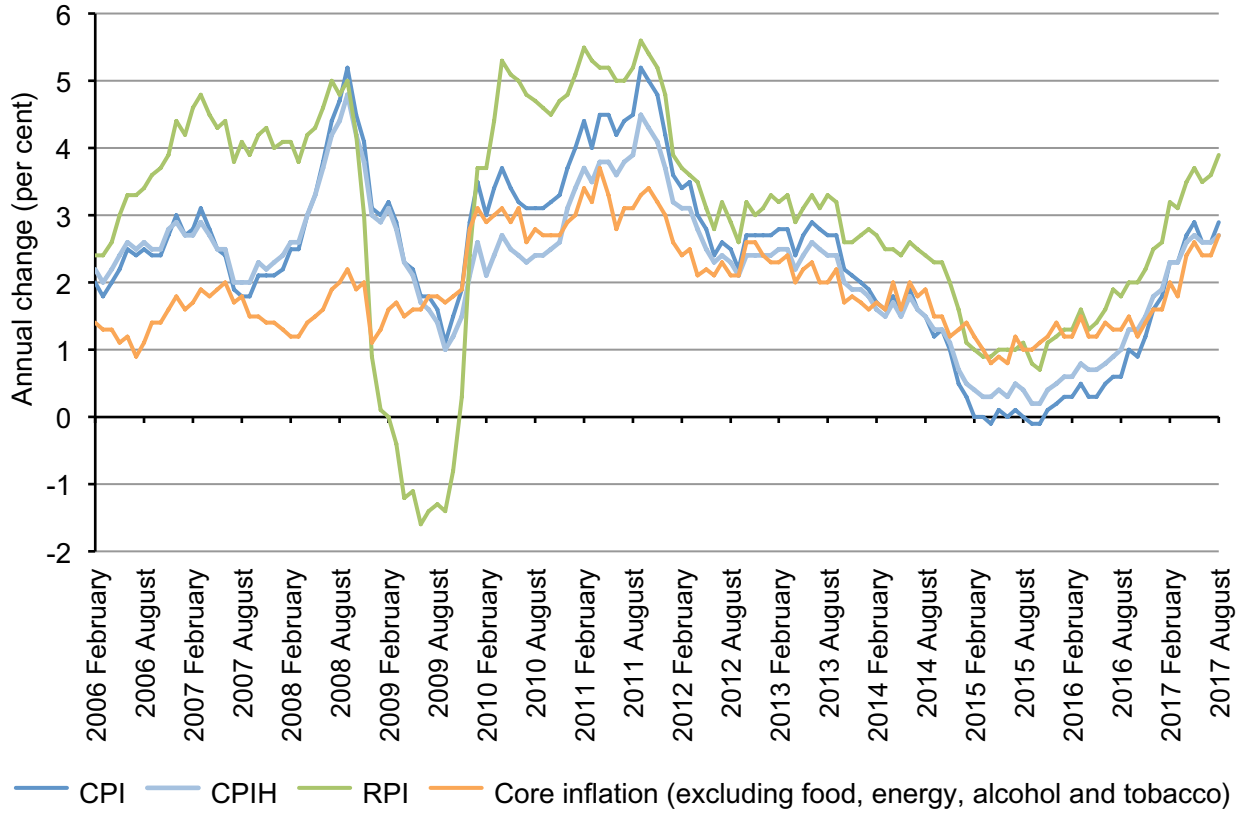
1.84 The overall picture is that, despite the record levels of employment and historically low rates of unemployment, a sharp rise in the rate of inflation has not fed through to average pay. Pay growth remains subdued at the average, which has led to a resumption of falling real earnings.

Inflation

1.85 Inflation has picked up significantly over the last year, as shown in Figure 1.18, with the CPI rate going above 2 per cent in February 2017, and reaching 3.0 per cent in September. The RPI rate also hit a five year high of 3.9 per cent in August and September 2017. The new CPIH series, which includes owner occupier housing costs and council tax, has followed a similar path to CPI, reaching a rate of 2.8 per cent in August 2017.

1.86 The forecasts available to us at the time of our Autumn 2016 Report indicated a continued pick-up in inflation, as oil and food price falls fell out of the twelve-month index, but not to such an extent as experienced, with most forecasts from a year ago expecting CPI inflation to remain below 2.5 per cent.

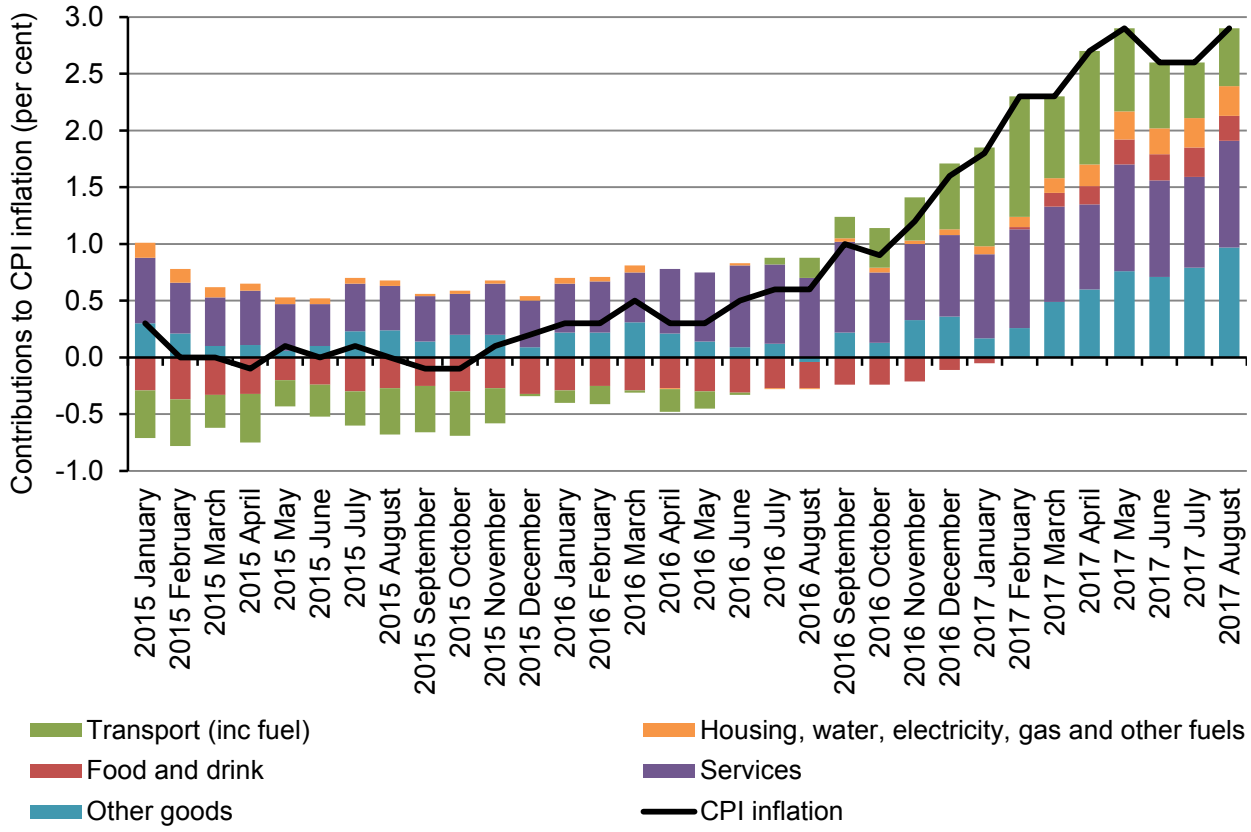
Figure 1.18: Inflation, UK, 2006-2017



Source: LPC estimates using ONS data: CPI (D7G7), CPIH (L55O), RPI (CZBH), and core inflation (DKO8) monthly, not seasonally adjusted, UK, 2006-17.

1.87 There have been a number of drivers of the higher inflation rate, as shown in Figure 1.19. Having fallen for two and a half years, and helped to keep the overall rate of inflation low, food prices started to increase from February 2017, exacerbated by the weaker exchange rate. Similarly, petrol prices, which had seen significant falls following the sharp fall in the global oil price, started to rise from the autumn of 2016, and have been a strong upward pressure on the overall inflation rate over the last 12 months. Prices of other imported goods, notably clothing, footwear and household goods have also seen strong price rises in 2017, likely pushed up by the lower value of the pound and the consequent higher import prices. Electricity bills have also seen sharp increases.

Figure 1.19: Contributions to CPI inflation, UK, 2015-2017

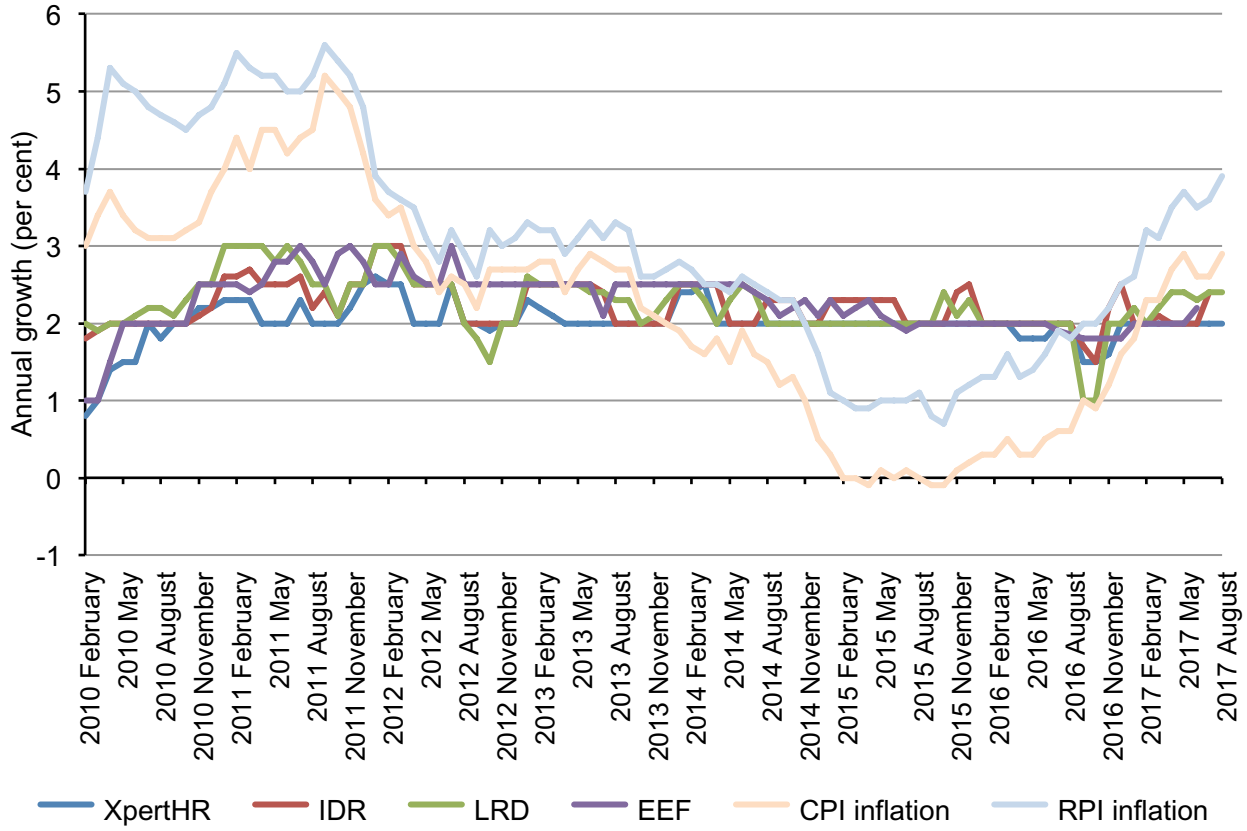


Source: LPC estimates using ONS data: CPI (D7G7), monthly, not seasonally adjusted, UK, 2015-17.

Pay Settlements

1.88 Any link between inflation and bargaining remains weak. In contrast to before the recession, when pay settlements averaged around 3-4 per cent, pay settlements have been below these levels since then. As shown in Figure 1.20, the median of pay awards was around 2-3 per cent in 2011 and 2012, when inflation reached up to 5 per cent. The median then slowed to around 2-2.5 per cent in 2013-14 as inflation slowed. It remained around 2 per cent even when inflation fell towards zero. Pay settlement medians have remained largely at 2 per cent in 2017, despite the significant pick-up in inflation.

Figure 1.20: Pay settlements, UK, 2010-2017

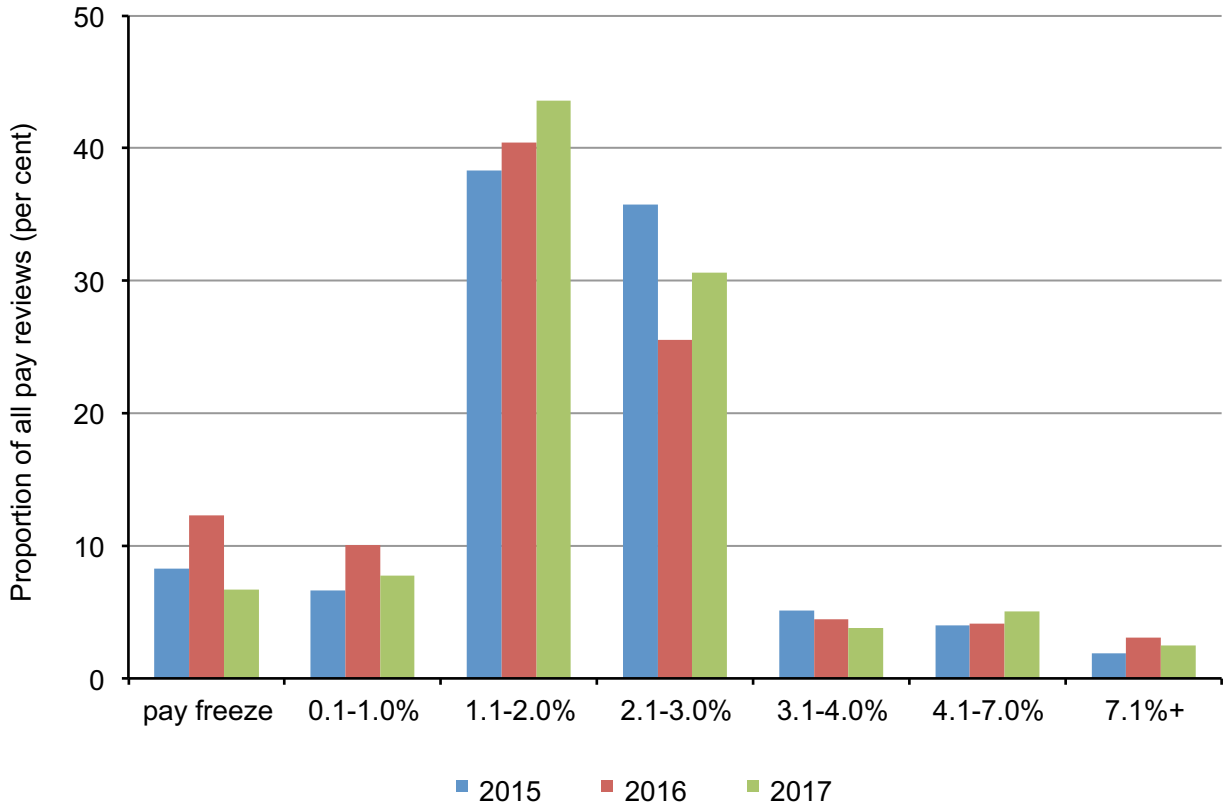


Source: LPC estimates using: XpertHR, IDS/IDR, LRD, and EEF, pay databank records, three-month medians, UK, 2010-17.

1.89 Looking at the distribution of pay reviews across the private sector in Figure 1.21, while they remain firmly centred on 2 per cent, we can see a small shift upwards in value. Fewer are below 2 per cent so far in 2017 (15 per cent of pay reviews in 2017 compared to 22 per cent in 2016), while a higher proportion are above 2 per cent (42 per cent in 2017 compared to 37 per cent in 2016). However, the 2017 distribution is fairly close to 2015.

1.90 According to monitoring by XpertHR and shown in Table 1.9, the median pay review did not deviate far from 2 per cent across the private sector. While the not-for-profit and public sectors lagged behind, with median pay reviews of 1.6 and 1.1 per cent respectively, this gap has closed on previous years. The finance and transport sectors showed slightly higher median pay reviews, of 2.5 and 2.1 per cent. The lower-paying sectors of retail and wholesale, and hotels, catering and leisure, saw pay reviews in line with the rest of the economy. The impact of the NLW was not enough to affect the typical employee in these sectors.

Figure 1.21: Distribution of private sector pay settlements, UK, 2015-2017



Source: LPC estimates using XpertHR data, UK, 2015-17.

Table 1.9: Pay settlements, by sector, UK, 2017

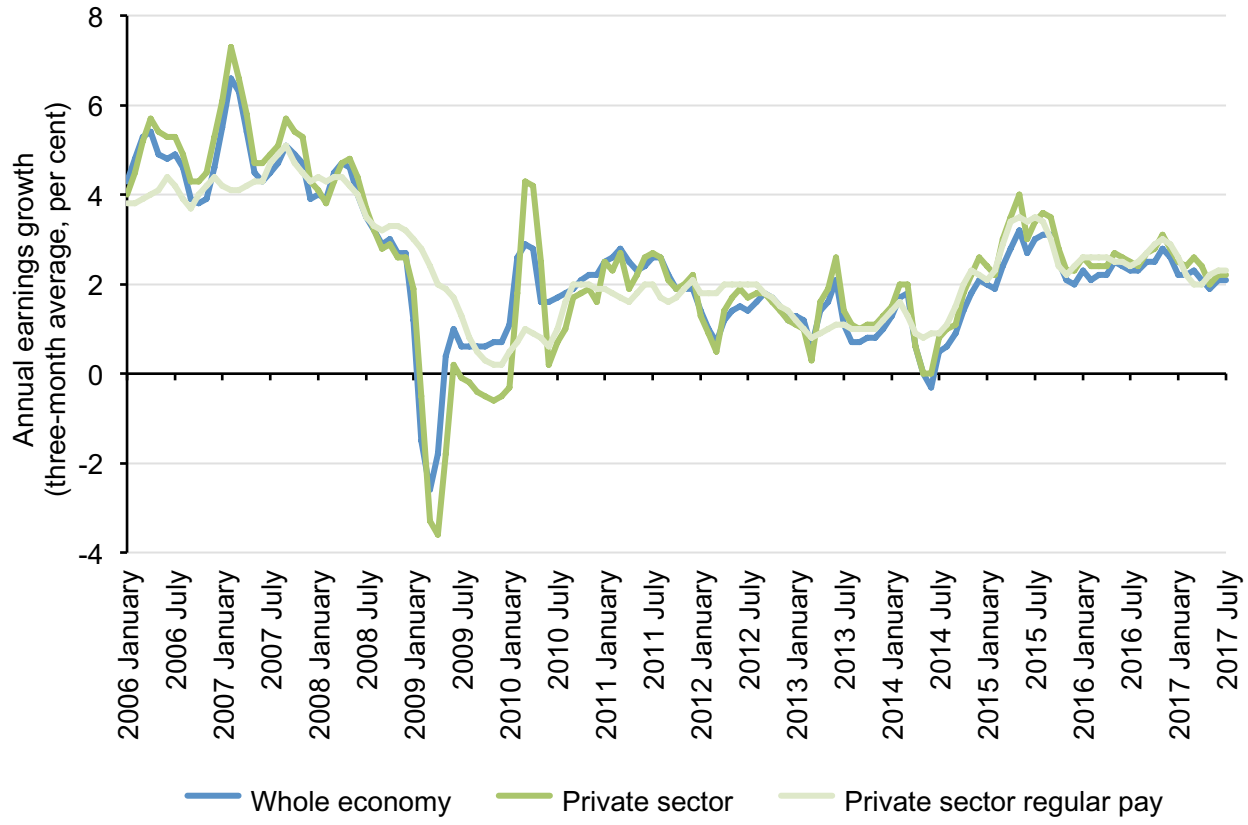
Sector	Number of settlements	Lower quartile %	Median %	Upper quartile %
All	1,182	1.5	2.0	2.5
Public	49	1.0	1.1	2.0
Private	1,133	1.7	2.0	2.5
Manufacturing	434	2.0	2.0	2.5
Private services	699	1.5	2.0	2.5
Facilities, security and support services	19	1.5	1.8	2.2
Finance	33	2.0	2.5	2.5
Hotels, catering & leisure	124	2.0	2.0	2.5
Information & communication	120	1.5	2.0	2.8
Not for profit	130	1.0	1.6	2.0
Professional & business services	164	1.7	2.0	3.0
Retail & wholesale	71	1.5	2.0	3.3
Transport & storage	38	2.0	2.1	2.7

Source: LPC estimates using XpertHR data, UK, 2017.

Earnings Growth

1.91 There is little sign of any upward pressure on average earnings growth despite the higher inflation and the low level of unemployment. If anything, average earnings growth has moderated over the last year, as shown in Figure 1.22. Whole economy average earnings growth has averaged 2.1 so far in 2017 (in the year to August), lower than the 2.4 per cent seen overall in 2016. Private sector earnings growth has averaged 2.3 per cent so far in 2017, compared with 2.6 per cent over the whole of 2016.

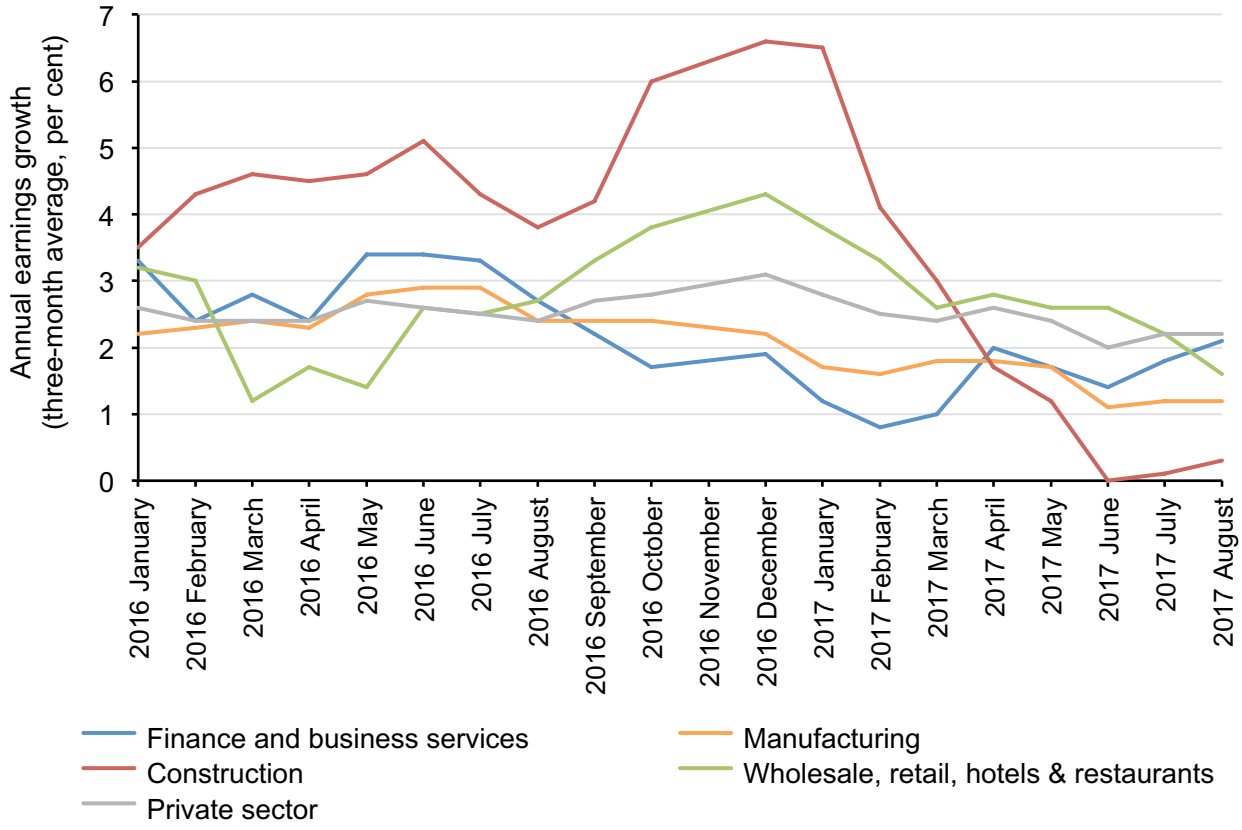
Figure 1.22: Average weekly earnings growth, GB, 2006-2017



Source: LPC estimates using ONS data: AWE total pay (KAC3), private sector (KAC6), private sector regular pay (KAJ4), annual three-month average change for the whole economy, monthly, seasonally adjusted, GB, 2006-17.

1.92 Earnings growth in 2017 has been modest in most sectors, as shown in Figure 1.23. The construction sector had seen a strong expansion in pay in 2016, but this has not continued into 2017. The lower-paid wholesale, retail, hotels and restaurants sector had seen slightly higher earnings growth than the whole economy between the middle of 2016 and the middle of 2017, but this has then fallen back from over 4 per cent at the end of 2016 just over 1 per cent in August 2017.

Figure 1.23: Average weekly earnings growth, by sector, GB, 2016-2017

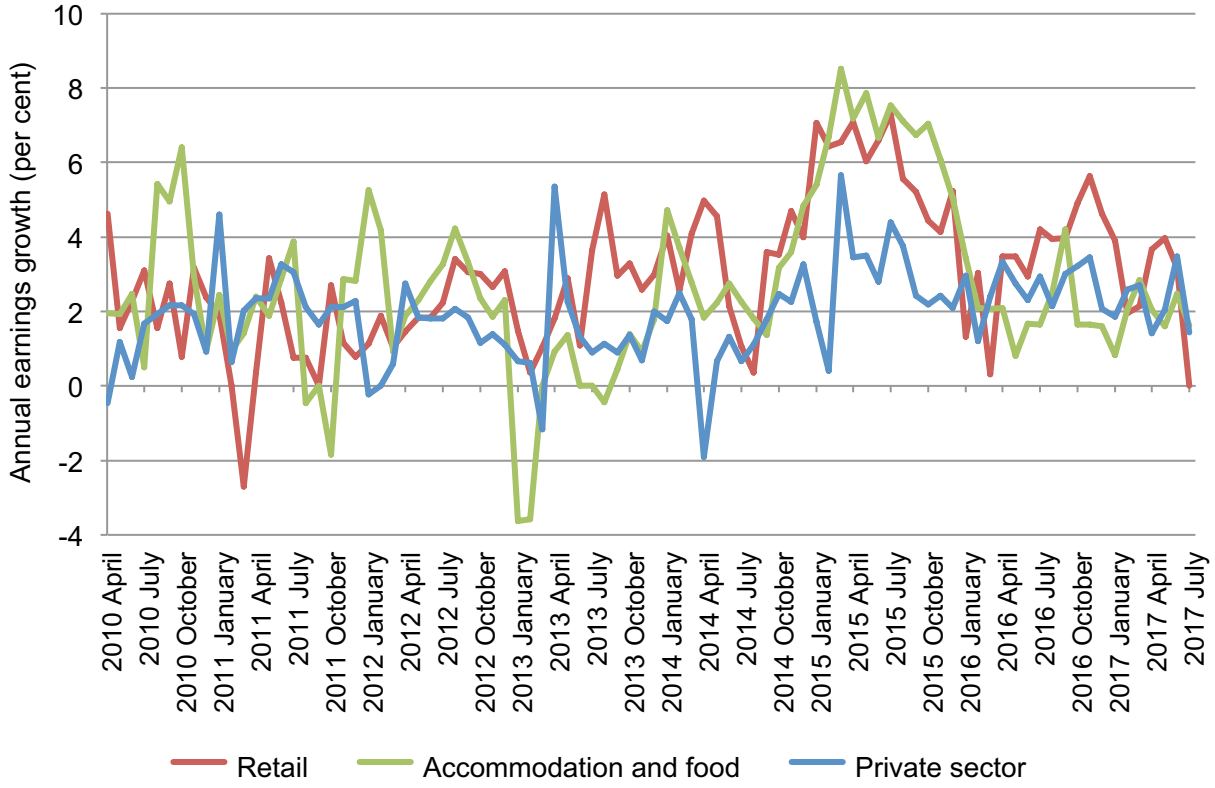


Source: LPC estimates using ONS data: AWE private sector (KAC6), wholesaling, retailing, hotels and restaurants (K5CI), construction (K5CF), manufacturing (K5CC), finance and business services (K5C6), annual three-month average change , monthly, seasonally adjusted, GB, 2016-17.

1.93 Using the non seasonally-adjusted monthly data to look at the wholesale, retail, hotels and restaurants sector in more detail, Figure 1.24 shows that average earnings growth has been stronger in retail than in accommodation and food since the NLW was introduced, but the pattern of wage growth does not look to be an explicit consequence of the NLW. There was strong growth in 2015 that emerged prior to the July 2015 announcement of the NLW, but there was little sign of any upward wage pressure around the time of introduction in April 2016. That said, retail wages again picked up in November 2016 to over 5 per cent. There were, however, some signs of growth in April and May 2017 around the time of the 2017 uprating. Average wage growth in accommodation and food also shows little relation to that of the NLW. It should be noted that single month annual average wage growth has slowed in both low-paying sectors in the last few months (to July 2017).

1.94 Figure 1.24 also shows that in 2014 and 2015, wage growth in both low-paying sectors has generally been faster than in the private sector as a whole. However, wage growth in accommodation and food slowed sharply in early 2016 and has generally tracked that of the private sector. In contrast, wage growth in retail has generally been stronger throughout 2016 and into 2017. However, average wage growth in retail has fallen back in June and July 2017 – indeed, average wages in July 2017 were the same as in July 2016.

Figure 1.24: Average weekly earnings growth, by low-paying sector, GB, 2010-2017



Source: LPC estimates using ONS data: AWE private sector (KA40), retail and repair (K589), accommodation and food (K58C), annual three-month average change, monthly, not seasonally adjusted, GB, 2010-17.

1.95 Table 1.10 shows that most measures of average earnings show modest growth over the year to April 2017. Wage growth estimated using Labour Force Survey and National Accounts data are broadly in line with the 2.1 per cent indicated by AWE and the ASHE median. ASHE, however, shows generally higher earnings growth over the year to April, notably at the mean. The growth in average earnings for those aged 25 and over, as measured by the mean using ASHE, was 3.2 per cent. This is lower than the average hourly earnings growth for all employees, of 3.5 per cent, suggesting a further catch up in pay for those under the age of 25.

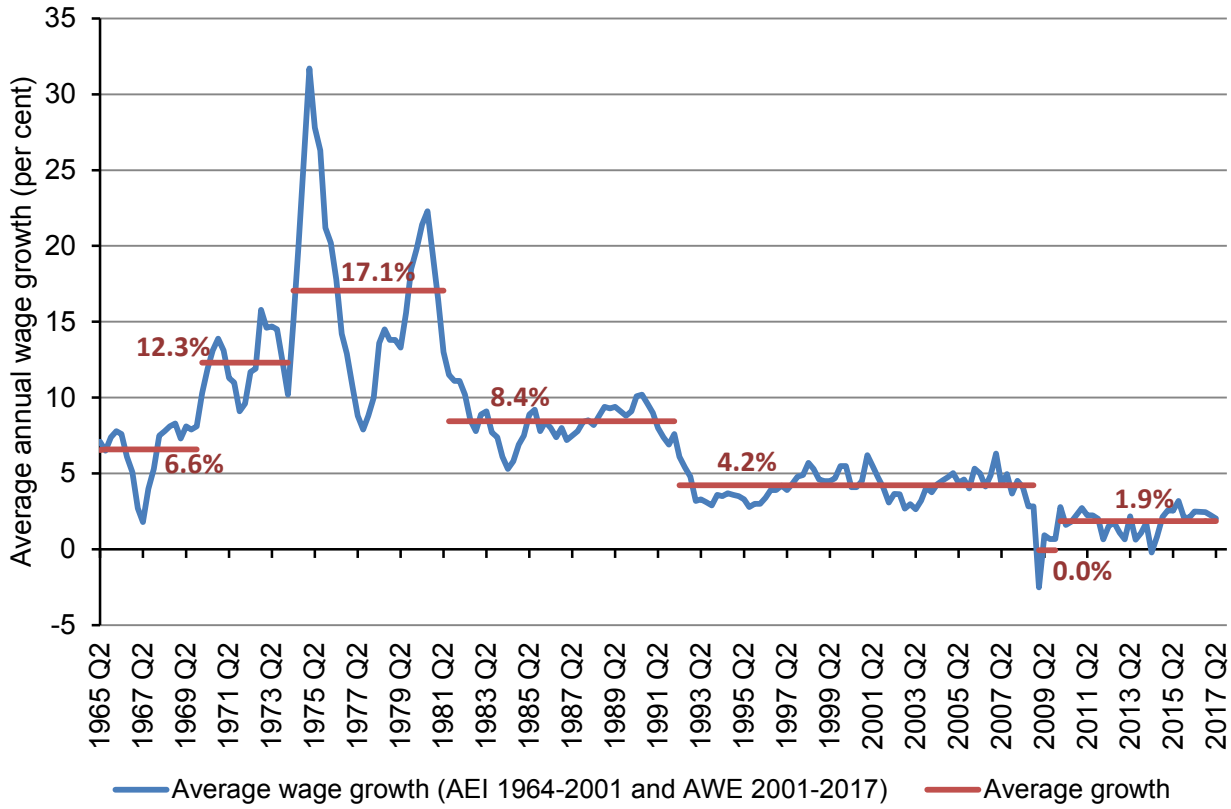
Table 1.10: Alternative measures of wage growth, UK, 2016-2017

Source	Pay measure	2016-2017
Average Weekly Earnings (AWE)	Total pay (including bonuses) April-June	2.1
	Regular pay (excluding bonuses) April-June	2.1
Annual Survey of Hours and Earnings	Median hourly earnings excluding overtime (employees aged 16 and over)	2.6
	Mean hourly earnings excluding overtime (employees aged 16 and over)	3.5
	Median hourly earnings excluding overtime (employees aged 25 and over)	2.1
	Mean hourly earnings excluding overtime (employees aged 25 and over)	3.2
Labour Force Survey	Median hourly earnings Q2	1.9
	Mean hourly earnings Q2	2.1
National Accounts	Compensation of employees per employee job	1.9
	Compensation of employees per worker	2.0

Source: LPC estimates using ONS data: average weekly earnings in total pay for the whole economy (KAB9); in basic pay (KAI7), monthly, seasonally adjusted, GB;total compensation per employee (DTWM) divided by total number of employees (MGRN); total compensation per employee job (DTWM) divided by total number of employee jobs (BCAJ); wage per worker (ROYJ) divided by total employment (MGRZ); wage per employee job (ROYJ) divided by total number of employee jobs (BCAJ); quarterly, seasonally adjusted, UK, 2016-17; Labour Force Survey, average hourly earnings, quarterly, seasonally adjusted, annual growth rate; ASHE mean gross hourly pay excluding overtime and median gross weekly pay, April 2016-17, standard weights, UK.
Note: ASHE is conducted in April each year. The AWE data is for the three-month period to May. The LFS data and National Accounts are for the second quarter.

1.96 Blanchflower and Machin (2016) had commented that 2 per cent had appeared to have become the new wage norm in the UK. Figure 1.28 appears to bear this out. Average wage growth in the late 1960s was just under 7 per cent. It then rose to around 12 per cent in the early 1970s and around 17 per cent in the rest of the 1970s as the economy reacted to oil price shocks. Wage growth then slowed to around 8 per cent in the aftermath of the early 1980s recession. There was then a long period between the end of the 1990s recession, in 1992, and the start of the last recession, in 2008, where wage growth averaged just above 4 per cent. After that recession, average wage growth has fluctuated around 2 per cent.

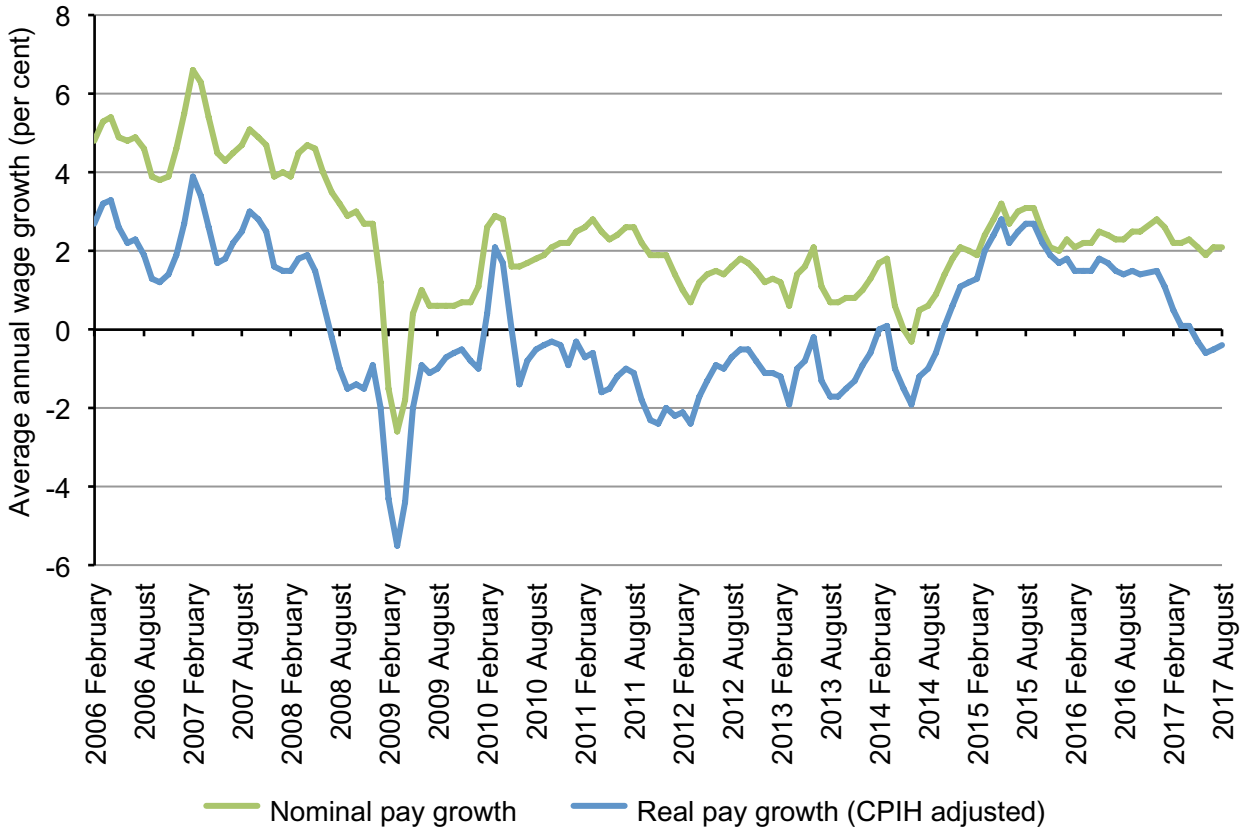
Figure 1.25: Nominal average wage growth, GB, 1965-2017



Source: LPC estimates using AEI including bonuses (LNNC), 1964-2001, and AWE total pay (KAB9), GB, 1964-2017.

1.97 Figure 1.26 suggests that this pay norm of around 2 per cent appears impervious to inflation. When inflation rose in 2011 and 2012, average wages did not react. Nor did nominal wage growth change much when inflation fell to zero in 2015 and the first half of 2016 – it remained close to 2 per cent. Rising inflation in the first half of 2017 has meant that the 30-month period of real average earnings growth ended in April 2017.

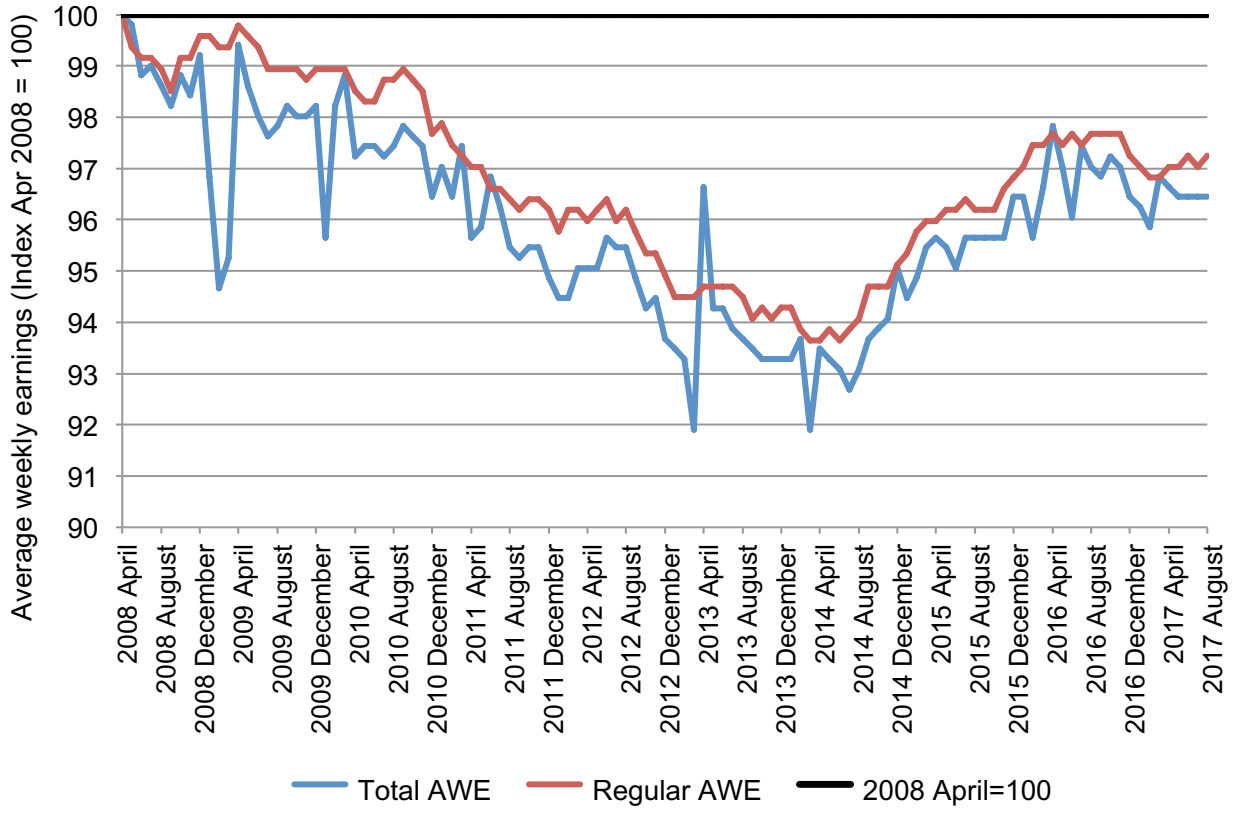
Figure 1.26: AWE nominal and real (CPIH) total pay growth, GB, 2006-2017



Source: LPC estimates using ONS data: AWE whole economy total pay growth (KAC3), real earnings growth (A3WW), monthly, seasonally adjusted, GB, 2006-17.

1.98 The level of real average pay in the economy has still not regained its pre-recession values, and has started to fall again. Figure 1.27 shows the level of average earnings in real terms, that is, adjusted for inflation. The stilted growth over the last year means that average regular earnings (pay excluding bonus payments) remain 3.0 per cent below their spring 2008 value in real terms, while average total earnings (pay including bonuses) are 3.5 per cent below the peak seen in the three months to April 2008.

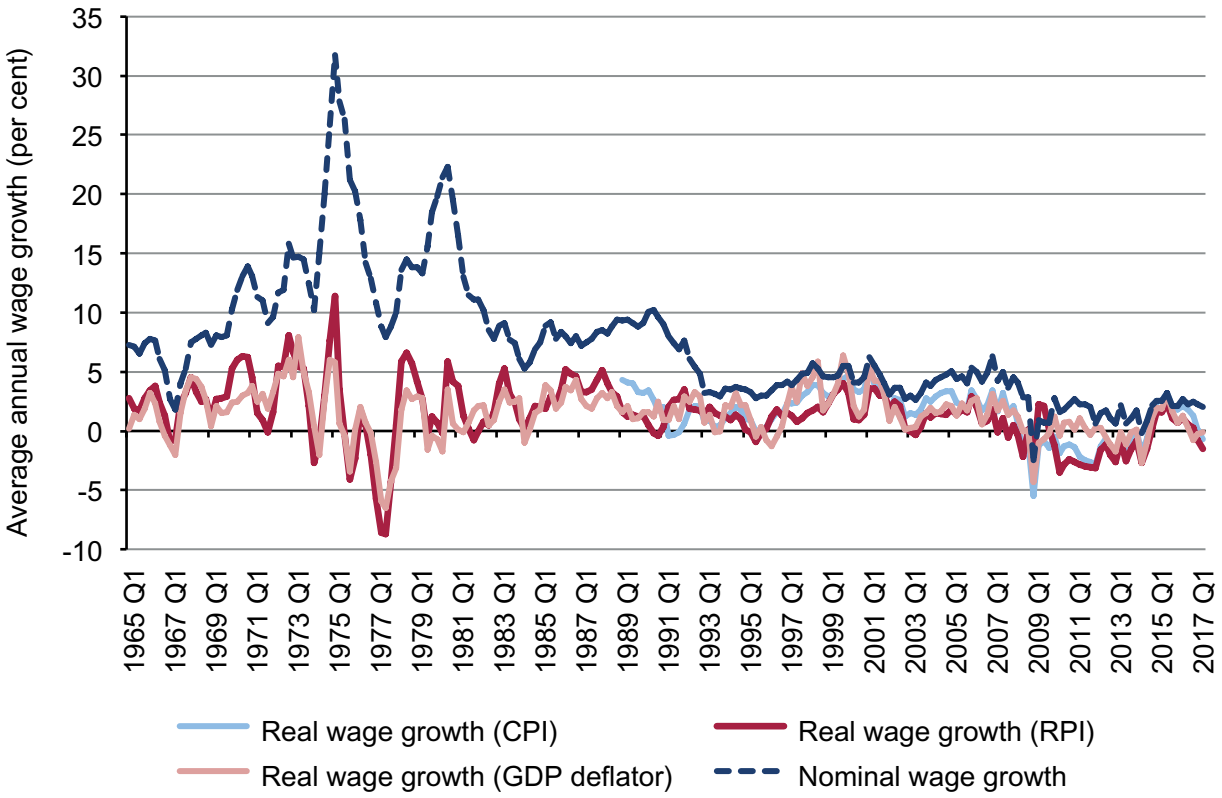
Figure 1.27: AWE total and regular real pay growth, GB, 2008-2017



Source: LPC estimates using ONS data: Real AWE total pay (A3WX), AWE regular pay (A2FC), monthly, seasonally adjusted, GB, 2008-17.

1.99 Figure 1.28 shows that these recent sustained falls in real wages are unprecedented. The only other period since 1964 that UK workers have experienced real wage falls over any length of time was in the 1970s. Then there were periods when real wages fell quite sharply over four or five quarters, but these were usually preceded by and followed by sharp rises that offset those falls. There were only minor and short-lived falls in real wages during both the 1980s and 1990s recessions. In contrast, after the 2008 recession, UK workers experienced real falls in wages for five to six years (from 2008-2014). There followed a period of about two years of real wage growth (the fourth quarter of 2014 to the fourth quarter of 2016) before that has slowed and reversed again in 2017.

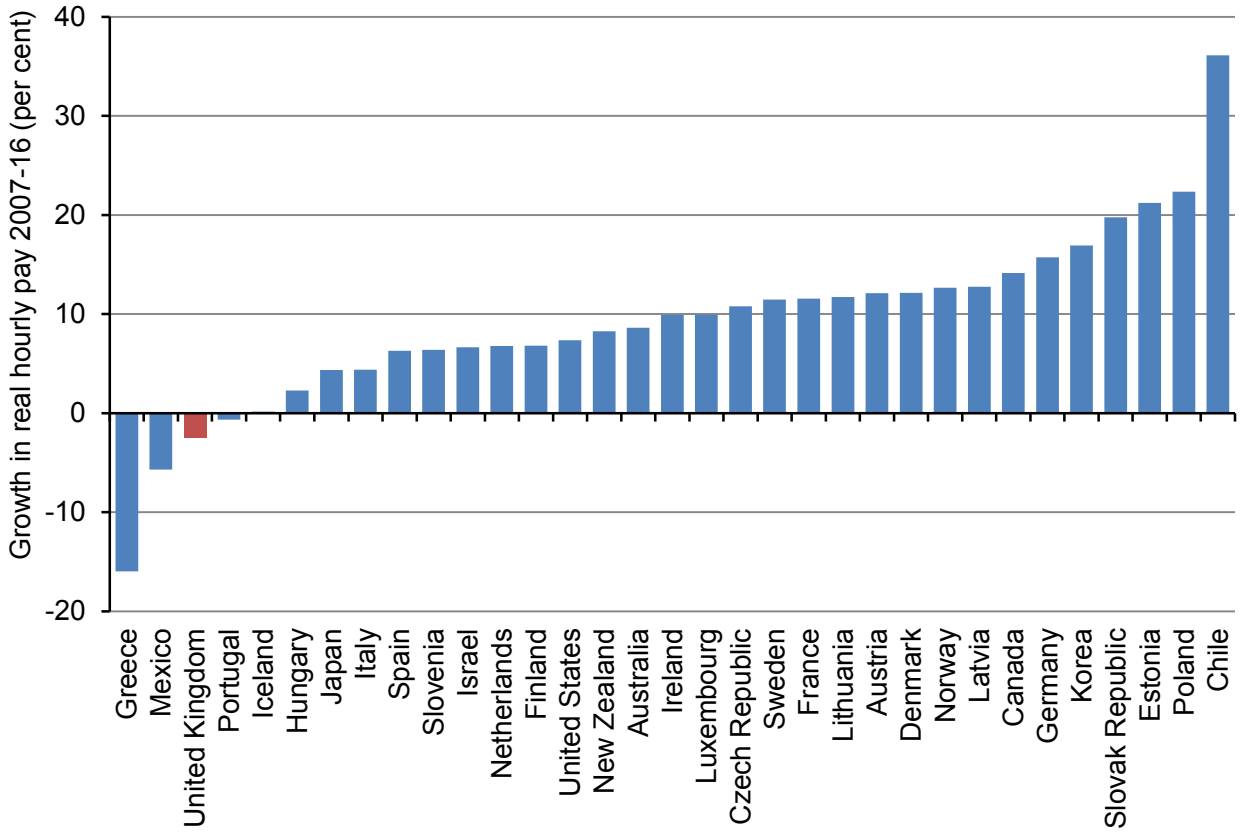
Figure 1.28: Real (CPI, RPI and GDP deflator) and nominal pay growth, GB, 1964-2017



Source: LPC estimates using AEI including bonuses (LNNC), 1964-2001, and AWE total pay (KAB9), 2000-17.

1.100 As well as being unprecedented over time, the recent real wage performance against other OECD countries has also been poor. Figure 1.29 shows the change in real hourly earnings on a comparable international basis between 2007 and 2016. While some A8 countries, such as Poland, Estonia and Slovakia, have experienced real wage growth of around 20 per cent or more and German real wages have increased by nearly 16 per cent, real wages have fallen by 2.5 per cent in the UK. Between 2007 and 2016, only Mexico and Greece have performed worse.

Figure 1.29: Change in real hourly pay, OECD countries, 2007-2016



Source: LPC estimates using OECD data, 2007-16.

1.101 We now look at what the UK economy and labour market's performance means for the path of the National Living Wage.

Implications for the National Living Wage

1.102 As noted, employment and unemployment have performed into 2017 on the upside of the OBR's forecast made when the NLW was announced. The main change since July 2015 has been lower earnings growth, which bears more directly on the NLW than the other rates because it affects the level of the 2020 target. In our Autumn 2016 Report, forecasts by the Bank of England (2016c) and the HM Treasury panel of independent forecasts (2016i and j) suggested that the target rate for 2020 was £8.61 an hour. As noted above, this was lower than previously forecast. The provisional median hourly wage for 2016 was £12.77 and the implied median hourly wage for 2017 was £13.06. The latest data estimate these at £12.76 and £13.03 respectively. Thus, the forecasts have proven more accurate than usual, and that the National Living Wage has approximately the same bite as we had expected.

Conclusion

1.103 Having grown in line with forecasts in 2016 (1.8 per cent), GDP growth slowed in the first half of 2017, but was still stronger than the immediate post-Referendum forecasts had predicted. This slowing has been evident in the deceleration of consumer spending that has occurred as inflation – resulting mainly from the depreciation of sterling – has squeezed real incomes. In contrast, the increased tourism encouraged by the depreciation has helped to boost the retail and hospitality sectors. That depreciation had been expected to boost trade and indeed it did in the second quarter of 2017 after acting as a drag in the first quarter. Investment has also picked up but is not much higher than in 2015.

1.104 The labour market has remained resilient. Employment growth has again been much stronger than expected, with an increase in workforce jobs of 1.2 per cent in 2017, while unemployment has continued to fall – down by 175,000 over the year to July 2017. The unemployment rate is now just 4.3 per cent. Total employment, total hours worked, working age employment rates and vacancies all reached record highs in 2017. There has also been stronger growth among full-time workers rather than part-time workers, and in permanent jobs rather than temporary ones over the last year. Redundancies have also slowed and are below pre-crisis levels

1.105 Sluggish output growth alongside strong employment growth has led to more or less stagnant productivity growth. Output per hour was the same in the second quarter of 2017 as it was nine years earlier in the second quarter of 2008, while output per worker and output per job was only around 1.5 per cent higher across the whole period. Prior to the recession, trend productivity growth on all three measures had been around 2.0 per cent a year.

1.106 The depreciation of sterling and the increase in oil prices have led to higher inflation, with CPI inflation reaching 3 per cent in September 2017. This was higher than the consensus of forecasts made last autumn, which were around 2.0-2.5 per cent. RPI inflation reached 3.9 per cent at the end of the third quarter of 2017 – again higher than the consensus forecasts of around 3.2 per cent.

1.107 Despite rising inflation, the growth in employment, and concerns that the labour market was getting tighter, pay settlements and earnings growth remained subdued. At around 2 per cent, they were lower than the OBR or Bank of England forecasts (3.0-3.6 per cent), but they were in line with the consensus forecast from the HM Treasury panel of independent forecasts. With increasing inflation and subdued wage growth, real wages started falling again in April. Real total pay including bonuses fell by around 1.2 percentage points between April 2016 and August 2017 and remains around 3.5 per cent below its level in April 2008. These are considerable, sustained reductions in real wages that are unprecedented in post-war Britain.

1.108 Overall, the economy and employment have been stronger than the forecasts available when we last made our recommendations in autumn 2016, albeit weaker than forecasts produced when the NLW was first announced. Inflation has been higher while average wage growth has been as forecast or lower resulting in real wage falls since the spring of 2017.

1.109 This chapter has considered data that covers the period up to the end of the third quarter of 2017. It shows that our recommendations for the April 2017 upratings in the National Living Wage, youth rates and the Apprentice Rate were made when the general economic picture was uncertain. The NLW had been introduced at a time of solid GDP growth and employment performance. Its uprating in April 2017 was implemented with growth roughly in line with expectations for the first half of 2017. The outcomes and forecasts are such that there has been little change to the NLW path expected. The increases in the youth rates have been absorbed and employment has continued to be stronger than expected. We consider the economic outlook in Chapter 5, when we review the path of the NLW, and the future rates for young people and apprentices.

1.110 We next, however, look in more detail at the impact of the introduction and subsequent uprating of the NLW in April 2016 and April 2017, and its potential impact in 2020.

Chapter 2
The impact of the National Living Wage

Introduction

2.1 The introduction of the National Living Wage (NLW) on 1 April 2016 was a significant intervention in the labour market. The £7.20 introductory rate for workers aged 25 and over was a 7.5 per cent increase in the wage floor, raising the minimum wage for these workers by 10.8 per cent on the previous April. The percentage increase in the main rate of the minimum wage was the joint largest ever, and the penny increase the largest. By contrast, the uprating to £7.50 on 1 April 2017 was more modest – representing a 4.2 per cent increase – but that was still much faster than any indicators of average wage growth.

2.2 Median earnings for those aged 25 and over and not in the first year of their apprenticeship, the population for whom the NLW acts as a wage floor, grew by 2.1 per cent in the year between April 2016 and April 2017. The faster growth in the NLW meant that the bite, the ratio between the NLW and the median hourly wage, grew to 57.6 per cent. We estimate that the bite is currently 56.8 per cent (in October 2017) as wage growth increases the median wage. This is an increase on the bite of 56.4 per cent in April 2016 and 55.8 per cent in October 2016.

2.3 The NLW rate (£7.50) recommended last year was lower than the rate that had previously been projected (£7.65). Combined with the timing of the pay survey data, this has resulted in a slight fall in the proportion of jobs covered by the NLW. In April 2017, there were 1.6 million workers, 6.4 per cent of the workforce, covered by the NLW, compared with a similar number last year, but at a higher proportion of jobs (6.7 per cent) due to employment growth. Only around 700,000 (3.3 per cent) of workers aged 25 and over were covered when the National Minimum Wage (NMW) was introduced in 1999. Looking ahead, the NLW is set to rise to 60 per cent of median earnings by 2020, subject to 'sustained economic growth'. This would likely make it among the highest minimum wage rates in the world in relative terms, and could cover almost 3 million workers, 12.2 per cent of the total, in 2020.

2.4 This chapter sets out our assessment of the impact of the introduction and subsequent uprating of the NLW so far on pay levels, employment and competitiveness, including an update of the forecast impact of the 2020 level of the NLW. It draws on a range of sources of information – our visits programme across the UK, the evidence we receive through our written and oral consultation, in-house analysis of labour market and pay data, and commissioned research projects.

2.5 Our Autumn 2016 Report assessment of the impact of the NLW was based on data that covered just the first few months after its introduction. This limited the amount that could be learned from the data, as some trends and responses to the increased wage floors might not have become visible. The extra year's worth of data in this report enables comparisons to the period prior to the

introduction of the NLW, to ascertain a more robust picture of the changes to the labour market caused by the NLW. However, we are only looking at impacts in the 12 months after the introduction, and it may take longer before effects can be identified.

2.6 The analysis of key data covers the impact on earnings and pay, to establish whether (as expected) it has indeed increased pay, and by how much and for whom, including possible rates of non-compliance (we also report on stakeholder views on compliance and enforcement of the NMW). This builds on our analysis in our non-compliance report (LPC 2017). We next examine evidence on whether the NLW has affected employment or hours in the economy, before moving on to focus on the impact on competitiveness – including profits, prices, investment, and business failure, albeit this area is characterised by even less timely and disaggregated data than for employment effects.

The characteristics of NLW workers and jobs

2.7 We begin, however, by looking at the characteristics of NLW workers.

2.8 National Living Wage workers are spread around the economy, both geographically and through different sectors and job types. Table 2.1 shows the numbers of minimum wage jobs and total jobs by various characteristics. We estimate that there are around 1.56 million jobs paying the NLW, which represents around 6.4 per cent of the jobs filled by workers aged 25 and over, who are not first year apprentices (the group for whom the NLW acts as a wage floor).

2.9 NLW jobs are concentrated in sectors that we define as 'low-paying'; that is sectors in which either there are a high proportion of jobs paid at the minimum wage, or there are high numbers of jobs paid at the minimum wage. The three largest low-paying sectors, cleaning and maintenance, retail and hospitality, contain half of all NLW jobs, despite only making up 13 per cent of all jobs undertaken by workers aged 25 and over. Only 18 per cent of NLW jobs exist outside of low-paying sectors, despite these sectors containing three-quarters of all jobs. NLW jobs are concentrated in the private sector, with over nine-out-of-ten NLW jobs.

2.10 Women work in over three-fifths of all NLW jobs, despite working in half of all jobs in the wider economy. Most NLW jobs are full-time, although a higher proportion of part-time jobs are paid at the NLW. Similarly, most NLW jobs are held by workers aged 30-59, although those aged 25-29 and 60+ are more likely to be working in a NLW job. NLW jobs are split fairly evenly between the various firm size groups we consider, with a higher proportion of jobs paid at the NLW in smaller firms.

Table 2.1: National Living Wage jobs, by characteristics, UK, 2017

Characteristic		NLW	Total Economy
		(Thousands)	(Thousands)
Sector	Public	53	6,197
	Private	1,415	15,920
	Voluntary	91	2,190
Time	Full-time	585	17,863
	Part-time	974	6,444
Permanence	Permanent	1,359	22,584
	Temporary	186	1,587
Sex	Male	575	12,202
	Female	984	12,104
Age	25-29	265	3,274
	30-59	1,110	18,888
	60+	185	2,145
Firm Size	Micro (1 to 9 employees)	320	1,870
	Other Small (10 to 49 employees)	320	3,300
	Medium (50 to 249 employees)	230	3,500
	Large (250 to 4,999 employees)	340	7,250
	Very large (5,000 or more employees)	350	8,360
Occupation	Cleaning & Maintenance	239	773
	Retail	304	1,577
	Hospitality	242	770
	Other low-paying sectors	500	3,622
	Non low-paying sectors	274	17,565
Total		1,559	24,307

Source: LPC estimates using: ASHE April 2017, low pay weights, excluding first year apprentices, UK.
Note: Totals may not sum due to rounding.

2.11 We now consider evidence from stakeholders, surveys of firms and commissioned research on the initial reaction to the introduction of the NLW – covering the scale of the impact, the sectors most affected, responses by firms and views about the future increases.

Stakeholder views on the NLW

2.12 When our Autumn 2016 Report consultation closed in July 2016, the NLW had only been announced a year before, and in force for three months. The evidence we received last year reflected the shock of an unprecedented increase in the minimum wage. Overall, the evidence we received this year from stakeholders revealed less concern about the effects of the NLW and its rate of increase than we found in our consultation last year. Several stakeholders told us that the flexible nature of the NLW's target and the lower rates than were initially forecast have offered some relief to employers. Employer representatives in most sectors reported that businesses had been able to cope with the introduction of the NLW and the 2017 increase without resorting to reducing

employment. In some cases employers had coped with the introductory rate of the NLW better than they had expected to.

2.13 Nevertheless, while some employers are now less concerned about the current NLW rates, they are still worried about future rises. Some businesses, especially in vulnerable sectors where the bite of the NLW is high, are also worried about the current rates, and have already had to make difficult decisions.

2.14 Some organisations and representatives of specific sectors still raised significant concerns about the ability of firms to afford such pay increases, both since April 2016 and as the NLW continues to increase to 2020. In this section, we focus on the effects – positive and negative – that stakeholders have told us about so far. Businesses in the convenience, horticulture, hair and beauty, retail and hospitality sectors were most likely to have seen their wage bills increase because of the NLW. These sectors were more likely to report employment effects, though in all cases these were more likely to be in the form of reductions in hours offered to staff or recruitment slowdowns than redundancies. Whether reports of employment effects will spread remains unclear, with the CBI describing 'sustainability' as the main challenge of the NLW for businesses.

2.15 Most respondents to our consultation did not report widespread job losses. Instead, and in a continuation of last year's trends, businesses were most likely to respond to increased wage bills by accepting lower profits, and increasing prices where possible. The other common theme of this year's consultation was reduced differentials and the implications for workers and businesses. Other responses to the NLW included improving productivity, cutting or delaying investment, and reducing other elements of reward packages. A recurring message we have heard from stakeholders is that these actions are in response to a variety of rising costs. Alongside the NLW, business rates, pensions auto-enrolment and the Apprenticeship Levy were the most commonly cited costs contributing to what several business representatives described as a 'perfect storm'. Unions, on the other hand, generally said little about the effects of the NLW so far, instead arguing that it has been a positive change for workers and that businesses have been able to manage the increased cost.

2.16 For this report we have carried out visits to different areas of the UK, including to Scotland, Wales and Northern Ireland. We have conducted a consultation consisting of written submissions and oral evidence sessions. We consider the main themes before discussing views by sector.

Stakeholder views on the economy

2.17 We monitor stakeholders' views on the economy and labour market, both in relation to low-paying sectors and more generally – many low-paid workers are not in low-paying sectors. Last year, almost all business groups were very concerned about the effect of the EU Referendum on the economy, while pointing out that the effects had not been evident immediately following the vote. Brexit, unsurprisingly, was the defining theme of the stakeholder evidence on the economy again this year. 'Uncertainty' was the word that many employer representatives used to describe the overriding feeling in their sectors. This uncertainty and its effects on business decisions make ascertaining the direct consequences of the NLW more difficult. It also means that stakeholder views on the prospects for the UK's economy are important context for their evidence on the NLW.

2.18 The CBI told us that its members are clear that 'Brexit is creating real concerns around access to labour, skills, and export markets', and that 'although the economy held up better than expected since the vote … GDP growth has weakened sharply'. Several employer stakeholders pointed out continued strong performance in the labour market. However, the CBI noted that there might be some slack, especially in terms of under-employment.

2.19 Labour supply is a concern for some sectors – most notably horticulture. The Association of Labour Providers (ALP) and the National Farmers' Union (NFU) both described businesses having difficulty hiring and outlined that some firms may have to offer seasonal migrant workers higher pay to attract them. On the other hand, the Chartered Institute of Personnel and Development (CIPD) told us that in the economy as a whole few employers have responded to recruitment difficulties by raising pay.

2.20 Employee representatives acknowledged the risks arising from Brexit, and were alarmed about rising inflation and slow wage growth meaning that real wages are now falling. However, the Trades Union Congress (TUC) described the UK economy as 'robust', arguing that 'the economy has, so far, survived the impact of the Brexit vote'. It pointed to record employment levels and growing youth employment as signs of strength, and high levels of profitability, as evidence that employers as a whole can afford to pay their workers more. Unite also thought that the economy and labour market could tolerate higher wages. Unions, including the TUC and GMB, were worried about real wages, given the recent increase in inflation.

Nature of the NLW's effects

2.21 The Confederation of British Industry (CBI) described the NLW as 'a significant change' that has forced businesses to 'make difficult decisions about how to raise pay', including raising prices, improving productivity, cutting investment, and, to a lesser extent reducing hours and employment. However, the most common 'response', as we heard last year, has been to absorb the cost and accept reduced profits.

2.22 The British Chambers of Commerce (BCC) said that the 2017 uprating increased wage bills for many businesses across a wide range of sectors (its survey putting it at half of respondents this year). In the Federation of Small Business's (FSB) survey, the proportion of firms that said their wage bills had increased was the same as last year, at just over half, while 43 per cent of respondents to the CIPD's summer Labour Market Outlook survey had been affected.

2.23 Particular sectors tell us that they continue to be affected more widely than others. The Association of Convenience Stores (ACS) reported that all the respondents to its survey have been affected, while 78 per cent of respondents to the National Hairdressers' Federation's (NHF) survey reported increased wage bills. The NFU's survey put it at nearly three quarters, up from just over half in 2016.

2.24 At the other end of the scale, EEF (the Manufacturers' Organisation) said that manufacturing has been only minimally affected by the introduction and subsequent increase in the NLW, with most firms paying above the NLW. The Food and Drink Federation (FDF) said that in some food manufacturing firms pay rates have now been caught by the rising NLW, with consequent effects on differentials. The British Retail Consortium (BRC) noted that the NLW has not caused job losses so

the NLW was introduced, there has been speculation that businesses have scaled back worker benefits and pay premiums (for unsocial hours or overtime). There have been stories in the media linking the NLW to an acceleration in what is recognised as a long-term trend, of firms consolidating benefits and premiums into basic pay. From the evidence we have heard from stakeholders, and our analysis of the prevalence and level of premium pay, it is not clear that this has been the case.

2.31 The CBI and employer groups in the social care, hospitality and convenience retail sectors told us that they thought some firms had made changes to reward packages. In surveys of employers, cutting overtime, bonuses or overall reward packages was not one of the most popular responses, but it was still cited by about 15-20 per cent of respondents to most of the surveys we received. What this means in practice is not clear. We were told by a wide range of businesses that some salary sacrifice benefits had been withdrawn as more workers are paid at or close to the NLW, which is consistent with warnings from some stakeholders last year. In our discussions with workers, there was a sense that overall working conditions were being eroded. For example, we heard from supermarket workers that less overtime was available, that premium shifts had been shortened, and the rates paid for overtime and premium shifts reduced. However, these workers were more concerned about reliable access to these shifts than the levels of the premiums.

2.32 Unite and Usdaw did not think that the NLW had accelerated the pace at which firms are scaling back benefits in most cases, saying that at times, the media, and even companies themselves have wrongly or misleadingly presented it as a cause. Several employer groups agreed. The large retailers we spoke to on our visits echoed this. Usdaw also argued that in retail pay settlements it ensured that the vast majority of workers are better off. The exception was in Northern Ireland, where union representatives did link the NLW to loss of pay premiums. In manufacturing, EEF told us that cuts to benefit packages were initially being considered but that in practice there has been no real evidence that they have happened.

2.33 Our analysis of pay data appears to be consistent with the unions' view of the issue. Figure 2.15 shows that the use of pay premiums has not decreased since the introduction of the NLW. Further analysis we conducted reveals that the same is true for the levels of premium pay, across the whole economy and among low-paid workers. Some firms expressed concern about the cost and viability of retaining their current pay premiums as the NLW rises.

2.34 We visited food manufacturers who told us that the NLW would catch up with the basic pay of their lowest-paid staff. They were trying to introduce new contracts consolidating premium pay for unsocial hours into basic pay, but had met with opposition from unions (see case study). We will continue to monitor the issue of premium pay and benefits closely for future developments.

2.35 What businesses do about differentials when the pay floor is rising at an unprecedented pace is a major challenge that the NLW has presented. We have heard from stakeholders that upon the introduction of the NLW, differentials were reduced to the minimum viable in many firms. For some, there is nowhere to go and they have had to maintain what little differential remains – the proportion of respondents to FSB's survey reporting reduced differentials was about the same as last year. On the other hand, almost half of affected respondents to the BRC and Chartered Institute of Payroll Professionals' (CIPP) surveys reported reducing differentials. The Federation of Wholesale Distributors (FWD) described it as the area the NLW has affected most. Reducing differentials remains a relatively common strategy, and one that we have heard more about this year than last.

far. In both these sectors, we heard on our visits that small firms are more vulnerable and less likely to be represented by trade associations.

2.25 Reduced profits and increased prices were again the most popular ways businesses told us they have dealt with the increase in the NLW. After these responses, which are common to all sectors, though to different degrees, the actions taken varied. Effects on differentials were again widespread, and stakeholders told us that the consequences of reduced differentials are becoming more serious. It appears that smaller employers have cut back on or delayed investment, as evidenced by FSB and ACS surveys submitted to our written consultation. Larger employers, however, seem to be looking to investment to raise productivity and mitigate some of the cost of the NLW; this is reflected in the CIPD and BRC surveys.

2.26 Accepting a reduction in profits remains the most common approach businesses say they take to the NLW, followed by increasing prices – the latter response seems to have grown in use (possibly enabled by rising inflation). According to a CBI survey from the second half of 2016, two fifths of respondents absorbed the cost, but a quarter have raised prices. The more recent CIPD and FSB surveys, looking at responses to the £7.50 NLW also found the same order, which had not changed since the equivalent surveys last year. The pattern was repeated in the BCC's survey. The NFU told us that almost two thirds of survey respondents had seen an effect on profits as a result of the minimum wage.

2.27 Changes to employment and hours were generally not among the most popular responses, although the proportion of respondents in some sectors reporting employment effects was – like last year – high. Convenience retail, other small retailers, and wholesale were the main sectors that reported businesses reducing the number of people they employ.

2.28 The CBI pointed to a small number of firms reducing hours and cutting jobs in response to the NLW, some of which was in the form of firms not replacing staff. In support of this, it cited falling employment in low-paying sectors, including retail, accommodation and food, and transport over the last six months. Some employer organisations, though, did not seek to argue that the NLW has led to job loss. This included EEF and the British Hospitality Association (BHA). The BRC noted that job losses had not occurred to date as a result of the NLW, but thought they were possible going forward. Relatively few respondents to the CIPD survey planned to reduce employment (though the proportion rose from 12% of affected respondents in 2016 to 17% in 2017), with the figures slightly higher for FSB's survey.

2.29 The sectors that report having the most trouble dealing with the NLW said that some firms have used reductions in employment to deal with the cost. In all three of the hair, convenience and horticulture sectors, reductions were more likely to be in the form of cuts to hours offered to workers than redundancies. In keeping with general survey trends, slowing recruitment was also a more popular response in hair and beauty than redundancies, which very few firms (3 per cent) had made. Hospitality sector representatives also thought any employment effects had been in the form of reduced hours and slowed recruitment, rather than redundancies.

2.30 Like last year, we received mixed views on the effect of the NLW on pay premiums and non-pay benefits. Some employer groups thought that firms had eroded benefits and premiums to save on total wage bills, as has been reported in the media. However, others, including unions we spoke to, thought that this is part of a longer-term trend and that the NLW has not affected it. Since

This is perhaps because firms now have to deal with the consequences; we have heard about complaints from senior staff now earning little more than the NLW, and reluctance from workers to take on responsibility for a small increase in pay.

2.36 In response to issues with differentials, and to save money without compromising service levels, some firms have reported restructuring their workforce. This sometimes means employment loss at supervisory level. A large catering firm we spoke to had made redundancies in managerial roles or decided not to replace them. On the other hand, some firms have undertaken a more comprehensive review of their structures, consolidated grades into one so that they can maintain a differential, or reassessed the way responsibility, skill and performance are rewarded. Inherent in this is some redesign of job roles, usually meaning employees are asked to take on more responsibilities or cover a wider range of tasks. A small share of firms and organisations reported increasing the use of zero-hours contracts to give them greater flexibility in managing their workforce (for example, a large catering firm employing around 85,000 people) – this was not a common response in FSB or CIPD surveys, but was more so in the CIPP's survey.

Case study: Laundry in Kent

The owner of a commercial laundry in Kent with 55 staff told us that while the NLW does not threaten the viability of the business or the number of people it employs, it is squeezing margins. They expect to raise prices and delay investment as a result.

Labour is the biggest cost to the business, at 55-60 per cent of turnover. This means that the NLW and other policies adding to labour costs, such as pensions auto-enrolment, have 'pinched' on profits. The firm has also reduced differentials, with supervisors receiving smaller pay rises.

The rising NLW will continue to squeeze margins and the business expects to have to raise the prices it charges for services, but does not want to be the first among its competitors to do so. The owner typically reinvests profits in equipment for the laundry, but squeezed margins will mean that they delay investment. Automation does not mean reducing staff numbers, but improves productivity and competitiveness, which is an important way of coping with cost increases. Because of this, the owner thought the NLW should be frozen for a year to allow businesses to invest in mitigating productivity improvements.

2.37 Last year we heard that investment plans had been postponed as the funds were diverted to paying increased wage bills. This year we have heard similar stories, with the hospitality sector in particular presenting a counter-factual argument about foregone investment in the sector and the jobs that could have been created had businesses decided to expand. Small businesses seemed to be more affected, with larger firms seeking to invest more. The BRC told us that a significant proportion of retailers are looking to increase automation. However, as with employer responses to the NLW in general, it is hard to be sure of whether the NLW is an important contributing factor, or if Brexit is now more significant in driving investment decisions. Data showing increased investment levels over the last four years, which we discussed in Chapter 1 (see Figure 1.4), also make discerning the effects of the NLW on investment more difficult.

2.38 Continuing a trend from last year, few firms are actively substituting older workers for younger – and potentially cheaper – staff. The CIPD, FSB, CIPP and NHF again reported low levels for this response in their surveys. The number reporting doing this was much higher in the ACS's survey, and on our visits firms in various sectors told us they were considering it as an option.

2.39 A small number of the surveys asked firms about positive effects arising from the NLW (BIFM: the British Institute of Facilities Management, NFU and CIPP). It is perhaps unsurprising that employer stakeholders are focused on evidence of the negatives, but it is interesting to note that there are positive changes that businesses have made or noticed, even in sectors also reporting significant negative consequences. A small proportion of respondents to the ACS and NFU surveys thought that the NLW had had positive effects on morale, recruitment, or retention.

2.40 Mirroring what we heard last year, there were again relatively few specific examples of productivity improvements that employers had made as a result of or in response to the NLW. This was despite the CIPD's survey finding that almost a third of affected firms had improved productivity (slightly more than in last year's CIPD survey). The survey found that large firms were much more likely to have done so, echoing the low (8 per cent of affected firms) popularity of this response in FSB's survey. While some firms are clearly trying to make improvements, it remains unclear what this means in practice. Anecdotally, seeking small increases in efficiency seems to be the most likely answer, with hotels (even small ones) telling us they are using more technology like self-check-in and key cards. There were some reports of more sweeping change and positive effects from the NLW, but these were not the norm.

2.41 Unions thought the NLW had been good for workers, but Unite also expressed growing concern about the persistence of low pay, linking it to food bank use. It also thought that some employers had used it as an excuse to change workers' contracts, increasing use of zero-hours contracts, or what it described as 'bogus' self-employment. Trade unions in Scotland also thought the NLW had not affected employment, but noted an increase in inquiries about non-compliance. Representatives of the Irish Congress of Trade Unions, Northern Ireland Committee (ICTUNI), on the other hand, thought the NLW had adversely affected workers, as they had lost hours and seen their terms and conditions reduced.

2.42 The Scottish Government told us that it thought the NLW has had positive effects on pay for older workers, women, and to a lesser extent disabled workers – groups that are more likely to be paid at or near the rate. It thought that the NMW and NLW could be seen as contributing to lowering inequalities in the labour market. However, it was worried that the rate being paid from 25 would 'incentivise low margin employers to cut costs by replacing over 25 year olds with younger staff'. It also described the name of the NLW as a source of 'confusion amongst employers and employees', especially as it works to promote the UK Living Wage in Scotland.

2.43 The Welsh Government told us it was 'generally supportive' of the UK Government's approach with the NLW and NMW. It welcomed the aim of increasing wages for the lowest earners, but questioned whether workers actually benefit substantially once tax and benefit changes are taken into account. It also drew attention to the impact of the NLW on certain sectors, citing adult social care, childcare, retail and hospitality as those most likely to experience problems in accommodating higher wage costs. There were also concerns around the 'unintended consequences such as higher prices for consumers and job cuts', and that it had already seen

effects on differentials. The Welsh Government has requested the Low Pay Commission undertake research to assess the impacts of the changes on different sectors, particularly in relation to child and social care.[3]

Affected sectors

2.44 A wide range of organisations and businesses from low-paying sectors responded to our consultation and told us how the NLW has affected them. Convenience retail, adult social care, and hair and beauty were the sectors where businesses and representative groups expressed the most serious concerns over the NLW and its effects on businesses. Convenience and adult social care were the sectors that were most concerned about the introductory rate of the NLW last year, along with agriculture. Agriculture (and particularly horticulture) businesses remain worried about the level of the NLW, but concerns elsewhere – primarily Brexit, and its implications for the future supply of labour – mean that the NLW is arguably no longer the single most critical issue in the sector.

2.45 The ACS told us that the NLW 'remains the biggest cost challenge for retailers'. All the respondents to the ACS's survey stated that their wage bill had been increased by the NLW. Fewer report having reduced staff numbers this year – half, compared with two thirds last year – with the ACS arguing that this is because retailers feel they cannot cut staff levels further without damaging customer service levels. Almost four fifths of businesses reported a fall in profitability, the same proportion as had reduced the hours they offer staff. To offset lost staff and hours, two thirds of store owners now work more hours themselves. Inevitably, there is a selection bias in the survey, with the most concerned and affected businesses more likely to respond. The ACS told us that the survey figures may overstate the severity and scale of the NLW's effects, but that a large section of the sector is under significant pressure. It estimates that employment in the sector has fallen 9 per cent in the last two years from 408,000 to 370,000. That fall in employment comes despite ACS's estimate that the total value of sales in the sector has grown over the same period.

Case study: Convenience stores in Northern Ireland

A small chain of convenience stores in Northern Ireland told us that the NLW has added to the cost pressure it is facing. It used to pay above the NMW, but now pays the NLW to staff, as well as using the other rates for younger workers. It has not been able to maintain differentials as controlling the total wage bill is a key performance indicator for the business.

To keep costs down the firm now employs fewer full-time staff, instead using part-time workers on four hour shifts (with no need for meal and rest breaks). It has also started to employ more younger workers to take advantage of the lower minimum wage rates, and told us that it has not replaced staff who have left.

As well as effects on staffing levels and practices, the firm told us that the NLW and other rising costs have forced it to be more efficient in other areas.

2.46 The ACS's analysis also contained some interesting information about employee perceptions of the NLW and their employers' responses to it, and businesses' positive views on the rate. Convenience store workers who responded to a separate survey by the ACS were likely to think the

3 We did not receive evidence from the Northern Ireland Assembly this year.

NLW would benefit them, but the majority thought it would mean raised prices in the shop they work in – something that store owners have so far been reluctant to do. A small proportion of employers (around 12 per cent) had seen benefits, including increased worker motivation, and reduced absenteeism and staff turnover.

2.47 Last year adult social care organisations told us that the sector was under extreme pressure from chronic underfunding and the cost of the NLW. This year, they told us that the situation had deteriorated further. The Association of Directors of Adult Social Services (ADASS) told us that less than 7 per cent of its Directors feel 'at all optimistic about the future financial state of the local health and care economy in their own areas'. It described the £2 billion over three years in extra funding as 'welcome', but less than a third of members thought they could make the savings planned for 2017/18. From the providers point of view, the UK Homecare Association (UKHCA) described increases in funding for homecare as 'marginal' and told us that contracts had prices that councils and providers know are unviable. The Registered Nursing Home Association (RNHA) told us that fees had increased by at most 2 per cent, despite the NLW increasing and pensions auto-enrolment being phased in. These two organisations told us that the NLW is not the cause of the problems in the sector, but it exacerbates them.

2.48 According to ADASS, 'the NLW, whilst welcome, already has significant financial implications for councils, and will continue to do so'. The ultimate consequence of rising costs and funding problems is providers handing back contracts. Despite being, according to the UKHCA, one of the best councils at commissioning adult social care, Hertfordshire County Council told us that two homecare agencies had failed recently, leaving the Council itself to cover the care they provided, and that this was not the first time that this had happened. ADASS told us that this is by no means unique to Hertfordshire. Care England thought care homes would be less willing to take on Local Authority placements in the future, instead looking more to private clients to manage increased costs (including the NLW) – homecare providers are less able to cross-subsidise. The RNHA and UKHCA told us that they were starting to see businesses closing. Independent care providers and those operating in rural locations (because of travel time) are worst hit. There has, we heard, already been some consolidation in the sector. This may be why the anecdotal reports of business failure are not reflected in employment data for the sector – there has been a small reduction in jobs in social care, but it is not clear what is causing this, and it could just be noise in the data. It is also worth noting that according to the Care Quality Commission, the standard of care across England has not fallen since the introduction of the NLW.

2.49 Aside from business failures and the handing back of contracts, the NLW has contributed to social care companies making other changes. The UKHCA told us that companies looking to save costs have cut differentials. They said that 'any benefit of the NMW for staff further up the earnings distribution has been slight or non-existent'. A survey of its members suggested that rising employment costs had led to a reduction in employment. Firms have cut back wage premiums for unsocial hours, it said, and the NLW has not improved recruitment, retention, or productivity. However, Care England did not think there had been an increase in the use of zero-hours contracts or self-employed contractors.

2.50 On our visit to Belfast, we also heard that the environment in the social care sector in Northern Ireland is very challenging. A homecare company told us that commissioning rates have not increased in line with the NLW, and that companies are surviving by cross-subsidising. A care home operator

argued that the sector now has to provide increasingly complex care, but is not paid enough by local authorities to do so. Both firms called for an independent price regulator for the sector.

Case study: Homecare in Northern Ireland

A homecare business told us that the operating environment in Northern Ireland is not sustainable.

While it would like to pay staff in excess of the NLW, it could not afford to pay more than the rate. In addition, more senior salaried staff are paid £16-20,000, so the increasing NLW is squeezing differentials.

Healthcare trusts pay homecare firms rates of between £10.50 and £13.50 per hour, with employees costing the business around £12 per hour. Over two fifths of the firm's visits last only 15 minutes, but trusts do not pay for travel time, further exacerbating the cost pressure. Because of these low rates, the firm is now refusing additional work and quoting realistic rates in tenders knowing it will lose contracts, as the current commissioning rates are simply not financially viable.

2.51 The Coalition of Care and Support Providers in Scotland (CCPS) told us that, despite the Scottish Government committing to paying all staff involved in the direct provision of care to adults the Scottish Living Wage, there are instances where this has not been the case. It said that some Local Authorities have not yet passed on extra funds to providers to allow them to pay it. In some cases, this has led to providers walking away from contracts, with the hourly rates offered insufficient to cover the cost of care. It thought that this, combined with rising wage costs from the NLW and the Scottish Living Wage, meant that hours had fallen for workers and some firms had made redundant or not replaced some key roles, such as supervisory roles. The added demands and reduced differentials have affected the morale of the workforce, it said, but this has not led to a reduction in the quality of care, where the voluntary sector scores higher than others.

2.52 The Welsh Government noted that the pressures on the social care sector could be significant, however, it was helping to alleviate the impact of the NLW in the sector through the provision of a grant to Local Authorities to pass on to their social care service providers to ensure that they meet their legal obligations. The Welsh Government has provided £19 million to help the sector for this purpose. The area of social care has been identified by Welsh Government as a priority in its 'National Strategy: Prosperity for All'. The Welsh Government recognises it as a growth industry, and argued that, if the right approach is taken, it could be an exemplar in terms of fair work in Wales.

2.53 The hair and beauty sector is another in which businesses appear to be under stress because of rising costs. The NHF warned that 'employers are deeply concerned [about] the size and speed of increases, especially in an uncertain economic climate'. Like in other sectors, the most popular response is to take lower profits, followed by raising prices, but a significant proportion of the 78 per cent affected by the NLW reported employment effects: 30 per cent had reduced hours and 29 per cent had slowed recruitment, though only a handful of those surveyed had made redundancies. The NHF predicts that if the NLW continues on the planned trajectory, there will be jobs lost in the sector.

2.54 In the largest low-paying sectors, hospitality and retail, sector organisations did not think that the NLW had led to redundancies, but the BHA thought some firms might have reduced hours or slowed hiring to save on labour costs. The CBI was concerned by the NLW's impact on smaller firms, highlighting that the bite is higher on average in these businesses The smallest firms are less well represented in our stakeholder evidence, but there are indications that the NLW is indeed hitting them hardest.

2.55 Large retailers did not tell us that there had been significant difficulty dealing with the NLW. However, there was a divergence between them and smaller retailers, as we have seen in the convenience sector. The British Independent Retailers Association (bira) told us that a quarter of respondents to a 2016 survey had reduced the number of people they employ, although this does not reveal the absolute scale of the changes or whether they have an aggregate effect. Independent retailers also thought the NLW had affected profitability and pay differentials.

2.56 Among larger retail firms, most have not made redundancies, but some have had to adjust to added costs. The BRC told us that firms have reduced differentials, though some have taken action to mitigate the effects by restructuring their workforce. Unite cited Debenhams streamlining its pay structure from 22 grades to 3, and introducing pay ranges; meanwhile, changes have been mooted to pay and progression structures at supermarkets. Retailers have made different decisions about automation, with 42 per cent of respondents to a BRC survey increasing investment in automation. While investment in automation is a long-term trend in the sector, the BRC survey showed that more retailers are investing in automation in response to the NLW now than indicated that they were in 2016. However, one large supermarket chain told us that despite rising wage costs, it has slowed its automation of checkouts because customers do not like them. We heard mixed evidence on the effects of the NLW on pay premiums and other benefits. Our analysis suggests that reports of firms cutting benefits have been overplayed, but we will continue to monitor developments in retail and other sectors. Wholesalers reported struggling with the introduction and rate of increase in the NLW. We heard from the FWD that the main effect has been on differentials. It also reported members reducing the number of staff they employ and cutting hours, as well as changing benefit packages – though it did not quantify the employment effects. The FWD warned of knock-on effects on other employers in the retail and hospitality sectors.

2.57 In hospitality, the BHA, Association of Licensed Multiple Retailers (ALMR) and British Beer and Pub Association (BBPA) submitted a joint response, in which they argued that the effect of the NLW had not been to cause redundancies, but that recruitment had been deferred or cancelled because of it. Businesses have taken action to avoid job losses and maintain service standards. This has meant raising prices where possible – around a third of firms have done so, although it is less viable outside London and the South East – as well as cost-saving approaches, including changes to job roles, changes to total remuneration packages, and deferred capital expenditure.

2.58 The BHA, ALMR and BBPA also suggested that companies had reduced differentials to limit the cost of implementing the NLW, and were worried that the NLW will catch up with managers' pay and discourage progression. A large hospitality firm has 'progression steps' for pay and responsibility, and is worried that the NLW will compress the structure, and make recruitment and retention difficult. According to the trade associations, some firms have reduced hours, but that this is at the cost of service quality and ultimately revenue. Automation has been 'minimal'. This runs contrary to what we have heard on visits.

Case study: Hotel in Kent

The manager of a hotel in Kent told us that the NLW has increased its wage bill and put pressure on differentials, but that the business is performing well nonetheless.

Labour costs have increased to around 35 per cent of turnover since the introduction of the NLW, just above the optimal level. To keep the ratio of labour costs to turnover – a key performance indicator for the business – at an acceptable level, the manager has increased room prices. Dynamic pricing on the internet has been a vital part of this, and the manager told us that using technology makes it easier for the hotel to deal with higher costs than in smaller, less technologically advanced businesses. He thought that further increases in the NLW would 'drive more inefficient businesses out'.

There are no plans to reduce the number of staff employed at the hotel. The NLW has eroded differentials though, with staff further up the pay ladder receiving 2 per cent pay increases. A further response has been to increase the use of zero-hours contracts to ensure that staff are not paid for more hours than they are required for.

2.59 While hospitality firms have managed increasing costs without job losses so far, 'all the easy, obvious cost reduction measures have been implemented' and they are approaching a 'tipping point' where businesses may start to fail. We heard on our visits that the sector (or parts of it) may be under more pressure in certain regions of the UK. In Wales we were told that there are serious problems with differentials, and that a 'cauldron of costs' was starting to make firms look at their workers' hours. We heard similar stories on our visit to Glasgow at a round table of Scottish hoteliers.

2.60 In agriculture, attention has shifted to Brexit, with the two principal concerns being around access to labour and access to markets. Labour supply has tightened already, according to both the NFU and ALP, and the shortage is close to becoming a crisis. Some of the effects of the NLW are even harder to disentangle from wider economic factors. Crucially, both the NFU and ALP have confirmed that some businesses have had to pay more to attract staff this year, because of the fall in the value of the pound, increasing EU employment and demand levels, and to counter the shortage of labour. More businesses are likely to feel upwards pressure on wages next year. The NLW has been an upward pressure on wages in many businesses too, argued the NFU, and has particularly affected differentials.

2.61 The NFU told us that businesses managed to cope with the increase in the NLW and the 2017 uprating (with the fall in the value of the pound offsetting some of the effects), but that sustainability of future increases remains a worry. While there are tentative signs of price recovery for farmers, they remain price-takers, and with supermarkets still competing on price, the sectors have not benefited enough from higher inflation to sustain profitability in the long term.

2.62 The British Institute of Facilities Management (BIFM) found in its survey (based on a small sample, but with a number of large businesses replying) that the NLW has had some negative effects on hours. However, the BIFM was generally positive about the NLW, pointing to the improvements in staff morale and retention, which its members have noticed. Higher pay, including the NLW, has helped professionalise the sector, it said. For example, instead of just cleaning, a facilities manager may now expect cleaning staff working in a shop to help with customer services,

such as providing directions. Such changes improve service levels, allow firms to charge more and, in doing so, offset the cost of the NLW. On the other hand, it should be acknowledged that for some smaller businesses the rise in NLW rates, in combination with other new legal requirements such as pension contributions, does present a challenge. We heard on our visit to Margate that business conditions are very difficult for smaller cleaning companies, largely because of the rising NLW. A large facilities management firm also told us that it had reduced labour by 3-5 per cent on contracts affected by the increase. The BIFM told us that it would issue guidance and promote best practice for facilities management companies to help them with future NLW rises.

Case study: Facilities management

Two facilities management companies, one based in both London and Manchester, and the other operating across the UK, with a branch in the East Midlands, told us of their experiences of the NLW. Integral UK is a provider of facilities management services to the retail, public and education sectors and has around 4,000 staff. Peartree Cleaning Services is focussed on cleaning and has 1,400 staff predominantly in London.

Integral's initial views on the NLW were that it would present a challenge to the industry, but it believes that has managed better than expected. To outline the business case for the NLW to its clients, Integral put together a guidance document on increasing productivity to pay for the NLW without harming quality. Integral's experience is that the NLW has led to an improvement in the calibre of candidates for job roles and has helped professionalise the sector, something that has been a priority for the BIFM and its members for a while.

Peartree Cleaning Services has had a similar experience. Its staff can see that their pay rates are now approaching those of catering and security staff, which has had a positive impact on their self-worth, we heard.

However, both employers do still have concerns. Peartree Cleaning Services has still had to make a 3-5 per cent reduction in staff to pay for the NLW. To boost productivity the management has been more creative with their scheduling and looked to take advantage of data analytics.

While they have coped with the rates of the NLW so far, both employers were concerned about future increases in the NLW. Contracts in facilities management can be for three to five years, so employers and clients need to have a good idea of their cost base over the next few years to sign them with confidence. To this end Integral appreciates the forward guidance provided by the NLW's target for 2020 and the indicative figures produced along the way. However, the company told us that the projections do not provide the certainty that employers in this position require.

2.63 In childcare, National Day Nurseries Association (NDNA) called increasing staff wages one of the top business challenges facing nurseries. Their ability to meet this challenge is limited by insufficient Government funding for 'free' places, it told us. Smaller nurseries have more of a problem as they cannot benefit from the cross-subsidies and economies of scale that larger operators use. Small firms constitute 78 per cent of child nurseries, but NDNA thinks there is an increase in chains consolidating the sector.

2.64 Child nurseries have limited ability to reduce staffing levels because of statutory adult:child ratios, but NDNA reports that some have reduced staffing levels where possible. The NLW has affected differentials; nurseries want to be able to pay more to more skilled workers, but the NLW 'has reduced the discretion they have to set their own pay structure to reward performance and achievement of qualifications'. Nurseries complain that the NLW has also meant that they have had to remove staff from salary sacrifice arrangements for childcare and healthcare to remain compliant.

2.65 The impact varied across the manufacturing sectors, with effects on differentials, and a move towards reorganising workforces and cutting benefits. The textiles industry is the most affected manufacturing sector, though the UK Fashion and Textile Association (UKFT) representatives were 'surprised' at the limited effect that the NLW has had on employment in the sector. Firms tend to be price-takers, so cannot offset the cost of the NLW in that way. The NLW has meant that make-up pay on piece rates has risen from 32 per cent on average to 40 per cent. This also means that differentials have been hit, with employers less able to afford to pay skilled workers more. However, UKFT thought that this actually 'might be good in the long run' in moving the sector away from incentive pay.

2.66 In other parts of the sector, smaller manufacturers are starting to feel effects on differentials, according to EEF, while FDF argues that problems are becoming widespread in food production, especially in smaller firms. FDF, and members we visited this year, reported problems around the affordability of pay premiums for unsocial hours. Firms are seeking to consolidate these payments into the base rate, but have not always been successful. In general manufacturing, EEF told us that cuts to benefit packages are not widespread, contrary to anecdotal evidence it presented last year.

Case study: Food manufacturer

A large food manufacturer told us that the NLW would add £3 million per year to its cost base by 2020, compared with pay growth at 2 per cent per annum.

Currently, few roles are paid the NLW, but it has already led to reduced differentials and would catch up with the pay of almost 20 roles by 2020. This, the company thought, would undermine its ability to reward staff for doing more skilled or difficult jobs.

To avoid this situation, it was seeking to incorporate shift pay into basic pay by increasing the latter significantly over 2 years. However, the plans have been rejected by workers on the advice of unions. Incorporating shift premiums into basic pay would save £2 million, reducing the annual cost of the NLW to £1 million. The firm has not made any reductions in staff levels yet, but some staff at one site are at risk of redundancy, which would be an unprecedented move for the firm.

Summary of stakeholder evidence on the NLW

2.67 In general, employers have been able to cope with the introduction of the NLW and its subsequent increase to £7.50. The increase in April 2017 appears to have been less problematic than the introductory rate in 2016, with businesses relieved at the smaller-than-expected increases. Still, firms have taken a variety of actions to mitigate the increased cost. It is important to note that business decisions cannot solely be put down to an increase in wage costs – we heard repeatedly

that a range of costs have increased, including business rates, employer pension contributions, and the Apprenticeship Levy. However, while the 2017 increase appears to have been less problematic, some employers are increasingly concerned about future rate rises in one to two years' time.

2.68 Problems resulting from reduced differentials have grown for employers, also affecting workers' ability to progress in jobs, and holding back pay growth for workers in roles with more responsibility.

2.69 Stakeholders have generally continued to adapt in the same ways as they did to the initial £7.20 rate of the NLW. Price increases and a hit to profits were again the main responses.

2.70 The distinction stakeholders make when it comes to prices is between price-takers and price-makers. The former, we heard, are less able to recoup the added cost, which the NLW represents, through price increases. There are also sectors in which businesses face high levels of competition on price, most notably food retailers.

2.71 Gains in productivity are central to the long-term sustainability of the NLW. It appears that there is slightly more understanding of this imperative from businesses, and we heard that many are seeking every efficiency possible. Alongside that, though, we heard few specific examples of significant gains.

2.72 We heard mixed messages on the issue of pay consolidation. It does not appear that this has accelerated since the NLW was introduced. We also heard anecdotal evidence that employers are restructuring contracts, including making more use of zero hours.

2.73 From our consultation evidence, employment effects did not appear to be widespread. The only sector linking significant job loss to the NLW was convenience retail, though small retailers, and small to medium-sized enterprises (SMEs) more generally, also reported being under pressure. In other sectors, with more low-paid workers, we heard that any employment effects were more likely to take the form of hours adjustments and a slowing of recruitment.

The impact of the National Living Wage on pay and coverage

2.74 We now focus on more quantitative analysis of the impact of the National Living Wage (NLW). This section looks at the impact of the NLW on pay: examining 'bite', coverage, the earnings distribution and non-compliance. The chapter then goes on to cover the impact on employment and competitiveness.

2.75 Our analysis demonstrates that the uprating of the NLW to £7.50 an hour had an impact on pay for workers at the bottom end of the earnings distribution, but for reasons we outline, has had a minimal impact on coverage (the numbers paid at or below the NLW). This reflects stakeholder evidence, which indicated that most firms have sought to maintain a differential, but have not been able to give all staff the same 4.2 per cent increase as those on the NLW.

2.76 Non-compliance with the NLW (paying wages below the NLW to those entitled to it) has decreased. Measured underpayment fell slightly from 305,000 or 19 per cent of coverage in 2016, to 282,000 or 18 per cent of coverage in 2017. Falls were observed across a range of groups and

characteristics. However, data issues remain around the timing of the ASHE survey and the implications this has for accurately measuring both underpayment and coverage.

2.77 We continue to find little to no evidence of an impact on employment and hours in the data. However, there is evidence that employment and hours grew more slowly in sectors that contain more NLW jobs. Initial research findings suggest that employment retention has fallen. Stakeholders told us that most businesses have coped with the introduction and subsequent increase in the NLW without resorting to redundancies. Any employment effects are concentrated in vulnerable sectors, the most vocal of which was convenience. Stakeholders told us that the NLW is more likely to affect hours or hiring than redundancies.

The impact of the National Living Wage on earnings and pay

2.78 The increase in the NLW from £7.20 to £7.50 per hour equates to a 4.2 per cent cash increase. This was double the increase in median hourly earnings, which grew 2.1 per cent and faster than the 3.2 per cent increase in mean hourly earnings. These figures are given in Table 2.2.

2.79 There was similar growth in weekly pay. Median basic weekly earnings (excluding overtime) increased for workers aged 25 and over by around £10, to £445, a 2.2 per cent increase. Mean wages increased by 2.5 per cent to £533 a week. Those on the NLW work on average 27 hours a week, and we therefore expect the 30p increase to be worth approximately £8.10 a week or £400 in gross annual earnings to the typical minimum wage worker.

Table 2.2: Growth in the NLW at different points in the earnings distribution for workers aged 25 and over, UK, 2016-2017

	April 2016	April 2017	Growth
Minimum wage for those aged 25 and over	£7.20	£7.50	4.2%
Median hourly earnings (excluding overtime)	£12.76	£13.03	2.1%
Mean hourly earnings (excluding overtime)	£16.02	£16.54	3.2%
10th percentile of hourly earnings (excluding overtime)	£7.50	£7.83	4.4%
25th percentile of hourly earnings (excluding overtime)	£9.04	£9.27	2.5%

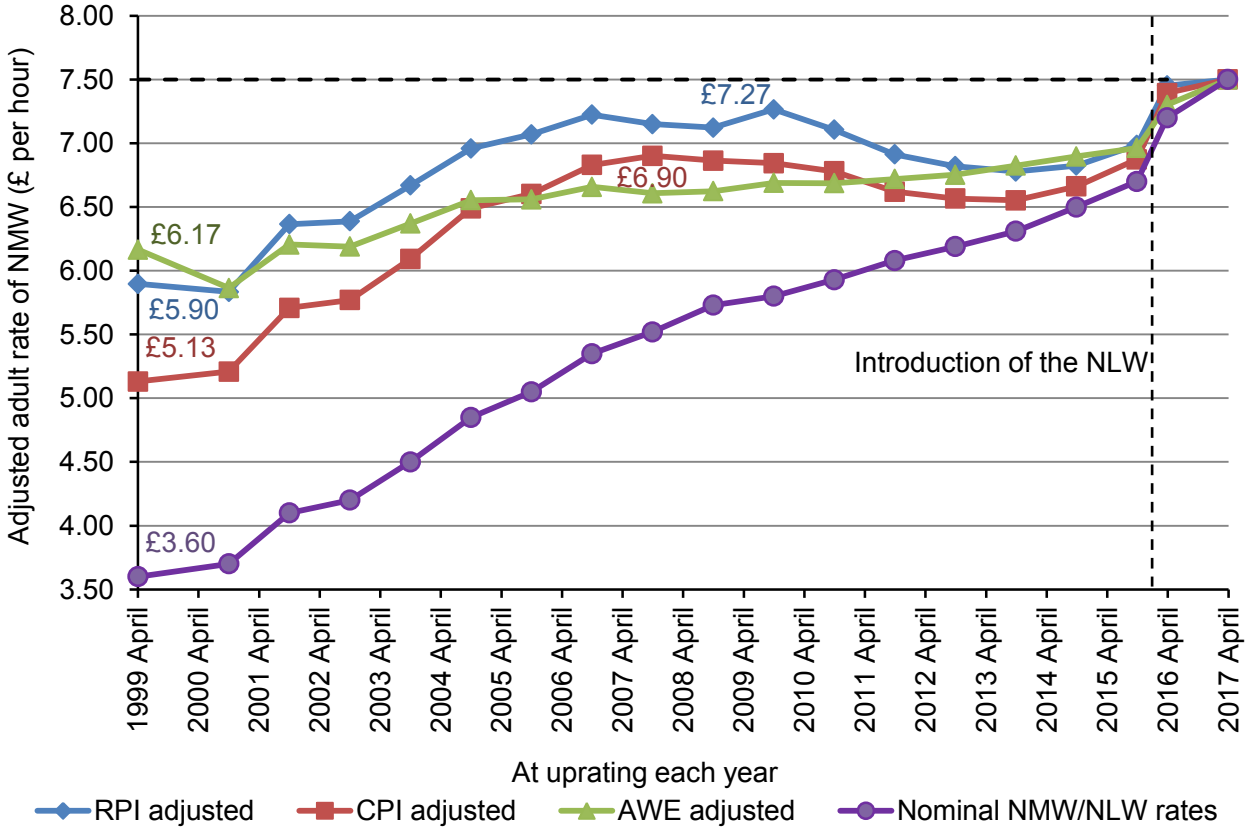
Source: LPC estimates using: ASHE 2016 and 2017, standard weights, excluding first year apprentices, UK.
Note: Hourly earnings exclude overtime.

2.80 The 4.2% nominal increase in the minimum wage is equivalent to a 1.5 per cent real increase (based on CPIH inflation – 1.4 per cent based on CPI and 0.6 per cent on RPI). Median wages (excluding overtime) for workers aged 25 and older grew by only 2.1 per cent and average wages by 3.2 per cent. This was close to the average real growth seen in the National Minimum Wage (NMW) and the NLW since the NMW's introduction in 1999. It is important to note that the introduction of the National Living Wage the previous year represented the largest year-on-year increase in the history of the NMW/NLW. Wages at the 10th percentile grew by 4.4 per cent and at the 25th percentile by 2.5 per cent.

2.81 Figure 2.1 explores the increase in the relative value of the NMW and NLW in the UK since 1999. The National Minimum Wage grew quickly in real terms in the first eight-and-a-half years after its introduction. Between 2007 and 2010, the real level of the NMW was reasonably flat, with

modest increases in the NMW, coupled with slightly higher inflation and containing real growth. Between 2010 and 2013, the real value of the NMW fell as it increased less than inflation, which was high, reflecting large increases in fuel and food prices. The NMW grew faster than average earnings over this period. The lower growth in the NMW in this period was based on our recommendations that sought to avoid pricing workers out of employment during the post-crisis downturn. Since 2014, significant increases in the NMW, and then the introduction of the NLW, coupled with (until last year) low levels of inflation, have resulted in an increase in the real value of the NMW/NLW. In the 14-and-a-half years between introduction of the NMW and October 2013, its real (CPI adjusted) value grew by 28 per cent; in the three-and-a-half years since, the NMW/NLW has grown by half that amount. The real value of the NLW is 9 per cent higher than the NMW was in 2007, whereas average wages have still not recovered from the 2008 crisis.

Figure 2.1: Real and relative value of the NMW/NLW, UK, 1999-2017



Source: LPC estimates based on ONS data: AEI including bonuses (LNMQ) 1999-2000, AWE total pay (KAB9) 1999-2017, CPI (D7BT) 1999-2017, and RPI (CHAW) 1999-2017, quarterly, seasonally adjusted (AEI and AWE only), UK (GB for AEI and AWE).
Notes: The AWE series began in January 2000 and the AEI series ended in July 2010. Our earnings series is estimated using AEI (including bonuses) from April 1999-January 2000 and AWE (total pay) from January 2000-April 2017.

2.82 The next two sections explore the bite and coverage of the NLW. These are the LPC's traditional measures of how the level of the minimum wage impacts the earnings of individuals.

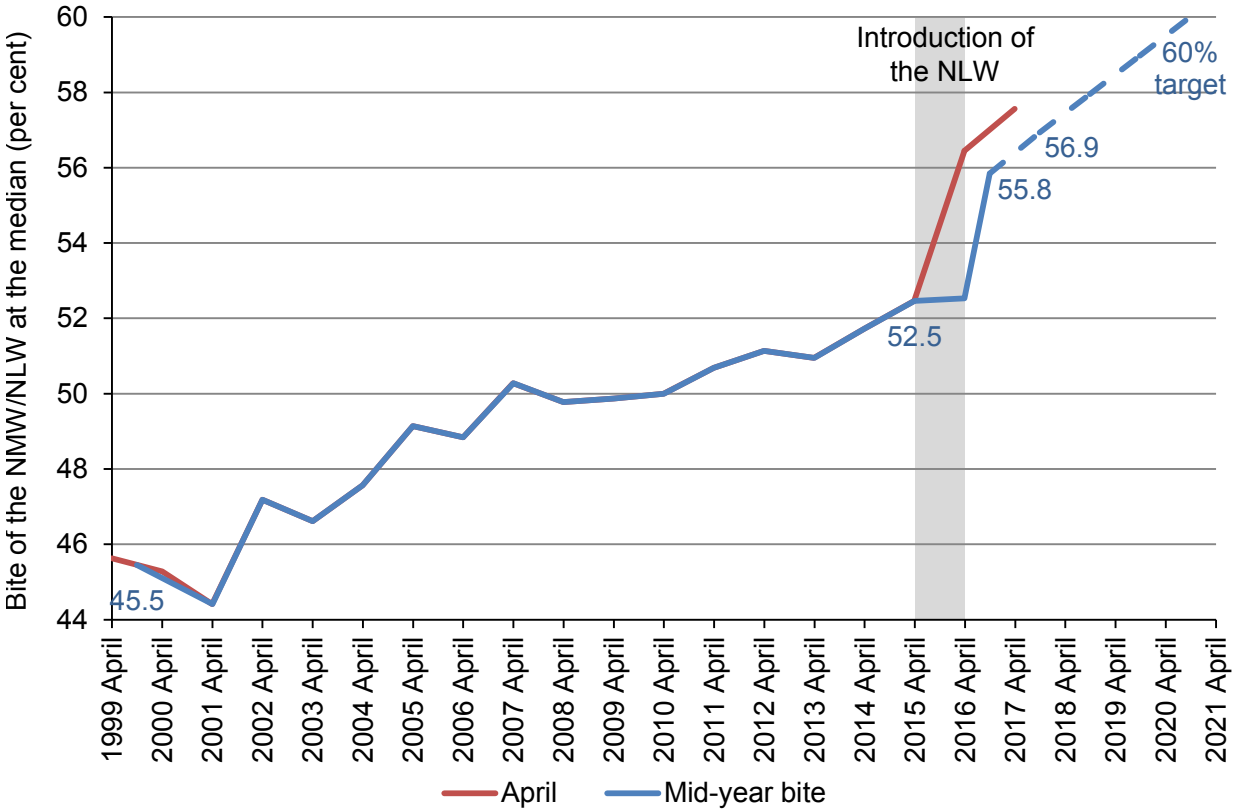
The bite of the National Living Wage

2.83 The 'bite' of a minimum wage is a commonly used measure of the impact of a minimum wage in economic literature. The bite is the ratio between the minimum wage and a given point on the earnings distribution. Although we look at various points on the earnings distribution, we commonly use the bite at the median as an indicator of the 'toughness' of the wage floor. A higher

bite means that minimum wages are closer to the wage earned by those at the mid-point of the earnings distribution. A high bite could indicate that employers are more likely to struggle to cope with increases in the minimum wage. However, we then need to look at what happens to jobs and hours to determine whether the minimum wage is having a detrimental impact.

2.84 Furthermore, the target path for the NLW is based on the bite at the median. The target is for a 60 per cent bite in October 2020 (for the NLW level set in April 2020). The NLW had a bite in April 2016 (at introduction) of 56.4 per cent, which increased to a bite of 57.6 at the introduction of the current NLW (£7.50 an hour). We estimate that the mid-year bite of the 2016 NLW was 55.8 per cent, and we currently estimate a bite of 56.9 per cent at mid-year for the 2017 NLW. This is significantly higher than the mid-year bite of the 2015 NLW, which was 52.5 per cent.

Figure 2.2: Bite of the NMW/NLW for workers aged 25 and over, UK, 1999-2020



Source: LPC estimates using adjusted earnings data based on ONS data: ASHE without supplementary information, April 1999-2004; ASHE with supplementary information, April 2004-2006; ASHE 2007 methodology, April 2006-2011; and ASHE 2010 methodology, April 2011-2017, standard weights, UK; and earnings forecasts from HM Treasury panel of independent forecasts, (2017f), and Bank of England average earnings forecasts (2017c).

Notes:

a. Bites from mid-year 2017 are based on earnings forecasts and may change when out-turn data is available.
b. Based on a straight line bite path to 2020, which may change depending on LPC deliberations and Government decisions.
c. Data include all apprentices.

Table 2.3: Bite of the NMW/NLW for workers aged 25 and over, UK, 2015-2017

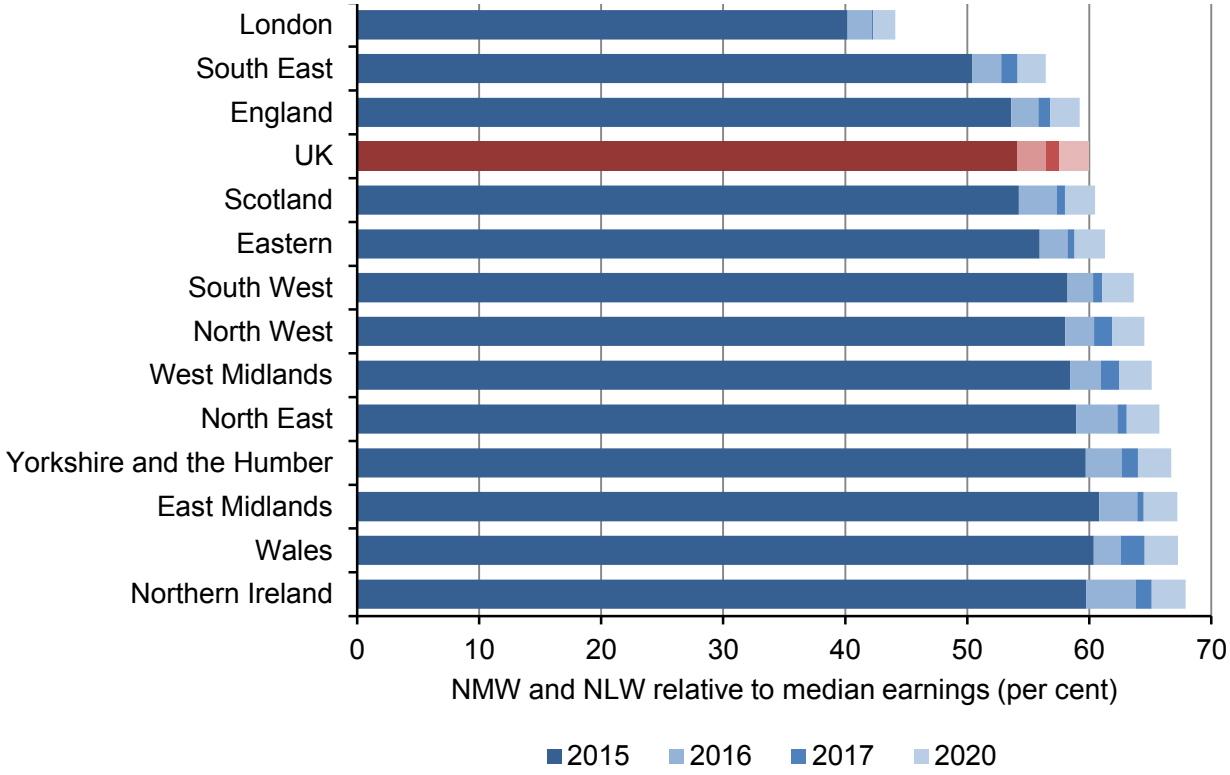
		Median	Rate	Bite	Point in year
		£	£	%	
NMW	April 2015	12.39	6.50	52.5	Mid-year
	October 2015	12.57	6.70	53.3	At uprating
NLW	April 2016	12.76	7.20	56.4	At uprating
	October 2016	12.89	7.20	55.8	Mid-year
	April 2017	13.03	7.50	57.6	At uprating
	October 2017	13.17	7.50	56.9	Mid-year

Source: LPC estimates and calculations using ASHE April 2015-2017, UK; earnings forecasts from HM Treasury panel of independent forecasts (2017f) and Bank of England average earnings forecasts (2017c).
Note: Data exclude apprentices.

2.85 The bite of the NLW for workers aged 25 and over was 57.6 per cent in April 2017 and our current projection for the bite in October 2017 is 56.9 per cent. This is more or less in line with the estimate of 56.8 per cent in our Autumn 2016 Report. The UK national figure conceals wide variations in regional and sectorial bites. Bites also vary for different types of firms. The next section examines how bites have changed in different parts of the economy.

2.86 Figure 2.3 shows the bite across the UK regions and nations, from the year prior to the introduction of the National Living Wage in April 2015 through to projected bites in October 2020. It highlights the variation in bite that already existed with the NMW in 2015, with London significantly lower than all other regions and nations of the UK, a result of much higher median wages. The pattern across regions and nations remains similar in 2017, albeit with higher bites. While all bites increased in 2017 as a result of lower median pay growth relative to the 4.2 per cent increase in the NLW, no additional regions or nations crossed the 60 per cent threshold, leaving the same six regions and two nations which already had bites above 60 per cent. By 2020, a UK-wide bite of 60 per cent would see all English regions apart from London and the South East, and all countries apart from England, with bites higher than this.

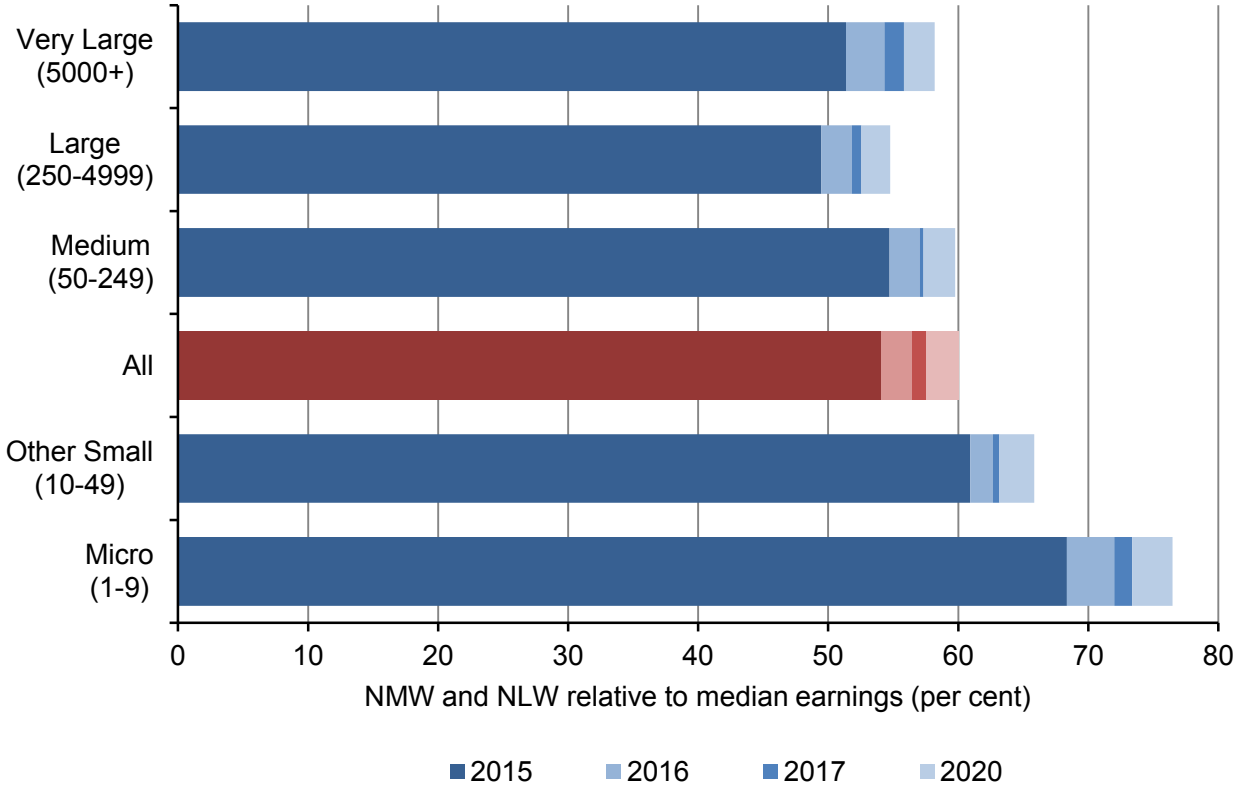
Figure 2.3: Bite of the NMW/NLW for workers aged 25 and over, by country and region, UK, April 2015-2017 and October 2020



Source: LPC estimates using: ASHE April 2015-2017, standard weights, UK.
Note: Data exclude first year apprentices.

2.87 Figure 2.4 examines the bite by size of firm, and continues to show how smaller firms generally have the lowest median wages, and therefore experience higher bites compared with larger firms. Micros and other small firms are more exposed to the NLW, already having bites greater than 60 per cent with micro firms forecast to reach well over 70 per cent by 2020. Large firms have the lowest bite at just over 50 per cent. The bite then increases slightly for very large firms, though it is forecast to remain below 60 per cent by 2020.

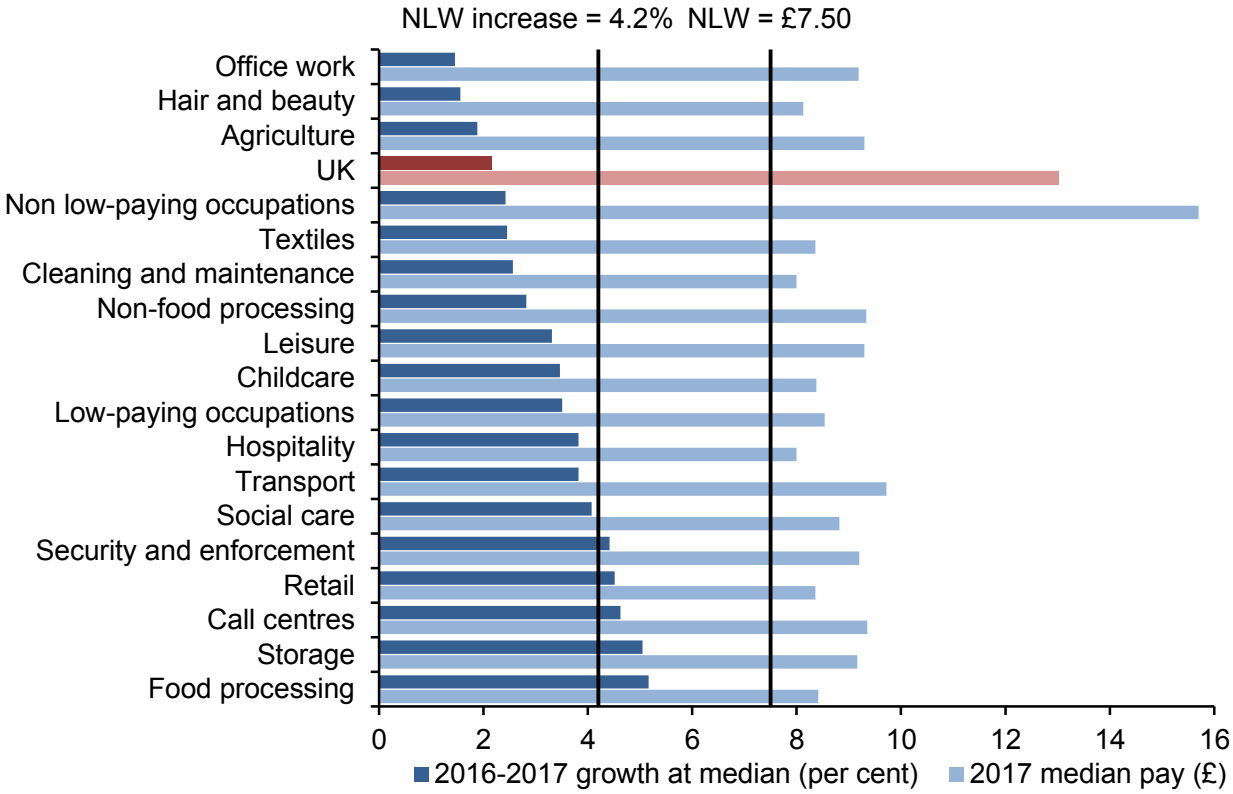
Figure 2.4: Bite of the NMW/NLW for workers aged 25 and over, by firm size, UK, April 2015-2017 and October 2020



Source: LPC estimates using: ASHE April 2015-2017, standard weights, UK.
Note: Data exclude first year apprentices.

2.88 We have already discussed in this section the variation found in changes to employment and hours of low-paying occupations. Figure 2.5 focuses on the earnings of this group and shows the degree of disparity found in both 2017 median pay and wage growth. Cleaning and maintenance, and hospitality have the lowest median hourly rate of pay of £8 per hour with transport the highest paid of the 'low-paying occupations' at £9.70 per hour. Growth in median pay also varied across occupations, with office work increasing by just 1.5 per cent, whilst security and enforcement, retail, call centres, storage, and food processing all saw median pay increase by more than the 4.2 per cent increase in the NLW.

Figure 2.5: Hourly pay and earnings growth at the median for workers aged 25 and over, by low-paying occupation, UK, April 2016-2017



Source: LPC estimates using: ASHE April 2016-2017, standard weights, UK.
Notes:
a. Data exclude first year apprentices.
b. Low-paying occupations based on new definition.

2.89 Table 2.4 shows the impact these increases in median pay made to the bites in 2017. Where bites have fallen this is a result of median pay increasing faster than the increase in the NLW. With the exception of transport, all of the low-paying occupations had a bite of over 80 per cent, with a number already approaching or over 90 per cent. This suggests that almost half of many low-paying occupations are paid at the NLW.

Table 2.4: Bite of the NMW/NLW for workers aged 25 and over, by low-paying occupation, UK, April 2015-2017

	Bite (per cent)			Change (ppts)
Sector	**2015**	**2016**	**2017**	**2016-2017**
Hospitality	92.4	93.4	93.8	0.3
Cleaning and maintenance	91.2	92.3	93.8	1.4
Hair and beauty	88.2	90.0	92.3	2.3
Textiles	83.8	88.2	89.7	1.5
Retail	89.0	90.0	89.7	-0.3
Childcare	86.7	88.9	89.5	0.6
Food processing	87.8	90.0	89.1	-0.9
Social care	82.4	85.0	85.0	0.1
Storage	78.3	82.6	81.9	-0.7
Office work	75.4	79.5	81.6	2.1
Security and enforcement	76.6	81.7	81.5	-0.2
Leisure	76.8	80.0	80.7	0.7
Agriculture	75.0	78.9	80.7	1.8
Non-food processing	74.6	79.3	80.3	1.0
Call centres	73.7	80.6	80.2	-0.4
Transport	73.7	76.9	77.1	0.3
Low-paying occupations	84.5	87.3	87.8	0.6
Non low-paying occupations	44.6	47.0	47.8	0.8
UK	54.1	56.4	57.6	1.1

Source: LPC estimates using: ASHE April 2015-2017, standard weights, UK.
Notes:
a. Data exclude first year apprentices.
b. Low-paying occupations based on new definition.
c. 2017 bite is at April.

Coverage of the National Living Wage

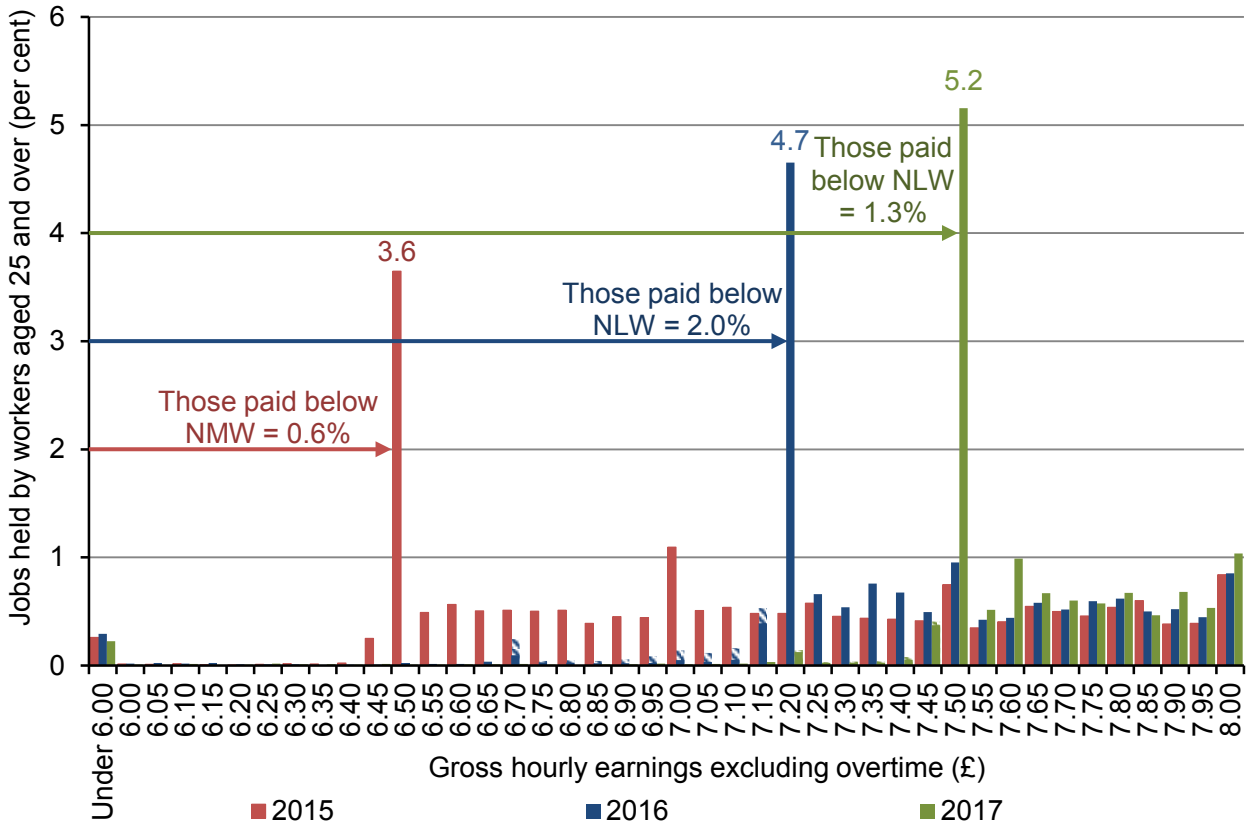
2.90 The other measure that we typically use to gauge the impact of a minimum wage on the pay distribution is the coverage. Coverage shows the number of workers who are paid the minimum wage.

2.91 The introduction of the NLW changed the month in which the wage floor was uprated to April. This has created challenges, as pay data used to estimate the coverage of the NLW is also collected in April. The data collected therefore includes a proportion of individuals who were covered by a pay period to which the previous minimum wage applied. We assume that individuals paid above the previous minimum wage, but below the current one for a pay period at which the previous minimum wage applied, are covered by the new minimum wage. However, it is plausible that in the subsequent pay period these individuals would be paid above the new minimum wage. Therefore, when comparing changes in coverage between 2016 and 2017 in the subsequent section, these considerations should be borne in mind.

2.92 Figure 2.6 shows how the distribution of hourly wages has changed since 2015. As minimum wages have increased since 2015 the number of individuals who are paid at their minimum wage has increased. In April 2015, 3.6 per cent of jobs were paid the relevant minimum wage of £6.50, this increased to 4.7 per cent paid at the NLW of £7.20 in 2016 before climbing even further to 5.2 per cent at the current £7.50 rate.

2.93 Total coverage, those paid at or below the minimum wage, was 6.4 per cent in 2017, down from 6.7 per cent in 2016, but significantly higher than the 4.3 per cent in 2015.

Figure 2.6: Hourly wage distribution for workers aged 25 and over, UK, 2015-2017



Source: LPC estimates using: ASHE April 2015-2017, low pay weights, UK.
Notes:
a. Data for 2016 and 2017 are for different points in the minimum wage year to 2015, so cannot be directly compared.
b. Data exclude first year apprentices.

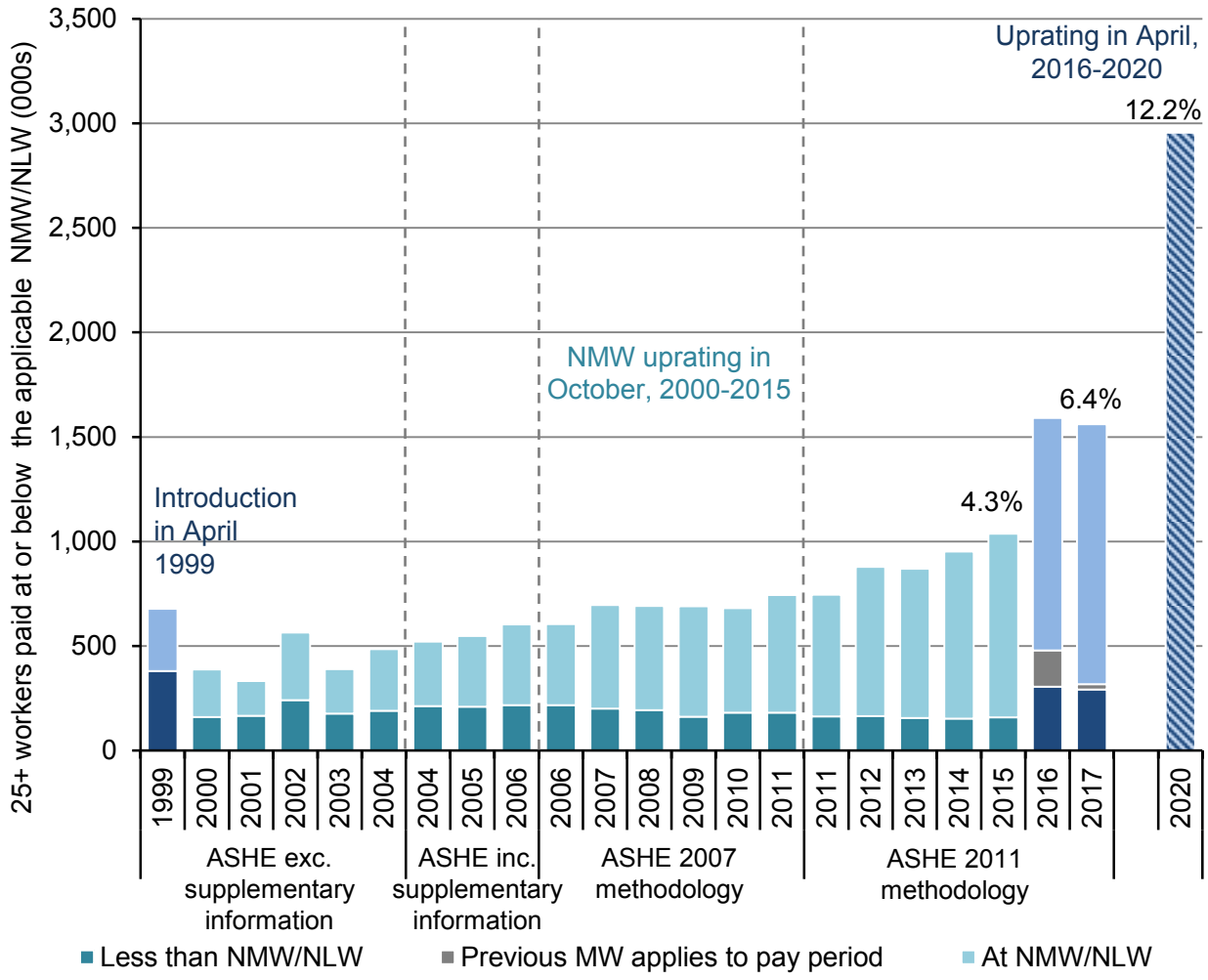
2.94 Figure 2.6 also shows that in 2016 there was a large increase in the numbers paid wages below their applicable minimum wage. This could be a function of the fact that the pay period covered in the ASHE dataset straddles the introduction and uprating of the NLW. Therefore, as set out in paragraph 2.90 some individuals may be legitimately being paid at or above the previous minimum wage. This issue is explored in more detail in the section of the chapter devoted to measured underpayment and non-compliance. It may be the case that pay in some of these jobs would be increased in the next month to take them back above the NLW, slightly reducing coverage.

2.95 Figure 2.7 shows how the number of those aged 25 and over, covered by the NMW/NLW in April, has changed since it was introduced in 1999. The slightly darker colours that make up the bottom proportion of the chart cover the number of jobs that are measured as being paid under the NLW/NMW, and the lighter colour shows those paid at the rate or no more than five pence above it.

The 1999, 2016 & 2017 columns are a different shade to reference the fact that for these years April coincides with the uprating which would probably slightly alter the coverage figures.

2.96 The 2020 forecast of coverage is based on our estimate of the numbers earning at or below a wage today equivalent to a 60 per cent bite this year. This assumes that there are no spillover effects and that firms do not keep paying differentials over the NLW to those currently earning less than 60 per cent of median earnings. Making assumptions of this kind would lower our coverage forecasts. This is the basis of all the 2020 estimates in following section.

Figure 2.7: Coverage of the NMW/NLW for workers aged 25 and over, UK, 1999-2020

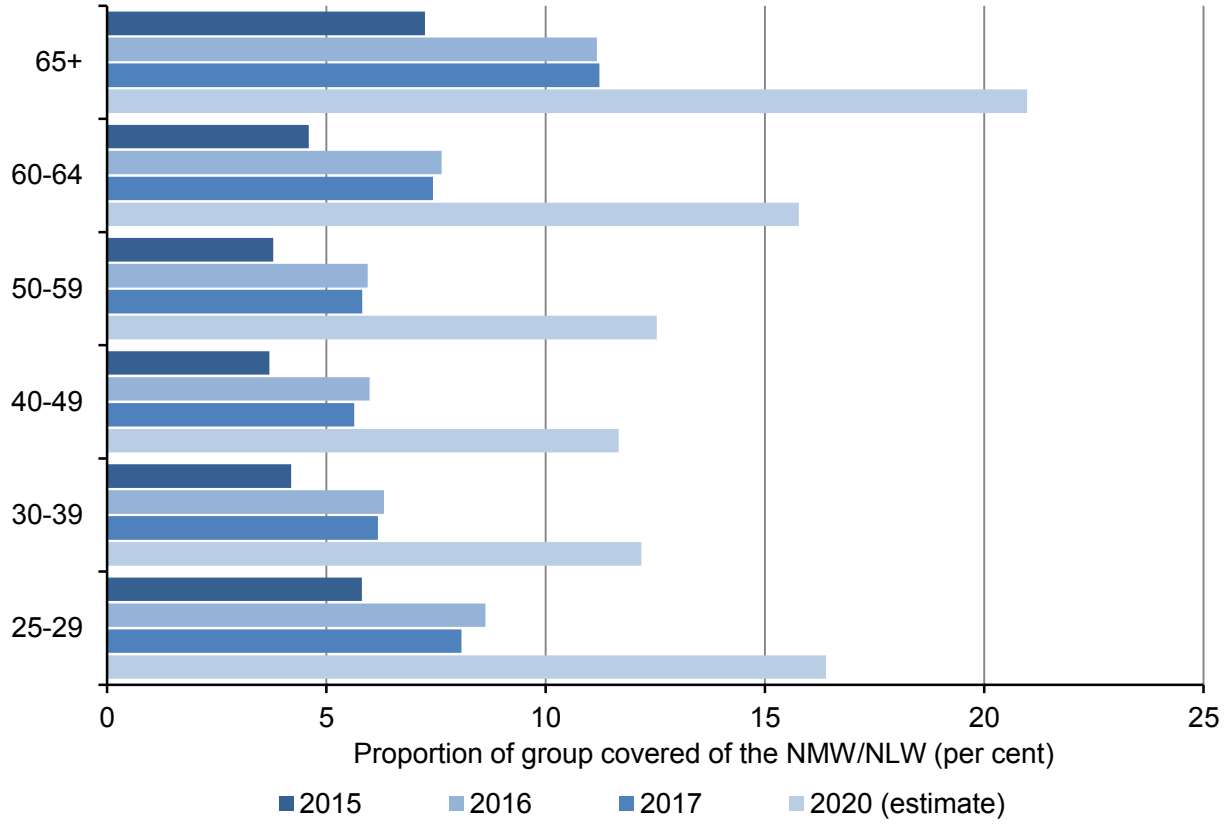


Source: LPC estimates using ONS data: ASHE without supplementary information, April 1999-2004; ASHE with supplementary information, April 2004-2006; ASHE 2007 methodology, April 2006-2011; and ASHE 2010 methodology, April 2011-2017, low pay weights.
Note:
a. Data exclude apprentices, as they cannot be identified prior to 2013.
b. Data for 1999, 2016 and 2017 are for different points in the minimum wage year than all other years, so cannot be directly compared.

2.97 Figure 2.8 shows how coverage varies across different age groups. Coverage is higher for 25-29 year olds, and those aged over 60 and lowest for those aged between 40 and 49. This pattern is the same in 2017 as it was in 2016, and is forecast to be similar in 2020. Compared with 2016, coverage has decreased for all age groups, with the exception of those aged 65 and over, who are a relatively small proportion of individuals in the labour market (675,000 individuals or 2.8 per cent of all workers) as most are retired. While the proportion of individuals covered by the minimum wage is lowest for those between 30 and 59 years of age, the higher labour market participation of these

ages means that they account for most of the individuals paid at the minimum wage. Coverage at all ages is significantly higher than the level in 2015, before the introduction of the NLW.

Figure 2.8: Coverage of the NMW/NLW for workers aged 25 and over, by age, UK, 2015-2020

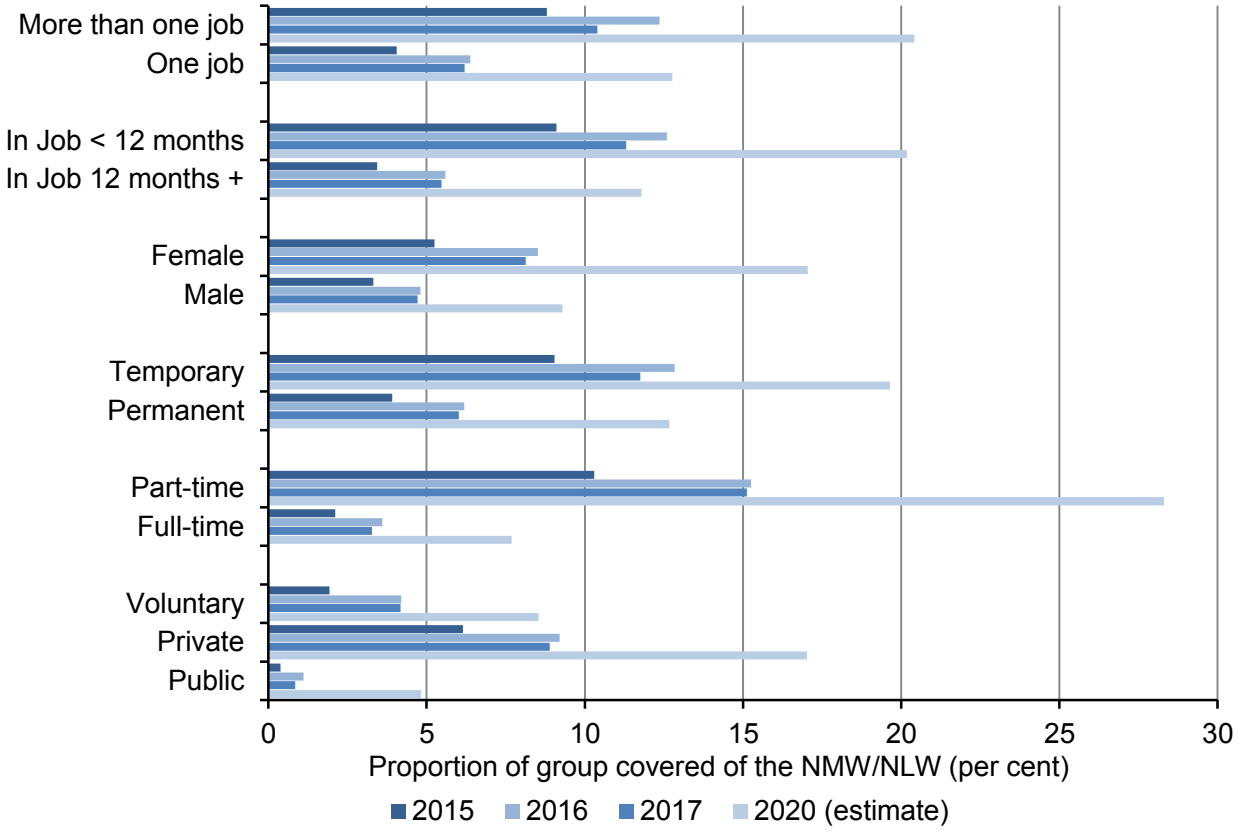


Source: LPC estimates using: ASHE April 2015-17, low pay weights, UK.
Notes:
a. The change between 2015 and 2016 overstates the increase in coverage between the NMW and the NLW, as the estimates are for different points in the minimum wage year.
b. Data exclude first year apprentices.

2.98 Figure 2.9 shows how coverage has varied across different job characteristics. Coverage is higher for second jobs, jobs filled for a shorter period, temporary and part-time jobs. These characteristics are associated with lower levels of attachment to the labour market and make up a smaller proportion of employees. The private sector is most impacted by the NLW, both in terms of numbers and rates. The figures suggest coverage has decreased across all the characteristics, also suggesting that the fall in coverage is not focused on one job type. There is a large difference in coverage between full-time and part-time jobs, with the proportion of part-time jobs paid at the minimum wage over four-times higher than for full-time jobs. Due to the fact that there are fewer part-time jobs, only around three-fifths of minimum wage jobs are part-time, as shown in Table 2.1

2.99 Large increases in coverage are expected in each area by 2020. Currently very few public sector jobs are paid at the NLW, though this could jump by over four-and-a-half times by 2020 as the NLW approaches a 60 per cent bite, however this is still lower than the proportion in the private sector. By 2020, over a quarter of all part-time jobs could be paid at the NLW.

Figure 2.9: Coverage of the NMW/NLW for workers aged 25 and over, by worker and job characteristics, UK, 2015-2020

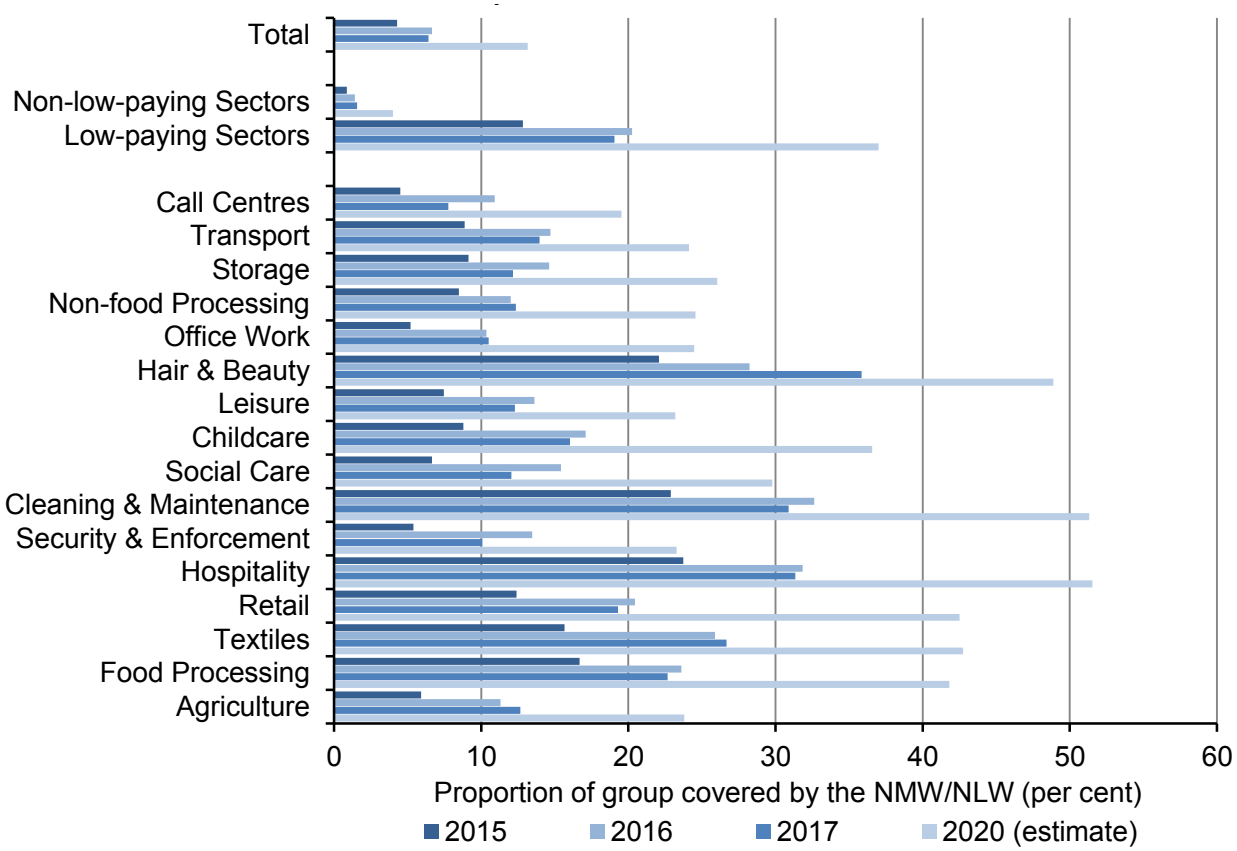


Source: LPC estimates using: ASHE April 2015-17, low pay weights, UK.
Notes:

a. The change between 2015 and 2016 overstates the increase in coverage between the NMW and the NLW, as the estimates are for different points in the minimum wage year.
b. Data exclude first year apprentices
c. In Job <12 months refers to less than 12 months in a job, In Job 12 months + refers to 12 months or more in a job

2.100 As shown in Figure 2.10, coverage varies across low-paying occupations of the economy, with highs of over thirty per cent in hospitality, cleaning and maintenance and hair and beauty. These three areas are forecast to have approximately 50 per cent coverage in 2020. The three biggest sectors for minimum wage workers, retail, hospitality and cleaning and maintenance, all saw falls in their coverage in 2017 compared with 2016, though still much higher than in 2015. Overall coverage in the low-paying sectors fell in 2017 to 19.1 per cent, from 20.3 per cent in 2016 (up from 12.8 per cent in 2015). Coverage increased slightly in non-low-paying sectors to 1.6 per cent in 2017 from 1.4 percent in 2016.

Figure 2.10: Coverage of the NMW/NLW for workers aged 25 and over, by occupation, UK, 2015-2020



Source: LPC estimates using: ASHE April 2015-17, low pay weights, UK.
Notes:

a. The change between 2015 and 2016 overstates the increase in coverage between the NMW and the NLW, as the estimates are for different points in the minimum wage year.
b. Data exclude first year apprentices

2.101 The Office for National Statistics (ONS, 2017e) published a report examining pay distributions and coverage of the various UK minimum wages in the fourth quarter of 2016 using the Labour Force Survey (LFS). The report uses a new imputation method to impute missing stated hourly pay rates from the LFS. This gives slightly different results to those produced with the methodology used in previous LPC reports. The use of the LFS enables the examination of coverage by ethnicity, qualifications and disability status, amongst other characteristics. We intend to look at coverage using the ONS's methodology in the future, once it is fully developed.

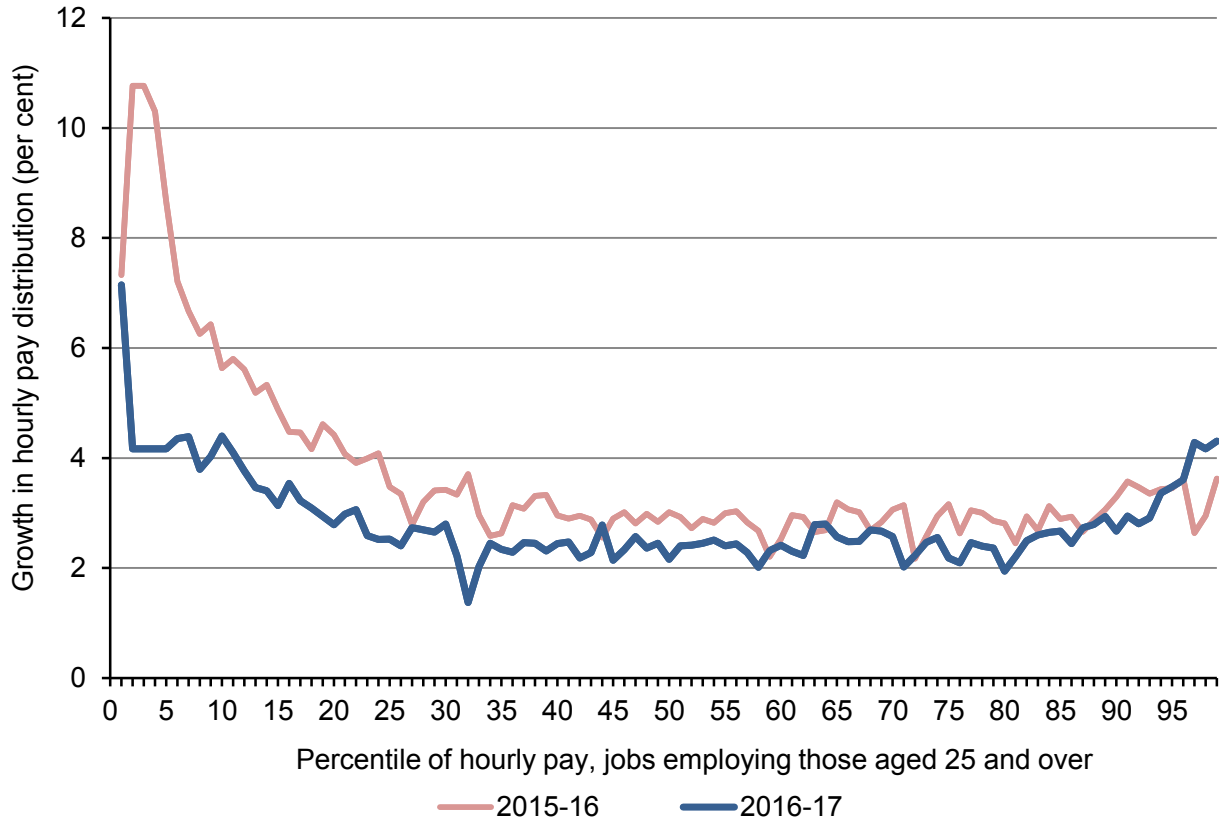
2.102 Overall coverage has decreased slightly in 2017 when compared with 2016, despite the sizeable increase in the NLW. This has entirely been driven by an increase in those paid below the NLW. However, as outlined in paragraph 2.90 this is influenced by the fact that in 2016 a significant proportion of those paid less than the NLW were covered by a pay period covering the previous minimum wage. It is plausible that some of these individuals would have been paid above the NLW otherwise, and that they therefore would not have been included in the coverage figures. This is explored further in the non-compliance section of this chapter. The fall in coverage does not appear to have been concentrated in any particular areas.

The pay distribution

2.103 This section examines the impact of the uprating of the NLW on the hourly pay distribution. The analysis examines the change in the pay distribution, spillover effects to those workers paid above the NLW, spillovers to those aged below 25, the use of shift premium and overtime payments and measured underpayment of the NLW.

2.104 Figure 2.11 shows how much the cut-off point for each decile has grown between 2016 and 2017. The distribution is "U-shaped" with fastest growth at the bottom of the pay distribution (driven by the NLW) and at the top-end of the distribution. The distribution is relatively flat between the 30th and 80th percentiles. Pay growth was higher at virtually all points between 2015 and 2016, with the exception of those paid in the top 4 per cent of the wage distribution. Hourly wages grew by at least 3 per cent in the bottom 18 per cent of the wage distribution. The average growth in the wage distribution was 2.6 per cent, whereas the bottom 24 per cent of the wage distribution all grew faster than this.

Figure 2.11: Percentage growth in the hourly wage distribution for workers aged 25 and over, UK, 2016-2017

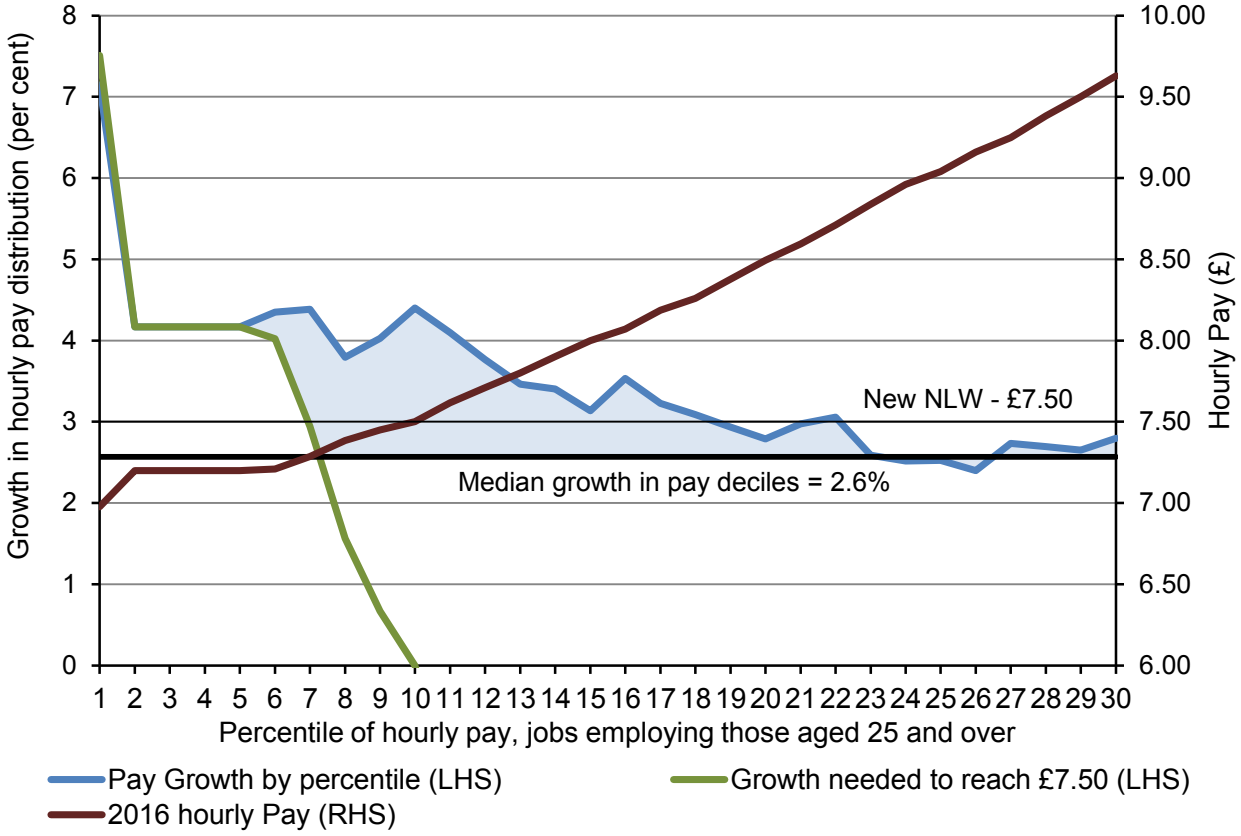


Source: LPC estimates using: ASHE April 2016-2017, standard weights, UK.
Note: Data exclude first year apprentices.

2.105 Figure 2.12 shows for the bottom 30 percent of the wage distribution, the pay growth observed in percentile cut-off wages, the 2016 wage level, and the level of pay growth needed to meet the level of the new NLW. It shows how, for much of the bottom 30 per cent of the wage distribution, wages grew faster than on average and much faster than needed to meet the minimum wage. This suggests that firms are trying to keep pay differentials at a reasonable size even as the

wage floor increases. This indicates that the NLW influences the pay of many more jobs than those simply paid at the rate – affecting up to seven million jobs.

Figure 2.12: Hourly pay growth, hourly pay rates in 2016 and growth needed to reach £7.50 for workers aged 25 and over, UK, 2016-2017



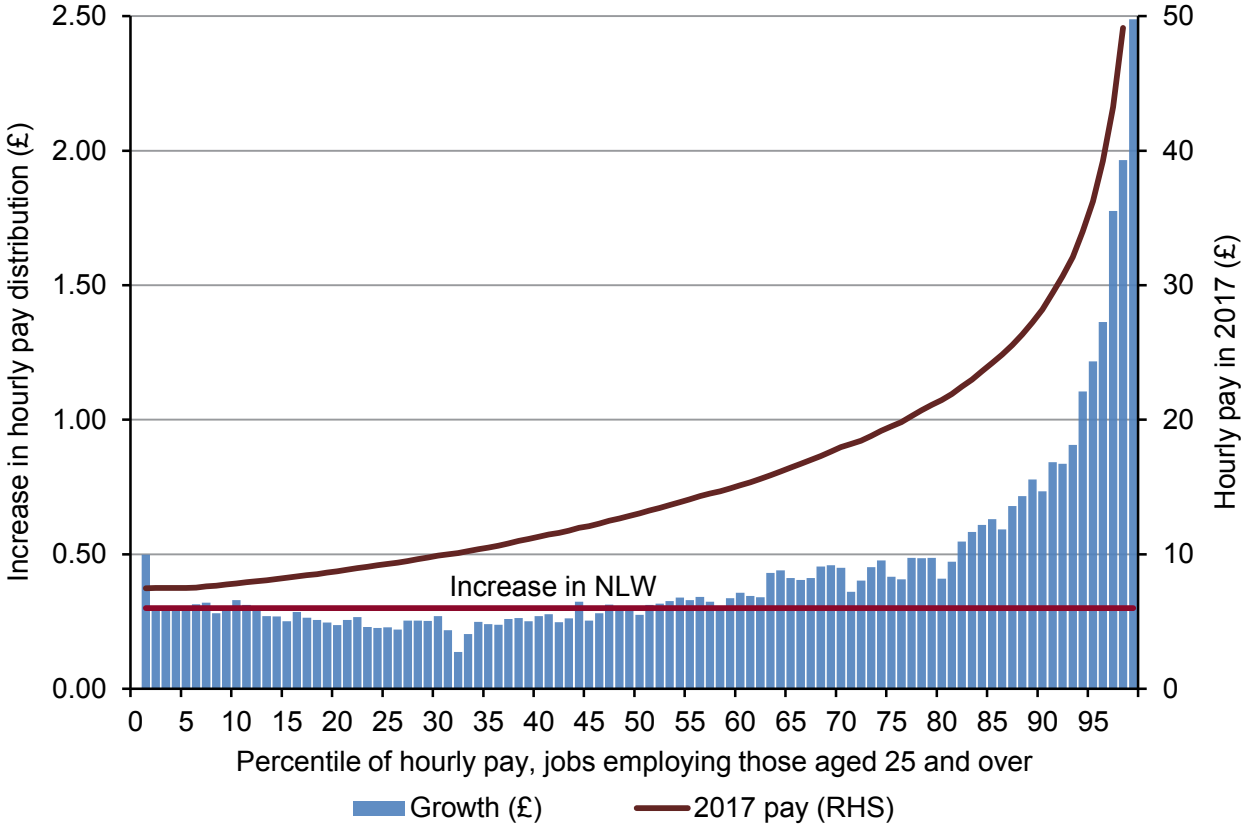
Source: LPC estimates using: ASHE April 2016-2017, standard weights, UK.
Note: Data exclude first year apprentices.

2.106 Research covering earlier periods of the minimum wage (Butcher, Dickens and Manning, 2012) indicated that the impact of the minimum wage on wages reaches up to 40 per cent above the wage floor, which corresponded to the 25th percentile. Due to the increases in levels of minimum wages, including the introduction of the NLW, 40 per cent above the minimum wage now reaches the 30th percentile, suggesting the finding is consistent with the growth in the wage distribution seen in the most recent year.

2.107 Wage growth above the 10th percentile (jobs paying more than the 2017 level of the NLW [£7.50] in 2016) is less than the percentage increase in the minimum wage suggesting that for these individuals, relative pay differentials are being squeezed in percentage terms. However, between the 5th and 10th percentile (jobs paying, in 2016, between the 2016 minimum wage and the 2017 minimum wage) pay growth was – for the most part – above that in the minimum wage, indicating that for many of these jobs, a pay premium over the NLW was maintained.

2.108 Figure 2.13, shows how for most of the pay distribution the increase in hourly pay was less in cash terms than the increase in the NLW. Only eight out of the bottom 50 percentiles saw wage increases of more than the 30p increase in the minimum wage; this indicates that there is a compression in the penny differentials in the bottom half of the pay distribution as the NLW floor increases.

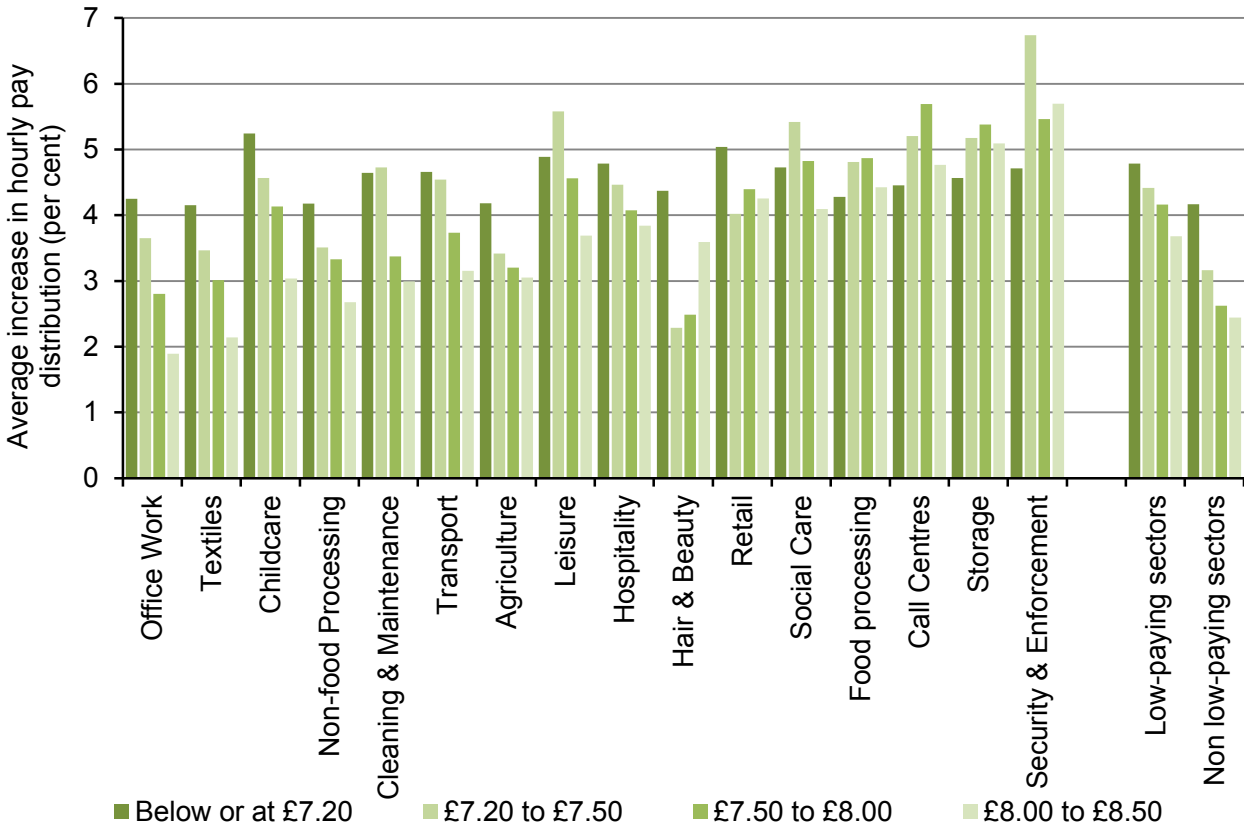
Figure 2.13: Increases in hourly pay, hourly pay rates in 2016 and increase in the NLW for workers aged 25 and over, UK, 2016-2017



Source: LPC estimates using: ASHE April 2016-2017, standard weights, UK.
Note: Data exclude first year apprentices.

2.109 Figure 2.14 shows how hourly pay growth has differed between different low-paying occupations in the UK economy. Each bar represents the average growth in the hourly pay distribution covering broad NLW related pay bands, and those just above. The ratio between the first bar and the subsequent three shows how much pay differentials have narrowed in that sector. Differentials have narrowed the most in office work and childcare occupations, and have grown the most in storage and in security and enforcement. Overall, differentials have narrowed in both low-paying and non-low-paying sectors, but by more in non-low-paying sectors.

Figure 2.14: Growth in hourly pay for workers aged 25 and over, by occupation, UK, 2016-2017



Source: LPC estimates using: ASHE April 2016-2017, standard weights, UK.
Note: Data exclude first year apprentices.

2.110 Overall, there seems to have been some squeezing of pay differentials, but this has been coupled with faster than average growth amongst the bottom 30 per cent of the pay distribution. Pay differentials have decreased in both cash and relative terms, but not in all sectors of the economy. The compression in pay differentials may be more significant when taken over a longer time frame.

Spillovers to workers aged under 25

2.111 While the NLW only applies as a wage floor to workers aged 25 and over, many workers aged under 25 have benefited from the introduction of, and subsequent increase in the NLW. Table 2.5 builds on work undertaken for the previous report that created a 'shadow' NLW for those aged under 25 in 2015, by using the growth in the age relevant minimum wage between 2015 and 2016 to calculate a 'NLW-level' equivalent salary in 2015. The table shows the number in each age group who are paid at least the NLW or its equivalent level in 2015, up to the 30th percentile of workers aged 25 and over to include all those whose pay is influenced by the NLW.

2.112 Table 2.5 shows that the introduction of the NLW captured a large number of jobs filled with workers aged 24 and under into the NLW influence pay levels. While the subsequent uprating in April 2017 had little impact on the numbers of workers aged 16 to 24 in this pay band, these jobs would have experienced a significant increase in pay as a result of the higher NLW.

Table 2.5: Proportion of jobs filled by 16-24 year olds paid at or above the NLW, UK, 2015-2017

	Proportion paid between NLW and 30th percentile (per cent)			Increase (percentage point)	
	2015	2016	2017	2016- 2017	2015-2017
16-17	13	20	20	0	7
18-20	32	42	44	2	13
21-24	37	46	46	-1	9
16-24	33	43	43	0	10

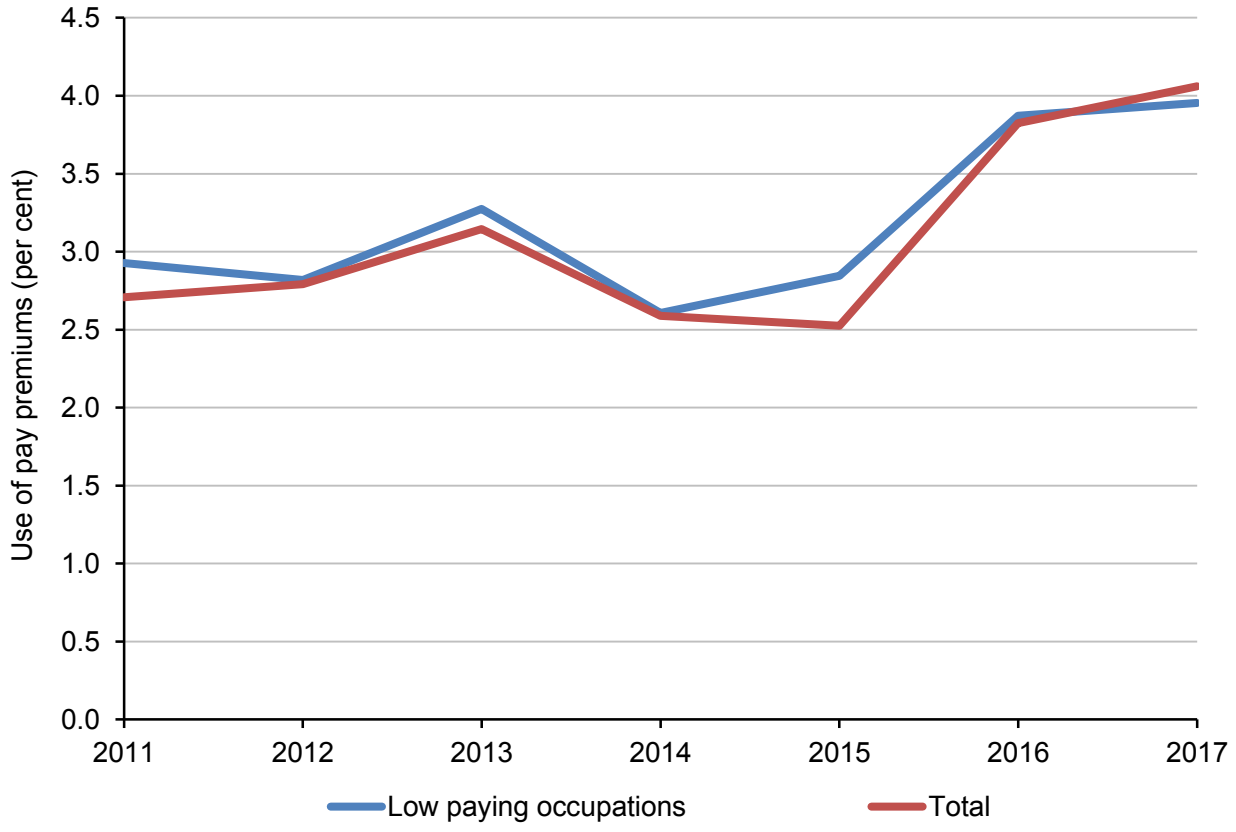
Source: LPC estimates based using: ASHE April 2015-2017, low pay weights, UK.

Pay consolidation

2.113 A common theme in stakeholder evidence, both prior to the introduction of the NLW and subsequently, was that firms would respond to the higher wage floor by changing the overall benefits package offered to employees. This includes both the removal of benefits such as paid breaks and reduced leave and the removal of shift premium, overtime and incentive pay.

2.114 There is limited evidence on the prevalence of benefits, but ASHE includes measure of shift premium and overtime pay. Figure 2.15 shows the use of shift premiums for workers on the NLW, in both low-paying and all sectors. The use of premiums has actually increased post introduction of the NLW.

Figure 2.15: Use of shift premium pay for workers aged 25 and over, paid at or below the NMW/NLW, UK, 2011-2017



Source: LPC estimates using: ASHE 2010 methodology, April 2011-2017, low pay weights, UK.

2.115 We have also looked at the use and level of shift premiums for all employees (not just those paid the NLW) and at other measures of the use and level of overtime pay. We continue to find little evidence of a substantial reduction in either: the use of premium and overtime pay, or in the amount paid in premiums, after the introduction of the NLW. The other axis along which firms may be reducing the amount of shift premium/overtime pay is through offering fewer hours at these higher rates. Firms may also be reducing the use and level of premium/overtime pay amongst newer workers, who are more likely to be under 25, and therefore may not be included in our analysis. In the future, we intend to explore this issue in more detail to identify whether either of these reasons could be causing the disconnect we are seeing between some stakeholder evidence and the data from ASHE.

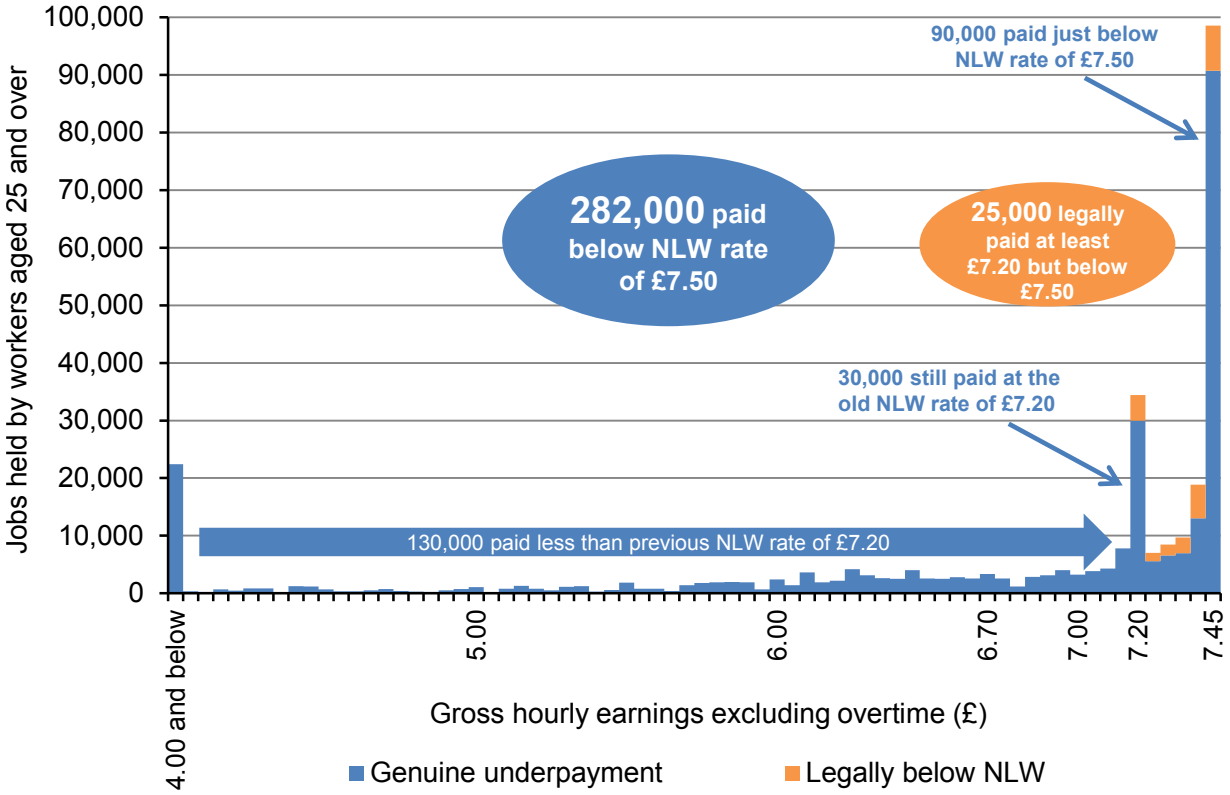
Measured underpayment and non-compliance

2.116 We recently published our report on non-compliance and enforcement of the National Minimum Wage, which looked in detail at the nature and extent of non-compliance, reflecting on the current policy response and making policy recommendations where we deemed appropriate. It commented on the challenge in estimating the number of workers affected by underpayment, highlighting timing issues in the data resulting from a change in our uprating from October to April. We highlighted the implications of the proximity of the ASHE survey date to the April uprating in that report and this continues to be a significant issue when measuring underpayment, as well as coverage, as discussed elsewhere in this chapter.

2.117 Here we concentrate on changes in measured underpayment in April 2017 compared with April 2016. Looking solely at the raw data in 2017 there were 307,000 workers aged 25 or over paid less than £7.50 per hour. This compares with 475,000 at April 2016 not receiving £7.20, and suggests initially a large reduction in underpayment. However, as first highlighted in last year's 2016 Autumn Report, the timing of the ASHE survey during the month of April has implications for this metric. Employers are not legally required to increase pay until the first full pay period after the introduction of the NLW. An ASHE survey date earlier in the month therefore results in a larger volume of workers identified as compliant with the previous rate, but paid below the new rate. In 2016 there were 175,000 in this category, which reduced the level of underpayment to 305,000 (1.3 per cent of employees aged 25 and over) or 19 per cent of coverage if they were excluded. In 2017, the ASHE survey date was later in the month (26 April), meaning that most people had already received a period of pay following the uprating. As a result only around 25,000 were found to be legally paid below £7.50, reducing the level of underpayment to around 280,000 (1.2 per cent of employees aged 25 and over) or 18 per cent of coverage when removed from the data.

2.118 Figure 2.16 displays the hourly pay distribution of those receiving less than £7.50. The blue bars highlight cases of underpayment and show a spike at the old NLW rate of £7.20 where around 30,000 employees were still being paid, with a larger spike just below the current rate of £7.50. The Office for National Statistics (ONS) hasseparately identified that almost 50,000 of those paid just below £7.50 are employees who have a monthly pay period that should have a derived rate of exactly the NLW, but whose actual pay level is slightly different because the employer/payroll provider has calculated the rate based on exactly 52 weeks per year rather than 52.18 (365.25/7). Whilst these cases are likely to be genuine mistakes they are still non-compliance and result in workers receiving less in pay than what they are legally entitled to.

Figure 2.16: Hourly earnings distribution below the NLW, for employees aged 25 and over, UK, 2017



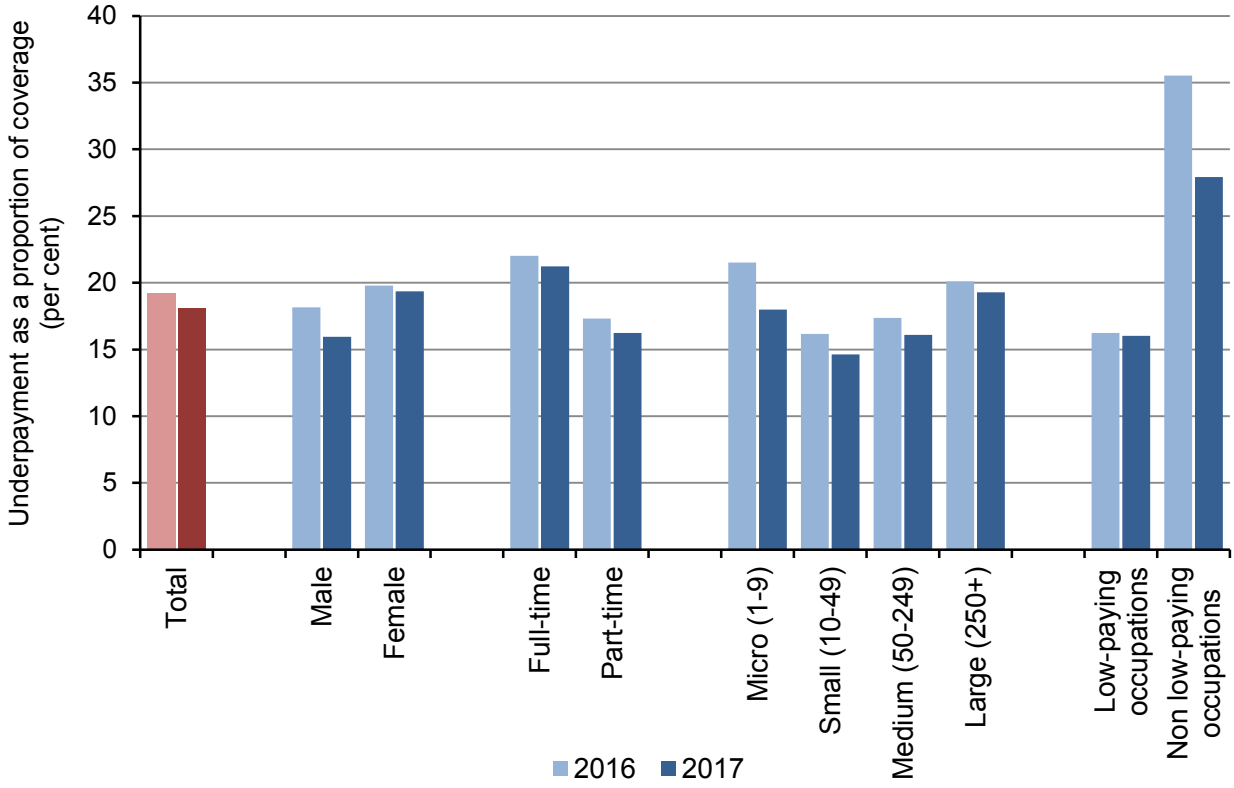
Source: LPC estimates using: ASHE April 2017, low-pay weights and low-pay flag, UK.

2.119 The 25,000 employees legally paid between the two NLW rates are also highlighted. This group are included within our coverage figures for both 2016 and 2017, but the fact that the numbers affected differ so much as a result of the changing ASHE survey date (175,000 in 2016) has implications for our attempts to consistently measure coverage. Also, looking at the spread of this group of employees between the two NLW rates, and taking into account what we know of pay growth towards the bottom of the pay distribution, we would likely expect most of these to move above £7.50 once they received their first pay period post-uprating. Given both the potential for variation in volumes across years and the likely subsequent movement above the latest NLW, we may wish to re-visit how best we use this 'flagged' group when we estimate coverage in future years.

2.120 We highlighted in our 2016 Autumn Report and illustrated in our 2017 report on non-compliance that much of the underpayment observed following an uprating was temporary. Labour Force Survey data showed that underpayment is at its highest in the quarter immediately after the uprating – reflecting both underpayment and some measurement error, before falling in subsequent quarters, suggesting some employers took time to adjust to the introduction of new minimum wage rates.

2.121 Figure 2.17 illustrates the year-on-year change in the numbers of those underpaid as a proportion of coverage across a number of groups and characteristics. The picture is consistent and shows a small fall in 2017 on all measures relative to 2016. However, one concern is that the gap between men and women has widened. While women have fallen from 20 per cent in 2016 to 19 per cent in 2017, they are still both more likely to be in low-paid work and for those who are, more likely to be underpaid than men, for whom the proportion underpaid has dropped from 18 per cent to 16 per cent.

Figure 2.17: Underpayment as a proportion of coverage, for employees aged 25 and over, UK, 2017



Source: LPC estimates using: ASHE April 2016-2017, low pay weights and low pay flag, UK.

Stakeholder views on enforcement and compliance

2.122 In September 2017, we published a report looking at the scale and nature of non-compliance with the minimum wage, and the Government's enforcement regime. In the report, we made several recommendations for measures to improve compliance and enforcement. We incorporated evidence on compliance from stakeholders in the consultation for this 2017 rates report into the non-compliance report, but we have repeated it here.

2.123 We asked stakeholders for their views on compliance with the minimum wage, and the enforcement work of HMRC. Views were mixed, and there was not a sense that non-compliance had increased since the introduction of the NLW. There seemed to be more awareness of HMRC's enforcement activity, with a number of employer organisations saying that firms are worried about naming. Unions generally thought that recent developments were encouraging, but that there is still work to do and some issues require closer attention.

2.124 Several sector representatives called for clearer guidance on NMW regulations, especially around deductions, and consistency in the application of the rules. Social care representatives again asked for clarity and consistency around travel time. The BRC and BHA wanted better information on compliance and enforcement for the retail and hospitality sectors. Others admitted that there is a low level of knowledge regarding the rules (even if firms are aware of the NLW) in their sectors, for example in nurseries. NDNA also called for clarity of information about the rules.

2.125 As mentioned above in relation to the effects of the NLW, salary sacrifice has been a cause of non-compliance, as deductions (for example for nursery staff's childcare) can take workers below the NLW. The CIPP told us that the NLW has increased the administrative burden of maintaining compliance, especially around salary sacrifice.

2.126 Payroll professionals also told us that they think HMRC is too focused on enforcement and should invest more in education and awareness. They agreed with the BHA that guidelines around deductions for uniforms and other equipment are not clear enough, and that the enforcement of these areas is left to the interpretation of the individual investigator.

2.127 Employer groups called for HMRC to use more discretion with naming. NDNA, ALP and NHF thought it should be reserved for 'wilful' or 'deliberate' non-compliance, rather than those making 'small mistakes'. bira agreed that non-compliance is usually the result of 'misunderstandings' and that tough penalties for mistakes may be 'disproportionate'. The Association of Accounting Technicians (AAT) also thought some non-compliance was genuinely accidental, for example payroll errors. AAT also told us that it thought the punishments for such mistakes are unfair given that they do not distinguish from wilful avoidance.

2.128 The REC described naming as 'a blunt instrument that needs to be reformed to allow employers to learn from the mistakes of others'. It and FSB both suggested an approach more like that of the pensions regulator, in which HMRC would issue information about the circumstances of underpayment as an education exercise. In general, though, employer groups seemed more aware than in the past of the Government's enforcement regime.

2.129 The CBI, on the other hand, 'fully supports efforts to raise awareness of the legal responsibilities businesses have… as well as efforts to clamp down on those firms who deliberately flout the law'. It told us that deliberate non-compliance harms legitimate firms. We heard relatively few reports of deliberate non-compliance, but UKFT told us though that non-compliance is still a 'huge issue' in textiles manufacturing, and creates unfair competition. It told us that unscrupulous companies keep two sets of books to hide non-compliance and 'phoenix' if caught, reappearing under a different name.

2.130 Unions had mixed views on the scale of non-compliance and efficacy of HMRC's enforcement. Some, like UNISON, thought that there is 'large scale avoidance' of NMW payment. It was particularly worried about social care and apprentices, and urged HMRC to focus on these areas. GMB agreed that they are areas of concern (and EEF said that manufacturers avoid the Apprentice Rate to minimise risk of non-compliance). In social care, UNISON was worried about firms deliberately using complex pay systems to make it difficult for workers to establish whether they are underpaid and deter complaints.

2.131 Unite told us that exploitation is persistent in warehousing, with agencies still not paying breaks and waiting time before staff leave work. Shulmans LLP employment lawyers also told us about this, and the use of 'umbrella companies' and deductions scams by unscrupulous agencies to avoid paying the minimum wage.

2.132 Others welcomed increased focus on and funding for enforcement, but thought more could be done. The Welsh Government called the increased funding 'a step in the right direction'. The TUC appealed for continued increases in HMRC's budget to tackle more of the non-compliance that

exists. It also argued that the government should guarantee NMW arrears when employers have dissolved in order to avoid their responsibilities. The TUC, like several other organisations (including the CWU), cited the lack of prosecutions as a weakness of HMRC's enforcement of the NMW.

2.133 Organisations and individuals in the creative industries again told us that underpayment of the minimum wage is widespread. Equity's concerns centred on the employment status of workers in the sector. 'Voluntary' work in the industry is still being abused, it says, and workers should be paid at least the NLW. Equity called for sector-specific advice; the LPC has agreed with these arguments and since 2010 recommended that such advice be developed and published by the government.

2.134 The National Council for Voluntary Organisations and Charity Finance Group warned us that there are problems around volunteer status in charities. Employees can find themselves working extra hours as 'volunteers' on top of their contracted hours – a situation that means they should be paid for the extra work.

2.135 The British Grooms' Association described non-compliance in the equestrian sector as 'widespread'. Like in the arts, desire to work in the industry can leave people vulnerable to exploitation, with working beyond contracted hours the norm. In a survey of workers, it found that 89% were aware of the NMW but only 43% said they were paid at or above the applicable rate. The BGA would like to see higher awareness of the NMW in the industry and HMRC to take action to enforce breaches.

The impact of the NLW on employment and hours

2.136 Whilst it is clear that minimum wage policies, including the introduction of the NLW, have helped lower paid workers in recent years through higher wages, what is less clear is how employers have responded to these increased labour costs. In Chapter 1 we considered productivity and prices, two of the options for employers. Another consideration is to limit these increases to the wage bill. This can be undertaken through a range of practices, including changes to pay structures or the wider remuneration package, the use of non-compliance, or by making adjustments to the workforce through the numbers employed or the hours worked. In this section we focus on the impact of the NLW on employment and hours worked.

2.137 Previous econometric research studies, looking at the impacts of the NMW since its introduction in 1999, have concluded in general that there were no adverse employment effects brought about by the NMW or subsequent upratings. However, unlike the NMW, where upratings have been made over the years by the Commission to increase pay for the lowest earners without any detriment to their employment prospects, there was an acknowledgement by the Government that as a result of the NLW there will be 20,000 – 110,000 fewer jobs in the economy than there otherwise would have been.

Labour market data analysis

2.138 In our 2016 Autumn Report we attempted to measure any initial impacts of the National Living Wage using what limited data was available at the time. This year we are able to access all four quarters of Labour Force Survey data post-introduction of the NLW to establish whether there have been any effects on hours and employment to the UK labour market of a minimum wage for

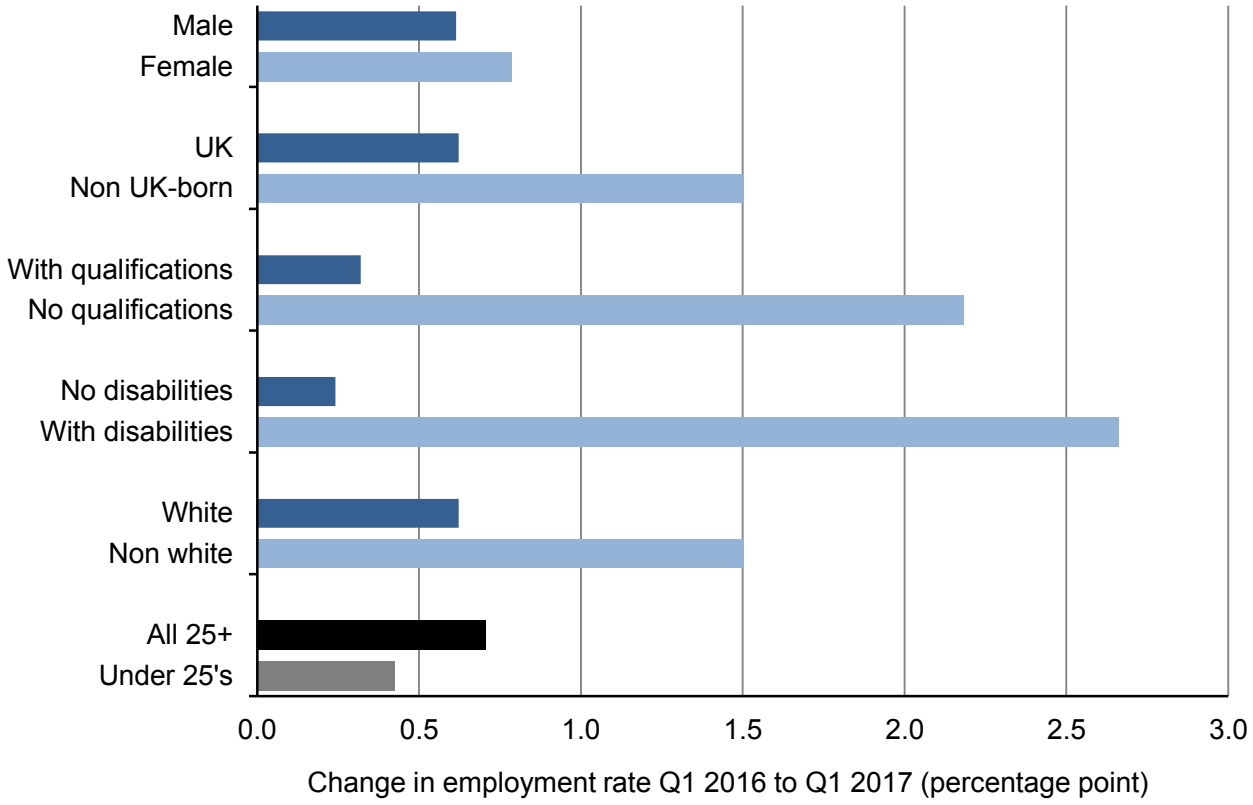
older workers of £7.20. All analysis in this section focuses on data from the first quarter of 2016 to the first quarter of 2017. We do not take account here of the latest available data (second quarter of 2017) covering the first quarter of the £7.50 uprating. This period is used in our examination of the current state of the economy, including the labour market, in Chapter 1.

2.139 In Chapter 1 we looked across a range of labour market indicators covering employment, employee jobs, hours, vacancies and redundancies, and unemployment. We highlighted the continuing story of record employment levels and low unemployment, yet also outlined a slowdown in jobs growth, accompanied by falling real wages.

2.140 We start to examine any initial NLW impacts by considering the employment prospects of certain demographic groups. Women, ethnic minorities, workers with disabilities, those non UK-born, and those without qualifications are all more likely to be paid at the initial rates of the NLW than other workers, with higher coverage and bites. Examining how they have performed in the labour market gives us insights to any potential minimum wage effects.

2.141 Figure 2.18 shows changes in employment rates in the year following the introduction of the NLW. It illustrates how all groups that we identify as being more exposed to the initial rates of the NLW have actually seen stronger employment growth than both their comparators, and all workers aged 25 and over as a whole. These positive labour market outcomes suggest that these groups of workers have suffered no obvious initial impacts from the NLW.

Figure 2.18: Change in employment rates for those aged 25 and over, by worker characteristics, UK, 2016-2017



Source: LPC estimates using: LFS Microdata, population weights, quarterly, four quarter moving average, UK, Q2 2015 to Q1 2017, UK.

2.142 If we extend the analysis for these groups of workers to look additionally at unemployment and inactivity rates we see from Table 2.6 that generally these have decreased at a faster rate for the

more exposed groups than their comparators. This is certainly true looking at unemployment rates where almost all of the most affected NLW groups saw larger decreases than their comparator. Whilst unemployment rates for females fell by less than that of males, we note that their inactivity rates fell by 0.6 percentage points, twice that of their male comparator. Whilst there is less of an overall pattern with inactivity, those with no qualifications and those with disabilities saw their rates fall much faster than that of their comparators, and all those aged 25 and over.

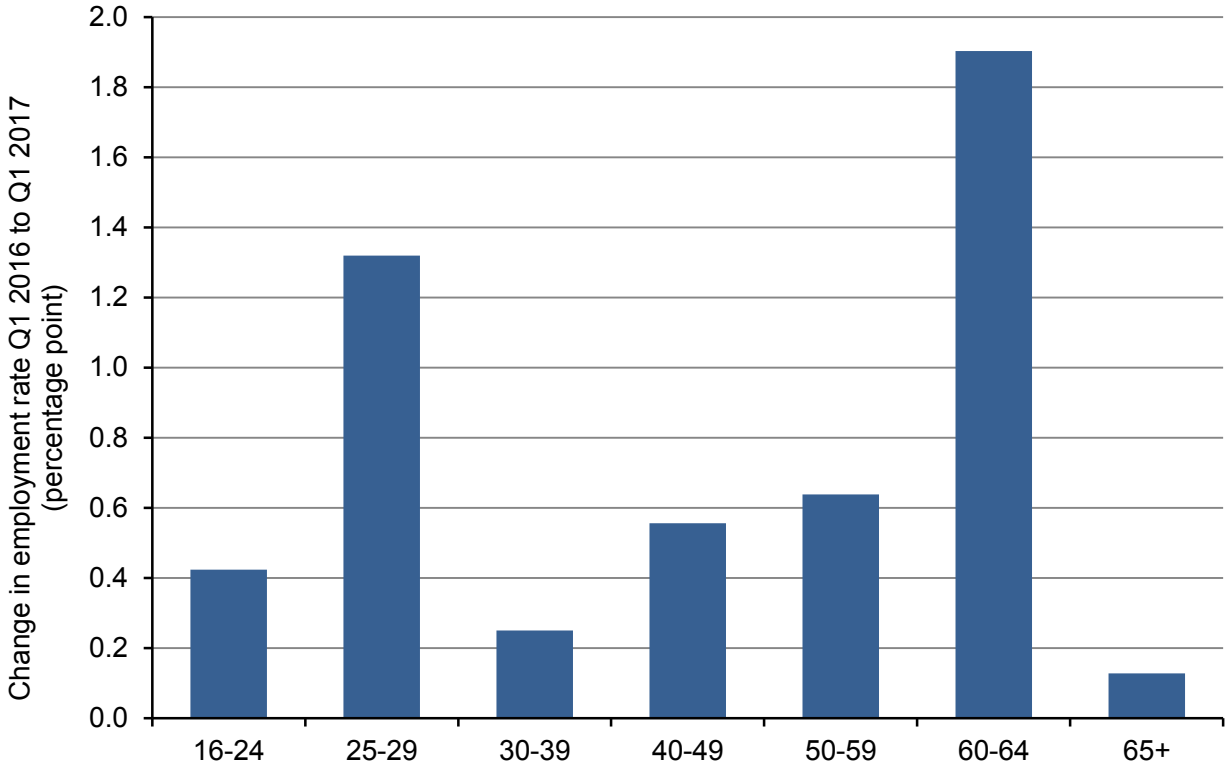
Table 2.6: Change in employment, unemployment and inactivity rates for those aged 25 and over, by worker characteristics, UK, 2016-2017

Characteristic	Employment	Unemployment	Inactivity
	Change 2016 Q1 – 2017 Q1 (percentage point)		
Male	0.6	-0.4	-0.3
Female	0.8	-0.2	-0.6
UK	0.6	-0.2	-0.5
Non UK-born	1.5	-1.2	-0.6
With qualifications	0.3	-0.2	-0.1
No qualifications	2.2	-1.9	-1.3
No disabilities	0.2	-0.3	0.0
With disabilities	2.7	-1.0	-2.4
White	0.6	-0.2	-0.5
Non white	1.5	-1.2	-0.6
All 25+	0.7	-0.3	-0.5
Under 25's	0.4	-1.4	0.5

Source: LPC estimates using: LFS Microdata, population weights, quarterly, four quarter moving average, Q2 2015 to Q1 2017, UK.

2.143 Further analysis of employment rates enables us to consider changes for specific age groups. Two of the groups covering younger and older workers, 25-29 year olds and 60-64 year olds, whom we know are more likely to be in receipt of the NLW than their middle-aged counterparts, performed strongly and observed the highest year-on-year growth in employment, with increases of 1.3 and 1.9 percentage points respectively. However, the group covering workers aged 65 and over saw the lowest growth in their employment rate. This is largely determined by an increase in the population for this age group, specifically those individuals classed as inactive, as opposed to any fall in employment. Indeed employment levels have risen by over 35,000 or 3 per cent across the period, although they remain vulnerable to employer responses to the NLW.

Figure 2.19: Change in employment rates, for those aged 25 and over, by age, UK, 2016-2017

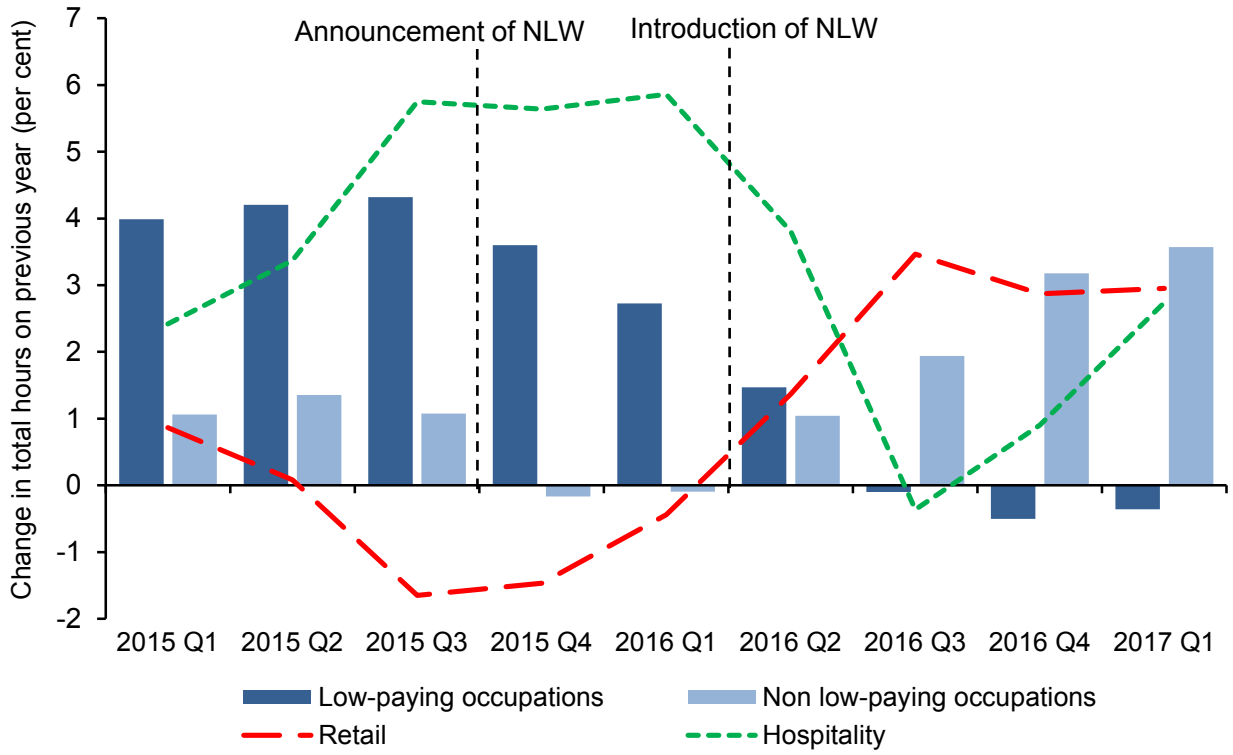


Source: LPC estimates using: LFS Microdata, population weights, quarterly, four quarter moving average, UK, Q2 2015 to Q1 2017, UK.

2.144 In addition to looking at how demographic groups have performed we also examine the impact of the NLW by sector, size of firm, and region. We look at changes in hours, employment and jobs for low-paying sectors, where we find more of a mixed picture.

2.145 Figure 2.20 shows changes in hours worked and compares low-paying occupations with the wider economy before and after the introduction of the NLW. Changing working hours is often a quicker response for employers faced with decisions on how to react to higher wage costs, and so is the first place where effects might be seen. Data show that there has been a clear divergence between the two groups post announcement, with growth in hours gradually resuming for non low-paying occupations, while for those low-paying occupations more likely to experience impacts we see a different picture. Following a period of relatively strong growth prior to the NLW announcement for low-paying occupations, the rate of increase slowed and was followed by successive quarters of falls in hours in the second half of 2016 and into the start of 2017.

Figure 2.20: Change in hours for those aged 25 and over, by low-paying sector, UK, 2015-2017



Source: LPC estimates using: LFS Microdata, population weights, not seasonally adjusted, four quarter rolling average, Q2 2013 to Q1 2017, UK.

2.146 Figure 2.20 also looks at the picture in retail and hospitality – the two sectors employing the most minimum wage workers. Prior to the introduction of the National Living Wage growth in hours between the sectors swiftly diverged, with hospitality witnessing strong growth whilst hours in retail fell. However, since the NLW was introduced and into 2017, hours worked by older workers in retail grew by around 3 per cent. In hospitality the strong growth in hours worked of around 5-6 per cent at the time of the announcement dropped sharply post introduction, falling to zero by quarter 3 2016, before showing some signs of recovery in early 2017.

2.147 Changes in employment growth for older workers in low-paying occupations have followed a similar path to that of hours. We saw growth fall from around 3 per cent at the time of the NLW announcement to zero a year later in the third quarter of 2016, but unlike with hours, there was no recovery in employment by the start of 2017. Across the same period growth in non low-paying occupations remained fairly stable at between 1.2 and 1.7 per cent. As with the growth in hours, there has been variation in employment growth across low-paying occupations, with retail witnessing a stronger recovery across 2016 compared with hospitality.

2.148 Table 2.7 displays the numbers of employees employed across a wider range of low-paying occupations four quarters after the introduction of the NLW, and shows changes in both employment and hours compared with a year previous. At an aggregate level, growth in employment and hours has been flat for low-paying occupations, with moderate growth for non low-paying occupations. As mentioned, it also highlights the degree of variability, both in numbers of employees and the changes observed, with no apparent pattern across occupations. Increases in both hours and employment have been seen in childcare, cleaning and maintenance, hospitality, leisure, non-food processing, retail and textiles according to LFS data. On the other hand, low-paying jobs

in agriculture, call centres, hair and beauty, office work, social care, storage and transport have experienced falls in the year following the introduction of the NLW.

Table 2.7: Change in levels of employment and total hours, for employees aged 25 and over, by low-paying occupations, UK, 2016-2017

Occupation	Number of employees 000s	Change on previous year (per cent)	
		Employment	Hours
Agriculture	131	-1.9	-2.8
Call centres	97	-6.9	-5.1
Childcare	283	2.4	0.2
Cleaning and maintenance	654	0.4	3.3
Food processing	305	1.0	-0.5
Hair and beauty	65	-29.4	-31.1
Hospitality	721	0.6	2.7
Leisure	164	4.5	6.5
Non-food processing	358	4.0	5.3
Office work	407	-12.5	-14.1
Retail	1,328	3.3	3.0
Security and enforcement	175	0.3	-6.8
Social care	694	-0.4	-0.8
Storage	334	-1.2	-0.4
Textiles	43	9.1	11.0
Transport	341	-1.8	-1.9
Low-paying occupations	6,100	-0.4	-0.4
Non low-paying occupations	16,308	1.7	3.6
Total	22,407	1.1	2.6

Source: LPC estimates using: LFS Microdata, population weights, not seasonally adjusted, four quarter rolling average Q2 2015 to Q1 2017, UK.
Note: Totals may not sum due to rounding.

2.149 Table 2.8 uses a different measure, looking at the number of employee jobs found in different industry sectors. The data is a quarterly snapshot of workforce jobs taken largely from employer surveys. Comparisons are against the same quarter in previous years, meaning large movements in any individual quarter can affect results.

2.150 The table shows strongest growth in employee jobs within NLW-exposed sectors came from hospitality (over 50,000 jobs), leisure, travel and sport, and hairdressing. There were small falls in the number of jobs across a number of industries including cleaning, agriculture, textiles and residential care. The largest reduction was in domiciliary care and childcare, which was down by 16,000 jobs.

Table 2.8: Change in employee jobs, for employees aged 25 and over, by low-paying industry, GB, 2015-2017

	March 2017	Change on March 2016		Change on March 2015	
	000s	000s	%	000s	%
Consumer services	6,230	105	1.7	212	3.5
Retail	3,420	10	0.3	56	1.7
Retail (excluding motor)	2,847	-29	-1.0	-14	-0.5
Hospitality	2,112	58	2.8	107	5.3
Leisure, travel and sport	544	21	4.0	41	8.2
Hairdressing	154	16	11.6	8	5.5
Business-to-business	1,481	-2	-0.1	19	1.3
Cleaning	734	-4	-0.5	11	1.5
Employment agencies	747	2	0.3	8	1.1
Trade	625	-3	-0.5	16	2.6
Food processing	363	4	1.1	16	4.6
Agriculture	184	-1	-0.5	8	4.5
Textiles, clothing	78	-6	-7.1	-8	-9.3
Government-funded	1,651	-21	-1.3	31	1.9
Residential care	696	-5	-0.7	-3	-0.4
Domiciliary care/childcare	955	-16	-1.6	34	3.7
Low-paying industries	9,987	79	0.8	278	2.9
Non low-paying industries	19,340	330	1.7	633	3.4
Total	29,327	409	1.4	911	3.2

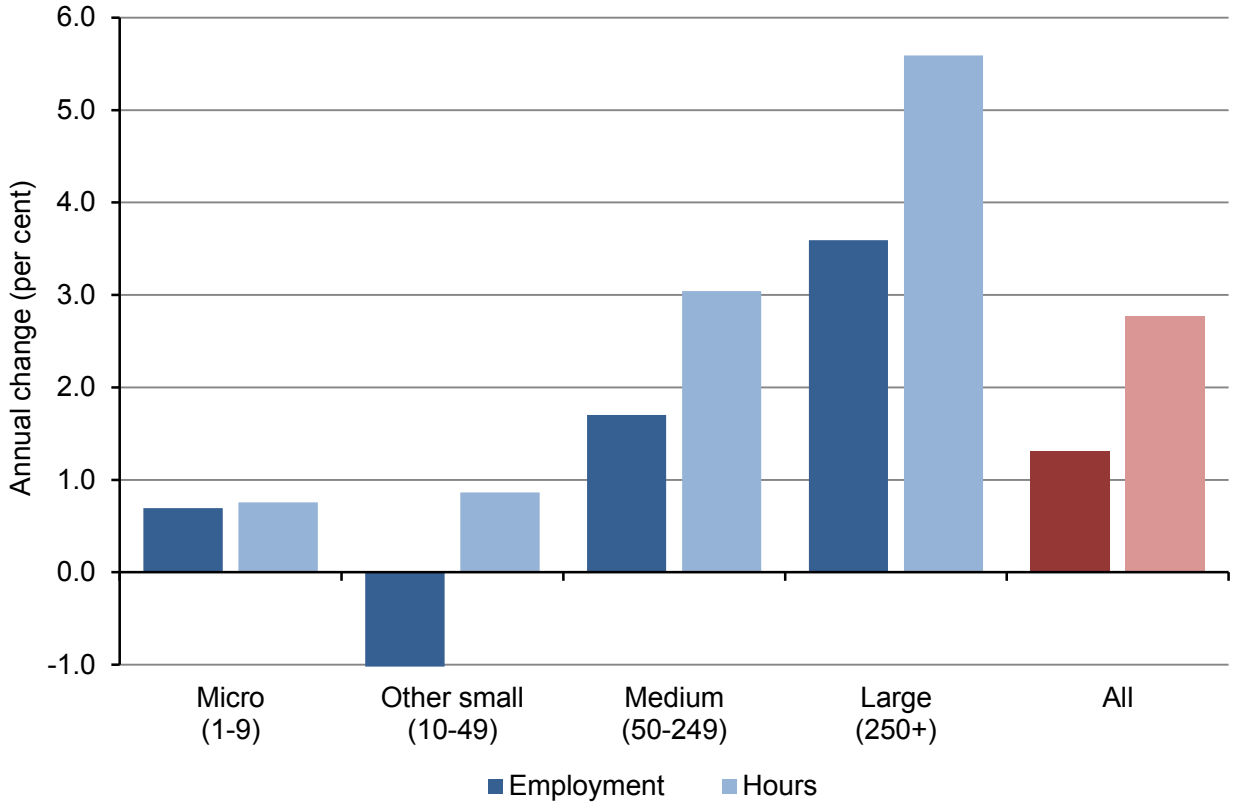
Source: LPC estimates using ONS employee jobs series, three-monthly, not seasonally adjusted, 2015-2017, GB.
Note: Totals may not sum due to rounding.

2.151 Call centres and office work both a saw a weakening labour market position across both datasets with hours and employment down whilst leisure and hospitality saw improvements across all three measures. The position in hairdressing and textiles is less clear with the two data sources appearing to show contrasting results. If however we look at the employee job data on a rolling four-quarter basis (as we do with the LFS data), we observe a fall in hairdressing jobs and a rise in textiles, in line with that seen from LFS data in Table 2.7. This smoothing effect has the advantage of reducing any noise in the data, which is more noticeable in smaller sectors: hairdressing and textiles are the two smallest low-paying sectors.

2.152 At an aggregate level both LFS and employee jobs data show there has been slower growth in low-paying sectors compared with their non low-paying counterparts. It is difficult to say at this time to what extent these changes in hours, employment and jobs are directly attributable to the NLW.

2.153 Figure 2.21 shows the change in total hours worked and the change in employment by workplace size for all those aged 25 and over. We look at this as we have already shown that small and micro firms have a higher coverage of the NLW and are therefore more susceptible to any increases in minimum wages. In the period post-NLW, employment growth and hours worked were clearly weaker in these smaller workplaces at below 1 per cent. Medium and larger-sized workplaces saw stronger growth, with employment increasing by over 3 per cent and hours worked rising by over 5 per cent in large workplaces. We note, however, that Labour Force Survey data is collected on a workplace basis, not at the firm level. Therefore, larger firms employing staff across multiple locations at lower levels e.g. local supermarket branches may be included in the data as smaller workplaces.

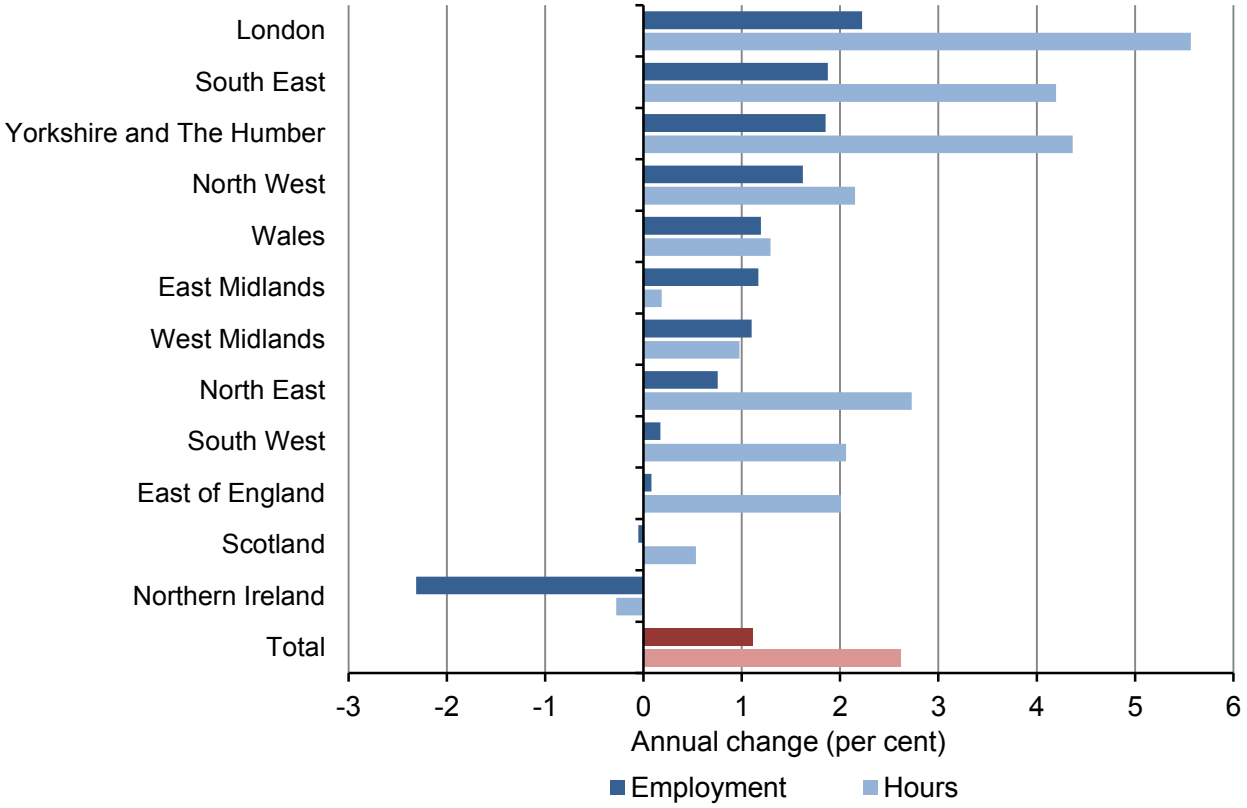
Figure 2.21: Change in employment and hours for those aged 25 and over, by workplace size, UK, 2016-2017



Source: LPC estimates using: LFS Microdata, population weights, not seasonally adjusted, four quarter rolling average Q2 2015 to Q1 2017, UK.

2.154 Having already established earlier in this chapter how the relative value of the NLW varies across the UK, we conclude this section by considering whether similar regional variation exists when looking at employment and hours. Figure 2.22 shows the annual change in employment levels and hours worked by region and nation for employees aged 25 and over. While most regions saw some growth in employment and hours, it was strongest in London and the South East, both regions with low bites in the NLW. Yet we also saw robust growth in Yorkshire and the Humber, Wales, the North East, the North West, East Midlands and West Midlands, regions that experience a much higher bite.

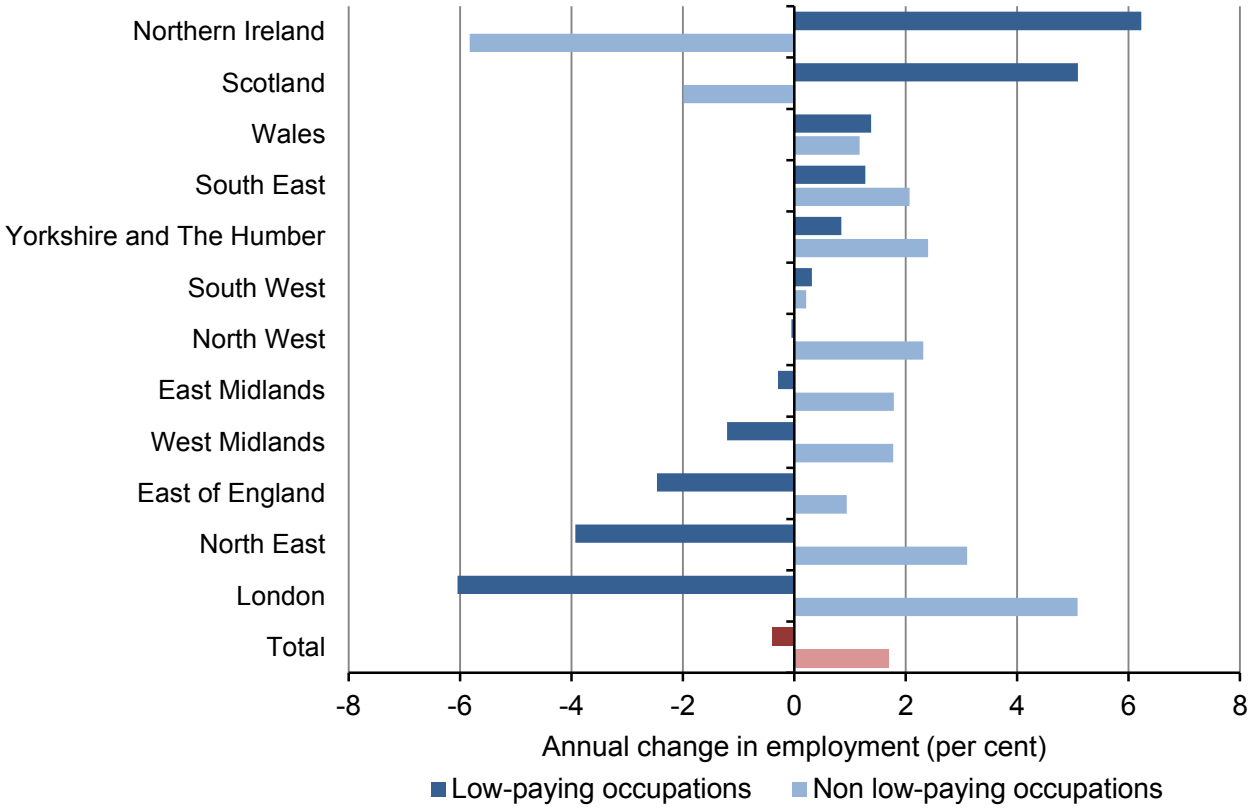
Figure 2.22: Change in employment and hours for those aged 25 and over, by region and nation, UK, 2016-2017



Source: LPC estimates using: LFS Microdata, population weights, not seasonally adjusted, four quarter rolling average Q2 2015 to Q1 2017, UK.

2.155 If we compare regional employment growth of low-paying occupations with non low-paying occupations as shown in Figure 2.23, the picture is less clear. Northern Ireland and Scotland, with flat and falling overall employment respectively, saw the strongest growth in low-paying occupations. Conversely London, with strong growth overall, saw a fall in employment in low-paying occupations. The South East, Yorkshire and the Humber, and the South West were the only regions and Wales the only nation to see positive growth in both low-paying and non low-paying occupations in the year following the introduction of the NLW.

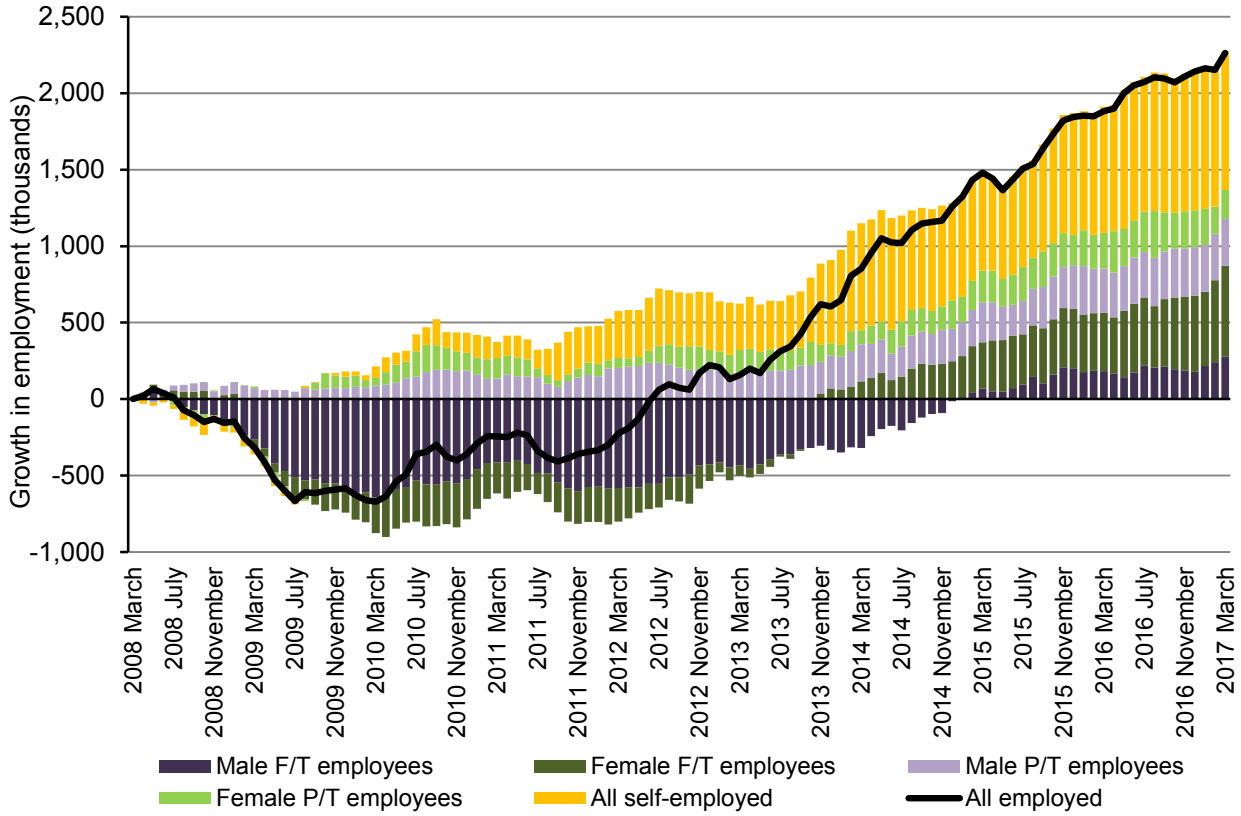
Figure 2.23: Change in employment for those aged 25 and over, by low-paying occupations, region and nation, UK, 2016-2017



Source: LPC estimates using: LFS Microdata, population weights, not seasonally adjusted, four quarter rolling average Q2 2015 to Q1 2017, UK.

2.156 One final consideration we make on the impact of the introduction of the NLW is to look at the changing picture of self-employment. Figure 2.24 looks at where growth has been in the labour market in the last decade and highlights the extent to which much of the post-recession recovery was driven by self-employment. Of the additional 2.3 million people employed since March 2008, around 900,000 or 40 per cent were self-employed. This resulted in the proportion of self-employment within the whole economy increasing from 13.1 per cent to 15.0 per cent, although this increase appears to have abated over the last twelve months. In recent years however, we have also seen strong, continuing growth in full-time employment, especially for females, which are now ahead of their pre-recession levels.

Figure 2.24 Growth in employment, UK, 2008-2017



Source: LPC estimates using ONS data: total number of people in employment (MGRZ); full-time female employees (YCBM); full-time male employees (YCBL); part-time female employees (YCBP); part-time male employees (YCBO);and total self-employed (MGRQ), monthly, seasonally adjusted, March 2008-17.

2.157 The proportion of self-employment varies widely across low-paying sectors with some sectors employing very small proportions (e.g. food processing and social care) whilst others (e.g. hairdressing and agriculture) have much larger proportions, where around half of all workers are self-employed. However, there do not appear to have been any significant changes in the proportions of self-employment across low-paying sectors following the introduction of the NLW. This suggests that increases in self-employment have not been at the expense of employees from low-paying sectors.

2.158 A year after the National Living Wage was introduced it is still early to say with any degree of certainty that the changes observed in hours and employment are a direct result of the NLW. Growth in employment for low-paying occupations is slower than for the wider economy, but longer trend data show that they do not always follow one another. Smaller workplaces that are more exposed to costs arising from the NLW, have also seen slower employment growth. However, the data across sectors and regions is more mixed. We will continue to observe trends in these areas to see if stronger evidence of impacts emerges.

2.159 Preliminary econometric analysis for the LPC used geographical variation to examine the impact of the introduction of the NLW and its subsequent uprating on employment, self-employment and youth employment. The analysis uses the differential impact of the NLW across the 218 Travel to Work Areas (TTWA) in Great Britain that arises due to the different levels of low pay in these areas. Measures of the employment, self-employment and youth employment rates are calculated from the LFS for each quarter up to the second quarter of 2017. Those TTWAs where the NLW has the highest impact (as measured by the bite relative to median wages) tend to show a reduction in employment relative to low impact TTWAs. The results on overall employment are not particularly robust and in most specifications are not statistically significant. However, there is some more robust evidence that self-employment rates have increased in low-wage areas. There was little evidence of any substitution between older and younger workers and no evidence that hours have changed in response to the NLW. This research is currently provisional and will investigate these issues further as more data becomes available.

Impact on competitiveness

2.160 As well as through changing pay, employment and hours, firms could moderate the impact of the minimum wage on their business through increasing prices, decreasing profits, or through increasing productivity. The most common effect of the NLW on stakeholders we spoke to was a reduction in their profits. Price increases were the next most popular response, but, we heard, they have not always been possible in price-taking or highly competitive sectors. Businesses also reported that the NLW has affected investment, though in different ways depending on the size of the firm. Large businesses were more likely to have invested in automation to improve productivity, while due to rising costs, small business representatives told us that SMEs have delayed investment.

2.161 The figures shown in Table 2.9 suggest that prices (as measured by both CPI and RPI) increased slightly faster in low-paying sectors relative to general prices in the period after the introduction of the NMW than in the periods either side. This provides some evidence to suggest that firms are passing on at least part of the cost of the increase in the NLW to consumers. However, the pattern did not seem to have been repeated in the period covering the uprating to £7.50. Moreover, the data period covering the introduction of the NMW overlaps with the EU Referendum result, which may have influenced the changes in prices seen in this period.

Table 2.9: Price inflation for selected goods and services, UK, 2014-2017

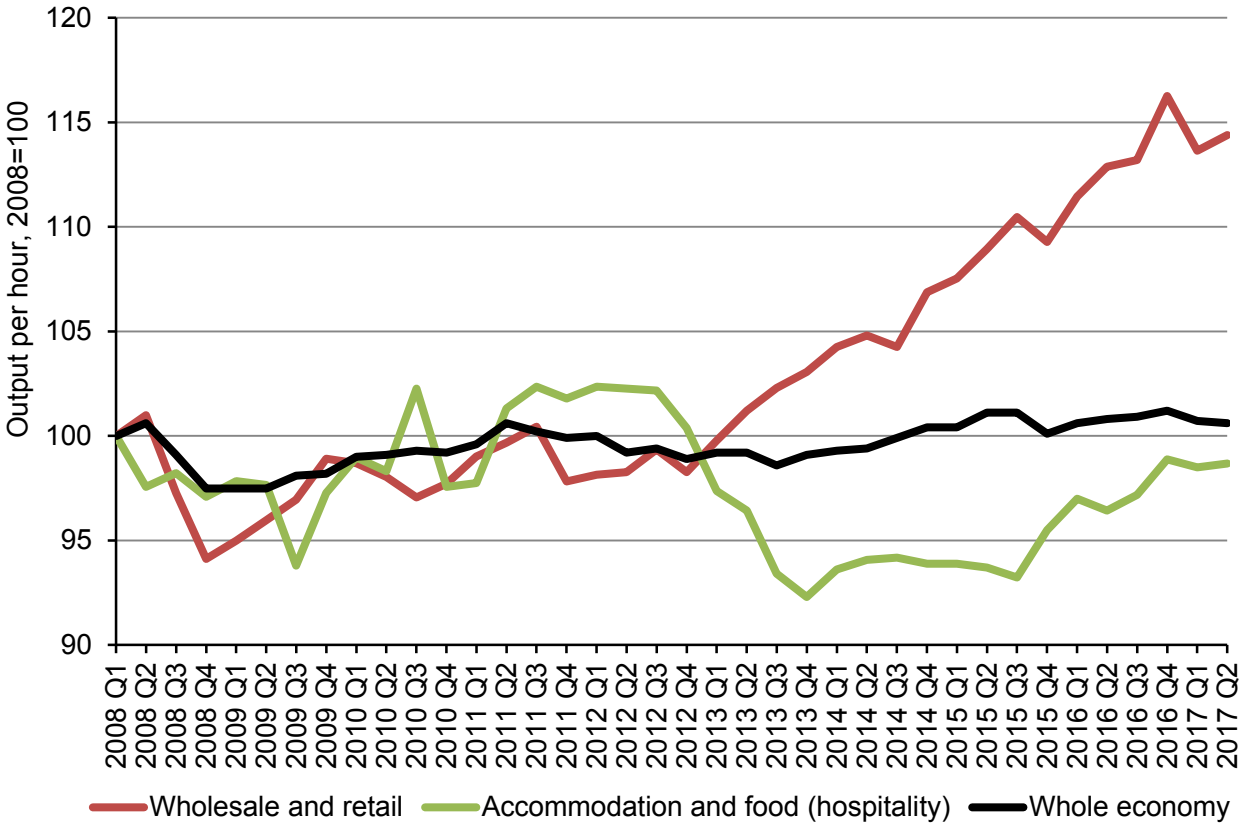
	Index	Quarter 2			Quarter 3		
		2014-2015	2015-2016	2016-2017	2014-2015	2015-2016	2016-2017
CPI	All items	0.0	0.3	2.8	0.0	0.8	2.8
	Restaurants and cafes	1.8	2.2	2.9	1.6	2.4	2.9
	Canteens	-1.0	1.4	1.7	-1.1	1.6	1.3
	Cleaning, repair and hire of clothing	2.6	2.2	2.3	2.1	2.4	2.3
	Domestic and household services	3.0	3.7	2.3	3.5	3.3	2.3
	Hairdressing	1.7	2.0	2.1	1.9	2.2	2.1
RPI	All items	1.0	1.4	3.5	0.9	1.9	3.8
	All items exc. mortgage interest payments	1.0	1.6	3.8	1.0	2.0	4.0
	Restaurant meals	1.7	2.2	2.7	1.4	2.4	2.9
	Canteen meals	-0.8	1.5	2.0	-0.8	1.7	1.5
	Take-aways and snacks	2.2	1.9	3.2	1.9	2.0	3.3
	Beer on sales	1.9	2.2	2.7	1.7	2.3	2.7
	Wine and spirits on sales	2.2	3.0	3.4	2.2	3.1	3.7
	Domestic services	3.2	3.1	3.2	3.4	3.1	3.2
	Personal services	2.1	3.1	2.7	2.0	3.3	2.8
SPPI	Net sector	0.5	1.4	0.8	0.3	1.6	
	Hotels	-3.6	-0.6	3.3	-2.7	1.6	
	Canteens and catering	1.9	1.0	-1.9	1.3	2.5	
	Employment agencies	-0.3	-1.0	0.0	-0.8	0.5	
	Industrial cleaning	-0.9	1.7	3.8	-0.1	1.3	
	Commercial washing and dry cleaning	1.1	2.9	-4.9	1.2	2.8	

Source: LPC estimates based on ONS data: CPI all items (D7BT); restaurants and cafes (D7EW); canteens (D7EX); dry-cleaning, repair and hire of clothing (D7DM); domestic services and household services (D7E6); hairdressing and personal grooming establishments (D7EY); RPI all items (CHAW); restaurant meals (DOBE); canteen meals (DOBF); take-aways and snacks (DOBG); beer on sales (DOBI); wine and spirits on sales (DOBL); domestic services (DOCI); personal services (DOCR); SPPI aggregate net sector SIC 2003 basis (I5RX) and SIC 2007 basis (K8ZW); hotels (K8TE); canteens and catering (K8TP); employment agencies (K8XZ); industrial cleaning (K8YQ); commercial washing and dry cleaning (K8ZM), quarterly, not seasonally adjusted, UK, Q2 2014 – Q3 2017.

2.162 The 2016 Longitudinal Small Business Survey (BEIS, 2017a) questioned almost 6,900 SMEs, to identify whether any of eleven issues from a set list would represent a 'major obstacle to the success to their business'. The NLW was included in this list and was identified by 17 per cent of firms, making it the eighth most commonly cited issue. The NLW was cited by 27 per cent of medium sized firms (50-249 employees), but only by 15 per cent of micro firms (1-9 employees). The NLW was most commonly cited by SMEs in the accommodation and food, and the retail/wholesale sectors. While 54 per cent of SMEs said that a NLW of £9 an hour would not have an impact on their wage bill, 21 per cent said that the then current rate of £7.20 an hour had made an impact on their wage bill. At all wage levels smaller firms were less likely to identify the NLW having an impact, perhaps reflecting the likelihood of these firms employing someone on the NLW. The patterns found in the survey were generally consisted with those stakeholders reported based on surveys of their own.

2.163 As discussed in Chapter 1, productivity has been reasonably flat in the UK since the 2008 crisis. Here we look at productivity in the two largest low-paying sectors, retail (as part of wholesale and retail) and hospitality (as accommodation and food). There is a mixed picture in these industries with productivity in wholesale and retail up by almost 15 per cent from 2008, while productivity in the accommodation and food sector has been flat. Productivity growth in the sectors started to diverge in 2013, when levels were similar to those seen in 2008. Productivity in wholesale and retail rose fairly quickly from that point, whereas productivity in accommodation and food fell. However, from the third quarter of 2015 to the fourth quarter of 2016, productivity grew at a similar rate to retail. While the productivity increase in wholesale and retail pre-existed the announcement of the NLW in July 2015, the increase in the accommodation and food sector started around the time of the announcement, so this could be a response to the NLW. However, more work would need to be undertaken to causally link the two.

Figure 2.25: Productivity for whole economy, retail and hospitality, UK, 2008-2017



Source: LPC estimates using ONS data (output per hour): whole economy (LZVB), accommodation and food services (DJR2), and wholesale and retail services (DJQ4), quarterly, seasonally adjusted, UK, Q1 2008-Q2 2017.

2.164 Chapter 1 examined the latest evidence on profits and insolvencies in the UK. The next few paragraphs simply summarise the findings. While we are currently lacking data broken down by sector and firm size from after the introduction of the NLW (which would enable us to identify the changes in profits in sectors most affected by the NLW), we can take a look at more aggregated data. Gross operating surpluses have grown in the last few quarters, after falling during 2016. Surpluses in services have been falling since the third quarter of 2016. Profits as a proportion of GDP have remained reasonably flat since the introduction of the NLW.

2.165 We have looked at how insolvencies have changed since the introduction of the NLW. Provisional data suggest that the number of insolvencies in low-paying sectors ticked up slightly after the second quarter of 2016. However, the change is in the range of those seen since 2010, and the number of insolvencies in the first quarter of 2016 was the lowest seen in low-paying sectors since 2010. On an industrial level, of the largest low-paying sectors, all saw slight increases in the number of firms entering insolvency, but all within recent historic variations, after the introduction of the NLW. Social care insolvencies remained at similar, though slightly higher, level to the average seen in 2015. We are currently lacking data on business births and deaths by sector covering post introduction of the NLW.

2.166 Contrary to previous estimations, new data from ONS indicates that investment has been growing, albeit slowly, in recent years. Business investment is not much higher than the level seen before the 2008 crisis. UK productivity has been reasonable flat in the last few years, with little difference between high minimum wage sectors and the rest of the economy. Productivity has been growing faster in retail, but slower in hospitality than the economy as a whole.

Research findings on the impact of the NLW

2.167 It will take time for econometric analysis to be able to assess properly the impact of the NLW. Nonetheless, we commissioned some early studies into the effects of its introduction as part of a range of research over the last twelve months. The research also looked at historic impacts of the NMW. The following section covers the research we commissioned in 2017, focused on the impact of the NLW and other research that we identified to be relevant in deciding on the setting of minimum wages.

2.168 Incomes Data Research (IDR, 2017a) surveyed 120 large and medium-sized employers, across all low-paying sectors, and then followed this up with ten in-depth studies. They found substantial impact from the NLW on pay structures at the firms. The survey responses on the impact of the April 2017 uprating of the NLW included: the squeezing of pay differentials to supervisory staff; the merging of lower grades; the removal of starter rates; and a spread of age-related pay (to utilise the lower minimum wages for younger workers). On the other hand, major supermarkets – who employ a large proportion of staff in the retail sector – continue not to use age-related pay. Furthermore, only a few firms reported that they had changed their wider pay package. The sector that reported being most affected was the wider retail sector. Firms reported limited employment adjustments in response to the NLW, but some did report a reduction in hours. Firms most commonly reported that in response to the NLW they had raised prices, reduced profits and/or sought productivity enhancements. Survey responses suggested that to raise productivity firms had reorganised roles and responsibilities, provided staff with extra training, and aimed to upskill staff.

2.169 Aitken, Dolton, Ebell and Riley (2017) have provided provisional results at the mid-point of a two-year project to analyse the impact of the NLW, using the ASHE and LFS datasets. Its interim findings are that the NLW led to real wage increases for the lowest paid, and that there is no conclusive evidence of an impact of the introduction of the NLW on employment retention. Using the ASHE dataset there is some evidence of negative effects on employment retention for full-time men and full-time women, but these were not robust to placebo effects. It also found that with the exception of female part-timers, retained workers increased hours after the NLW, the effect being

especially strong for male part-time workers. In checking its results using the LFS, the authors found no significant effects on employment retention, with the exception of some specifications focused on part-time workers. Similarly, the hours effects seen in the ASHE dataset are also muted, but can be found for female part-timers. The findings are only at a provisional level currently, and we will include the final outcomes from the research in our next report.

2.170 McGuinness, McVicar and Park (2017) examined the effect of the NMW and NLW on employment retention and hours worked using the differences in minimum wages across the border between Northern Ireland and the Republic of Ireland. The report found a small significant decrease in the employment rate of 22-59/64 year olds in Northern Ireland, of up to 2 percentage points, following the introduction of the NMW in 1999. However, given the other changes occurring at the time – such as the appreciation of sterling relative to the euro during 1999 or the relatively faster economic growth in the Republic of Ireland – it is difficult to identify the NMW as a cause of this difference. No employment effects were found for the period covering the introduction of the NLW in 2016 – although again the sterling depreciation at this time following the EU Referendum could have obscured any impact of the NLW. No impact on hours was found in either 1999 or 2016.

2.171 Lordan (2017) examined the interaction between minimum wages in the UK and the automation and offshoring of employment. The study built on previous recent work from the United States (US) – Lordan and Neumark (2017) – which had found significant effects of minimum wages on automation. The study found that minimum wage increases are followed by decreases in the shares of offshorable and automatable employment, but on aggregate, these effects are modest though slightly larger in manufacturing. There was also a modest effect on hours. For both of these measures, effects were larger for low-skilled and older males and black workers. These effects are smaller than those found in the US, but the falling cost of technology and of Research and Development may lead to these effects becoming larger over time.

2.172 Further studies have looked at non-compliance amongst small migrant-owned firms and the use of non-standard contracts. Edwards, Meardi and Ram (2017) used a number of case studies to examine how small, informal sector firms operate in respect of non-compliance. Background context was important as employment practices are deeply embedded, with firms who complied with the previous NMW complying with the NLW. For the many firms who do not comply, the boundary of compliance is blurred with some workers on the NLW but others – helpers – often working for cash at a level less than the NLW.

2.173 Antunes, Moore, Newsome, Tailby and White (2017) carried out a qualitative study using in-depth interviews with workers on non-standard contracts. For workers on zero hour and short hour contracts, there was a commonplace expectation by employers that workers are always on-call, with contracted hours bearing little relation to actual hours worked and there were changes to hours often at short notice. Workers on these types of contracts were constantly insecure. For the self-employed, there were elements of dependence, which would qualify workers for employee status, and limited control over working time. There was a perception that employers have reduced hours and premia, or increased use of younger workers, to manage the NLW. They have also squeezed wage differentials, reducing the incentive to take on supervisory positions.

Conclusion

2.174 The introduction of the NLW in April 2016 was a significant increase in the wage floor, raising the minimum wage by the joint largest amount ever. The uprating to £7.50 in April 2017 was more modest, but still much faster than average wage growth. This chapter has discussed the evidence of the impact of both the introduction, and subsequent uprating, through examining stakeholder evidence, earnings and employment data, as well as limited data on prices and business insolvencies.

2.175 The NLW again meant above-average pay rises for the lowest-paid workers, meaning added cost for a large number of businesses. Survey data suggest that the same set of firms that were affected by the introduction again saw their wage bills increase. Most stakeholders, however, expressed their support for raising the wage floor and for fair pay in general.

2.176 Compared with last year, businesses and employer representatives we received evidence from were less worried about the effects of the NLW. The fact that the NLW has risen at a slower rate than was projected when the policy was announced has helped, we heard. However, some firms are still struggling to accommodate the increased cost, with convenience, hair and beauty, and social care the most concerned sectors. Nevertheless, we heard few reports of significant employment effects. Across all sectors, including those listed above, redundancies do not seem to have been widespread. Instead, employment effects have usually been in the form of hours reductions and slowed hiring. Consolidation and changes in the composition of sectors also mean that job loss may not be reflected in aggregate employment levels.

2.177 The most common responses to the introduction and increase in the NLW are consistent with what we heard last year. Profits have been hit, and businesses have raised prices where possible. Across a range of sectors, businesses told us that the NLW has created issues around differentials. This is borne out by our analysis of labour market data on pay increases in the bottom third of the pay distribution. Some stakeholders and media reports have suggested that firms will reduce overall benefit packages to mitigate the cost of the NLW. However, the evidence from stakeholders is mixed and it is a long-term trend, with no clear evidence of an acceleration since the introduction of the NLW.

2.178 The CBI described the main challenge of the NLW as 'sustainability'. It told us it was concerned about the cumulative effect of large increases in the wage floor at the same time as other government policy decisions are driving up the cost of employment. It was therefore cautious about the ability of firms to continue to manage rising wage bills. We heard from a variety of stakeholders that businesses might not be able to carry on with the same responses we have seen so far. In Chapter 5 we set out the effects which stakeholders anticipate the rise to 60% of median earnings will have.

2.179 The data suggest that the NLW uplift resulted in a large increase in earnings, both to those paid at the minimum and to those paid above it. The bite of the NLW increased, while coverage remained fairly constant.

2.180 The bite of the NLW was 57.6 per cent in April 2017, a sizeable increase from the bite of 56.4 per cent in April 2016. We estimate that the bite was 56.9 per cent in October 2017 at the mid-year point (as median wages grow throughout the year). This is up from an estimate of 55.8 per cent in October 2016. The UK bite disguises regional variation, with bites above 60 per cent in the regions, apart from Scotland, the East of England, the South East and London. The bite is higher in smaller firms, and in low-paying sectors with bites above 70 per cent in micro firms, and all over 75 per cent in all low-paying sectors.

2.181 Coverage is relatively flat. In April 2017 there were around 1.6 million jobs filled by workers aged 25 and over that were paid at, or below, the NLW. This is the same as the figure for last year. This is equivalent to 6.4 per cent of jobs in 2017, slightly lower than the 6.7 per cent figure in April 2016. However, due to issues with the data collection window, it is possible that the total in April 2016 was slightly inflated, which limits our ability to read too much into the small movement.

2.182 Between April 2016 and April 2017 pay growth was larger at the bottom and very top of the pay distribution. The relatively higher increases in hourly pay seen at the bottom of the pay distribution appear to indicate that the uplifting of the NLW led to spillover effects on wages. These ripple effects seem to have reached up to around the 30th percentile of wages. Our analysis indicates that employers aimed to keep pay differentials for those earning just above the NLW fairly constant, with pay increases of 30 pence for those in the 7th to 12th percentiles (who earn about 50 pence more than the NLW). However, beyond that point differentials were squeezed, both in absolute and relative terms. The amount that wage differentials changed varied across low-paying sectors, with the largest falls in office work and childcare, but growing differentials in call centres, storage, and security and enforcement. Our analysis suggests that on average, NLW jobs did not experience a fall in the use or amounts of overtime or shift premium pay.

2.183 Measured underpayment fell slightly from 305,000 or 19 per cent of coverage in 2016, to 282,000 or 18 per cent of coverage in 2017. Falls were observed across a range of groups and characteristics. However, data issues remain around the timing of the ASHE survey and the implications this has for accurately measuring both underpayment and coverage. Stakeholders generally welcomed increased funding for enforcement of the NMW. Businesses appear to be more aware of the policy and the Government's enforcement regime, and some expressed concern about the use of naming as a punishment for genuine errors. Unions thought that HMRC could do more, especially in the social care sector. The evidence we received from stakeholders on compliance and enforcement was taken into account in the report we published in September on the subject. In this report we considered the scale and nature of non-compliance, and specific recommendations to improve the situation.

2.184 The data does not suggest that employment or hours worked have been adversely affected by the introduction of the NLW. We see increasing employment and lower unemployment for workers with characteristics associated with higher NLW bite and coverage. Employment growth has been slower or flat for low-paying industries and occupations, but this has been balanced by increases in non low-paying sectors. The data suggest that some sectors – social care, hair and beauty, and office work have seen a less positive change. There is no clear regional pattern in employment changes.

2.185 Inflation appears to have increased slightly more rapidly, around the time of the introduction of the NLW, for those goods more likely to have minimum wage workers as an input. However, given the other changes occurring at this time, which could have had an impact on prices, the amount we can read into this is limited. The pattern does not appear to have been repeated at the time of the 2017 uprating.

2.186 Provisional data suggest that the number of insolvencies in low-paying sectors ticked up slightly after the introduction of the NLW. However, the change is in the range of those seen previously. The largest low-paying sectors similarly saw slight increases in the number of firms entering insolvency, but all within historic variations.

2.187 Our commissioned research provides further analysis and insights on the impact of the NLW. From a survey of firms, there is evidence that many firms, in particular larger ones, have changed pay structures and sought to review non-wage costs. There is also some evidence that some firms have made greater use of the youth rates of the minimum wage and employed more young workers. This survey also found that firms had also looked to increase prices and improve productivity where possible, while others had accepted a reduction in margins.

2.188 Other research found limited evidence of employment and hours effects. Although one study has found quite large effects on employment retention in some specifications and for some groups, there are concerns about the analytical robustness, and analysis using another data source did not find significant effects, which also accounted for hires. A further study had found no significant employment or hours effects when looking at the impact of the NLW in Northern Ireland, when compared with the Republic of Ireland, although it had found significant effects for the introduction of the NMW in 1999. A project looking at the impact of the UK minimum wage on automation and offshoring found much smaller effects than in a similar study for the US.

2.189 The analysis in this chapter shows that the introduction of the NLW and the subsequent uprating in April 2017 had significant impact on the wage distribution for low-paid individuals aged 25 and over in the UK. The current data does not suggest that we have seen much aggregate change in employment, hours or business failure. However, low-paying sectors have grown more slowly than the rest of the economy, and some stakeholders have spoken to us about slower hiring and fewer hours being offered. We have seen some indications of price rises following the introduction of the NLW – as discussed by some stakeholders – and provisional data suggest that there has been a slight increase in insolvencies in low-paying sectors, but within historical norms. We intend to keep monitoring the impacts of the NLW on various measures, to further inform our decision making.

Chapter 3
Young people

Introduction

3.1 This chapter considers the impact of the youth rates of the National Minimum Wage (NMW) on the earnings and employment of young people aged 16 to 24. This year the youth rates moved to a new uprating cycle in order to align with the uprating of the National Living Wage (NLW), in April of each year. The change to the cycle necessitated two increases in the youth rates over the course of a year; in October 2016, under the old cycle and then again in April 2017, under the new cycle. Over the year to April 2017, the minimum wage for 21-24 year olds increased from £6.70 in April 2016, through £6.95 in October 2016, to £7.05 in April 2017 – equivalent to an annual increase of 5.2 per cent. For 18-20 year olds, the minimum wage increased from £5.30 in April 2016, through £5.55 (October 2016), to £5.60 (April 2017) – equivalent to an annual increase of 5.7 per cent. For 16-17 year olds, the minimum wage increased from £3.87, through £4.00, to £4.05 over the same period – equivalent to an annual increase of 4.7 per cent. It should be noted that these increases compare with 4.2 per cent for those aged 25 and over, covered by the NLW; and 6.1 per cent for apprentices under 19 or in their first year, who are covered by the Apprentice Rate (apprentices aged 19 and over in their second year are entitled to the age-appropriate rates). The analysis in this chapter assesses the impact of the minimum wage increases on young peoples' earnings and employment.

3.2 We also consider the impact of the NLW on young people. While those aged under 25 are not covered by the NLW, it may still have an impact on their earnings and employment. The impact on earnings may be positive, if employers decide to pay the NLW to all workers irrespective of age; or if employers decide to increase pay across the board at the time of the NLW uprating. The impact on earnings may be less positive if employers introduce or extend the use of youth rates in order to offset the cost of the NLW.

3.3 On employment, the NLW may distort the age distribution of the low-paid workforce in ways that could be positive or negative for young workers. Some low-paying employers may move towards a younger workforce to manage the rising cost of the NLW, creating more job opportunities for young people (albeit at the expense of older workers). Alternatively, employers could decide to recruit older, more experienced workers in a bid to raise productivity and recover the cost of the NLW. More generally, job opportunities may be fewer if the higher pay of the NLW deters employers from taking on more staff or reduces job exits among older workers (making it harder for young workers to enter the labour market). We focus on the sectors employing the majority of young workers – retail and hospitality – to gauge how employers of young workers are reacting to the NLW.

3.4 A further consideration is the size of the difference between the various minimum wage rates – referred to as the rates differentials. While lower youth rates are designed to protect youth jobs, an increasing differential raises a number of concerns, including age substitution, job loss at threshold ages, and fairness. We discuss this further in paragraph 3.42.

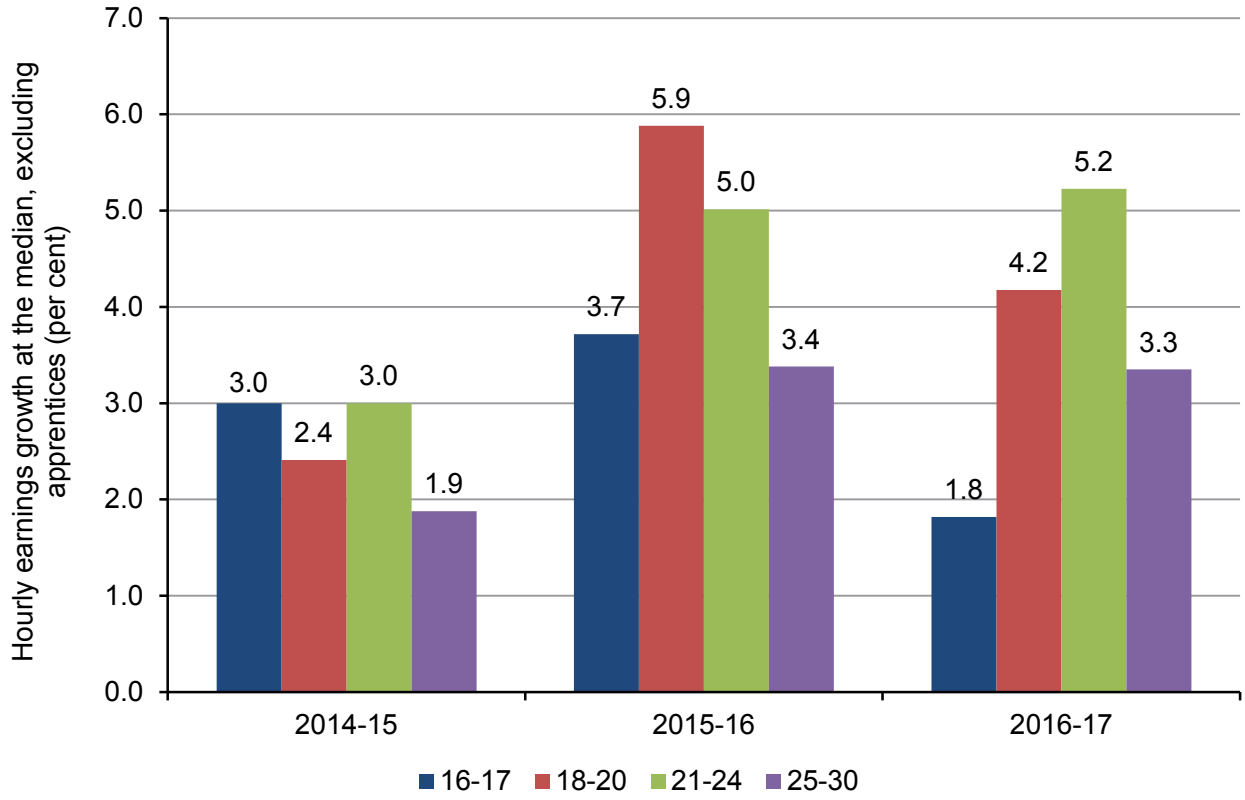
3.5 The analysis presented here excludes apprentices unless specified. Apprentices are discussed separately in Chapter 4.

Young peoples' earnings

Earnings growth

3.6 Figure 3.1 shows that 21-24 year olds and 18-20 year olds saw relatively high levels of median pay growth in the year to April 2017, exceeding that of 25-30 year olds, as they had done for the previous two years. Hourly pay at the median increased by 5.2 per cent for 21-24 year olds (up by 45 pence, to £9.11 an hour), exceeding the increase observed in April 2016 (5.0 per cent). For 18-20 year olds, median hourly pay increased by 4.2 per cent in April 2017 (up by 30 pence, to £7.50 an hour), albeit this was less than the pay growth observed in April 2016 (5.9 per cent). This healthy picture was not repeated for 16-17 year olds. Their median hourly pay grew by just 1.8 per cent over the year (up by 10 pence, to £5.60 an hour), representing less than half of the pay growth observed in the previous year to April 2016 (3.7 per cent); and being much lower than the pay growth experienced by apprentices (discussed in Chapter 4).

Figure 3.1: Hourly earnings growth at the median, by age, UK, 2014-2017



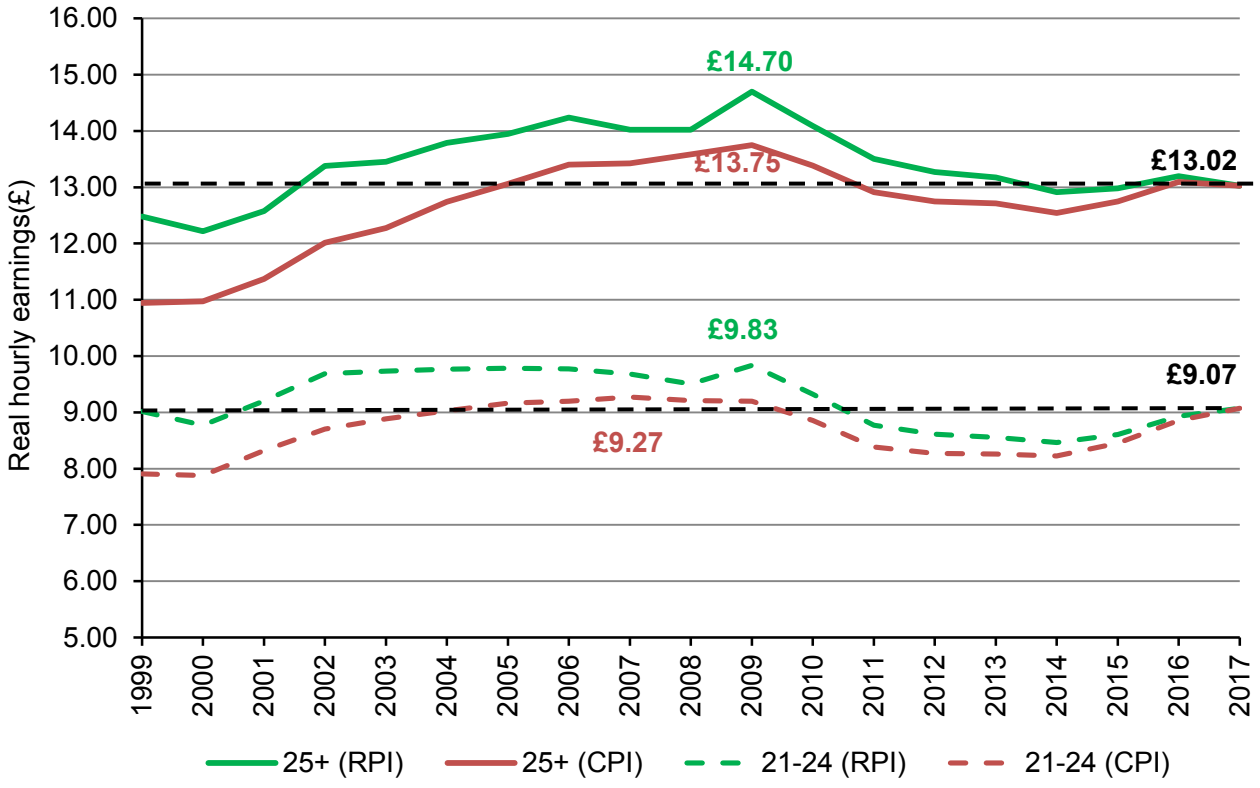
Source: LPC estimates using ASHE, April 2014-17, standard weights, including those not on adult rates of pay, excluding apprentices, UK.

Real wages

3.7 Despite high nominal pay growth for 18-24 year olds, rising inflation over the same period meant that real pay growth was muted. Using data which include apprentices for a consistent time series, Figure 3.2 shows that nominal hourly pay for 21-24 year olds grew by 5.2 per cent (45 pence) over the year to April 2017. But real growth was just 2.4 per cent (22 pence) using CPI to measure inflation, or 1.6 per cent (14 pence) using RPI. Hourly pay for 21-24 year olds has not yet recovered the ground lost since the 2008 recession. Their median hourly pay remains 20 pence (2.1 per cent) below its peak value in 2007 using CPI (equivalent to £9.27 in 2017 prices); and 76 pence (7.7 per cent) below its peak value in 2009 using RPI (equivalent to £9.83 in 2017 prices).

3.8 For those aged 25 and over, median hourly pay fell in real terms over the year to April 2017; falling by 7 pence (0.5 per cent) using CPI and by 17 pence (1.3 per cent) using RPI. Compared with the real value of their hourly pay in 2009, they remain 72 pence (5.3 per cent) below their peak value using CPI (equivalent to £13.75 in 2017 prices); and £1.68 (11.4 per cent) below their peak value in 2009 using RPI (equivalent to £14.70 in 2017 prices).

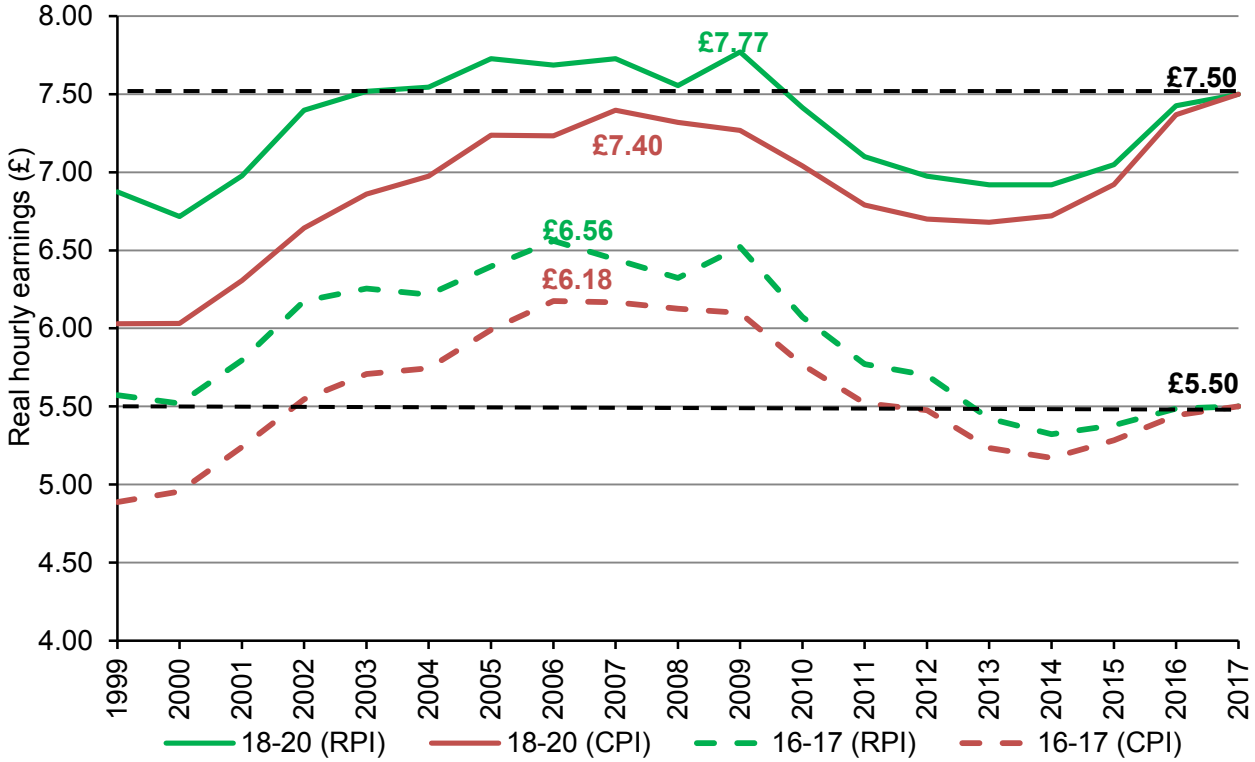
Figure 3.2: Real value of median earnings for those aged 21-24 and 25 and over, by price index, UK, 1999-2017



Source: LPC estimates using ONS data, CPI (D7BT) and RPI (CHAW), April 1999-2017, monthly, and ASHE: without supplementary information, April 1999-2003; with supplementary information, April 2004-05; 2007 methodology, April 2006-10; and 2010 methodology, April 2011-17, standard weights, including those not on adult rates, UK.
Notes:
a. Earnings data are adjusted for a consistent time series.
b. Data include apprentices.

3.9 Figure 3.3 shows real hourly pay growth at the median for those aged 16-17 and 18-20 in the year to April 2017. Nominal hourly pay for 18-20 year olds, including apprentices, grew by 4.5 per cent (33 pence) at the median but real growth was smaller. Adjusted by CPI, their hourly pay grew by just 1.8 per cent (13 pence), although this was sufficient to take their pay 10 pence (1.4 per cent) above its 2007 peak (£7.40). Using RPI, real pay growth for 18-20 year olds was just 1.0 per cent (7 pence), and hourly pay was still 27 pence (3.5 per cent) below its 2009 peak (£7.77). The picture was weaker for 16-17 year olds. Their nominal hourly pay grew by 3.8 per cent (20 pence) over the year to April 2017, but this was due to the inclusion of apprentices, who experienced exceptionally high pay growth (around 17 per cent for those in their first year and far in excess of the increase in the Apprentice Rate). Adjusted for inflation, their pay growth was just 1.1 per cent (6 pence) using CPI; and remained flat, at 0.2 per cent (a penny), using RPI. Their hourly pay remains substantially below its 2006 peak: down by 68 pence (10.9 per cent) using CPI; and down by £1.06 (16.2 per cent) using RPI.

Figure 3.3: Real value of median earnings for those aged 16-17 and 18-20, by price index, UK, 1999-2017

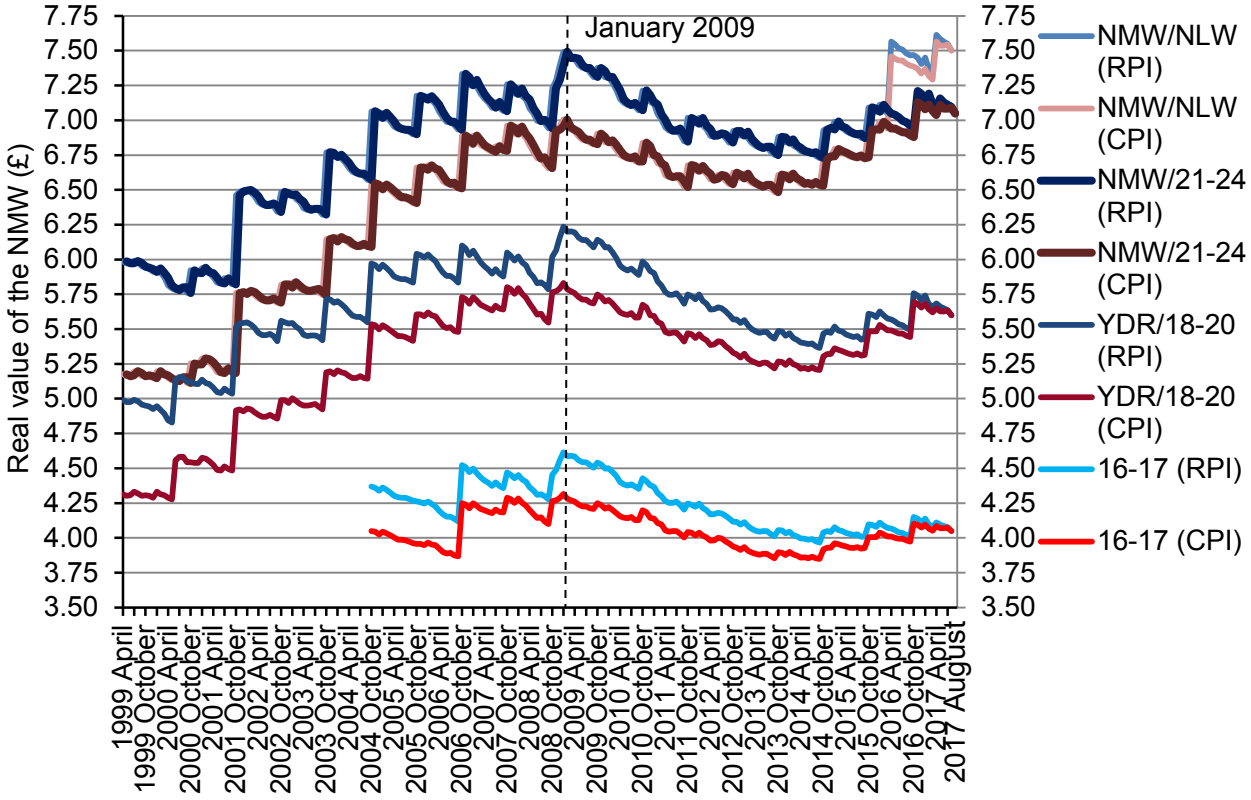


Source: LPC estimates using ONS data, CPI (D7BT) and RPI (CHAW), April 1999-2017, monthly, and ASHE: without supplementary information, April 1999-2003; with supplementary information, April 2004-05; 2007 methodology, April 2006-10; and 2010 methodology, April 2011-17, standard weights, including those not on adult rates, UK.
Notes:
a. Earnings data are adjusted for a consistent time series.
b. Data include apprentices.

3.10 Figure 3.4 shows that the National Minimum Wage also lost value from 2009, although some of the lost value has been restored if CPI is used as the measure of inflation. Similar to earnings, the NMW for 21-24 year olds has recovered its lost ground from January 2009 using CPI, but remains below peak using RPI. The 21-24 Year Old Rate would need to increase by around 45 pence (5.9 per cent) to restore its lost value using RPI. Conversely, the minimum wage for those aged 25 and over – now the NLW – has reached its highest recorded level in real terms, exceeding the January 2009 peak by around 50 pence an hour using CPI, and level with its peak value using RPI.

3.11 For 18-20 year olds, similar to the picture on real earnings, the minimum wage has almost recovered its lost value using CPI, but remains below its January 2009 peak using RPI. To restore its value in CPI terms would require an increase of around 20 pence an hour (4.0 per cent) to the 18-20 Year Old Rate; restoring its value in RPI terms would require an increase of around 65 pence an hour (10.2 per cent). The Commission have historically been more cautious about uprating the 16-17 Year Old Rate than the other rates, due to this groups' greater labour market vulnerability. As such, the 16-17 Year Old Rate has taken longer to regain its lost value and remains below the January 2009 peak using both CPI and RPI. Restoring its lost value would require increases of around 25 pence (6.2 per cent) using CPI, and around 50 pence (12.2 per cent) using RPI.

Figure 3.4: Real value of the National Minimum Wage, by price index, UK, 1999-2017



Source: LPC estimates using ONS data, CPI (D7BT) and RPI (CHAW), April 1999-August 2017, monthly, UK.

Bite of the youth rates

3.12 Over the year to April 2017 young workers received two minimum wage increases: first, in October 2016, as part of the annual uprating on the old NMW cycle; and then again, in April 2017, when the youth rates and Apprentice Rate were aligned with the NLW cycle. These combined increases amounted to relatively large annual increases in the youth rates: equivalent to 5.2 per cent for the 21-24 Year Old Rate; 5.7 per cent for the 18-20 Year Old Rate; and 4.7 per cent for the 16-17 Year Old Rate. The change to the NMW cycle adds complexity in estimating the bite and the impact of these relatively large increases. On the old uprating cycle, pay was increased in October and the bite of the new rate was measured six months later using the April ASHE. Over this six month period, pay had the chance to increase, such that median pay was higher six months after the implementation of the new rate; and the bite – the minimum wage as a percentage of median pay – was correspondingly lower than it would have been if it had been measured at the time of the uprating. The new cycle of

April upratings has two important effects on the measurement of the bite. First, it is no longer possible to estimate the mid-cycle bite of the October 2016 rates, as these rates were not applicable in April 2017. Second, going forwards, the bite will be measured in the same month as the April uprating, rather than six months later when median pay has increased and the bite has fallen.

3.13 As the bite from April 2017 onwards will be measured during the month of the uprating, we can take this approach to compare the bite of the October 2016 and April 2017 rates on a like-with-like basis. In the absence of reliable pay data for young people in October 2016 we estimate the October median by taking the average of the medians in April 2016 and April 2017. In doing so we make the assumption that wages grow evenly throughout the year.

3.14 Table 3.1 uses this approach to estimate the impact of the last two youth rate increases on the bite. It shows that the bite increased for all three youth groups between April 2016 and October 2016 (estimated). However, this increase partly reflects the change to the cycle – with the April 2016 bite measured six months after the October 2015 uprating (giving pay six months to rise) and the October 2016 bite estimated for the month of the October uprating (allowing no time for pay to rise).

3.15 Comparing the bites of the October 2016 and April 2017 upratings on a like-with-like basis – the bite of the respective rates each measured at introduction – the bite likely fell between October 2016 and April 2017 for both 21-24 year olds and 18-20 year olds. The bite for 21-24 year olds fell from 78.3 per cent to 77.4 per cent over this period, restoring the bite to its level in April 2016 (77.4 per cent). In effect, the bite of the April 2017 rates was lower than the bite of the October 2015 rates, given that the former was measured at the same time as the uprating (before pay has risen) and the latter measured six months after the uprating.

Table 3.1: Bite of the youth rates, UK, 2016-2017

	April 2016	October 2016 (estimated)	April 2017
	Mid-year	At introduction	At introduction
21-24 Year Old Rate	77.4	78.3	77.4
18-20 Year Old Rate	73.6	75.5	74.7
16-17 Year Old Rate	70.4	72.1	72.3

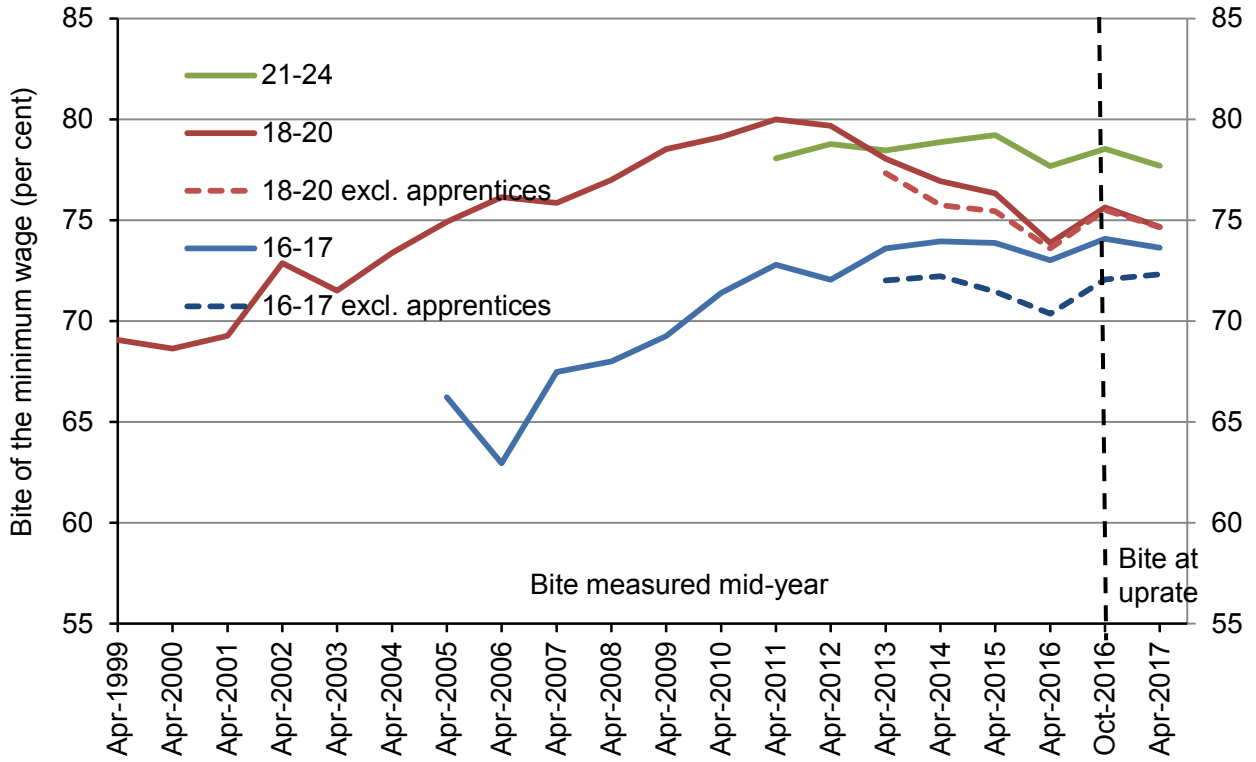
Source: LPC estimates using ASHE, April 2016-17, standard weights, including those not on adult rates of pay, excluding apprentices, UK.
Note: The bite for October 2016 uses the average of hourly pay in April 2016 and April 2017 to estimate the October 2016 median.

3.16 For 18-20 year olds, the bite fell from 75.5 per cent in October 2016 to 74.7 per cent in April 2017. This remains slightly higher than the mid-cycle April 2016 bite (73.6 per cent), but the changed cycle contributes to this apparent increase. The bite path for 16-17 year olds differs from that of 18-20 year olds and 21-24 year olds, reflecting the younger group's relatively weak wage growth. The bite for 16-17 year olds increased between April 2016 and October 2016 – rising from 70.4 per cent to 72.1 per cent – and then continued to rise, reaching 72.3 per cent in April 2017.

3.17 Figure 3.5 illustrates the historic path of the bite since the NMW was introduced in April 1999. Focusing on the period from 2013, when it became possible to exclude apprentices from analyses of ASHE earnings data, the bite for 21-24 year olds is now 1.5 percentage points below its mid-cycle peak in April 2015 (78.9 per cent) and the bite for 18-20 year olds is now 2.7 percentage points below its mid-cycle peak in April 2013 (77.3 per cent). The bite for 16-17 year olds has reached its highest level on record (excluding apprentices), but the measurement at introduction

contributes to this; taking account of this, the mid-cycle bite in April 2014 (72.2 per cent) was higher than the current bite (72.3 per cent).

Figure 3.5: Bite of the National Minimum Wage at the median of the hourly earnings distribution, by age, UK, 1999-2017



Source: LPC estimates using ASHE: without supplementary information, April 1999-2003; with supplementary information, April 2004-05; 2007 methodology, April 2006-10; and 2010 methodology, April 2011-17, standard weights, including those not on adult rates, UK.
Notes:
a. Earnings data are adjusted for a consistent time series.
b. Data include apprentices, unless specified.
c. Estimates for April 1999, October 2016 and April 2017 are measured during the month of implementation; all other estimates are measured six months after implementation.

Coverage of the rates

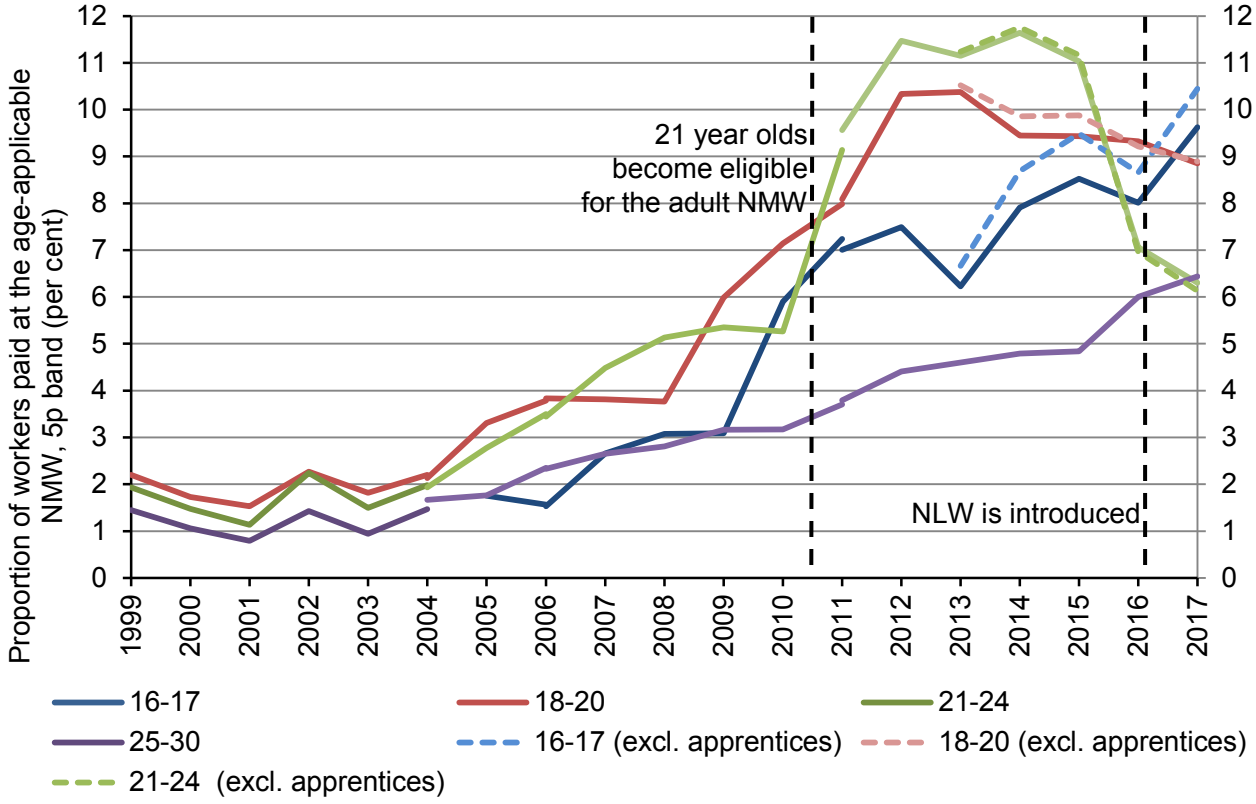
3.18 The change to the NMW cycle has implications for the measurement of coverage, including the numbers paid at and the numbers paid below their applicable minimum wage. While the new minimum wage rates apply from 1 April each year, the earnings data captured in the ASHE likely include pay earned before and after 1 April. This means that the old minimum wage may legitimately apply for part of the pay period. This creates complications in using a derived hourly rate (basic weekly pay divided by hours) for the entire pay period to estimate whether someone is paid above, at or below the new minimum wage. For example, an employee paid exactly at the old rate in March and then at the new rate from 1 April could have a derived hourly rate below the new minimum wage. To add further complexity, if the pay period crosses 1 April, an employer is legally entitled to wait until the next pay period to uprate pay. In this scenario, an employee paid slightly above the old minimum wage in March through 1 April could have a derived hourly rate which is below, or at, the new minimum wage. As such, they would be included in our estimate of coverage when their pay for the following pay period may be above the minimum wage (assuming that the employer continues to pay slightly above the minimum wage). In simple terms, the new cycle likely over-estimates coverage.

3.19 Despite this structural tendency to overestimate coverage, measured coverage of the youth rates applicable from 1 April 2017 fell over the year for both 18-20 year olds and 21-24 year olds, although not for 16-17 year olds.

3.20 Looking first at the historic proportion of 21-24 year olds (including apprentices) paid at the minimum wage, Figure 3.6 shows a steep rise in the proportion paid at the minimum wage between April 2010 and April 2012, partly due to the extension of the adult rate to 21 year olds in October 2010. The percentage paid at the applicable rate (now the 21-24 Year Old Rate) then fell in April 2016, when the NLW was introduced, with many employers choosing to pay the NLW to 21-24 year olds. Over the year to April 2017, the percentage paid at the 21-24 Year Old Rate fell by a further 0.8 percentage points to 6.1 per cent (equivalent to 119,000 jobs, excluding apprentices); with a further 4.6 per cent of 21-24 year olds, equivalent to around 89,000 jobs, being paid at the NLW (not shown).

3.21 The percentage of 18-20 year olds (including apprentices) paid at their applicable minimum wage rose steeply in recession, more than doubling between 2008 and 2012, but has fallen back since then. It continued to fall between April 2016 and April 2017 – falling 0.3 percentage points to 8.9 per cent (around 82,000 jobs, excluding apprentices). Again, the introduction of the NLW contributed to this fall, with 6.9 per cent of 18-20 year olds (around 63,000 jobs) being paid at the NLW in 2017.

Figure 3.6: Percentage paid at their age-related minimum wage rate, by age, UK, 1999-2017



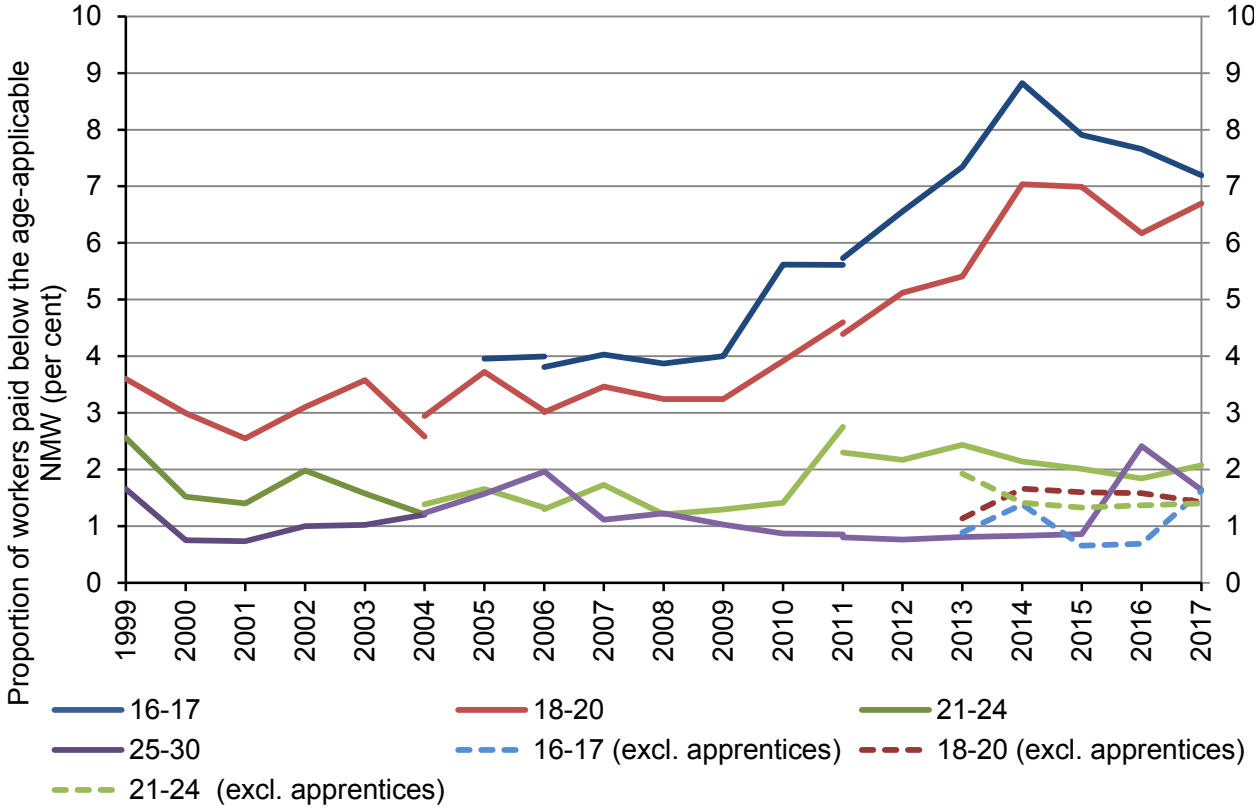
Source: LPC estimates using ASHE: without supplementary information, April 1999-2003; with supplementary information, April 2004-05; 2007 methodology, April 2006-10; and 2010 methodology, April 2011-17, low pay weights, including those not on adult rates, UK.
Notes:
a. Data include apprentices unless stated.
b. Estimates for April 1999 and April 2017 are measured during the month of implementation; all other estimates are measured six months after implementation.

3.22 The pattern was very different for 16-17 year olds, where the proportion paid at their applicable rate increased in recession, as with 18-20 year olds, but then continued to rise and is now

at an historic peak. Over the year to April 2017, the proportion paid at the minimum wage increased by 1.8 percentage points, rising from 8.7 per cent to 10.4 per cent. It is unclear how much of this increase was due to the changed uprating cycle, although it likely contributed. While the proportion of 16-17 year olds paid at their applicable minimum wage increased, it is worth noting that the proportion being paid at the NLW, at 4.2 per cent, was similar to 21-24 year olds (4.6 per cent).

3.23 Turning to the proportions paid below their applicable rates, Figure 3.7 shows the historic proportions paid below their applicable minimum wage, using data that include apprentices up to 2012 and, in the dotted lines, data excluding apprentices from 2013. The pre-2013 data show relatively high levels of underpayment for the youngest workers, but this is due to the inclusion of apprentices, who were not covered by the youth rates. Focusing on the data from 2013, which exclude apprentices, underpayment for young workers is comparatively low, and stable. The latest data, for April 2017, suggest that the change to the NMW cycle had no apparent effect on the level of estimated underpayment for 18-20 year olds and 21-24 year olds, despite being measured in the same month as the uprating, when underpayment is likely to be highest. Underpayment was 1.4 per cent for both age groups in April 2017 – equivalent to 27,000 21-24 year olds and 13,000 18-20 year olds. The level of underpayment was unchanged over the year for 21-24 year olds, and fell slightly for 18-20 year olds, from 1.6 per cent in April 2016. Again, the pattern was different for 16-17 year olds, where measured underpayment doubled over the year, from 0.7 per cent to 1.6 per cent.

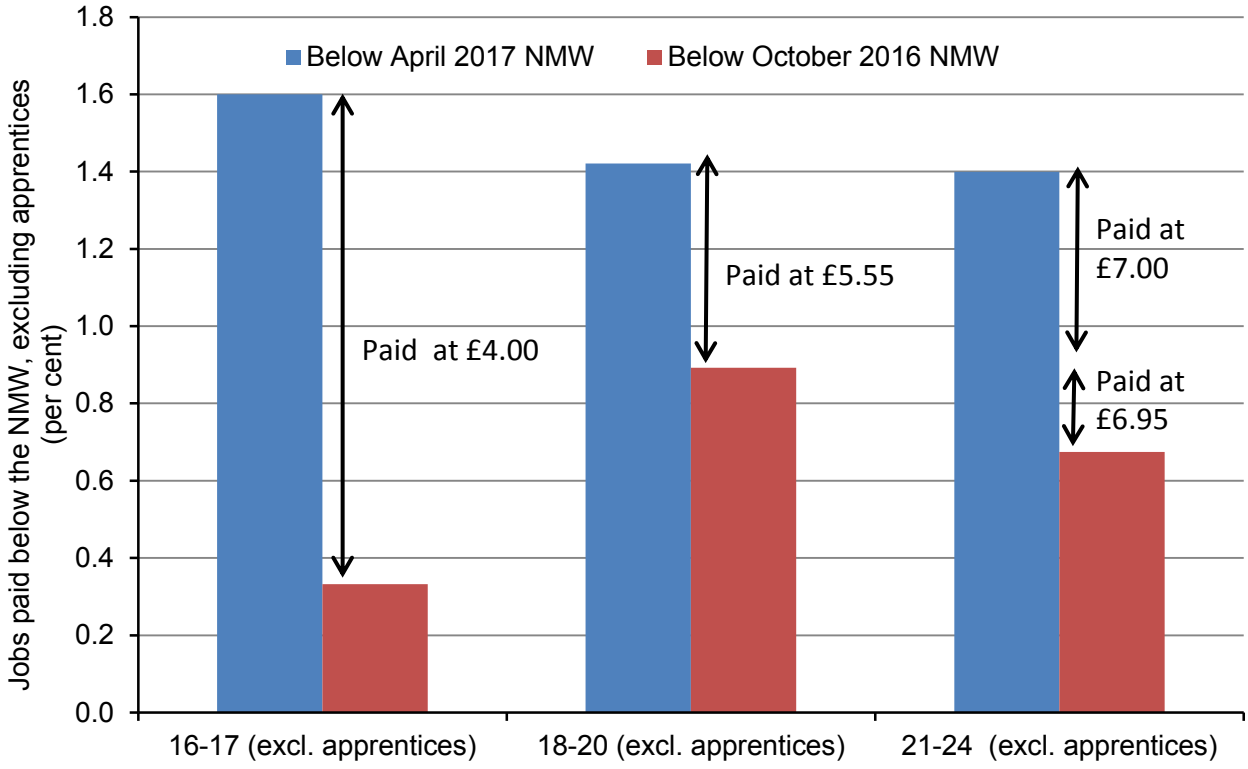
Figure 3.7: Percentage paid below their age-related minimum wage rate, by age, UK, 1999-2017



Source: LPC estimates using ASHE: without supplementary information, April 1999-2003; with supplementary information, April 2004-05; 2007 methodology, April 2006-10; and 2010 methodology, April 2011-17, low pay weights, including those not on adult rates, UK.
Notes:
a. Data include apprentices unless stated.
b. Estimates for April 1999 and April 2017 are measured during the month of implementation; all other estimates are measured six months after implementation.

3.24 However, a closer examination of those paid below their applicable rate in April 2017 paints a somewhat different picture. Figure 3.8 shows that the majority of 16-17 year olds paid below the April 2017 rate were paid between £4.00 and £4.05 an hour – this being compliant with the old rate as well as a focal point at which 16-17 year olds have been paid for a number of years. Among 18-20 year olds paid below the April 2017 rate, around two thirds were paid below the old rate, equivalent to 0.9 per cent of the cohort (three times that of 16-17 year olds, at 0.3 per cent), with the remainder paid at the old rate (allowing for a 5 pence band). Among 21-24 year olds, half of those paid below the April 2017 rate were paid below the old rate (0.7 per cent), a few were paid at the old rate (0.2 per cent) and the remainder were paid between £7.00 and £7.05 (0.5 per cent), including at the focal point of £7.00 an hour. It is not possible to establish how many of the young people who were paid at the old rates – or the common focal points of £4.00 and £7.00 an hour – will have seen their pay rise to, or above, the new rates in the next pay period. Next year's pay data will establish whether employers are continuing to pay young people at these historical focal points now that the minimum wage has surpassed them.

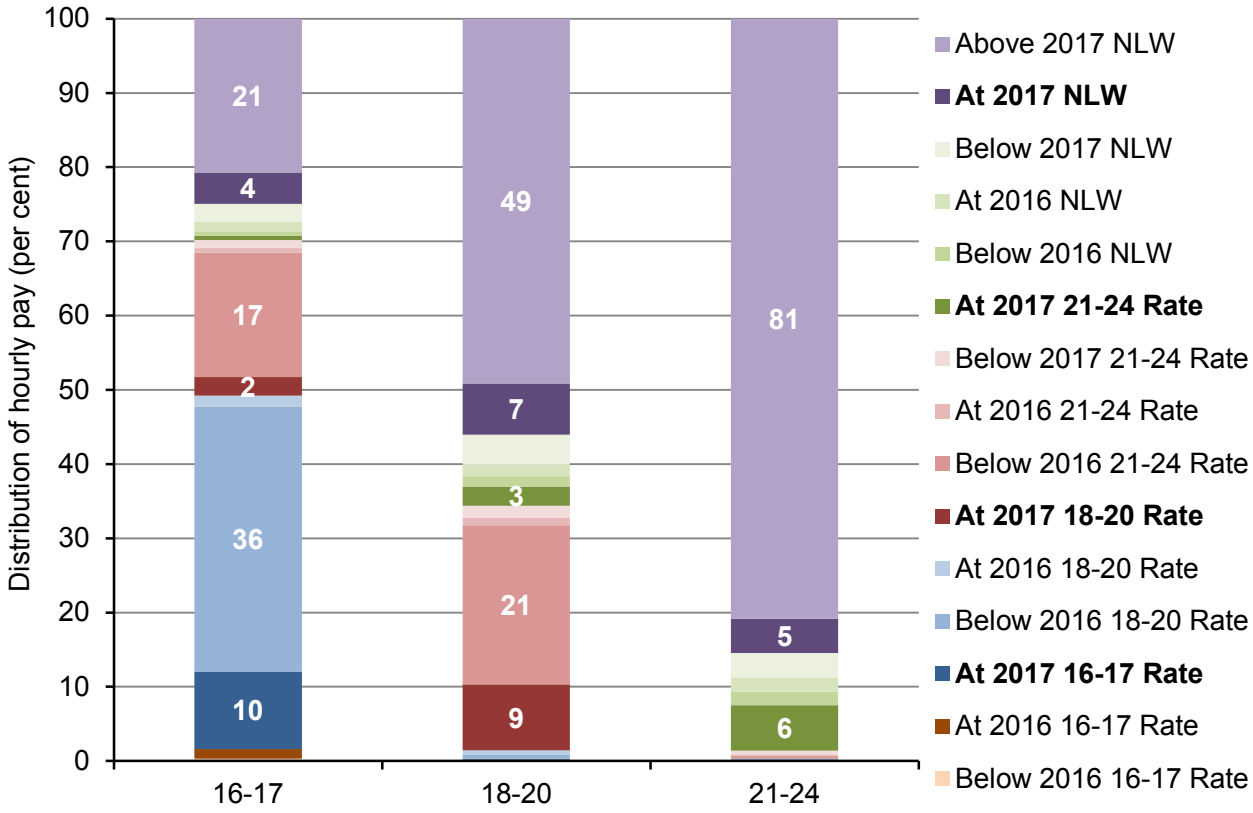
Figure 3.8: Percentage paid below the April 2017 and October 2016 minimum wage rate, by age, UK, 2017



Source: LPC estimates using ASHE, 2010 methodology, April 2017, low pay weights, including those not on adult rates, excluding apprentices, UK.
Note: Data include jobs that were paid a penny below the applicable minimum wage due to rounding errors by employers; and jobs with a pay period that straddled 1 April and may legitimately not receive the increase in the minimum wage until the next pay period.

3.25 While the majority of employers may not use the age-applicable minimum wage to pay their youngest workers they often set pay within the minimum wage structure. Figure 3.9 shows that just one in five 16-17 year olds were paid an hourly rate above the NLW in April 2017, compared with around half of 18-20 year olds and eight in ten 21-24 year olds. Within the NMW universe, young people were sometimes paid at minimum wages above their applicable rate, including the NLW, but more often they were paid between their own rate and the rate directly above theirs. For example, over a third (37 per cent) of 16-17 year olds were paid between the 16-17 Year Old Rate and the 18-20 Year Old Rate; and around a quarter (24 per cent) of 18-20 year olds were paid between the 18-20 Year Old Rate and the 21-24 Year Old Rate.

Figure 3.9: Distribution of hourly pay, by age, UK, 2017



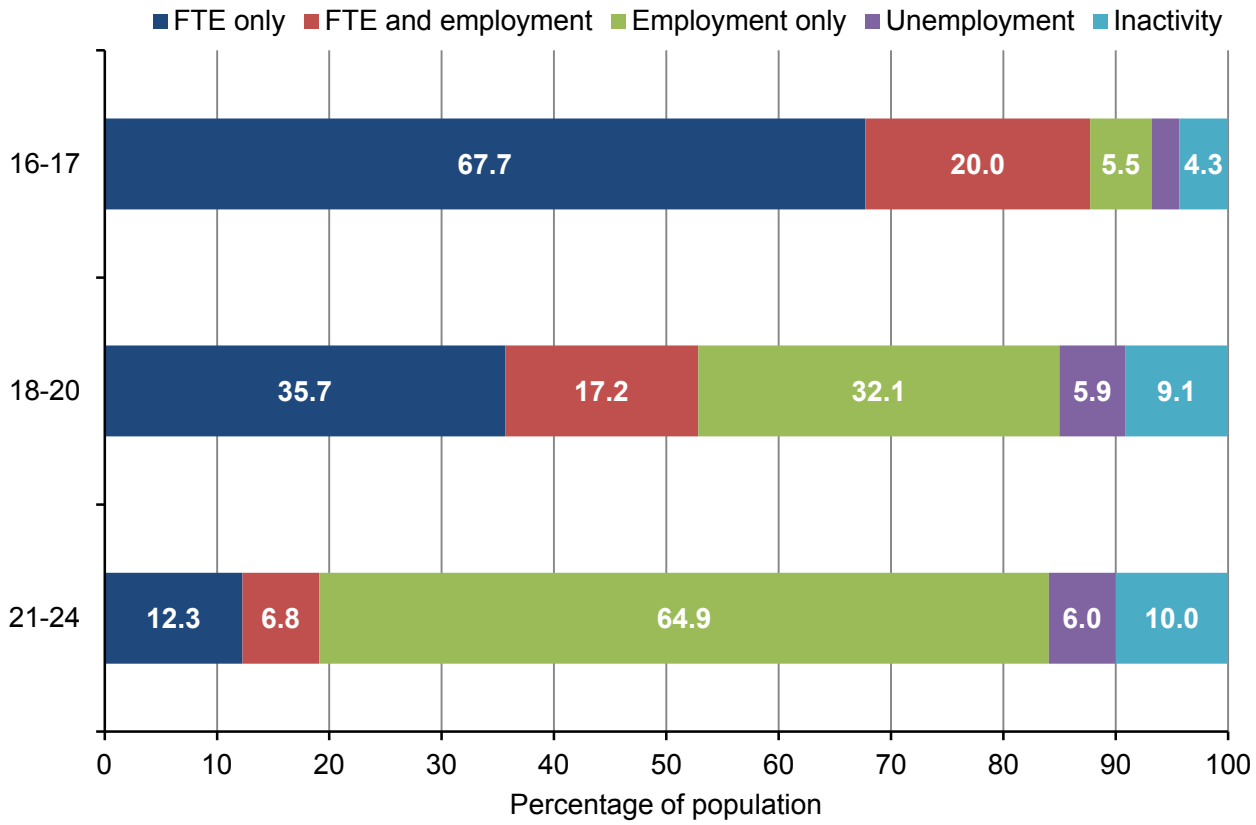
Source: LPC estimates using ASHE, 2010 methodology, April 2017, low pay weights, including those not on adult rates, excluding apprentices, UK.

The youth labour market

Economic activity

3.26 Young people's labour market participation is constrained by the requirement and/or expectation that they should be engaged in education or training until at least the age of 18, and, for many young people, into their early twenties. Figure 3.10 shows that, in the year to June 2017, nine out of ten (87.7 per cent) 16-17 year olds, and half (52.8 per cent) of 18-20 year olds were in full-time education. Within this, a minority were combining their studies with part-time work (20.0 per cent of 16-17 year olds and 17.2 per cent of 18-20 year olds respectively). Just 5.5 per cent of 16-17 year olds were working and not studying, rising to a third (32.1 per cent) of 18-20 year olds. In total, around 1.1m 18-20 year olds were in employment in the year to June 2017, compared with around 350,000 16-17 year olds. The picture was very different for 21-24 year olds, with the majority (64.9 per cent) working and not studying.

Figure 3.10: Economic activity, by age, UK, 2017

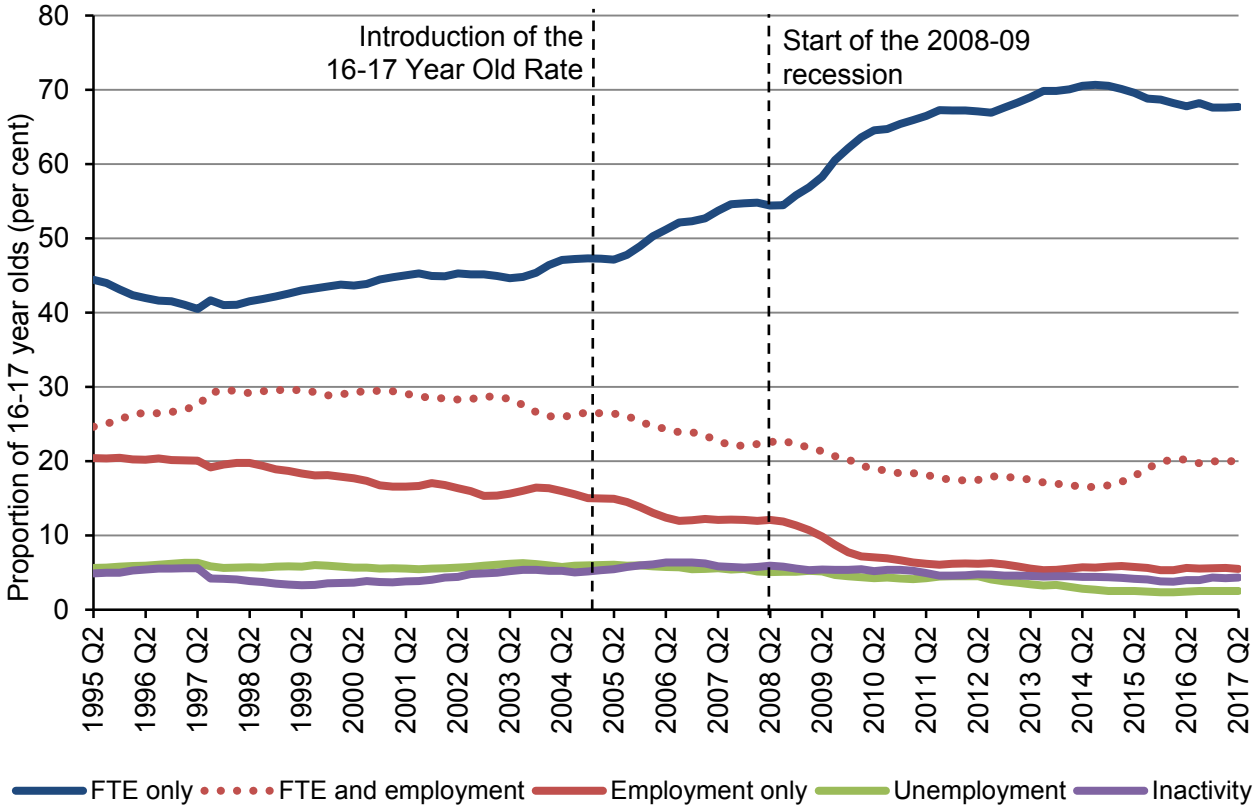


Source: LPC estimates using LFS Microdata, quarterly, four-quarter moving average, UK, Q3 2016-Q2 2017.

3.27 Young people's participation in the labour market has changed quite considerably over the past two decades, as young people have stayed longer in full-time education rather than taking up work. One consequence is a diminishing number of young people working, with even fewer in full-time jobs.

3.28 Figure 3.11 illustrates how labour market participation patterns have changed for 16-17 year olds in the 13 years since the 16-17 Year Old Rate was introduced. The proportion of 16 and 17 year olds engaged solely in work has reduced by two thirds (from 16.0 per cent to 5.5 per cent), alongside a smaller fall in the proportion combining study with work (from 25.9 per cent to 20.0 per cent). More recently, there were signs of increasing labour market participation, with a small uptick between June 2015 and June 2016 in the proportion combining work with study, but there has been little change over the twelve months to June 2017.

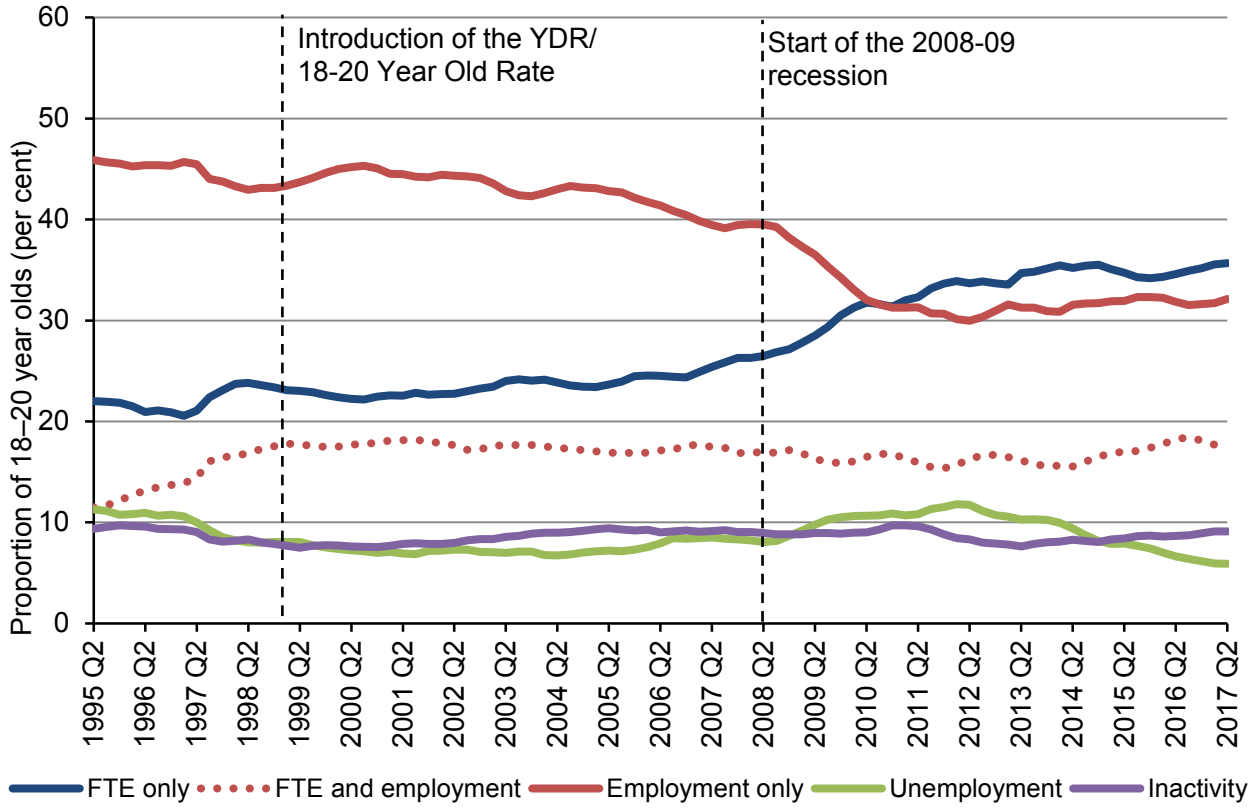
Figure 3.11: Economic activity of 16-17 year olds, UK, 1994-2017



Source: LPC estimates using LFS Microdata, quarterly, four-quarter moving average, UK, Q3 1994-Q2 2017.

3.29 Figure 3.12 shows the same trend for 18-20 year olds, with increasing educational participation alongside falling employment, but at a more gradual pace. In the 18 years since the minimum wage for 18-20 year olds was introduced (originally for 18-21 year olds), participation in full-time education has replaced work as the main economic activity. However, there has been little change over the last four years and the proportion solely working (32.1 per cent) remains around three quarters of its level when the minimum wage for 18-20 year olds was introduced in 1999 (43.7 percent).

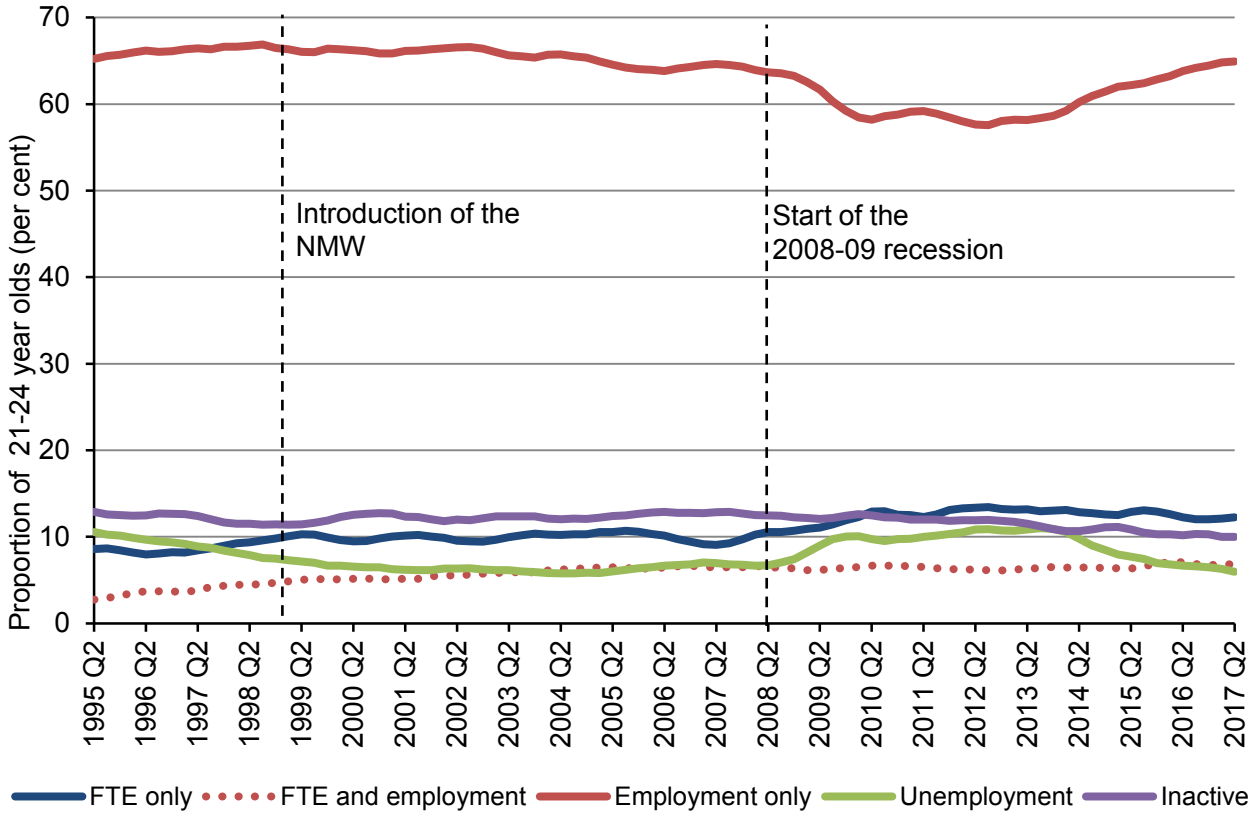
Figure 3.12: Economic activity of 18-20 year olds, UK, 1994-2017



Source: LPC estimates using LFS Microdata, quarterly, four-quarter moving average, UK, Q3 1994-Q2 2017.

3.30 Labour market participation of 21-24 year olds has seen much less change since the NMW was introduced (initially for workers aged 22 and over) in 1999. Figure 3.13 shows that the proportion in employment fell gradually between 1999 and 2009 – and fell more steeply following the 2008 recession – but has since recovered, and is now only slightly below its level in 1999. The proportion in full-time education increased only slightly over that period.

Figure 3.13: Economic activity of 21-24 year olds, UK, 1994-2017



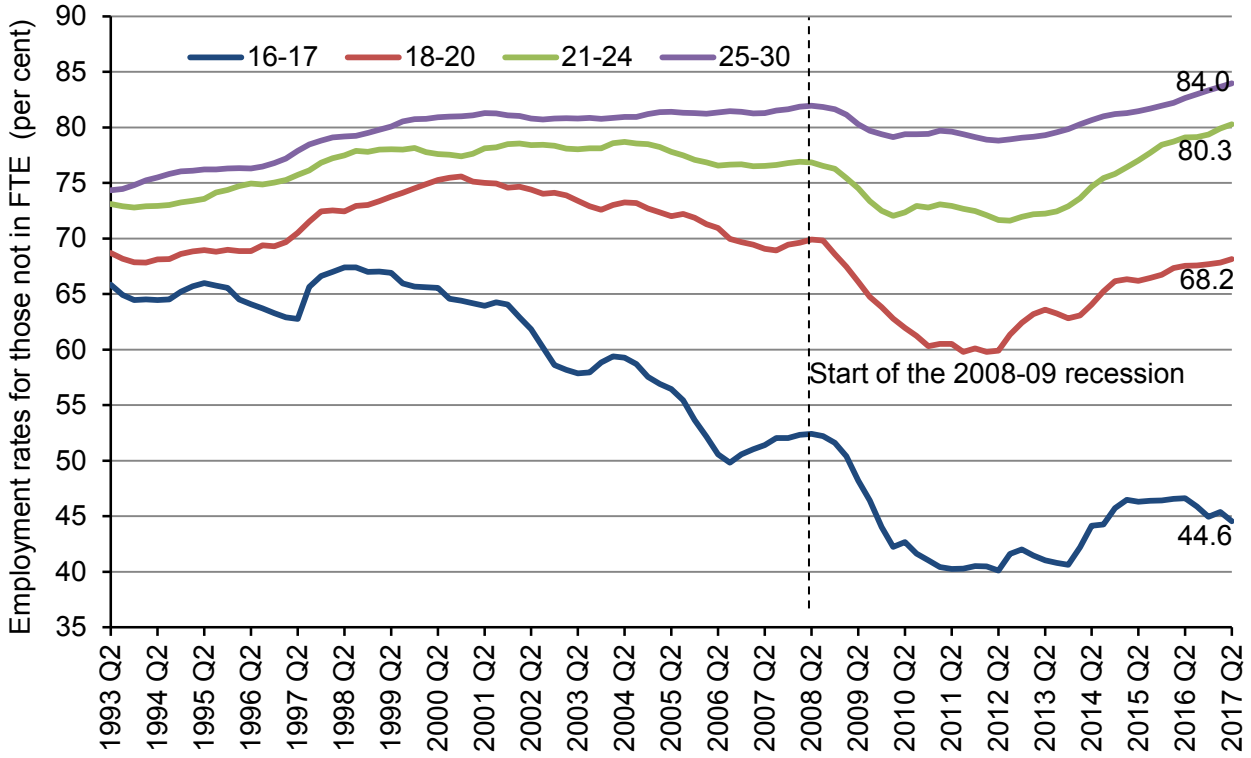
Source: LPC estimates using LFS Microdata, quarterly, four-quarter moving average, UK, Q3 1994-Q2 2017.

Employment and unemployment rates

3.31 While changes to labour market participation may change the context – and arguably the rationale – for the youth rates, these changes arise from government policy, societal attitudes and economic conditions, rather than from the minimum wage. In assessing the impact of the minimum wage on young people, we focus on employment and unemployment rates for the cohort of young people not in full-time education (FTE). In the year to June 2017, they accounted for around 1 million 18-20 year olds but just 170,000 16-17 year olds. These young people are considered to be at greatest risk of being adversely affected by minimum wage decisions. Furthermore, their vulnerability is likely to have increased over time, in response to changes in educational participation. That is, as more and more young people opt to remain in full-time education, the remaining (and diminishing) pool of those not in full-time study are likely to have, on average, fewer skills and qualifications, and thus be less attractive to potential employers. Minimum wage rates – if set too high – could have employment consequences: either by locking them out of the labour market or by encouraging young people to leave education prematurely, risking unemployment in the event that they fail to obtain work. While research has generally found no significant impact of the minimum wage on the employment of young people, some research has found that increases in the youth rates during a recession were associated with reduced employment (Dolton and Rosazza Bondibene, 2011; RAND, 2016). Other research has found evidence of reduced hours (Bryan, Salvatori and Taylor (2012); Bewley and Wilkinson; 2015). And, in general, younger workers were found to be more vulnerable than older workers to increases in the minimum wage, with 16-17 year olds at most risk.

3.32 Figure 3.14 shows employment rates for our three youth groups not in full-time education, and, for comparison, the youngest part of the NLW cohort (25-30 year olds). Over time, the employment rate gap between the age groups has widened, likely reflecting in part compositional changes arising from increased educational participation. The gap has particularly widened between 16-17 year olds and older groups, consistent with the composition of the former group undergoing much greater change over time. The employment rate gap between 18-20 year olds and 21-24 year olds has also widened over time, although to a lesser extent. It follows that the younger part of the NMW structure are now relatively more vulnerable than their older counterparts to minimum wage increases. However, 18-20 year olds – and 21-24 year olds – have seen improvement in their employment rates from 2012 onwards, including over the year to June 2017. The picture for 16-17 year olds is more concerning, with falling employment rates over the year, albeit this is a small population, with around 170,000 not in full-time education, of which those in employment accounted for less than 80,000.

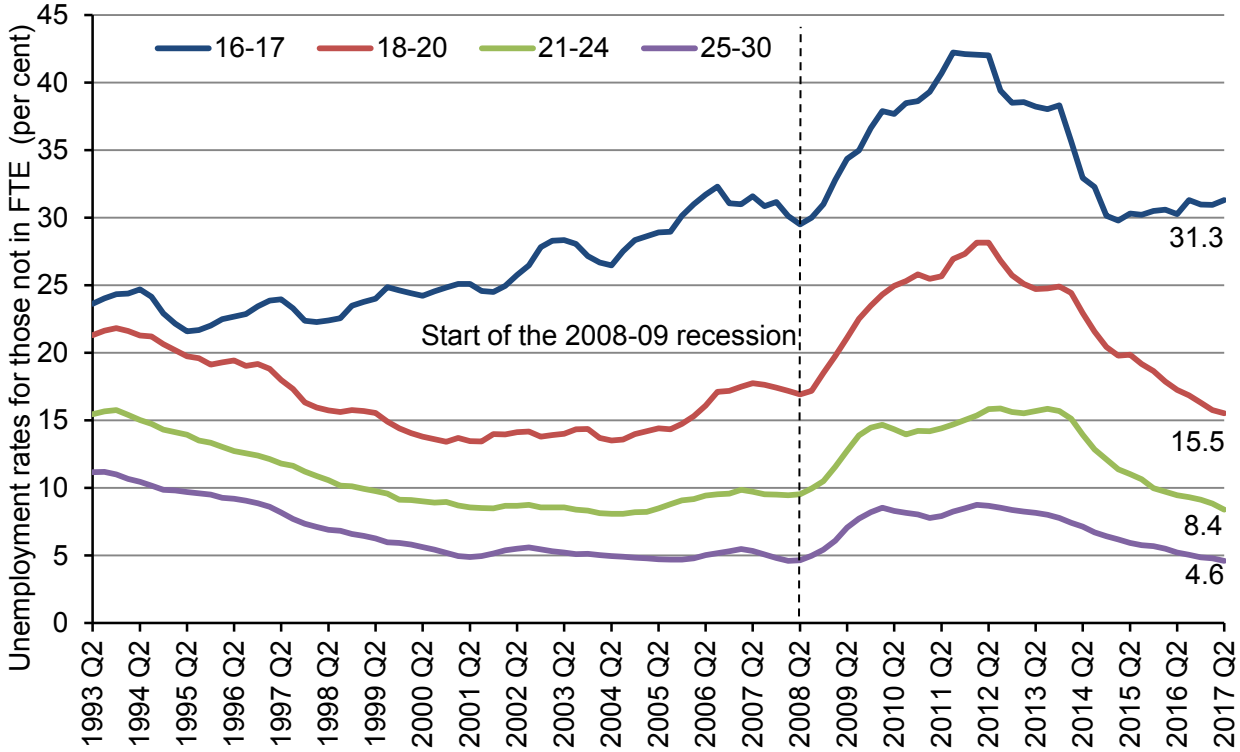
Figure 3.14: Employment rates for young people not in full-time education, by age, UK, 1992-2017



Source: LPC estimates using LFS Microdata, quarterly, four-quarter moving average, UK, Q3 1992-Q2 2017.

3.33 Figure 3.15 shows unemployment rates for young people not in full-time education over the same period. As with employment, the unemployment rate gap between the age groups has widened over time, particularly between 16-17 year olds and older groups. The gaps widened following the 2008 recession, but in recent years the gap between 18-20 year olds and 21-24 year olds has narrowed as the unemployment rate for 18-20 year olds fell faster than the unemployment rate for 21-24 year olds. The unemployment rate continued to fall over the year to June 2017, for 18-20 year olds and older groups, but not for 16-17 year olds, whose unemployment rate rose over the year.

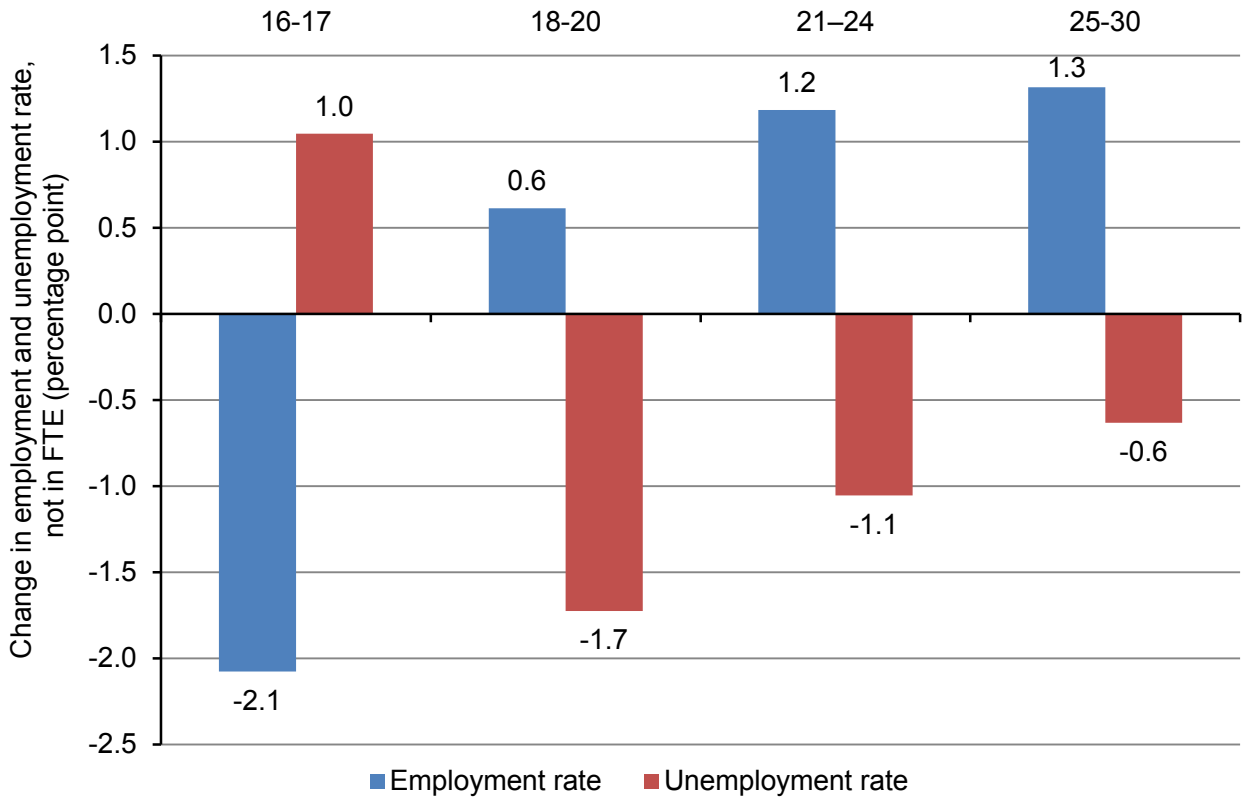
Figure 3.15: Unemployment rates for young people not in full-time education, by age, UK, 1992-2017



Source: LPC estimates using LFS Microdata, quarterly, four-quarter moving average, UK, Q3 1992-Q2 2017.

3.34 Figure 3.16 shows the percentage point change in the employment rate and unemployment rate for those not in full-time education over the year to June 2017. The employment rate for 16-17 year olds fell 2.1 percentage points (to 44.6 per cent) while rising for older groups. The increase for 18-20 year olds (up 0.6 percentage points to 68.2 per cent) was smaller than the increase for 21-24 year olds (up 1.2 percentage points to 80.3 per cent) and 25-30 year olds (up 1.3 percentage points to 84.0 per cent), but it is possible that the NLW played some part in incentivising older workers into employment.

Figure 3.16: Change in employment and unemployment rates, by age, UK, 2016-2017



Source: LPC estimates using LFS Microdata, quarterly, four-quarter moving average, UK, Q2 2015-Q2 2017.

3.35 The change over the year in the unemployment rate shows a slightly different pattern. Again, the picture worsened for 16-17 year olds not in full-time education (up 1.0 percentage point to 31.3) while improving for older workers. But on this measure 18-20 year olds saw the greatest improvement over the year. Their unemployment rate fell 1.7 percentage points (to 15.5 cent); compared with a fall of 1.1 percentage points for 21-24 year olds (to 8.4 per cent) and a fall of 0.6 percentage points for 25-30 year olds (to 4.6 per cent).

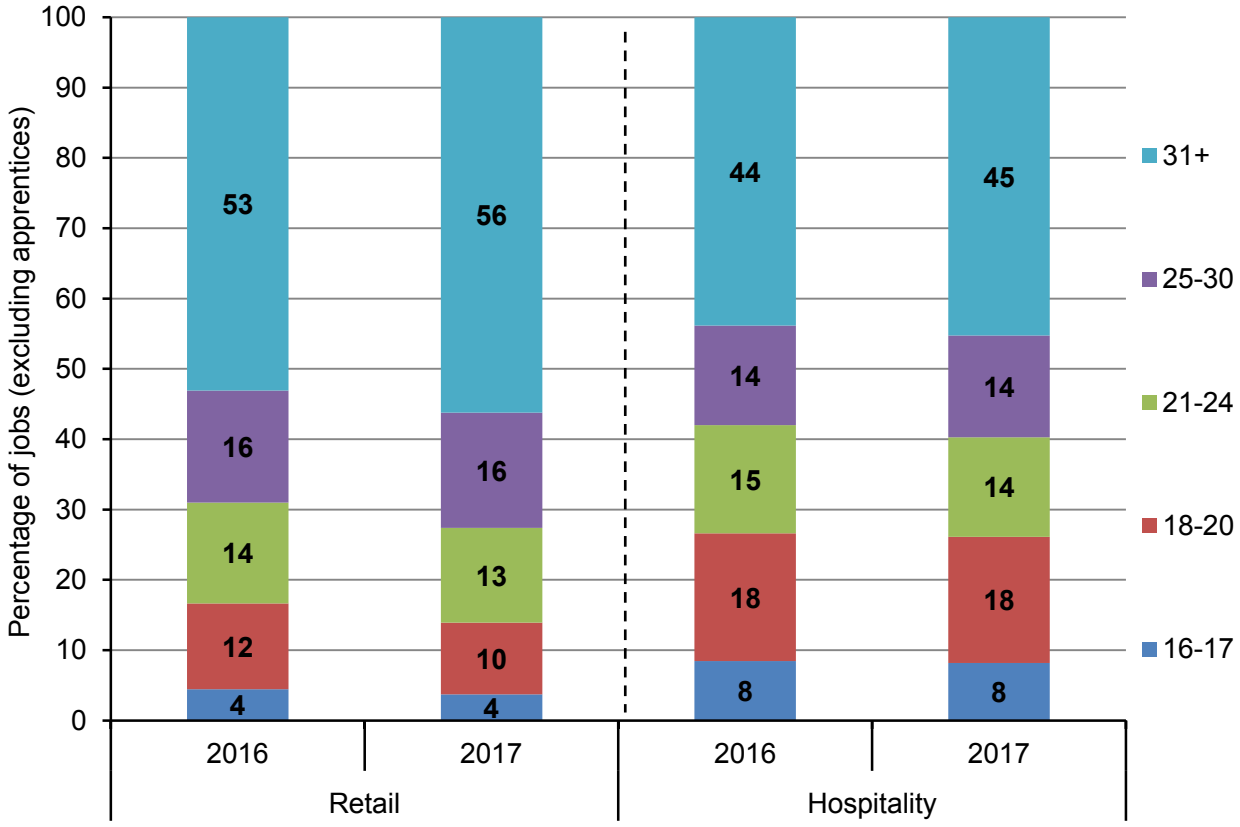
3.36 These data cover the period in which the youth rates of the minimum wage saw relatively large annual increases – of 5.2 per cent for 21-24 year olds, 5.7 per cent for 18-20 year olds, and 4.7 per cent for 16-17 year olds. The employment and unemployment improvement observed for 18-20 and 21-24 year olds over the same period suggest that these increases did not harm their employment. The picture for 16-17 year olds offers less reassurance.

3.37 In addition to considering the impact of the youth rates on young peoples' access to the labour market, we also consider the impact of the NLW on younger workers. Where employers use youth rates the NLW could encourage downward age substitution, with young people gaining jobs at the expense of older workers. However, many employers do not use age rates and may be increasingly unwilling to employ young workers on the NLW. To understand whether substitution is occurring we monitor the age distribution in two key sectors employing young people – retail and hospitality.

3.38 Figure 3.17 shows the age distribution in low-paying retail and hospitality occupations in April 2016 and April 2017. Both sectors employ large numbers of young workers, but they differ in their use of youth rates, with hospitality employers making greater use of age rates, while retailers often

pay the adult rate from the age of 18. This difference presents an opportunity to explore the potential substitution effects arising from the NLW. In theory, as the NLW increases, retailers could start to focus their recruitment on older, more experienced workers in a bid to raise productivity and offset the rising cost of the NLW. This risk is greater where employers change the nature of the job role to improve productivity; for example, by combining more tasks and responsibilities within the job role and removing intermediate roles which may have been more suitable for younger, less experienced workers. Conversely, in hospitality, where age rates are used, employers might focus their recruitment on younger workers in order to minimise costs. Figure 3.17 shows no evidence that hospitality employers have increased their recruitment of young workers following the introduction of the NLW; on the contrary, the proportion of workers aged under 25 fell by two percentage points over the year (from 42 per cent to 40 per cent). Retail also showed an ageing workforce, consistent with upwards age substitution. The proportion of retail jobs held by workers under 25 years of age fell by four percentage points – from 31 per cent to 27 per cent – between April 2016 and April 2017. While this could indicate upwards age substitution, it may also reflect the increasing attractiveness of retail jobs to older workers as the NLW rises. Additional analysis of hours (not shown) also showed no decisive evidence of substitution – either of young people gaining or losing hours to older workers in these key sectors between 2016 and 2017.

Figure 3.17: Low-paying jobs in retail and hospitality, by age, UK, 2016-2017

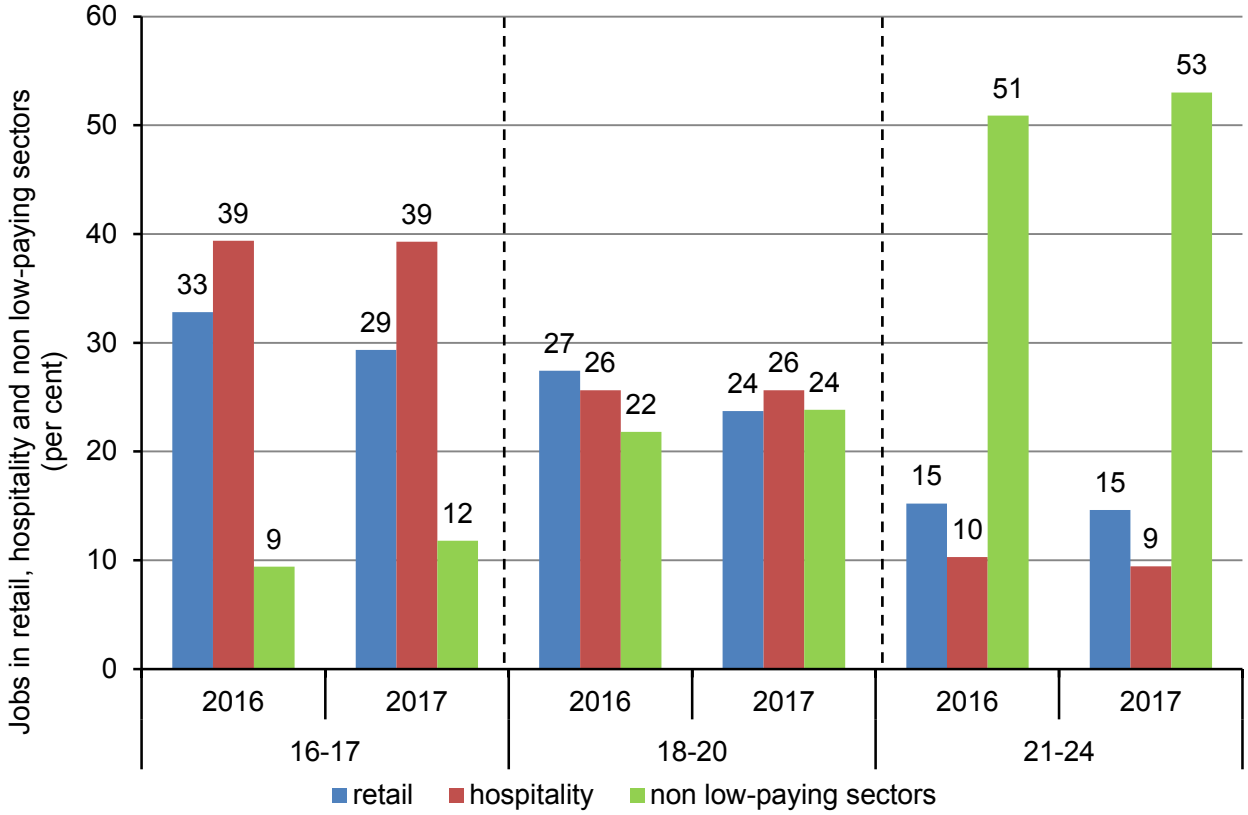


Source: LPC estimates using ASHE, April 2016-17, standard weights, including those not on adult rates of pay, excluding apprentices, UK.

3.39 While Figure 3.17 fails to show any evidence of young people gaining jobs in retail and hospitality since the NLW was introduced, other data suggest that they gained jobs in non low-paying sectors over the same period. Figure 3.18 shows that small falls in the percentage of 16-17 year olds and 18-20 year olds in retail jobs were largely compensated for by increases in the

percentages working in non low-paying occupations. For 21-24 year olds there was a slightly different pattern; the proportion working in hospitality jobs fell, rather than in retail jobs, but again, this was compensated for by an increase in the percentage working in non low-paying occupations.

Figure 3.18: Proportion of young workers in retail, hospitality and non low-paying jobs, by age, UK, 2016-2017

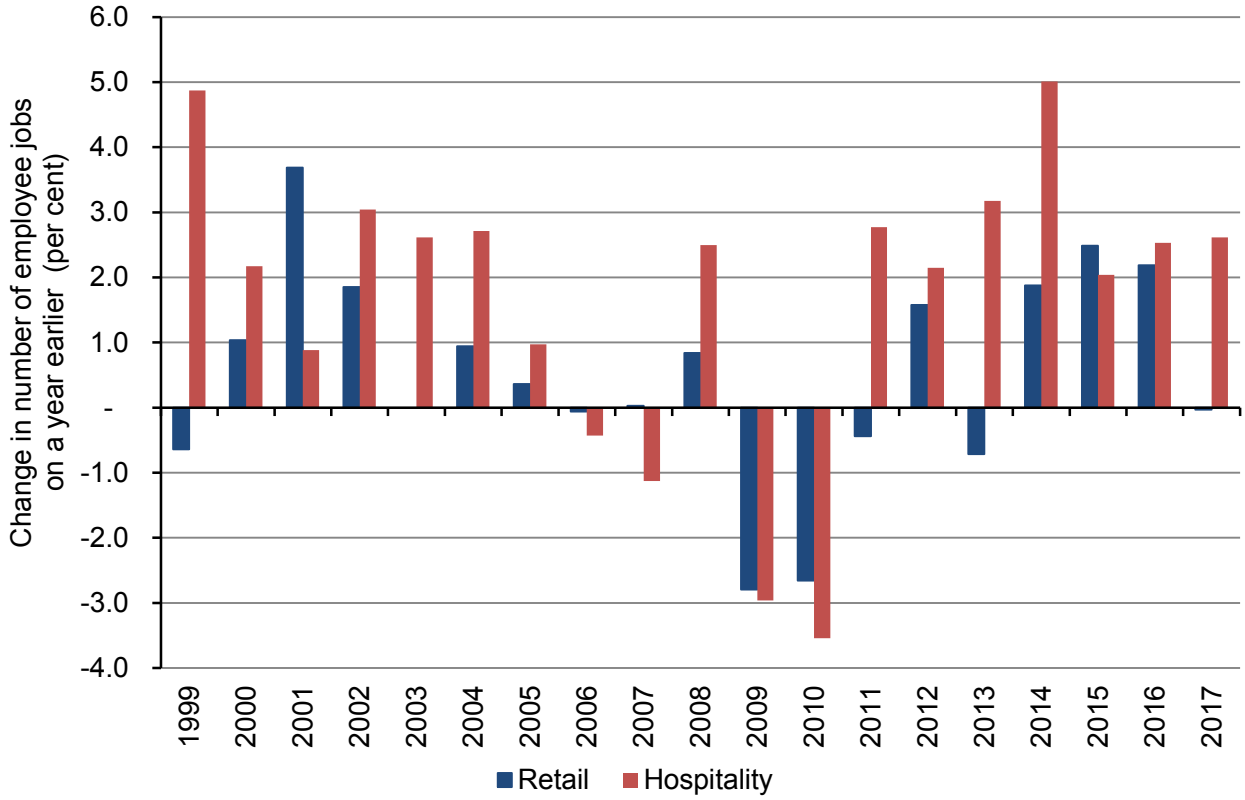


Source: LPC estimates using ASHE, April 2016-17, standard weights, including those not on adult rates of pay, excluding apprentices, UK.

3.40 The absence of downward age substitution corresponds with evidence from stakeholders and research. Few stakeholders have told us that they have recruited more young people to manage the cost of the NLW. Partly this reflects practical difficulties – for example, some roles may have age requirements, or the introduction of age rates may require complex changes to pay systems. Other stakeholders have expressed concern about the potential illegality of discriminating by age when recruiting staff. And some organisations, particularly the large retailers, are signatories to agreements stating that they will not differentiate pay by age. However, in their evidence to us, the British Hospitality Association (BHA) and the Association of Convenience Stores (ACS) advised that some of their members intended to introduce age rates and recruit more young people in the future. Conversely, the British Independent Retailers Association (bira) thought that, as few employers use the youth rates, the NLW could encourage them to hire older workers ahead of younger people. Separately, employer research commissioned by us suggested that while some employers had reduced or removed the scope of age-related pay rates, more firms had introduced or expanded their use. And one in ten firms said that they had increased the hours given to young workers (Incomes Data Research, 2017a). We will continue to monitor the distribution of jobs and hours in these sectors as the NLW continues on its path to 2020.

3.41 Given the concentrations of young workers in retail and hospitality jobs, we monitor job growth in these sectors. High levels of job growth provide reassurance that these sectors can continue to sustain youth employment. Figure 3.19 shows divergent growth patterns over the year to June 2017. Hospitality saw job growth of 2.6 per cent (compared with growth of 1.4 per cent across the whole economy), but job growth was flat in retail.

Figure 3.19: Annual growth in employee jobs, by low-paying sector, GB, 1998-2017



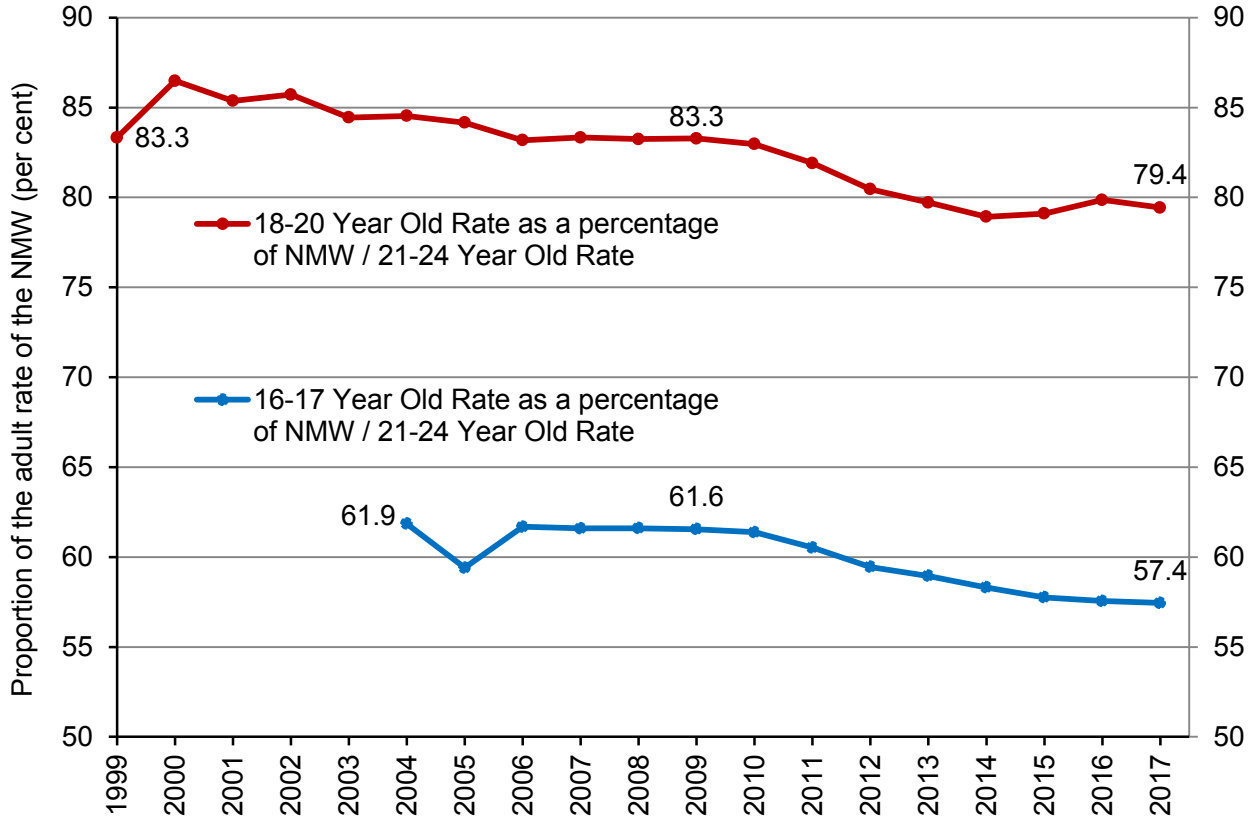
Source: LPC estimates based on ONS employee jobs series (JOBS03), not seasonally adjusted, GB, 1998-2017.

Minimum wage relativities

3.42 The minimum wage was introduced in 1999 with two age rates: an 'adult rate' of £3.60 an hour for workers aged 22 and over; and a 'Youth Development Rate' of £3.00 an hour for workers aged 18-21 – equivalent to 83.3 per cent of the adult rate. Workers below the age of 18, and apprentices of any age, were not initially covered by the minimum wage. Over a number of years concerns were raised about full-time jobs offering very low pay and few development prospects, and in 2004, the 16-17 Year Old Rate was introduced at £3.00 an hour – equivalent to 61.9 per cent of the adult rate. In 2010, similar concerns led to the introduction of the Apprentice Rate – at £2.50 an hour (42.2 per cent of the adult rate). In the same year, the adult rate of the NMW was extended to 21 year olds, with the Youth Development Rate now covering 18-20 year olds. The rates for the youngest workers, and apprentices, were set at a level which reflected their relative lack of job-related skill and/or experience, compared with older workers, and the expectation that training would be provided by employers.

3.43 Figure 3.20 shows that the relativities between the youth rates and the adult rate were broadly maintained up until 2009, and then began to widen as we recommended smaller increases for the youngest workers in light of the deteriorating youth labour market. This deterioration – including falling real wages and employment – persisted until 2013-14 for young people, necessitating a cautious approach to uprating the youth rates, including freezing them in 2012. While this cautious approach inevitably increased the gap between the youth rates and the adult rate, research (London Economics, 2015) suggests that, as hoped, it protected the employment of the youngest workers.

Figure 3.20: Differential between the youth rates and the NMW/21-24 Year Old Rate, UK, 1999-2017



Source: Low Pay Commission

3.44 We said in previous reports that we expected to be able to recommend larger increases with a view to restoring the lost value when economic conditions eased. Table 3.2 illustrates what would be required to restore the 2009 youth rate differentials against the adult NMW, now applicable to 21-24 year olds. The size of the increases that would be required depends on the level of the 21-24 Year Old Rate. Some stakeholders have argued for large increases in the 21-24 Year Old Rate, to remove or reduce the gap with the NLW. At the minimum, maintaining the original gap with the NLW – the April 2016 differential between the 21-24 Year Old Rate and the NLW (93.1 per cent) – would require large year-on-year increases up to 2020. In such circumstances, restoring, and then maintaining, the differential between the youth rates and the 21-24 Year Old rate would entail correspondingly high increases in the youth rates.

3.45 Table 3.2 shows that, assuming a straight-line path increase in the NLW to £7.83 in April 2018, the 21-24 Year Old Rate would need to increase to £7.29 (equivalent to 93.1 per cent of the

uprated NLW, as in April 2016 when the NLW was introduced). In turn, the 18-20 Year Old Rate would need to increase by 47 pence an hour (8.4 per cent), to £6.07 an hour in April 2018, to restore the 2009 differential with the 'adult rate' (83.3 per cent). And the 16-17 Year Old Rate would need to increase by 44 pence an hour (10.9 per cent), to £4.49 an hour, in order to restore the 2009 differential with the 'adult rate' (61.6 per cent). Maintaining these differentials to 2020 would require year-on-year increases in the 21-24 Year Old Rate and the youth rates equal to the increases in the NLW. Such increases would entail significant risks for the youngest workers.

Table 3.2: Restoring the youth rate differentials against the 21-24 Year Old Rate

	2017 youth rate	Restored differential[1]	New youth rate (differential restored)	Increase	
	£	%	£	£	%
21-24	7.05	93.1	7.29	0.24	3.4
18-20	5.60	83.3	6.07	0.47	8.4
16-17	4.05	61.6	4.49	0.44	10.9

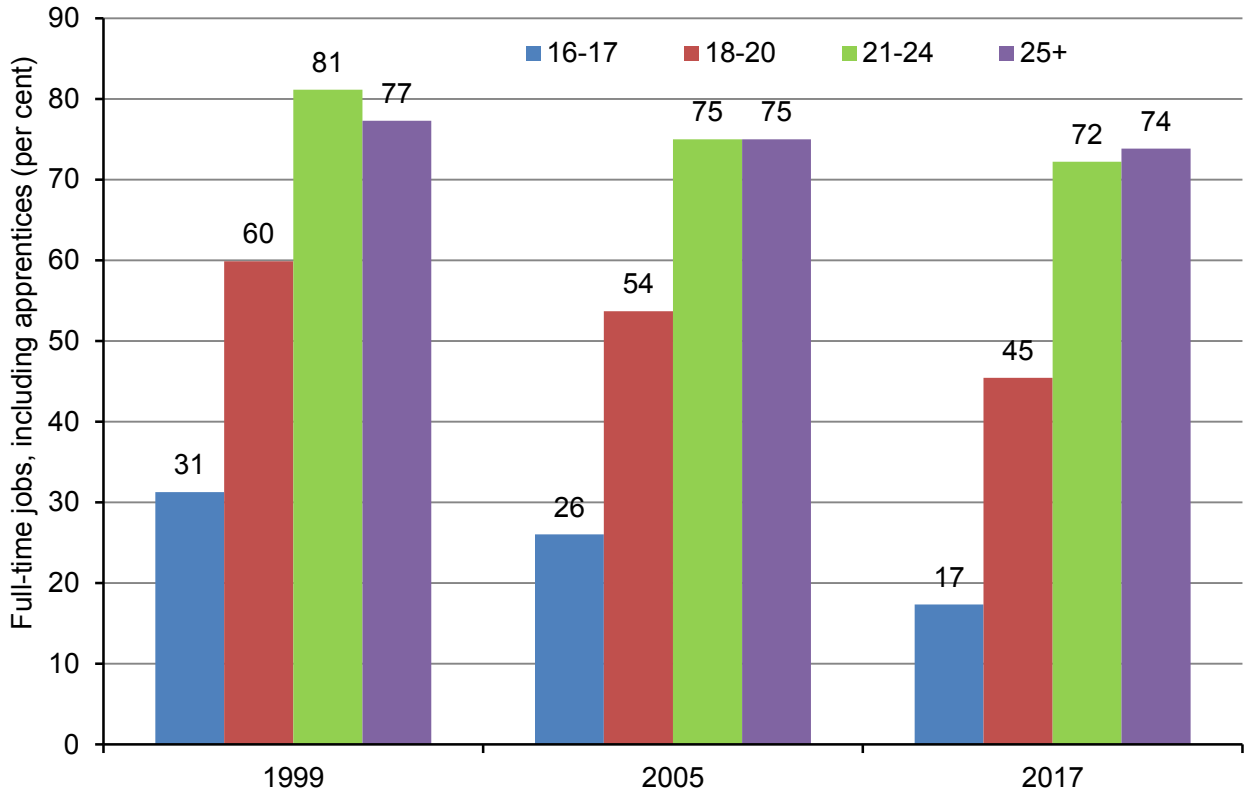
Source: Low Pay Commission
Note:
1 Example assumes that the April 2016 differential between the 21-24 Year Old Rate and the NLW (93.1 per cent) is restored in April 2018 against a NLW of £7.83; the 2009 differentials between the youth rates and the adult rate are then restored against the uprated 21-24 Year Old Rate.

3.46 Allowing the gap between the rates to widen protects jobs, but is not without some risks for young people at the threshold ages – for example, 24 year olds who are transitioning to the NLW. Previous research has found evidence of job loss on becoming eligible for the adult rate when the gap between the youth and adult rate was large (Fidrmuc and Tena Horrillo, 2011; London Economics, 2015; Jan Kabatek, 2015). However, other research has shown either no impact at threshold ages or positive gains to employment on becoming eligible for the higher rate (Dickens, Riley and Wilkinson, 2010; Fidrmuc and Tena, 2013). On balance, it is probable that a large gap – or high jump – at threshold ages poses less risk to jobs than large increases in the nominal value of the rates.

3.47 A further consideration in relation to restoring historic rates relativities is the appropriateness of doing so in todays' labour market. There has been significant structural change to the youth labour market since the youth rates were first introduced, including much greater participation in full-time education. Previous analysis showed a widening age differential in terms of employment rates and unemployment rates. This raises questions about the appropriateness of historic rates differentials for todays' labour market.

3.48 When the youth rates were introduced, the concern was primarily to protect young people in full-time, low-paid, jobs. Figure 3.21 shows that the proportion of young people in full-time jobs has fallen disproportionately, compared with older workers, since the youth rates were introduced in 1999 and 2004. The fall is particularly steep for 16-17 year olds. In April 2017, just 17 per cent of 16-17 year olds – compared with just under a half (45 per cent) of 18-20 year olds – were in a full-time job. The inclusion of apprentices – required for the comparison over time – inflates the proportion of full-time jobs (as all apprenticeships must be at least 30 hours a week). If apprentices are excluded, the proportion of full-time jobs falls to just 7 per cent for 16-17 year olds, and 38 per cent for 18-20 year olds, in April 2017.

Figure 3.21: Full-time jobs, by age, UK, 1999-2017



Source: LPC estimates using ASHE: without supplementary information, April 1999; with supplementary information, April 2005; and 2010 methodology, April 2017, standard weights, including apprentices and those not on adult rates, UK.

3.49 Table 3.3 shows the average number of hours worked by young workers. In April 2017, 16-17 year olds worked 12 hours a week at the median, compared with 28 hours a week at the median for 18-20 year olds, rising to 37 hours a week for workers aged 21-24 years, and aged 25 and over. Over the 18 years since the NMW was introduced, the number of weekly hours worked by 18-20 year olds has fallen by 9 hours at the median while being largely unchanged for older workers. In the 13 years since the 16-17 Year Old Rate was introduced, hours worked by 16-17 year olds have fallen by 4 hours a week at the median – rising to 7 hours for 18-20 year olds – while being unchanged for 21-24 year olds, and those aged 25 and over. As noted above, the inclusion of apprentices, which are full-time jobs, likely conceals an even greater fall in average hours among non-apprentice workers.

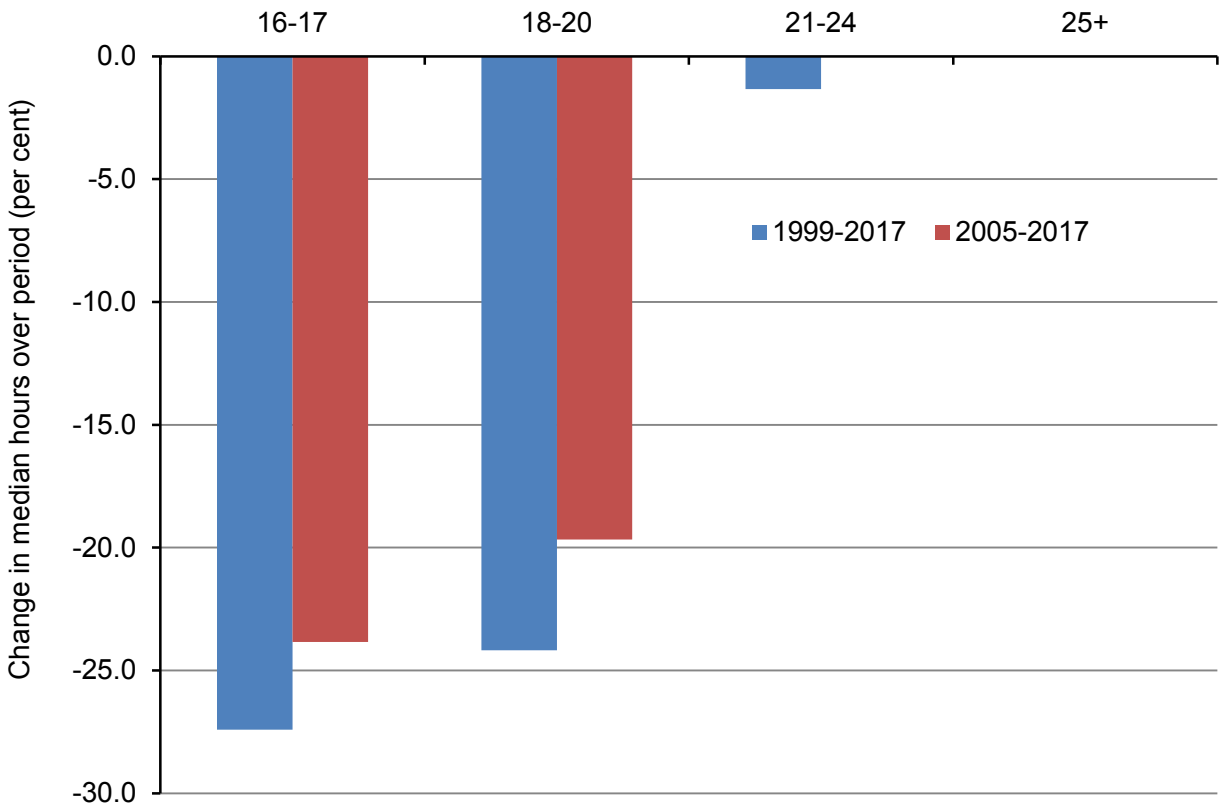
Table 3.3: Change in average weekly hours, by age, UK, 1999-2017

		Total hours			Change in total hours	
		1999	2005	2017	1999-2017	2005-2017
16-17	Median	16	15	12	-4	-4
	Mean	22	20	16	-5	-4
18-20	Median	37	35	28	-9	-7
	Mean	31	29	26	-5	-3
21-24	Median	38	37	37	-1	0
	Mean	36	34	33	-3	-1
25+	Median	37	37	37	0	0
	Mean	35	34	34	-1	-1

Source: LPC estimates using ASHE: without supplementary information, April 1999; with supplementary information, April 2005; and 2010 methodology, April 2017, standard weights, including apprentices and those not on adult rates, UK.

3.50 Figure 3.22 shows the fall in median hours in percentage terms, illustrating the widening disparity between younger and older workers over the lifetime of the NMW. Since the introduction of the NMW, median hours have remained unchanged for workers aged 25 and over, and fallen by just 1.3 per cent for 21-24 year olds. Over the same period, median hours worked by 16-17 year olds and 18-20 year olds, including apprentices, fell by around a quarter (27.4 per cent and 24.2 per cent respectively). Together with the widening disparity in employment, these data suggest that the youngest workers are more different now, to their older counterparts, than they were when the minimum wage was introduced. This does not necessarily imply that they are at relatively greater risk of job loss arising from increases in the NMW; while the widening employment rate differentials, discussed previously, may imply an increased vulnerability, working fewer hours may provide some protection. That is, the flexibility offered by short hour contracts may mean that employers cut these workers' hours, rather than their jobs, if they are struggling with rising costs. It does however arguably change the rationale for the youth rates, in particular the 16-17 Year Old Rate, as the problem of full-time, low-paid, jobs has largely disappeared for this age group.

Figure 3.22: Change in median hours, by age, UK, 1999-2017



Source: LPC estimates using ASHE: without supplementary information, April 1999; with supplementary information, April 2005; and 2010 methodology, April 2017, standard weights, including apprentices and those not on adult rates, UK.

3.51 If the original rationale for the 16-17 Year Old Rate is less relevant now than it was in 2004, with very few young people in full-time jobs, there are still many working part-time while studying. The importance of combining part-time work with study is widely acknowledged and there remains scope for the NMW to exert a benign influence here. If the 16-17 Year Old Rate is set too high, employers may be discouraged from providing work opportunities for young people; if it is set too low, young people may be discouraged from seeking part-time work. Arguably, striking the right balance, in order to maximise work experience opportunities for 16-17 year olds, may be more important than restoring historic relativities.

Conclusion

3.52 Over the last year, young workers received two increases in their youth rates as we sought to align the other rates with the NLW cycle. The minimum wage for 21-24 year olds was uprated to £6.95 in October 2016, and then to £7.05 in April 2017 – equivalent to an annual increase of 5.2 per cent. The 18-20 Year Old Rate was increased to £5.55 in October 2016 and then to £5.60 in April 2017, equivalent to an annual increase of 5.7 per cent. And the 16-17 Year Old Rate was increased to £4.00 in October 2016, rising to £4.05 in April 2017, equivalent to an increase of 4.7 per cent. This chapter considers the impact of these relatively large year-on-year increases on young people's pay and employment.

3.53 A consistent finding this year is of divergent fortunes for 18-24 year olds and 16-17 year olds, with the latter group seeing considerably less progress on earnings and employment. The background picture for 16-17 year olds is a long-term trend of increasing participation in full-time education, with part-time working, primarily in low-paying sectors. But this trend has not accelerated over the past year – and may have stalled – such that it is unlikely to explain the recent deterioration.

3.54 Median pay for 21-24 year olds and 18-20 year olds saw strong growth in the year to April 2017, exceeding that of 25-30 year olds. Hourly pay at the median increased by 5.2 per cent for 21-24 year olds and by 4.2 per cent for 18-20 year olds. This positive picture was not repeated for 16-17 year olds, whose hourly pay grew by just 1.8 per cent over the year.

3.55 Labour market patterns showed the same divergence. Over the year to June 2017, the employment rate for young people not in full-time education continued to rise for 21-24 year olds (up 1.2 percentage points) and 18-20 year olds (up 0.6 percentage points); while falling for 16-17 year olds (down 2.1 percentage points). Unemployment rates for those not in full-time education showed the same pattern, with the unemployment rate continuing to fall for 21-24 year olds (down 1.1 percentage points) and 18-20 year olds (down 1.7 percentage points), but rising for 16-17 year olds (up 1.0 percentage point).

3.56 Measurement of the bite was complicated by the change to the NLW cycle, with the bite now being measured in the month of the April uprate rather than six months later, when pay has risen. Comparing the bite of the October 2015 minimum wage rates, measured in April 2016, with the bite of the April 2017 rates, measured in the same month, the bite was stable for 21-24 year olds (likely a real fall in the bite), while increasing for 18-20 year olds and 16-17 year olds. The increases for the younger groups are due in part to the changed cycle; measured six months later their bites may well be lower than the April 2016 bites (particularly for 18-20 year olds who have seen relatively high pay growth in the recent period).

3.57 The changed cycle also complicates the measurement of underpayment, where some apparent underpayment may be simply a lag in employers uprating pay. Taking account of this, the proportion of young workers paid below their applicable minimum wage rate did not appear to have increased over the year. The proportion of young workers paid at their applicable rate is also complicated by the change to the cycle but, again, there is a divergence between 16-17 year olds and older youth groups. The proportion of 16-17 year olds paid at their applicable rate increased over the year, while falling for 18-20 year olds and 21-24 year olds.

3.58 A further consideration this year was the widening differential between the youth rates and the adult rate, which had occurred from 2009 onwards as we sought to protect young workers following the 2008 recession. Restoring the 2009 youth rate differentials with the adult rate – now the 21-24 Year Old Rate – would entail a very high risk to young workers' jobs. Analysis of the changing youth labour market and the nature of young people's work suggest that the rationale and role for the youth rates may have changed over time, particularly in regard to 16-17 year olds. Restoration of the original rates differentials may be less important for this group than ensuring that the rates are fit for purpose, maximising their opportunity to gain valuable work experience while studying.

3.59 In our Autumn 2016 Report we flagged concern about the impact of the relatively large increases we recommended for October 2016. This year, the employment and unemployment improvement observed for 18-20 and 21-24 year olds suggests that the rates increases did not harm their employment. The picture for 16-17 year olds offers less reassurance.

3.60 We also noted concern last year about the impact of the referendum decision to leave the EU; and whether a slow-down in the economy would impact negatively on the youth labour market. The generally positive labour market picture over the year provides some reassurance that these risks have, as yet, not materialised.

Chapter 4
Apprentices

Introduction

4.1 The final group for whom the LPC recommends a minimum wage rate is apprentices. The Apprentice Rate applies to all apprentices aged between 16 and 18, and for those aged 19 and above it applies for the first year of their apprenticeship only; after this they are entitled to the NMW rate appropriate for their age.

4.2 The LPC's remit for the Apprentice Rate, which is currently £3.50 per hour, is the same as for the other NMW age rates – to lift it as high as possible without damaging employment. However, the context is slightly different for apprentices: firstly, there is an additional margin of adjustment that employers could use in responding to the Apprentice Rate – the volume and quality of training. Apprentices spend significant time training both off the job and on the job; this time is less productive than time spent undertaking standard work tasks. Therefore there is an incentive to reduce time spent training. Secondly, the rationale for an Apprentice Rate that is lower than the other age-related NMW rates is not only that apprentices are less productive than a fully qualified worker while they are training, but also recognition of employers' investment in the skills of their apprentices. In essence, the acceptance of a lower rate of pay by an apprentice is in exchange for a greater investment in their skills now and therefore greater productivity and earnings in the future.

4.3 There have been some substantial changes to Apprenticeship policy in recent years which have a direct bearing on the LPC's rate. Firstly, in October 2015 the Apprentice Rate increased by 57 pence to £3.30 (21 per cent), by far its largest ever increase and one which was greater than that of the National Living Wage (NLW) upon its introduction in April 2016. Alongside the introduction of this new NLW rate came a change in the calendar: the NLW was introduced in April 2016 while previous rate changes took place in the October of each year. To align the other NMW rates, including the Apprentice Rate, with the NLW, they were uprated twice in one year, firstly in October 2016 and then in April 2017.

4.4 The Government has also introduced reforms to the way in which apprenticeships are to be funded, including a new £3 billion Apprenticeship Levy for larger employers, and a requirement for co-investment for small apprentice employers in England. These measures came into force in the spring of this year, and we consider their initial impacts where evidence allows.

4.5 This chapter considers the volume and mix of apprentices across the nations of the UK, where data is available. We take earnings data from the Annual Survey of Hours and Earnings (ASHE), and cover research into the introduction of the £3.30 an hour Apprentice Rate.

4.6 In this chapter, we:

- consider recent changes to funding policy and how these bear on the costs of delivering apprenticeships;
- consider current volumes of apprenticeships across the nations of the UK, and whether the introduction of recent rate changes or the funding policy changes have had any effect;
- note that our preferred source of earnings data – the Apprenticeship Pay Survey (APS) – is a biennial survey and is not available this year; instead we focus on the ASHE, and describe trends in apprenticeship earnings and changes to the relative value of the minimum wage, or 'bite'; and
- review commissioned research into the effects of the large increase in the Apprentice Rate in 2015.

Apprenticeship policy

4.7 Understanding Government policy with regard to Apprenticeships is key for making appropriate recommendations on the rate. This is particularly the case for funding policy, which has a direct bearing on the costs employers face. For example, if funding policy becomes more generous, this lowers the costs that employers have to consider, and therefore potentially enables them to bear a higher Apprentice Rate, and vice versa.

4.8 This year's rate recommendations come at a time of unprecedented change in apprenticeship policy, with the bulk of the change affecting the system in England. Within the last year, the Government has introduced a series of major reforms to the way apprenticeships are funded. As of April 2017, all UK employers with an annual pay bill of at least £3 million are required to pay an Apprenticeship Levy of 0.5 per cent of their pay bill above the £3 million threshold. This levy will pay for the apprenticeship training and assessment previously provided by colleges and training providers, and funded via government grants. By 2020 the levy is estimated to cost UK employers £3 billion per year.

4.9 In England, levy-paying employers' contributions enter a digital account which is then used to pay training and assessment providers for their services. Arrangements in the devolved nations vary, though employers and their representatives told us that there is scope to make these arrangements clearer.

4.10 Smaller employers in England whose wage bill is below the £3 million threshold are still able to access apprenticeship training. But they are required to contribute 10 per cent of the costs faced by colleges, training providers and assessment bodies in delivering the training and assessment. This means that smaller employers face greater costs in recruiting apprentices than previously. Levy-paying employers will meet 100 per cent of these costs from their levy account.

4.11 Of particular relevance is the change in policy toward 16-18 year old apprentices in England, as a far higher proportion of them are paid at the Apprentice Rate or close to it. The funding system has been simplified considerably. Instead of a formula that took into account variables such as local deprivation, local area costs and the size of the employer, each apprenticeship framework or

standard fits in to one of 15 funding bands. Employers and providers then negotiate on a fee within that band. As of April this year, both employers and providers will each receive an additional £1,000 for every 16-18 year old apprentice they take on. Furthermore, the smallest employers, those with fewer than 50 employees, will not be required to co-invest in any 16-18 year old apprentices taken on. However, many stakeholders in the apprenticeship system in England claim that in the process of simplifying the funding system, funding for 16-18 year old apprentices has been reduced.

4.12 In addition to these changes to funding, there are also changes to the content of apprenticeships themselves. The vast majority of apprenticeships are currently 'frameworks', but policy in England has the intention of shifting to new 'standards'. The principle difference is that standards are required to have an end point assessment.

Implications for employer costs and the Apprentice Rate

4.13 There are a number of interactions between these changes, the Apprentice Rate and, indeed, the NLW. The levy is, to a large extent, a sunk cost, and employers who want to maximise the value of their levy contribution will need to take on apprentices, potentially creating a powerful incentive to offer places. On the other hand, it is still a cost, which will need to be funded. Moreover, it only relates to part of the expense of taking on an apprentice. For example, employers provide on-the-job training, management, mentoring, provision of equipment and materials, and exposure to a range of tasks and activities, as well as pay the wages of their apprentice for both their time at work and at college.

4.14 Under the pre-levy funding regime apprentice employers paid little towards the training and assessment costs of colleges and training providers, though they invested in the apprenticeship in other ways. The introduction of the levy means that the training and assessment costs of training providers and colleges will now need to be met by the employer through their levy contribution. One risk is that employers will look to minimise activities that they have traditionally invested in – on the job training, management and so on – in order to lower the overall cost. In addition, the motivation to take on apprentices is greater for those large employers in low-paying sectors, who have the simultaneous incentive to avoid the NLW alongside maximising the value they derive from their levy bill.

Levy impact

4.15 Previous research by the Department for Education (DfE, 2016c), into how employers may react, set out a range of potential responses. Those employers who had been involved in apprenticeships for a long time, usually those sectors traditionally associated with apprenticeships, such as engineering and construction, suggested a 'business as usual approach': they expected little change to the size or scope of their apprenticeship programme. Other employers were intending to use the levy as a catalyst to change or expand their programmes. This tended to be the response of employers who had had some involvement with apprenticeships before, but in a limited way. In these cases, the levy was helping them choose apprenticeships instead of alternative forms of training. Some large employers, with consequently large levy bills, were concerned that they would need a very large apprenticeship programme to use up their levy funds. Finally, some employers were planning to simply 'write-off' their levy bill and treat it as a tax.

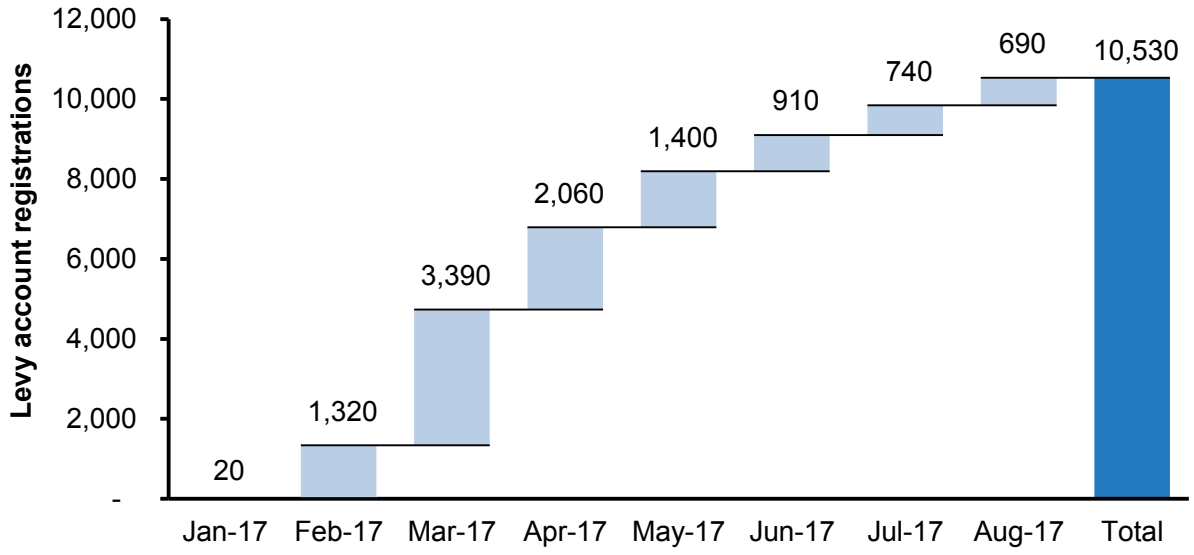
4.16 We heard in evidence from employers and employee representatives that many employers are still figuring out how they will respond to the levy. The Confederation of British Industry (CBI) told us that "the speed and scale of the introduction of the apprenticeship levy has presented significant challenges to firms, who have had to work very hard to prepare against tight timescales". In a survey of their members, 45 per cent were of the view that they would increase the number of places available, but this may be at the expense of other types of training, with just over a quarter saying they would reduce non-apprentice training. Around 16 per cent said they would simply view the levy as a tax, without changing their training, and 11 per cent said that the levy would put downward pressure on wages.

4.17 Some employer representatives complained of inflexibilities within the levy rules, in that it could not be spent on internal training (CBI, the British Hospitality Association (BHA), the Association of Licensed Multiple Retailers (ALMR)), or that the process for developing new apprenticeship standards was too slow and cumbersome (the UK Homecare Association (UKHCA)) meaning that they would not be able to spend their levy funds effectively. Others claimed that the levy will simply lead to rebadging or rebranding of existing training schemes (CIPD, UKHCA).

4.18 Employee representatives were supportive of the levy and were of the view that it would increase demand for apprentices. Instead, they remain concerned that a relatively lower Apprentice Rate creates the potential for exploitation of apprentices.

4.19 DfE have published some initial statistics on the number of employers registering for a levy account (DfE, 2017a). There have been 10,500 accounts registered by levy-paying employers since the Apprenticeship Service – the online account system – was launched at the beginning of the year. Initial evidence published last year estimated there to be around 20,000 levy-paying employers, suggesting that just over half of the potential levy-payers have registered so far. We heard in evidence that those with the largest levy bills are the most likely to register.

Figure 4.1: Number of employers registering their levy account each month, January 2017 to August 2017



Source: LPC analysis using statistics from Department for Education: Apprenticeship service registrations and commitments: August 2017

Apprenticeship volumes

4.20 One of the key metrics for understanding the current state of apprenticeships is the number of starts, which is the number of people starting an apprenticeship each year. Should the Apprentice Rate to be set too high we may expect this to affect the number of apprenticeship starts. This could be either an overall reduction, or a change in the composition of apprenticeships, from lower-paying frameworks to higher-paying ones, for example.

4.21 However, there are a range of other factors that influence apprenticeship volumes, particularly Government policy. The Westminster Government has an aim of 3 million apprenticeship starts by 2020, and so policy is clearly aimed at an expansion in apprenticeship numbers. Governments in the devolved nations have similar plans to boost apprenticeship numbers; for example, the Scottish Government plan on 30,000 starts by the year 2020.

4.22 Given that the changes to the funding system will have the greatest impact in England, though the levy is paid by employers UK-wide, we focus on England first. Figure 4.2 shows the number of starts for each quarter of the last four academic years by the age of the apprentice (data for 2016/17 are provisional).

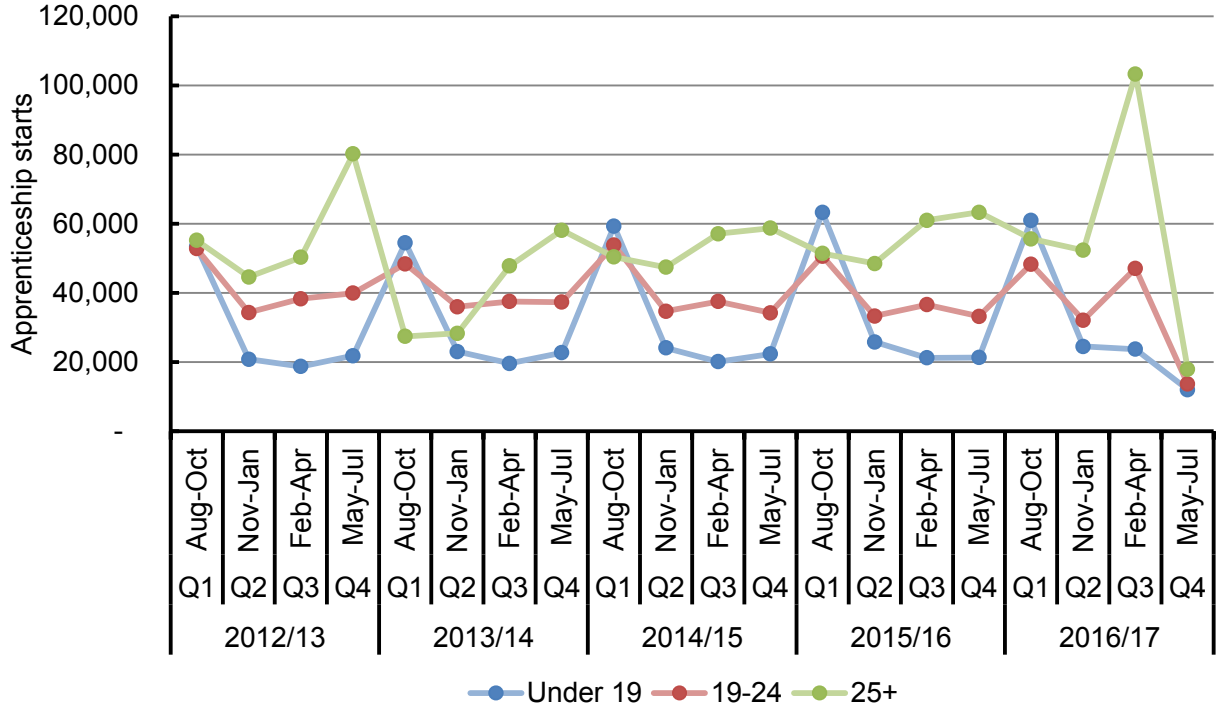
4.23 It is apparent that employers and training providers have brought some of their apprenticeship recruitment forward, to avoid changes to the funding system, which came into effect in April of 2017. There is a clear spike in the number of starts in the February to April quarter of 2017, which covers the period before the policy changed. This is particularly the case for apprentices aged 25 and over, who recorded 103,300 starts, an increase of 69 per cent on the same quarter last year. The other age groups also saw increases in the third quarter, but not to the same extent. The year-on-year growth rates were 29 per cent and 12 per cent for 19-24 and 16-18 year old apprentices respectively.

4.24 One potential explanation for fewer younger apprenticeships being brought forward is the influence of academic timetables. Figure 4.2 shows the spike for 16-18 year old apprentices around each September as the academic year begins. This is also the case, though less so, for 19-24 year old apprentices. It is possible training providers and employers were unable to bring forward as many apprenticeship starts for younger apprentices because younger people simply were not available at that time, especially if they were in the midst of another training or education programme and/or taking exams.

4.25 It is also the case that apprentices aged over 25 are more likely to have already been working for their employers, avoiding the need for a recruitment process. This again makes it easier for employers and training providers to bring forward the recruitment of older apprentices.

4.26 After the rise in starts in the third quarter (February to April), there was an equally significant fall in the following quarter (May to July). The rise was enough to compensate for the fourth quarter fall for 25 years and over apprentices, but this is not the case for those aged 16-18 and 19-24. The net effect of these changes over the whole academic year is that the number of 25 years and over starts in 2015/16 was 2 per cent higher than the previous year, but starts for both groups of younger apprentices were 8 per cent lower.

Figure 4.2: Apprenticeship starts, by age, England, 2012/13-2016/17



Source: LPC analysis using statistics from Department for Education: Further education and skills – October 2017 (SFR53/2017)
Notes: Data is produced in academic years

4.27 In terms of levels, the picture is similar; there was a spike in the third quarter of the 2016/17 academic year followed by a fall the following quarter. Over the year as a whole, level 2 apprenticeships saw a net fall of 32,000 (11 per cent), while level 3 grew marginally with 5,000 (3 per cent) more starts, and level 4+ grew by 8,700 (32 per cent).

4.28 Table 4.1 summarises the changes, showing that overall, there were 4 per cent (18,000) fewer starts in 2016/17 than in the previous academic year. The bulk of this reduction has come from level 2 apprenticeships. Only for the 25 years and over apprentices were these falls compensated by increases at levels 3 and above. There have been substantial percentage increases in higher level (level 4 and above) apprenticeships, from 27,300 starts in 2015/16 to 36,000 in 2016/17, an increase of 32 per cent – though they still make up a small share of the programme as a whole (7 per cent).

Table 4.1: Year-on-year changes to apprenticeship starts by age and level, England, 2015/16-2016/17

		Nominal changes (15/16 to 16/17)			Percentage changes (15/16 to 16/17)		
Age	**Level**	**Q3 to Q3**	**Q4 to Q4**	**Whole year**	**Q3 to Q3**	**Q4 to Q4**	**Whole year**
16-18	Level 2	1,100	-6,900	-9,200	8	-47	-11
	Level 3	1,300	-2,300	-1,300	20	-37	-3
	Level 4+	100	-100	100	50	-50	5
16-18 Total		**2,500**	**-9,300**	**-10,400**	**12**	**-44**	**-8**
19-24	Level 2	3,000	-12,000	-13,600	14	-62	-16
	Level 3	6,600	-7,300	-600	46	-57	-1
	Level 4+	900	-300	1,600	75	-30	28
19-24 Total		**10,500**	**-19,600**	**-12,600**	**29**	**-59**	**-8**
25+	Level 2	16,300	-25,600	-9,000	50	-76	-8
	Level 3	19,100	-16,300	6,900	84	-68	8
	Level 4+	6,900	-3,500	7,000	128	-59	36
25+ Total		**42,300**	**-45,400**	**4,900**	**69**	**-72**	**2**
Level 2 Total		20,400	-44,500	-31,800	30	-66	-11
Level 3 Total		27,000	-25,900	5,000	62	-60	3
Level 4+ Total		7,900	-3,900	8,700	116	-55	32
Grand Total		**55,300**	**-74,300**	**-18,100**	**47**	**-63**	**-4**

Source: LPC analysis using statistics from Department for Education: Further education and skills – October 2017 (SFR53/2017)

4.29 In the 2012/13 academic year there was a similar pattern – a large rise and subsequent fall – in the data, brought about by a policy change: the introduction of advanced learner loans. Starts for 25 years and over apprentices jumped in the May to July quarter of 2012/13 and then fell in the following quarter. After the initial shock, starts returned to their longer-term trend, but this was largely because the policy in question was dropped for apprentices.

4.30 It is challenging to establish if the change apparent in the last few quarters of data is a temporary blip or a change to the long-term trend. In evidence Government told us they believed that the fall was likely to be temporary. Levy-paying employers have 24 months to make use of their levy payments, so it is possible that they are considering how best to use the levy – as our stakeholder evidence suggests – and intend to make full use of it. Some employers told us that the necessary standards were not yet available, but that they fully intended to use them when they were. The next quarter of data will cover the beginning of the 2017/18 academic year, and so will give a better idea of the longer-term impact for younger apprentices[4].

4 Statistics published by the DfE after LPC Commissioners negotiated the rates recommendations show that there has been a spike in levy-paying employers 'committing' to starting apprenticeships in September 2017. There were 21,000 commitments to start in September, more than twice that in the preceding months and the largest proportion of these commitments are for apprentices aged 16-18 (7,270 or 35 per cent).

4.31 The evidence allows a more detailed look at levy-supported apprenticeships. The first levy-supported starts were reported in the final (May to July) quarter of 2016/17. In total there were 18,500 starts, which represented 42 per cent of the 43,600 starts in that quarter. Table 4.2 compares levy and non-levy supported apprenticeships in the May to July quarter with the same quarter in the previous year. Levy-supported apprenticeships were more likely than non-levy apprenticeships to be at level 4+ (9 per cent compared with 6 per cent), although non-levy apprenticeships were slightly more likely to be at a higher level than the previous year (6 per cent compared with 5 per cent). Similarly, starts on both levy and non-levy supported apprenticeships were more likely to be on standards rather than frameworks (44 compared to 18 per cent). In the previous year just 1.4 per cent of starts were on the new standards.

Table 4.2: Apprenticeship starts, by apprenticeship level and levy status, England, 2015/16 Q4 (May-Jul) and 2016/17 Q4 (May-Jul)

			2016/17 Q4	2015/16 Q4
	Levy (%)	Non-Levy (%)	Total (%)	Total (%)
Level 2	54	53	53	57
Level 3	37	41	40	37
Level 4+	9	6	7	5

			2016/17 Q4	2015/16 Q4
	Levy (%)	Non-Levy (%)	Total (%)	Total (%)
Standards	44	18	29	1.4
Frameworks	56	82	71	99

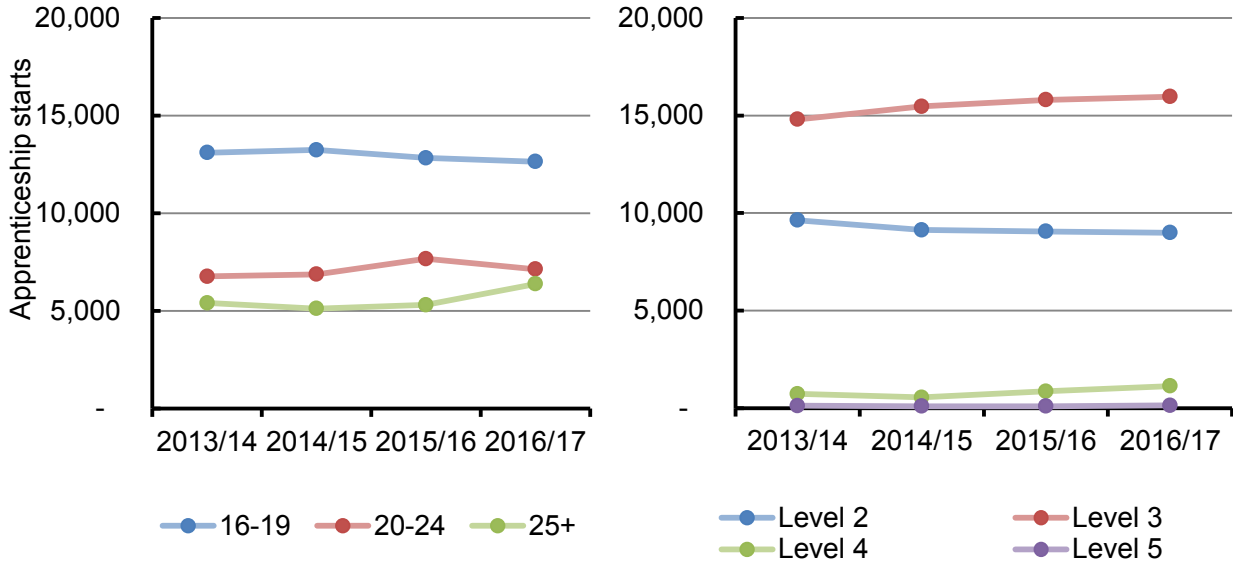
Source: LPC analysis using statistics from Department for Education: Further education and skills – October 2017 (SFR53/2017)

Apprenticeship volumes in Scotland, Wales and Northern Ireland

4.32 Figures on starts in Scotland, Wales and Northern Ireland provide a useful counterpoint to those for England, as the degree of policy change is far less in these nations, though employers are liable to pay the levy UK-wide.

4.33 Figures on starts in Scotland are produced according to financial years and so data is available up to April 2017. The number of starts over the last four financial years by age and level is shown in Figure 4.3 and has been fairly consistent at around 25,000 each year. In 2016/17 they reached a high of 26,262, which was slightly ahead of the Scottish Government's target of 26,000 for the year, and is moving towards the longer-term target of 30,000 per year by 2020. The most recent increase came from a rise in apprentices aged over 24, though in contrast to apprenticeship programmes in other nations of the UK, the Scottish Modern Apprenticeship programme is dominated by younger apprentices aged between 16 and 19, and programmes at level 3 and above. From this evidence, there does not appear to have been any negative impact of policy change, particularly the introduction of the £3.30 Apprenticeship Rate in October 2015.

Figure 4.3: Modern Apprenticeship starts by age and level, Scotland, 2013/14-2016/17



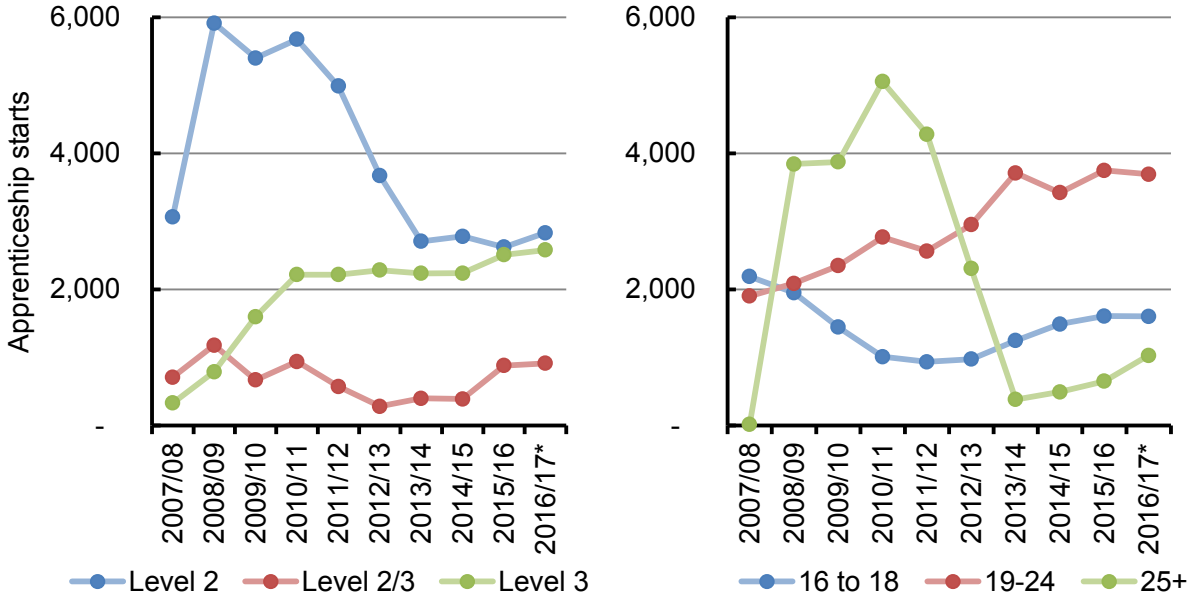
Source: LPC analysis using statistics from Skills Development Scotland

4.34 Data for Northern Ireland are produced following academic years; however, complete data for 2016/17 is not yet available, and so figures for this year are indicative and will undercount the true number of apprenticeship starts. The number of starts by age and level using the available data is shown in Figure 4.4 and the pattern continues that described in our 2016 Autumn Report. Several years ago local economic conditions, combined with a policy focus on younger apprentices, led to a major shift from 25 years and over apprenticeships to those of younger age groups. Even though it is partial data for the year, the total number of apprentice starts in 2016/17 – at just over 6,300 – is the highest since 2012/13. Again, this seems to be driven by a slight uptick in 25 years and over apprenticeships.

4.35 Finally, we have data on starts from Wales; however, the most recent data available is the 2015/16 academic year, so we are unable to make any judgements as to the impact of recent changes to the Apprentice Rate. However, we can look at the impact of the £3.30 Apprentice Rate.

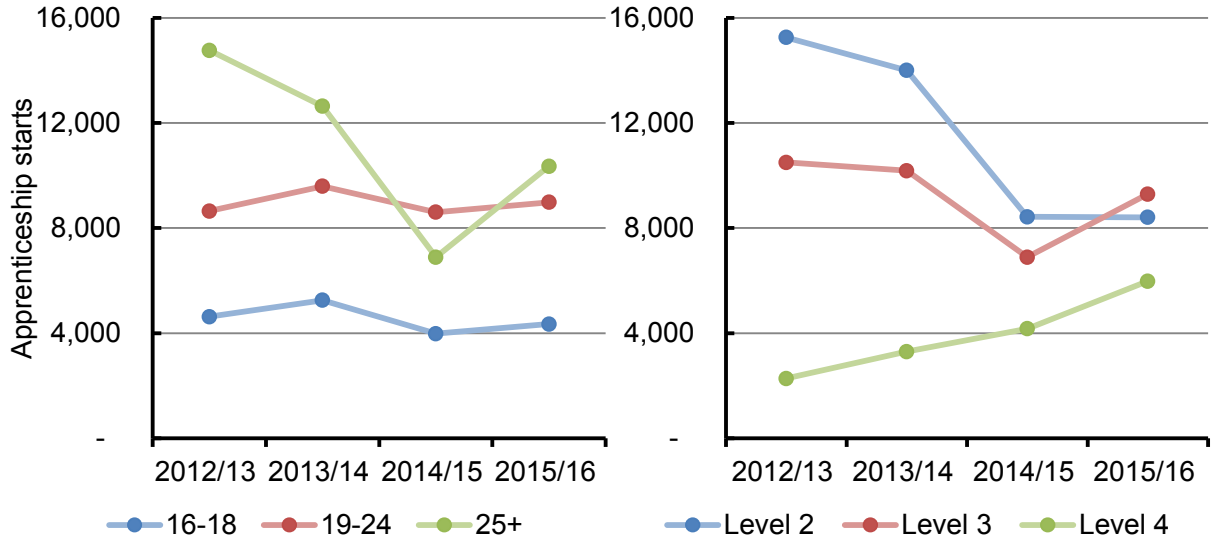
4.36 Figure 4.5 shows that there has been a long-term shift in the balance of apprenticeship starts in Wales, from level 2, to level 4 and above. This shift is driven by policy in Wales as opposed to any changes in the Apprentice Rate. Also, there has been a shift away from older apprentices, although this reversed somewhat in the 2015/16 academic year.

Figure 4.4: Apprenticeship starts by age and level, Northern Ireland, 2007/08-2016/17



Srce: LPC analysis using statistics from the Department for the Economy, Northern Ireland Executive
Notes: 2016/17 data does not cover the whole year, final start totals will be higher than shown

Figure 4.5: Apprenticeship starts, by age and level, Wales, 2012/13-2015/16



Source: LPC analysis using statistics from The Welsh Government (StatsWales)

Apprenticeship volumes summary

4.37 Overall, it appears that there has been substantial change in starts in England, compared to relative stability in the each of the devolved nations. The various policy changes taking place in England on funding, content and quality are clearly having an impact, but exactly what policy change is causing what outcome is less clear. However, from a purely headline perspective, it does not appear that the large increase in the Apprenticeship Rate in October 2015, has had a significant impact on starts, in any of the devolved nations. This is supported by research commissioned by the LPC to assess the impact of the increase (summarised in Box 1). Together, the research, combined with the headline figures on starts from the devolved nations, suggest that the October 2015

increase in the Apprentice Rate – by far the largest increase in the Apprentice Rate since its inception – had little impact on the overall volume and composition of apprenticeships.

Box 1: The impact of the £3.30 Apprenticeship Rate

In October 2015, the Apprentice Rate was increased by 21 per cent, or 57p, to £3.30. This increase was far larger in both percentage and nominal terms than that caused by the introduction of the NLW in April 2016 for all workers over 25, and so represented a substantial change in policy for apprentices.

To investigate the impact of this change, the LPC commissioned research (Frontier Economics, 2017) into the volume, composition and drop-out rate of apprenticeships. This research combined administrative data from the Individualised Learner Record in England with earnings data from the Apprenticeship Pay Survey. It used an econometric methodology that exploited differences by geography across England; essentially, it compared the outcomes in higher-paying versus lower-paying areas in England.

The overall results were that there was no statistically significant evidence of a negative impact on either numbers of apprenticeship starts or on completion rates. There was also no impact on the composition of the apprenticeship population; the proportion with disabilities or from a non-white ethnic group did not seem to have changed.

Apprentice earnings

4.38 The final section of this chapter considers apprentice earnings, a key consideration in assessing the impact of future rate rises. The LPC's preferred source of evidence for apprentice earnings is the Apprenticeship Pay Survey (APS); however this is a biennial survey and is not available this year. Instead we use the ASHE, and so it is important to note this survey's limitations. In comparison to the APS, the ASHE records higher earnings, and lower underpayment. The ASHE is a survey of employers and so obtaining information on apprentices is contingent on the employer being aware that they employ apprentices. Government evidence (DfE, 2016b) has shown that a substantial share of apprentice employers are unaware of this fact and so will not be included in the ASHE.

4.39 There is an added complexity to this year's earnings figures. The previous section showed substantial change in the make-up of apprenticeships in England. It is likely that these compositional changes will have had an impact on measures of earnings, as the ASHE took place at the end April 2017, in the midst of the substantial change.

4.40 Table 4.3 sets out the distribution of apprentice pay in relation to the NMW structure in 2017. The top line shows the share of apprentices paid below the Apprentice Rate, with the next showing the share paid between the Apprentice Rate and the 16 to 17 rate, and so on for the other rates. The bottom two rows show the share paid close (within 10p) to the Apprentice Rate and those paid less than the rate for their age.

4.41 This shows that while relatively few (10 per cent) apprentices are paid close to the Apprentice Rate – one in five of the youngest apprentices – there are many paid less than the rate for their age (24 per cent).

Table 4.3: Distribution of hourly earnings by age, UK, 2017

Rate	16-18	19-20	21-24	25 and over	Total
	%	%	%	%	%
Below Apprentice Rate (AR)	4	1	1	0	2
Between AR and 16 to 17 (£3.50 – £4.04)	28	10	6	1	13
Between 16 to 17 and 18 to 20 (£4.05 – £5.59)	30	15	3	1	15
Between 18 to 20 and 21 to 24 (£5.60 – £7.04)	19	32	9	3	18
Between 21 to 24 and NLW (£7.05 – £7.49)	3	6	19	3	8
Paid at NLW or above (£7.50+)	15	35	62	92	43
Grand Total	**100**	**100**	**100**	**100**	**100**
Paid £3.40 to £3.60	21	7	4	1	10
Below the NMW for their age	32	27	19	8	24

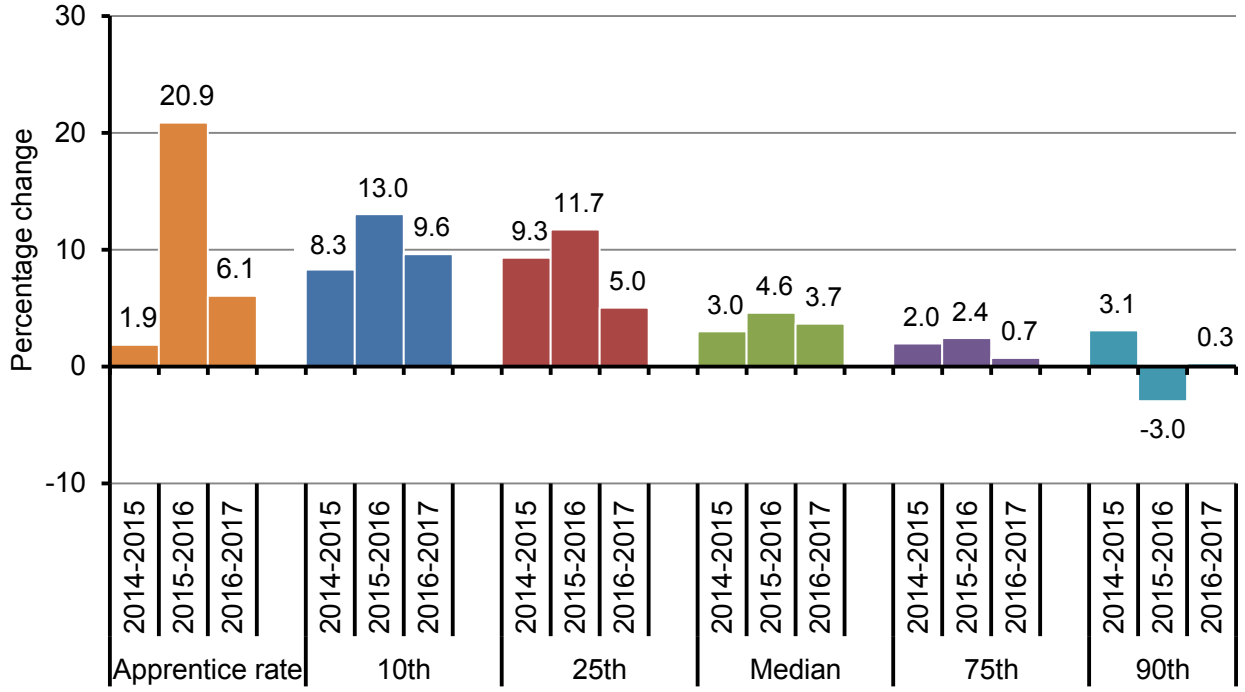
Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

4.42 Over the last year median hourly earnings of apprentices have grown slightly faster than for non-apprentices: at 4 per cent and 3 per cent respectively. The median hourly wage for Apprentices now stands at £7.05 as of April 2017.

4.43 This growth varies within the earnings distribution. Figure 4.6 shows how apprentices' hourly earnings at various points in the pay distribution have changed over the last three years, alongside changes in the Apprentice Rate itself. This shows that apprentice pay growth has been higher at the lower end of the pay distribution; the 10th and 25th percentiles, shown in the blue and red bars respectively, show the highest growth in each of the last three years. The highest growth was recorded between 2015 and 2016, which was the year in which the Apprentice Rate increased by its largest ever margin, from £2.73 to £3.30 – a 21 per cent increase. While slightly lower between 2016 and 2017, earnings growth has continued to be higher at the lower end of the pay distribution.

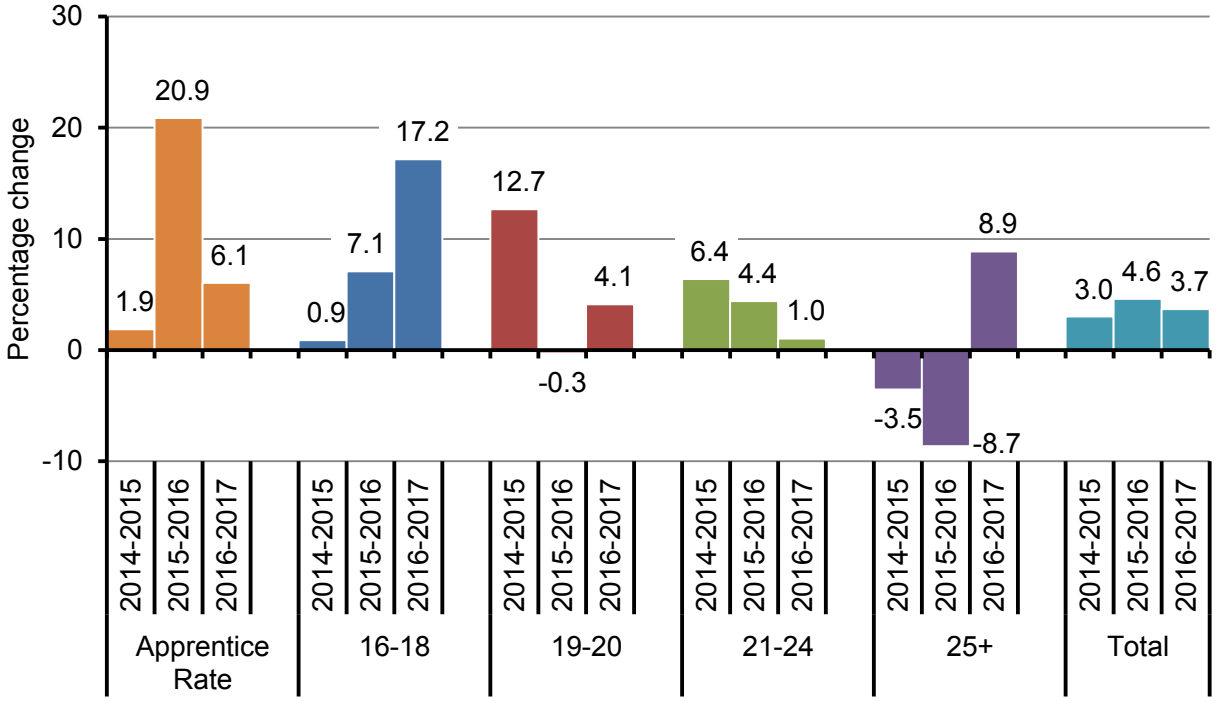
4.44 Turning to how earnings have changed by age we find a more mixed picture. Figure 4.7 shows growth in earnings at the median for four different age groups, alongside changes in the Apprentice Rate. In 2017 growth was exceptionally high for 16-18 year old apprentices at 17 per cent, far higher than the 7 per cent recorded the year before, and far higher than the rest of the apprenticeship and non-apprenticeship populations alike. For 19-20 year old apprentices median earnings have grown by 4 per cent this year, following no change the year before, and large growth the year before that. For 21-24 year olds growth at the median appears to be declining over time, and for those aged 25 and over, strong growth has been recorded following two years of wage falls.

Figure 4.6: Annual percentage change in the Apprentice Rate and apprentice pay at selected points of the earnings distribution, UK, 2014-2017



Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

Figure 4.7: Annual percentage change in the Apprentice Rate and apprentice median earnings, by age, UK, 2014-2017



Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

4.45 The finding for 16-18 year old apprentices is particularly striking and perhaps counter intuitive; we would expect more 16-18s to have benefited from the large increase in the Apprentice Rate that took place between 2015 and 2016 as their pay tends to be lower. To understand this mixed picture across the ages it is necessary to look in more detail at the individual wage distributions of apprentices.

4.46 The following charts show the distribution of earnings in 20p pay bands for different ages of apprentices for each of the last three years. On each of these charts the significant influence of not only the Apprentice Rate, but also the other rates of the NMW, is clearly visible. Each NMW rate is labelled on the charts. For context, each of the NMW rates are shown in Table 4.4 alongside the median hourly earnings of apprentices by age.

Table 4.4: Minimum wage rates and median earnings, by age, UK, 2015-2017

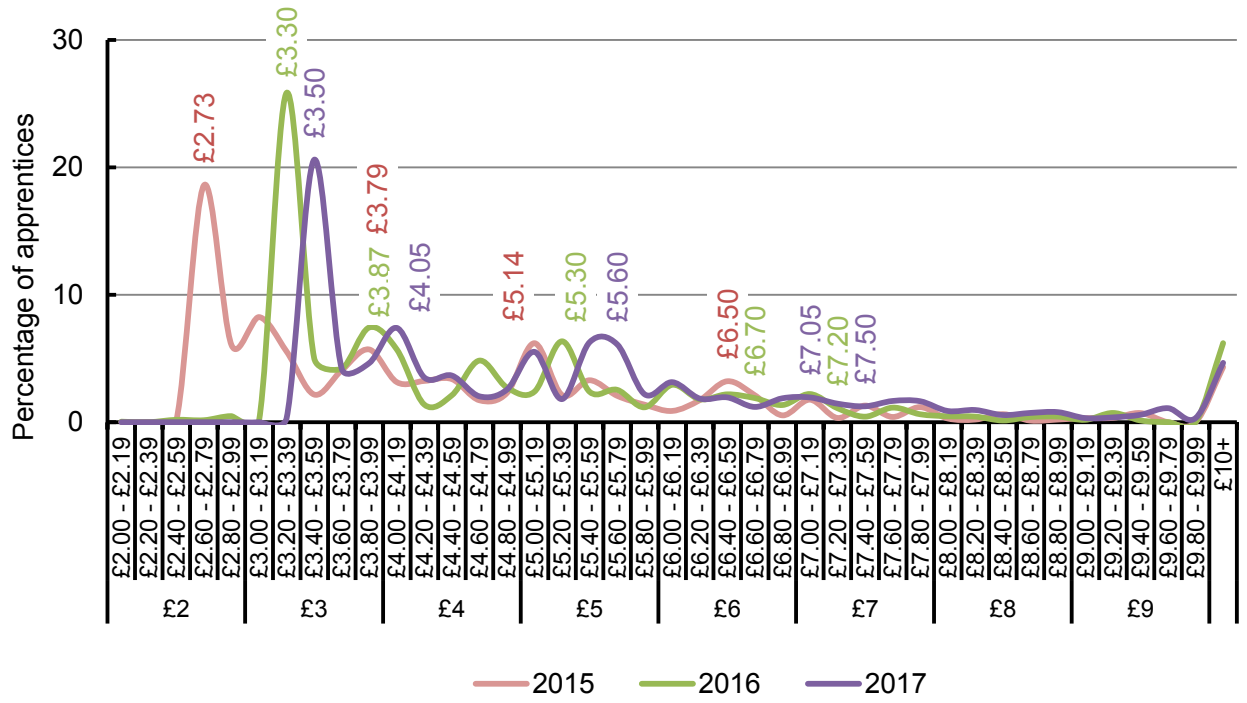
	NMW rates				
	Apprentice Rate	**16 to 17**	**18 to 20**	**21 to 24**	**25 and over**
2015	£2.73	£3.79	£5.13	£6.50	£6.50
2016	£3.30	£3.87	£5.30	£6.70	£7.20
2017	£3.50	£4.05	£5.60	£7.05	£7.50

	Median hourly earnings of apprentices by age				
	All Apprentices	**16 to 18**	**19 to 20**	**21 to 24**	**25 and over**
2015	£6.50	£3.99	£6.25	£7.60	£10.05
2016	£6.80	£4.27	£6.23	£7.93	£9.18
2017	£7.05	£5.00	£6.49	£8.01	£10.00

Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

4.47 The pay distribution for 16-18 year old apprentices is shown in Figure 4.8. The Apprentice Rate is a major focal point here, with just less than one in five paid close to this rate in 2015. When the £3.30 rate was introduced, this increased to one in four. However, in the most recent data, the share paid close to the Apprentice Rate (£3.50) fell and the whole distribution continued to shift to the right. In particular, there seems to be more apprentices paid close to the 18-20 Year Old Rate, which is currently £5.60. More generally, the share earning between £5 and £6 per hour increased from 15 to 22 per cent and the share earning above £7 an hour increased from 15 to 19 per cent. By contrast, the 21-24 NMW rate and the NLW do not appear to have much bearing on 16-18 apprentice pay.

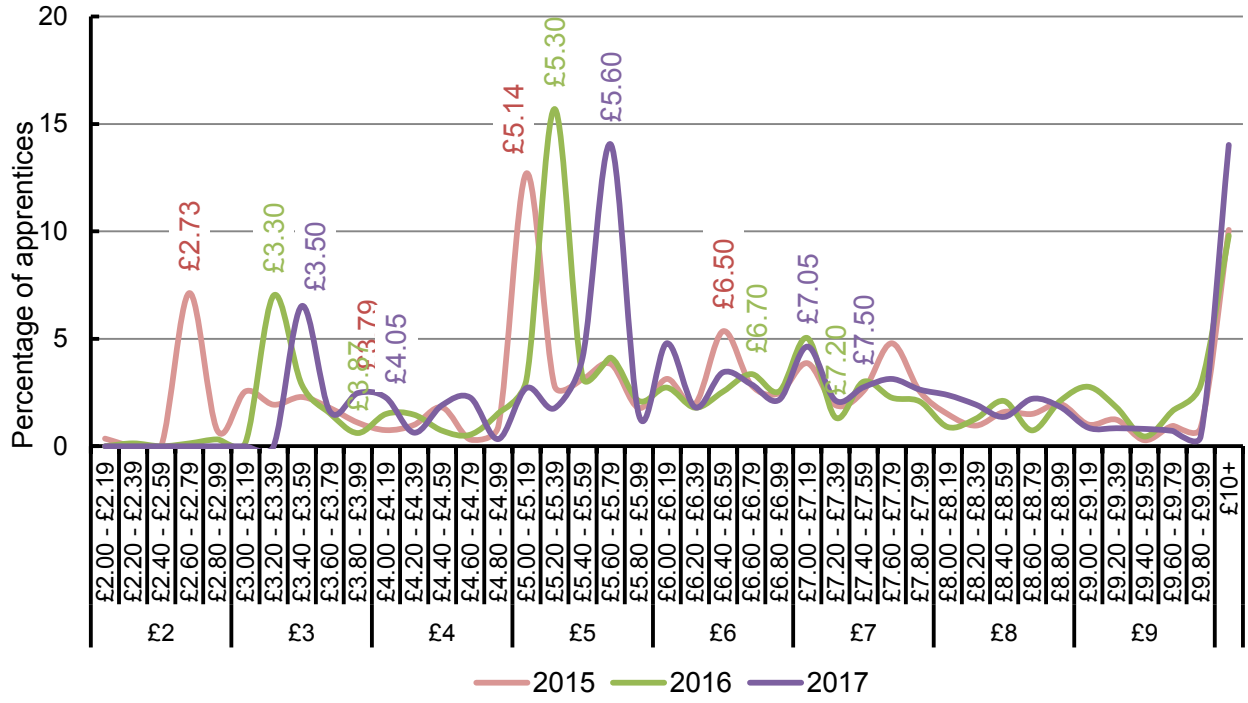
Figure 4.8: Hourly pay distribution of 16-18 year old apprentices, in 20 pence intervals, UK, 2015-2017



Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

4.48 The distribution for 19-20 year old apprentices is quite different to that of 16-18 year olds; far fewer are paid close to the Apprentice Rate and this appears to have declined very slightly. Instead, the 18-20 Year Old Rate has more of an influence, with just under 15 per cent paid close to this rate in 2017. There has also been growth at the higher end, with 14 per cent of apprentices paid above £10 an hour in 2017, compared with 10 per cent in 2016. As with 16-18 year old apprentices, the NLW does not appear to have an effect, but the 21-24 Year Old Rate has a small effect.

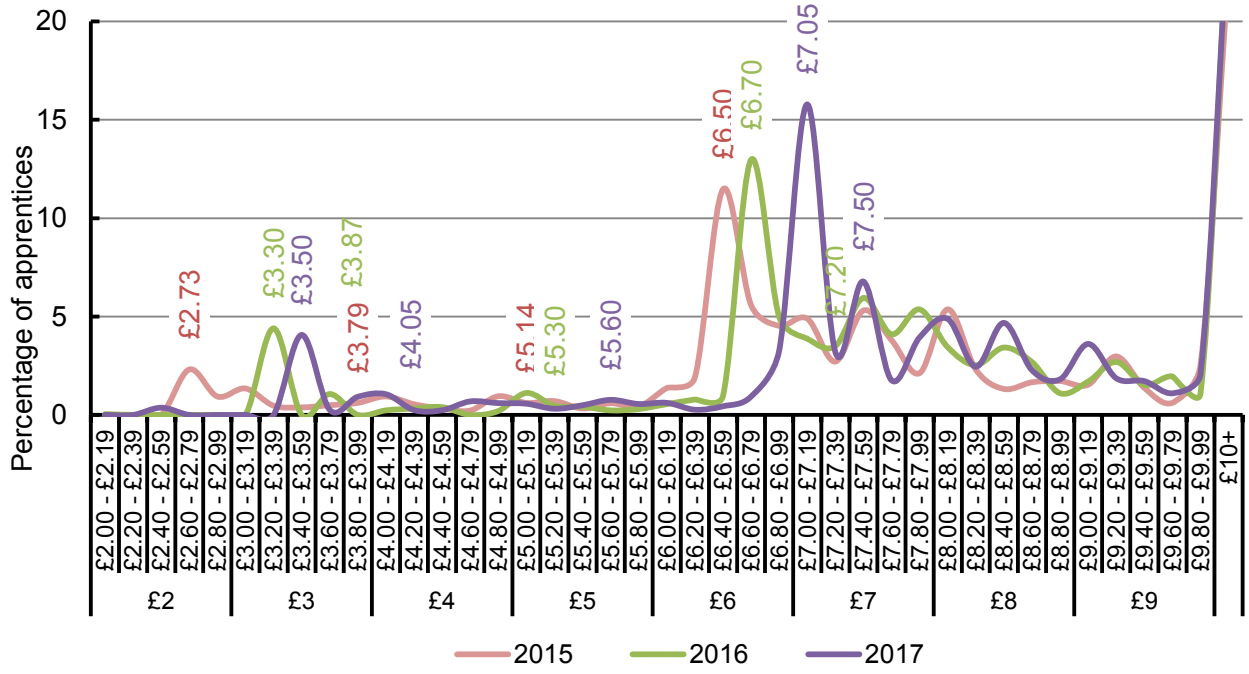
Figure 4.9: Hourly pay distribution of 19-20 year old apprentices, in 20 pence intervals, UK, 2015-2017



Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

4.49 The 21-24 age group saw relatively lower wage growth of 1 per cent at the median, though there have still been changes within the wage distribution. While very few of this group are paid close to the Apprentice Rate (fewer than 5 per cent), there has been a slight increase since the £3.30 rate was introduced. The vast majority of 21-24 year old apprentices (81 per cent) are paid at or above the NMW for their age. The clearest change over time for this age group is an increase in apprentices paid close to the 21-24 Year Old Rate, and a slight increase in the spike around the NLW.

Figure 4.10: Hourly pay distribution of 21-24 year old apprentices, in 20 pence intervals, UK, 2015-2017

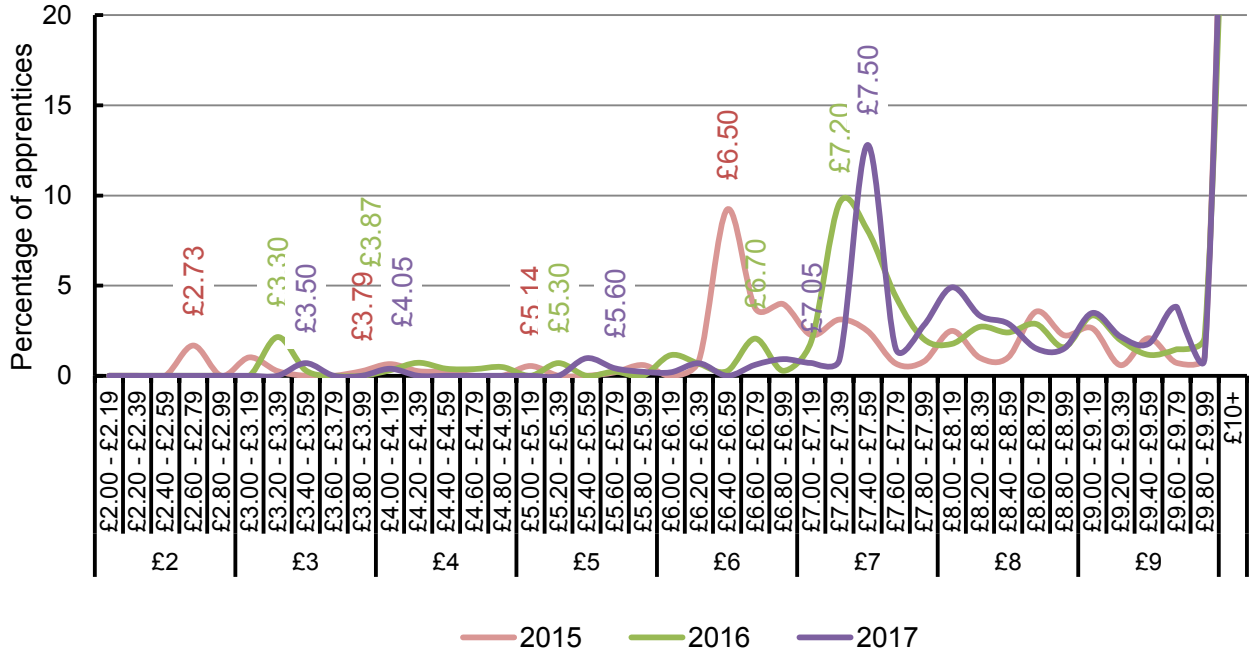


Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

4.50 Finally, the 25 years and over age group saw high growth at the median of 9 per cent, but when looking across the distribution it appears that most of the wage growth has been at the higher end. The share of apprentices paid above £10 an hour increased from 42 to 50 per cent of this age group. However, like the 21-24 year old apprentices, there appears to be greater use of the NLW, with 13 per cent paid close to this rate. The very small share of apprentices paid close to the Apprentice Rate has fallen further and is now negligible, although in total 8.5 per cent are paid below the NLW.

4.51 In summary, the high growth in median earnings for 16-18 year old apprentices is reflected across the distribution, fewer are now paid close to the Apprentice Rate and more are paid at the 18-20 Year Old Rate, and at £7 and above. For 25 years and over apprentices the growth has tended to be at the higher end, although there is a growing 'spike' around the NLW. While growth for 19-20 year olds and 21-24 year olds was lower at the median, their pay at the low end of the distribution has moved up in line with the Apprentice Rate. There is greater use of the 21-24 Year Old Rate, and both have seen an increase in apprentices paid more than £10 an hour.

Figure 4.11: Hourly pay distribution of 25 year old and above apprentices, in 20 pence intervals, UK, 2015-2017



Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

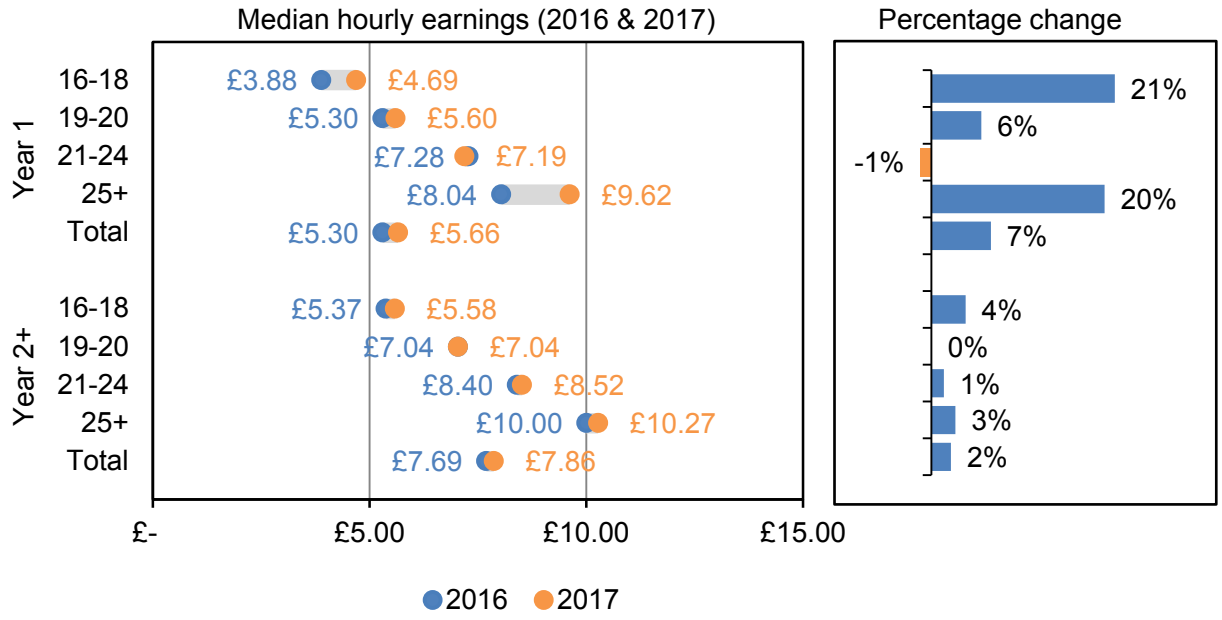
Bite of the Apprentice Rate

4.52 In the previous section we noted the substantial changes in the composition of apprenticeships. It is possible that these changes have resulted in the changing pattern of earnings seen here. However, without the more detailed evidence that the Apprenticeship Pay Survey provides, it is difficult to make a judgement as to the cause. Nevertheless, the best evidence we have suggests substantial increases in earnings for the youngest apprentices, which is to be welcomed.

4.53 Changes in pay at the median have direct consequences for one of our key measures of the 'pressure' that may result from an increase in the minimum wage – the 'bite'. The bite is the minimum wage as a proportion of the median wage; essentially, the higher the bite the greater pressure on employment, hours or another margin of adjustment.

4.54 The Apprentice Rate applies to all 16-18 year old apprentices, and for those aged 19 and above it only applies for the first year. This means that the relevant NMW changes for older apprentices after their first year of the apprenticeship. Figure 4.12 shows the median wage rates, and wage growth, for each age group by year of apprenticeship. This shows that earnings at the median have grown faster for those in their first year: 7 per cent versus 2 per cent. And, consistent with the analysis we have just shown, it is the 16-18 year old and the 25 years and over apprentices in their first year who have seen their median earnings rise the most.

Figure 4.12: Median hourly earnings and earnings growth by age and year of apprenticeship, UK, 2016-2017



Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

4.55 These changes have direct consequences for the bites, which are shown in Table 4.5. However, there is an important methodological detail to bear in mind before considering these figures. The 2017 ASHE took place in April and so measured earnings in the same month that the Apprentice Rate of £3.50 came into effect; 2017 was the first year that all of the NMW rates came in at the same time in April. Previously, upratings took place each October. This means that 2016 ASHE measured pay for apprentices six months after an uprating. We would expect the bite to be at its highest immediately after an uprating, so the figures for 2017 are likely to overestimate the bite.

4.56 The group with traditionally the highest bite is first year 16-18 year olds. However, because earnings for this group have increased, their bite has fallen significantly from 85 per cent to 75 per cent and it is no longer the highest. The increase in earnings for first year apprentices aged 25 and above means their bite also fell, although it was already the lowest of the groups shown. The slight increases in bite for the 19-20 and 21-24 year old apprentices in their second year may well be down to the timing issue.

Table 4.5: Median pay, minimum wage rates and bites, by age and year of apprenticeship, UK, 2016-2017

		2016			2017		
Year	**Age**	**Median hourly pay**	**Relevant NMW**	**Bite**	**Median hourly pay**	**Relevant NMW**	**Bite**
Year 1	16-18	£3.88	£3.30	85	£4.69	£3.50	75
	19-20	£5.30	£3.30	62	£5.60	£3.50	63
	21-24	£7.28	£3.30	45	£7.19	£3.50	49
	25 and over	£8.04	£3.30	41	£9.62	£3.50	36
Year 2+	16-18	£5.37	£3.30	61	£5.58	£3.50	63
	19-20	£7.04	£5.30	75	£7.04	£5.60	80
	21-24	£8.40	£6.70	80	£8.52	£7.05	83
	25 and over	£10.00	£7.20	72	£10.27	£7.50	73

Source: LPC estimates using ASHE 2017: 2010 methodology, standard weights, UK

Stakeholder views on the Apprentice Rate

4.57 Finally, we consider the views of stakeholders on the Apprentice Rate. This includes views on both its level and the way it operates. The CBI called for the apprentice rate to rise 'cautiously' 'to support businesses to create high quality opportunities'. FSB favoured progressively closing the gap to the 16-17 rate. It thought a higher Apprentice Rate would 'help boost the attractiveness of apprenticeships… relative to other routes such as paid employment or higher education. It should also help improve the parity of esteem between vocational and academic routes.'

4.58 Hospitality sector representatives thought recent increases in the apprentice rate would help attract applicants, though in the sector apprentices are typically paid above the rate already (from £4.05 per hour). Partly but not wholly because of the Apprenticeship Levy, firms in the sector are looking to increase recruitment of apprentices. The ALMR expects its members to increase recruitment by 35 per cent.

4.59 Unions generally argued that the Apprentice Rate should be higher. UNISON and the TUC both expressed concern that the rate being too low could adversely affect the quality of apprenticeships, and that the gap between the rate and the NLW increases the incentive to take on apprentices as cheap labour for what the TUC described as 'business-critical roles'. GMB favoured aligning the Apprentice Rate with the age-related minimum wage rates.

4.60 The Young Women's Trust argued that the Apprentice Rate is too low to cover transport to college and work, meaning that young people living independently cannot cover rent and bills. It argues that this deters people from disadvantaged backgrounds. The principal of East Kent College agreed and told us that to make courses viable for apprentices it provides uniforms, laptops and meal vouchers to ease the financial burden an apprenticeship puts on some people.

4.61 Some employer representatives agreed that the Apprentice Rate should be raised or aligned with age rates. EEF thought increasing the apprentice rate, in light of the Levy, would help 'safeguard the apprenticeship brand'. It suggested paying the age rates to apprentices. The FDF told us that its members question the need for a separate rate, as most of them pay well above it.

4.62 Conversely, the NDNA and NHF appreciated the lower level of the Apprentice Rate, but questioned why apprentices' pay should rise before qualifications are attained. The NHF argued that this puts hairdressers off hiring older apprentices who they will have to pay the NLW after a year, even though they are still in training. UKFT also argued that there should be a rate for the whole apprenticeship.

4.63 The Association of Accounting Technicians (AAT) accepted the rationale for a lower apprentice rate, but thought the current level can sometimes invite abuse, with employers using apprentices for cheap labour and offering little training. It used the example of Subway 'sandwich artist' apprenticeships. UNISON also thought that the gap between the Apprentice Rate and other rates creates an incentive to substitute workers for apprentices.

Conclusion

4.64 Apprenticeships are in the midst of unprecedented change in England. Reforms to not only the way they are funded, but also their content, are having a substantial impact on the volume and make-up of apprenticeships. Initial evidence suggests that employers and training providers have brought their recruitment of apprentices forward to avoid the changes, with a subsequent fall in the number of starts after the reforms were introduced in April 2017.

4.65 The net effect is an overall fall in apprenticeship starts, with these falls concentrated at level 2, and among apprentices aged under 25. Welcome growth in apprenticeships at levels 3 and above, and the shift from frameworks to standards, were not sufficient to counter these falls. However, the levy still represents a powerful incentive for employers to get involved with apprenticeships. The policy allows employers 24 months to make use of their levy funds, and our stakeholder evidence suggests that employers are making use of this time and considering how best to make use of their levy funds.

4.66 In terms of earnings, the findings are very positive, apprentice hourly earnings have increased faster than for non-apprentices and those with the lowest earnings – those aged 16-18 – have seen substantial growth. The result of this is that our key measure of pressure on apprenticeships – the bite – has fallen significantly for this group, potentially reducing the risk from future rate rises.

4.67 Added to this, research into the impact of the increase to £3.30 showed that there had been no impact on volumes or composition of apprenticeships. These latter two pieces of evidence suggest that past increases in the Apprenticeship Rate did not negatively affect volumes.

4.68 Finally, we heard a range of views from stakeholders on the Apprenticeship Rate. Representatives of both employers and employees called for an increase in the Apprenticeship Rate to raise both apprenticeship quality and standing.

Chapter 5
Forward look: economic prospects and stakeholder views

Introduction

5.1 In contrast to the previous four chapters, which looked backwards, this chapter looks ahead. It sets out our evidence about the economic prospects for the UK economy, stakeholder views on future rates and other regulatory costs facing business.

5.2 To maximise the information available to us, the meeting to agree the recommendations in this report was held in late October 2017, with deliberations based on data and information available up to 20 October.[5] This included the Bank of England August Inflation Report and the HM Treasury panel of independent forecasts from October, as well as ONS labour market, wage and price inflation data. The most recent forecasts from the OBR date from March. The preliminary estimate of GDP for the third quarter of 2017 was released after those deliberations, but before publication of this report, on 25 October.

The prospects for the economy

5.3 As we noted in Chapter 1, the UK labour market has performed exceptionally strongly since the start of 2013 and that has continued to be the case into the late summer of 2017. Employment, employee jobs, hours worked and vacancies are all at record highs. The level of total employment in August 2017 (32.1 million) had already reached that forecast for the fourth quarter of 2020 by the OBR in July 2015, when the Government announced its NLW policy. The number of employees (27.1 million) was just 100,000 below that forecast in July 2015 for the end of 2020. Although the consensus of forecasts last autumn was for the number of workforce jobs to stagnate in 2017, they had grown by 1.2 per cent.

5.4 In contrast to that strong performance, GDP growth had weakened in the first half of 2017 as consumer spending slowed. Investment had supported growth, with trade and government spending contributing little. Indeed, GDP had grown by 0.6 per cent in the first half of 2017. As such, with employment strong, productivity growth had been weak.

5.5 Wage pressures remained remarkably absent, despite the buoyant labour market and the sharp increases in inflation. Real wages had fallen again between April and August 2017. They were still around 3 per cent below their level in April 2008.

5 Data up to the 27 October have been used in some of the charts. Although not available for our deliberations, they were in line with expectations and do not change our thinking.

5.6 The major change looming on the horizon is the UK leaving the EU in March 2019. This will have significant effects on the economy in the short, medium, and long-term. Our recommendations for minimum wage changes in this report cover the period up to that exit point. With little hard evidence on the end settlement available, the situation remains one characterised by a high degree of uncertainty. However, the Prime Minister has recently stressed the importance of a transitionary period in order to cushion businesses. We therefore proceed on the basis that the transition will be agreed and smooth. It was in this context that we discussed the future rates of the NLW and the other minimum wage rates. However, were the trade negotiations to end differently, we would need to adjust our future recommendations accordingly.

Low-paying sectors differently exposed to pressures in the economy

5.7 The outcomes for the lowest-paid workers (including young workers, older workers, part-time workers and women) will be affected by the economic prospects for the whole economy. They will also depend to a considerable extent on the prospects for firms in the particular low-paying sectors that employ them. These will be different across the economy and the low-paying sectors.

5.8 The largest low-paying sectors, in terms of employment, are those that are consumer-facing – notably retail, hospitality and leisure. Their fortunes will depend on trends in real incomes and confidence about the future. In recent years, consumer spending has driven growth in the economy. However, as we noted in Chapter 1, that spending had weakened in the first half of 2017 as the currency depreciation-driven increase in inflation had led to falls in real incomes. Offsetting that weakening were continued robust employment growth, higher house prices, low costs of borrowing, easy access to credit, a running down of savings and a boost from tourism (as a result of the depreciation).

5.9 The prospects for traded low-paying sectors, such as textiles, agriculture, and food processing, will also depend on demand for their products overseas, as well as their price – the latter affected by changes in the exchange rate. Firms that import their inputs will also be affected by exchange rate movements. The strength of world demand, especially in those areas that the UK trades most with – such as the EU and the US – is a critical factor. In this respect, the depreciation of sterling since the end of 2015, including the noticeable decline after the EU Referendum result, should have helped boost trade.

5.10 A third group of low-paying sectors, such as cleaning and employment agencies, are more dependent on business-to-business activity. Demand for these services is likely to be closely related to the general performance of the economy – with consumer spending, business investment, profitability, and government spending all playing key roles. In recent years, increased outsourcing and the contracting out of services have helped increase demand in this sector. However, more recent, anecdotal evidence suggests that while this trend has continued across the economy, some companies have sought to bring services back in-house. Profitability of these sectors will also depend on the ability of companies to pass additional costs onto other businesses and ultimately, consumers. The most recent data, up to the second quarter of 2017, suggested that this ability to increase prices to other businesses varies across these sectors. While employment agencies experienced no price rises over the last year, industrial cleaning companies had been more able to increase the price of their services. With pressure from an increase in overseas visitors, business prices for hotels were also up in the first half of 2017, albeit only to the levels observed in 2013-14.

In contrast, commercial washing and dry cleaning have seen sharp falls in prices in the first half of 2017, as have canteens and catering prices despite increased food costs.

5.11 A final group of low-paying sectors are those directly affected by government funding, such as childcare and social care. As well as the level of government spending, which in turn reflects the fiscal position, these sectors will also depend on the strength of consumer demand and the ability of providers in these sectors to raise prices. The outlook here has previously been one of real pressure on employers in both the private and public sector. While data suggested some increase in government capital spending into 2018 and beyond, reductions in other spending continued, with further cuts scheduled – ahead of any further adjustments in the Autumn Budget in November.

5.12 The outlook in terms of the affordability of minimum wage increases in all of these sectors will depend on demand; profitability; the ability to raise prices; non-labour costs; the ability to increase productivity; and the availability and cost of labour. These are considered alongside the implications of wider economic change relating to Brexit.

Brexit has increased uncertainty

5.13 A consequence of the EU Referendum, and the Government's subsequent decision to take forward the UK leaving the EU, is that the UK's relationship with the EU will change, along with its relationship with the rest of the world. Not only will it affect trade in goods and services, it will also have an impact on business decisions on investment (particularly its location) and on workers' decisions to migrate. The consensus of studies suggests that all of these three areas will be negatively affected but the magnitude of those effects will depend on the final agreement with the EU, and the ability of the UK to agree trade deals with other countries. These effects are likely to play out in the medium to long-term, beyond our judgement horizon.

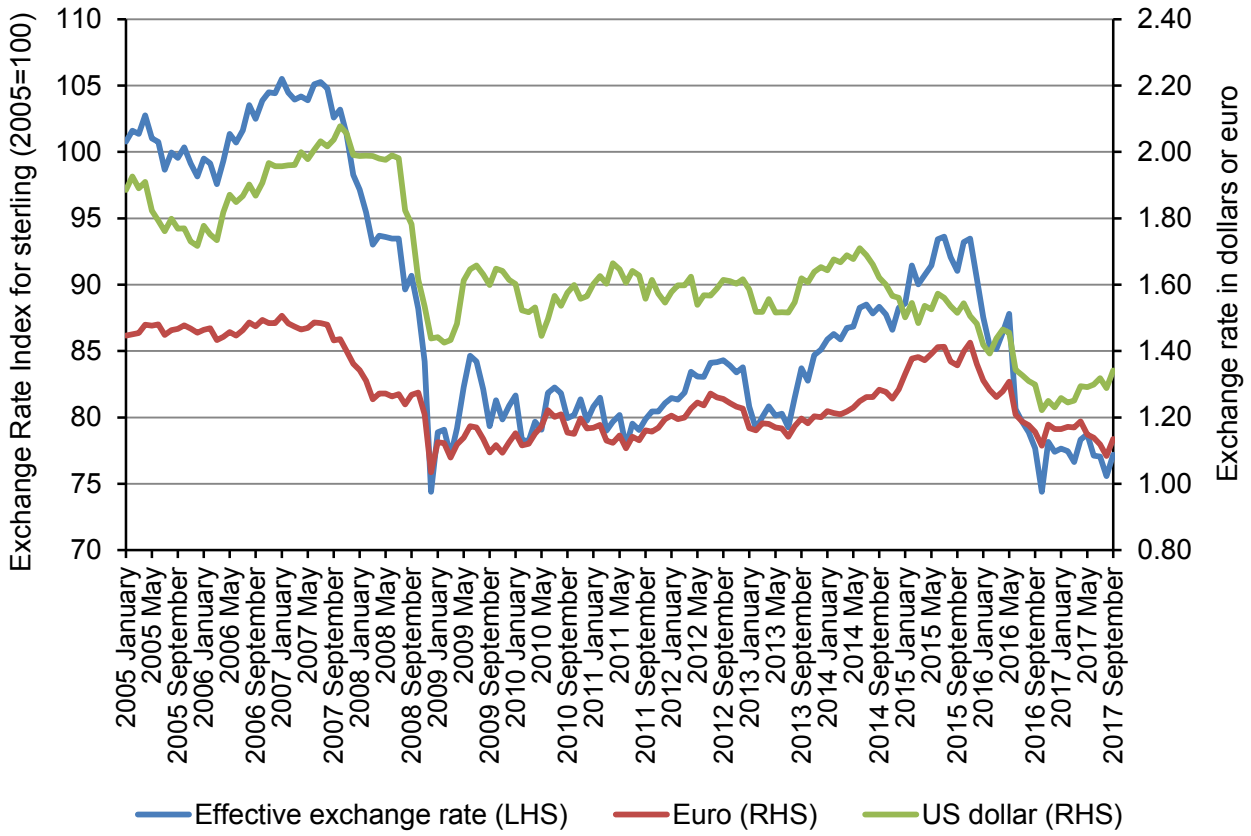
5.14 However, there have already been some short-term effects that we should note: the depreciation of sterling; the uncertainty around investment; and some signs that migration from the EU may be slowing.

Pound has fallen sharply

5.15 As shown in Figure 5.1, the pound started falling against the euro and a basket of trade-weighted currencies in the autumn of 2015. This fall was compounded by the EU Referendum result, which led to further falls in sterling's value. It has recovered a little of that loss, but the pound remains 12-13 per cent below its value in June 2016, and around 17-19 per cent below its value in autumn 2015.

5.16 Against the US dollar, the pound had been falling since the middle of 2014, as the Federal Reserve hinted at interest rate increases. Again, that fall was exacerbated in June 2016 by the Referendum result. Since October 2016, sterling has recovered some ground, but remains at around $1.30 to the £, compared with an average of around $1.60 between 2009 and 2014, and $1.80-2.00 in the period leading up to the financial crisis. At the end of September 2017, the pound was still over 21 per cent lower against the US dollar than in June 2014.

Figure 5.1: Sterling exchange rates, 2005-2017



Source: Bank of England: sterling trade-weighted exchange rate index – ERI (XUMLBK67), dollar exchange rate (XUMLUSS), and euro exchange rate (XUMLERS), end of month spot rates, January 2005-September 2017.

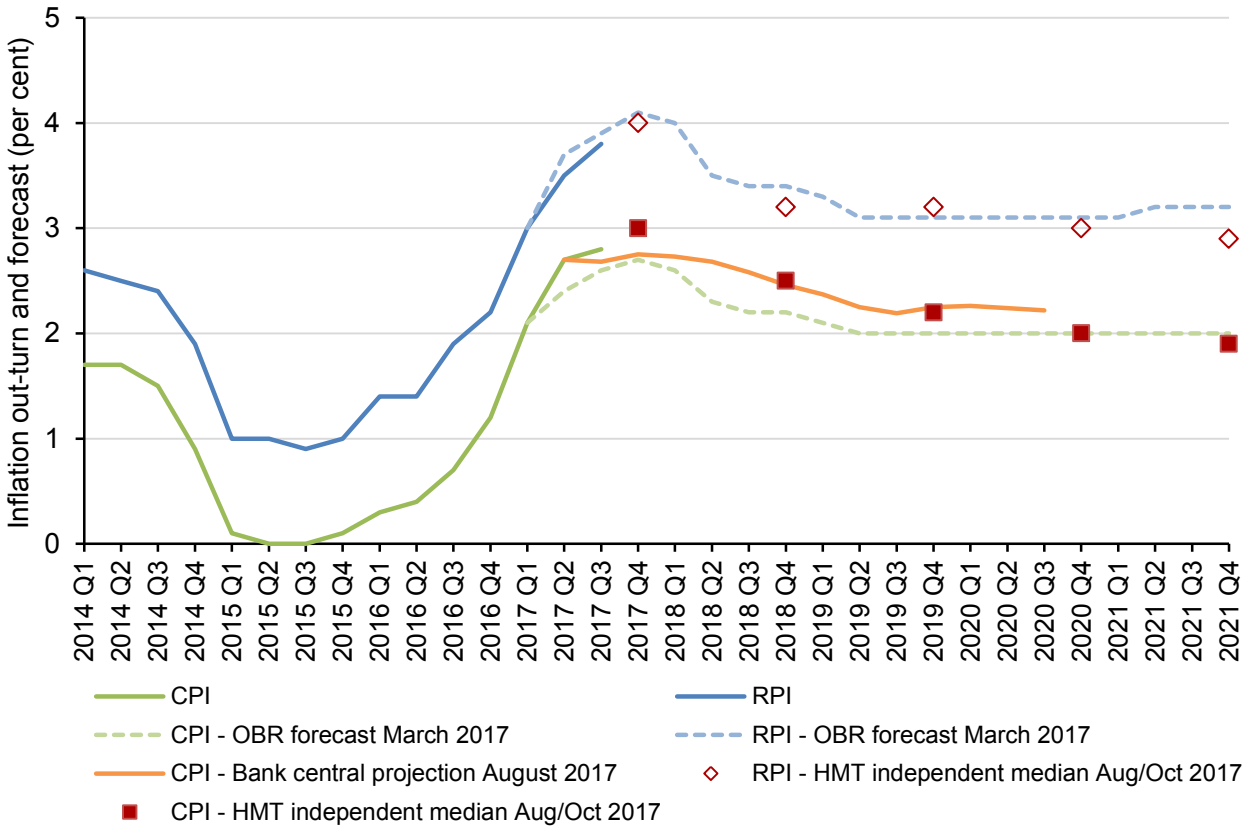
5.17 These recent falls in the value of sterling should have helped trade, as exports are made cheaper for foreign buyers, while imports are made more expensive for UK customers. Indeed, the latest trade data show that the value of exports of goods and services in the three months to August 2017 had increased by 11.0 per cent compared with a year earlier. In comparison, imports of goods and services had only grown by 9.5 per cent.

5.18 As the pound has fallen, the UK has become a more popular destination for tourists. Between July 2016 and July 2017, the number of overseas residents visiting the UK increased by 6 per cent to four million. This has had a positive impact on spending in retail and hospitality. Furthermore, over the same period, UK residents made 2 per cent fewer visits abroad (6.9 million). This may also have benefitted the retail and hospitality sectors, as more UK residents holidayed within the UK. These trends were expected to continue for at least the next twelve months.

Lower exchange rate increases expected inflation

5.19 As we have just noted, a consequence of the depreciation of sterling is that imported goods are made more expensive. Food, petrol, clothing and household goods have all seen price rises in 2017, exacerbated by the low value of the pound. As shown in Figure 5.2, this saw CPI inflation rise from 1.0 per cent in October 2016 – at the time we wrote our Autumn 2016 Report – to 3.0 per cent in September 2017. RPI inflation has also increased further than anticipated, from 2.0 at the time of that report to 3.9 per cent in September 2017. These are both sharper and larger rises than forecast a year ago.

Figure 5.2: CPI, RPI and forecasts of price inflation, UK, 2014-2021



Source: LPC estimates using ONS data: CPI (D7G7), RPI (CZBH), quarterly, not seasonally adjusted, UK, Q1 2014-Q3 2017; Bank of England (2017c); OBR (2017b); and HM Treasury panel of independent forecasts (2017e and f).

5.20 While inflation is still rising, the latest forecasts as also shown in Figure 5.2, suggest that it is close to its peak, and that it will fall back gradually from the start of 2018, as 2017's increases in fuel and energy prices drop out of the annual comparison. CPI inflation is expected to remain above 2 per cent for at least two years, however. RPI inflation is forecast to fall back slightly more sharply at the start of 2018, but to remain above 3 per cent over the medium term. Any rises in interest rates will affect RPI inflation directly through mortgage interest payments.

5.21 The higher rate of inflation has a number of implications. For business, price rises in fuel, energy and other imported goods will directly increase costs, which either have to be absorbed in margins, or passed on through higher prices to consumers. The Bank of England suggests that these input price pressures are likely to moderate in 2018, and the higher general rate of inflation may make it easier for firms to pass on costs. For employees, the rising rate of inflation, coupled with stable earnings growth, has delivered a return to falling real wages over the course of 2017. Real wage growth is unlikely to return in 2018. Downward pressure on consumer spending will be increased if interest rates rise.

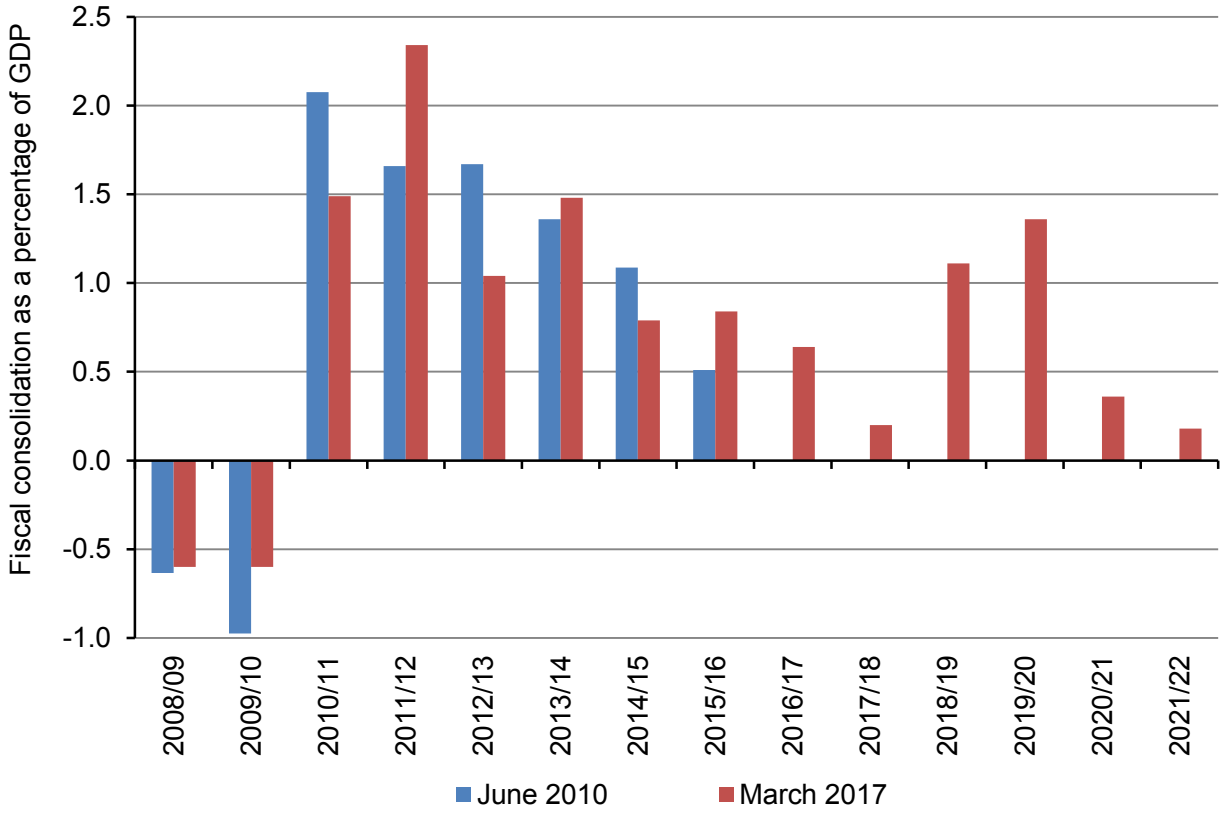
Further austerity is expected to act as a drag on growth going forwards

5.22 The fiscal consolidation in the financial year 2017/18 has been relatively mild compared with recent years, as shown in Figure 5.3. However, according to the March 2017 Budget, that fiscal consolidation is expected to increase in the financial years 2018/19 and 2019/20, before weakening by the end of the new Parliament.

5.23 OBR (2017b), using the latest estimates from the Institute for Fiscal Studies (IFS), reported that the fiscal consolidation measures have acted as a boost to growth in 2016/17 and 2017/18 but are set to act as a drag on growth going forwards. Between 2010/11 and 2015/16, the average annual tightening was equivalent to around 1.3 per cent of GDP.

5.24 Due to planned cuts in current spending, the impact of fiscal consolidation in 2018/19 and 2019/20 is estimated to be -0.5 per cent and -0.6 per cent respectively, although that is partly offset by some unwinding of previous years' measures. Taking account of that, GDP is expected to be 0.2 per cent lower in 2018/19, and 0.3 per cent lower in 2019/20, than it would otherwise be without these measures. The available GDP forecasts would have already accounted for these proposed fiscal measures.

Figure 5.3: Fiscal consolidation relative to Budget 2008 baseline, UK, 2008/09-2021/22

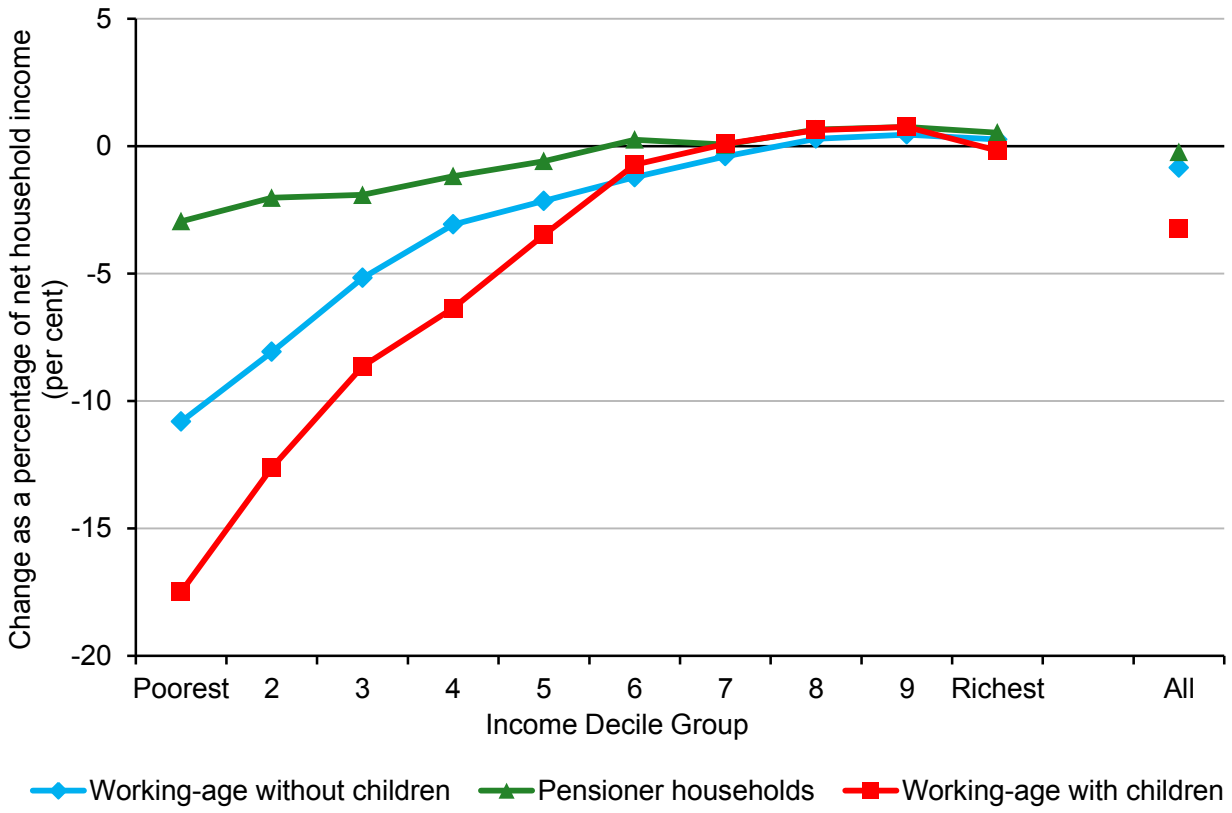


Source: Institute for Fiscal Studies estimates, reproduced in Chart C, Box 2.2 in OBR (2017b).

5.25 Further, analysis by Hood and Waters (2017) suggested that the fiscal austerity measures announced since 2015 are likely to affect some households more than others. So far, the average impact of tax and benefit changes between May 2015 and July 2017 has been relatively small. With reductions of less than 1 per cent of income in the two lowest household income deciles. Around 1.1 million low-income households have been affected by the cash freeze in most working-age benefits. With inflation low over that period, this has amounted to around a 1 per cent cut in real terms. The reduction in the benefit cap has affected fewer than 100,000. These benefit changes have been offset by the above-inflation increases in the income tax personal allowance (to £11,500 rather than £10,710).

5.26 However, the long-run impact of tax and benefit changes that are now being rolled out or are planned by the current government is much greater. Three planned benefit cuts explain most of the large losses for low-income households: the continued freeze in most working-age benefit rates until March 2020 (the impact of which increases as inflation rises); cuts to the generosity of tax credits for families with children; and the roll-out of Universal Credit. The small number of tax measures due to be implemented in the coming years will have a very limited impact. Figure 5.4 shows that the overall impact is greatest on the poorest households and in those households with children. Pension households are likely to be affected the least. The generosity of the system will be reduced in the long-run but protections for existing claimants will prevent immediate losses of benefit income.

Figure 5.4: Long-run impact of tax and benefit reforms (including Universal Credit) on households, by income decile, 2015/16-2020/21



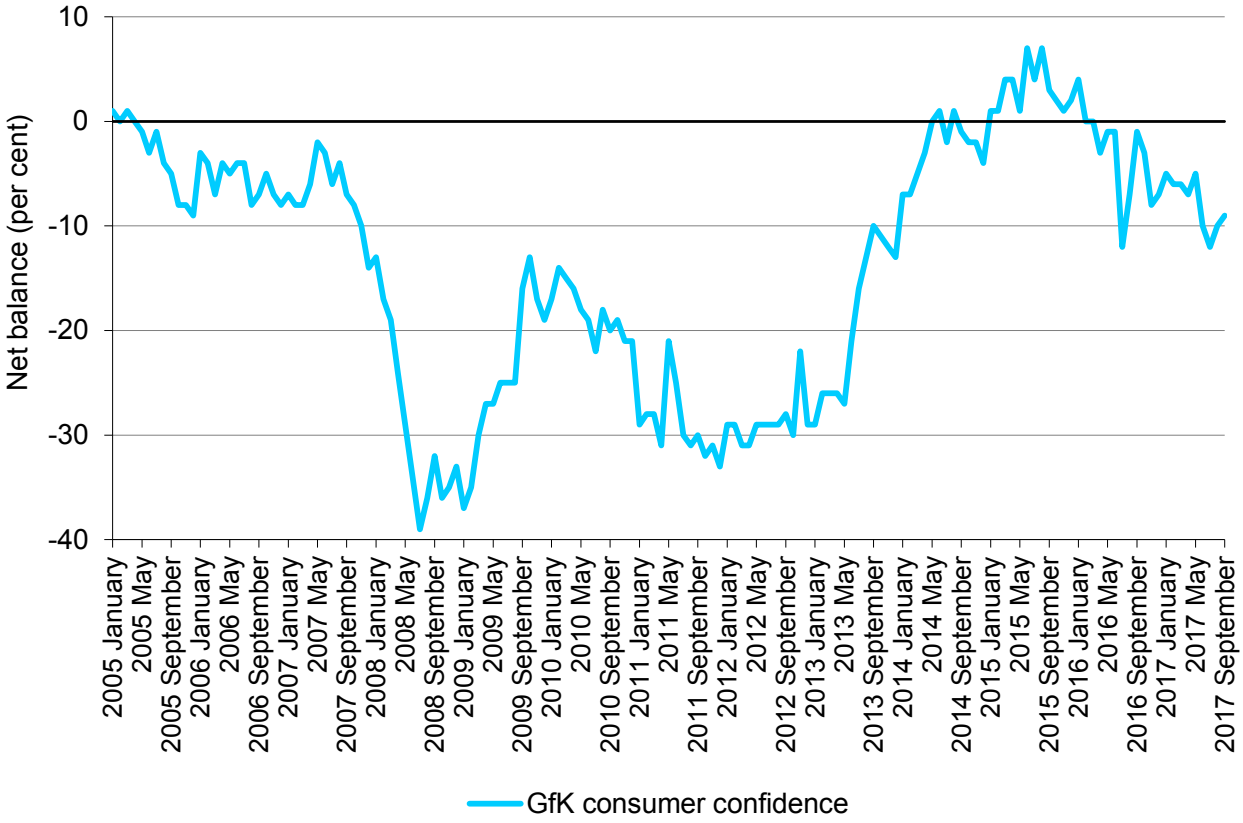
Source: Hood and Waters (2017).

5.27 In contrast, Brewer and De Agostini (2017) showed that the incomes of minimum wage families were likely to be higher in 2020/21 than in 2016/17. That is, for these families, the expected increase in the minimum wage (the NMW and the NLW) more than offsets any additional reductions in benefits after 2016/17. Indeed, they estimate that the real net incomes of minimum wage families will be 1.5 per cent higher in 2020/21 than in 2016/17.

Consumer confidence has fallen

5.28 Figure 5.5 also shows that it took the consumer a long time to recover after the financial crisis but that, by the middle of 2014, consumer confidence had risen above its pre-crisis levels. It remained above these levels until June 2016, when it fell in the immediate aftermath of the EU Referendum result, but recovered quickly. However, as the price rises of imported goods (including oil) have worked their way through the system, inflation has increased. That increase in the cost of living has eroded real incomes in 2017 – wage growth has remained subdued and pay settlements continue to average 2 per cent. Consequently, consumer confidence so far in 2017 has continued to fall.

Figure 5.5: Consumer confidence, UK, 2005-2017



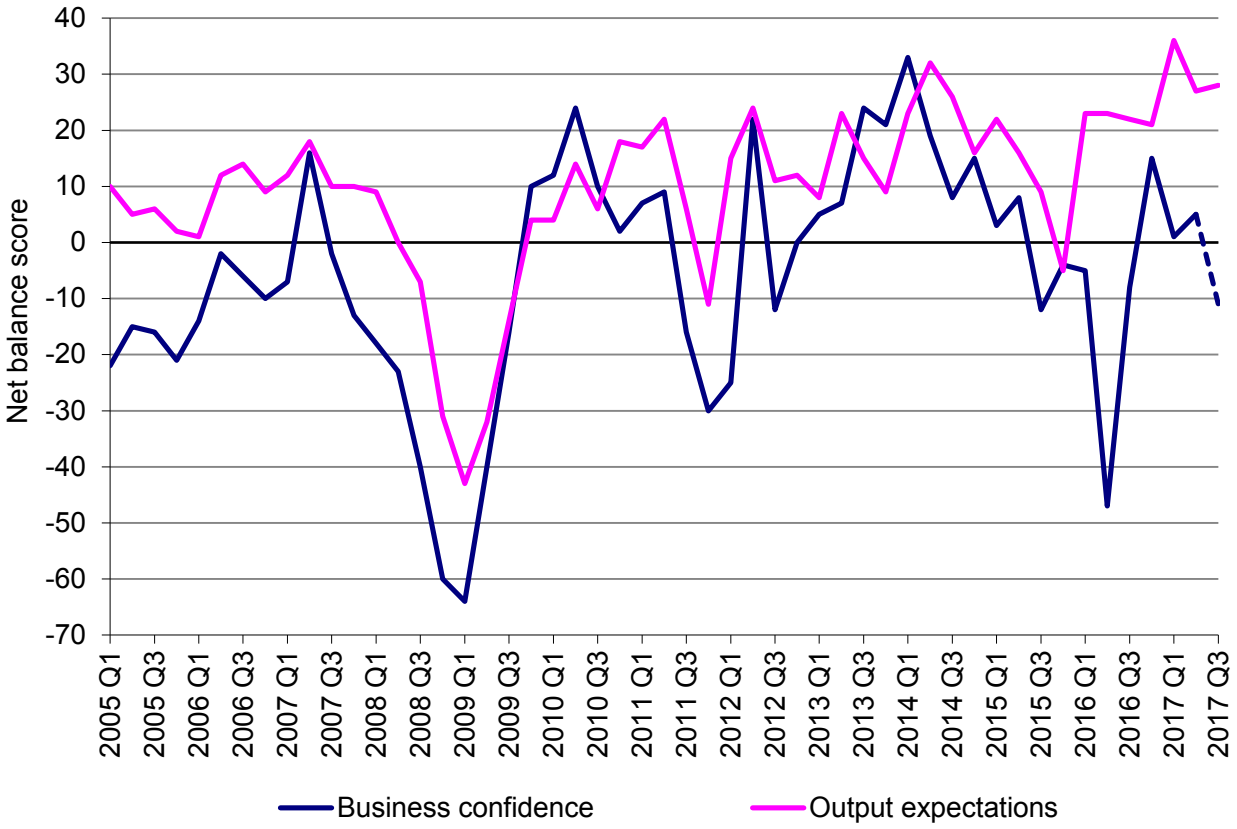
Source: GfK consumer confidence index, monthly, UK, 2005-17.

5.29 Another indicator of consumer confidence – the Deloitte Consumer Tracker (2017) – shows a similar picture. However, it showed some tentative signs of recovery in confidence in the third quarter of 2017. The tracker found that its measures around job security and career progression had returned to their pre-EU Referendum levels. But consumer concerns remained over the levels of debt and household disposable income. With squeezed real incomes, consumer spending was likely to be directed towards essentials, such as groceries, utility bills and housing in the next three months. Discretionary spending, such as on going out, restaurants and hotels, was likely to decline. With inflation above the Bank of England's target, consumers were concerned about interest rate rises over the coming months. With real incomes already squeezed, increases in interest payments are likely to add to debt concerns, leading to a downturn in confidence and further pressures on spending.

Business confidence fell sharply after the Referendum, but has recovered

5.30 Various business surveys have shown that business confidence also bounced back after the sharp falls in the middle of 2016. However, in contrast to the consumer, they also show that business confidence continued to pick up in the first half of 2017. Figure 5.6 shows how that CBI business confidence had followed this general trend. It also shows that CBI output expectations have been more resilient than business confidence since the start of 2016, and remained at elevated levels in the third quarter of 2017.

Figure 5.6: Business confidence, UK, 2005-2017



Source: CBI: business confidence index; and business output expectations score, monthly, UK, 2005-2017.
Note: Business confidence for Q3 2017 was published on 23 October 2017.

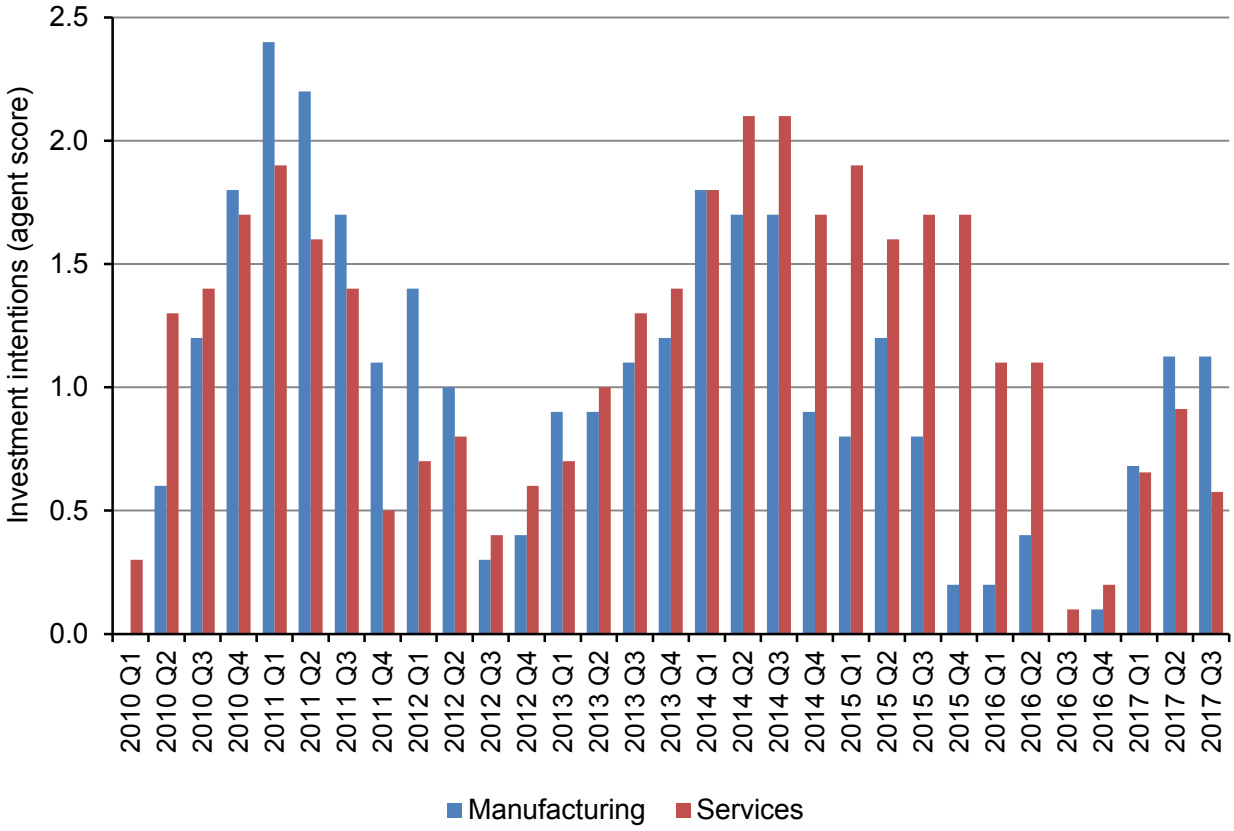
5.31 In its Quarterly Economic Survey, the British Chambers of Commerce (BCC, 2017) also showed a pick-up in domestic and exports sales with business confidence improving over 2017. Manufacturing was more optimistic than services in expectations of increased turnover and both sectors had positive expectations for future profits. According to the Deloitte Survey of Chief Financial Officers (2017a), business confidence had risen since mid-2016 in the US, Japan and Europe but had been subject to large swings in the UK. Similar to the other indicators, business optimism collapsed in the wake of the EU Referendum before rebounding in the second half of 2016 and into the first half of 2017. It then dropped after June's General Election, before bouncing back to the more optimistic levels seen at the end of 2016. Uncertainty had eased since June 2016 but remained elevated as risks around Brexit remained high but had fallen.

5.32 However, CBI (2017a) – which was not available when we made our decisions – shows that optimism about business conditions in third quarter of 2017 had fallen while expectations for output eased. Export prospects had continued to rise.

Investment intentions remain generally weaker than prior to June 2016

5.33 Figure 5.7 shows investment intentions reported by the Bank of England's Regional Agents (2017e). These clearly slowed after the Referendum vote, but picked up again in 2017. Although relatively strong and continuing to improve in manufacturing, investment intentions in services are still much weaker than before that vote.

Figure 5.7: Investment intentions, UK, 2010-2017



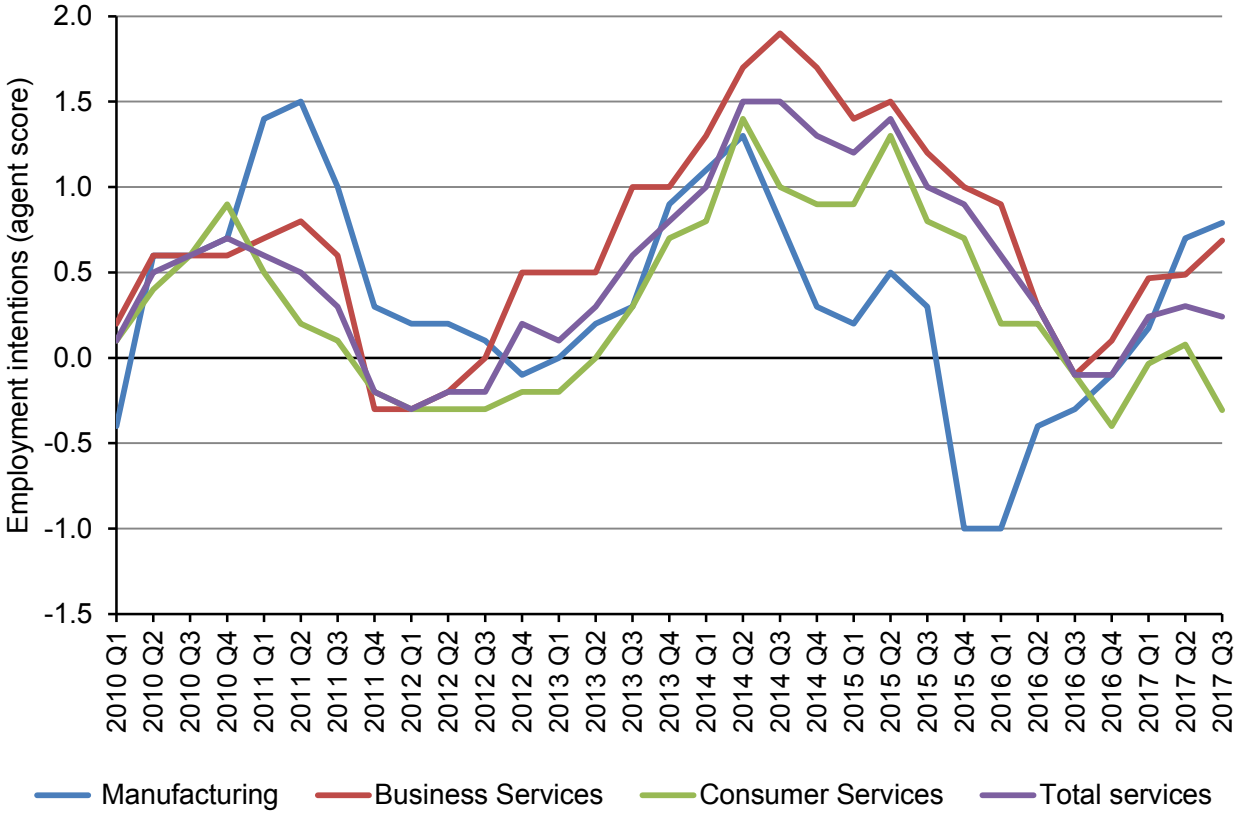
Source: Bank of England; Agents scores, monthly, UK, 2010-17.

5.34 In contrast, although the outlook for capital expenditure had improved since June 2016, the Deloitte Chief Financial Officer Survey (2017a) still suggested that investment would fall over the next twelve months. It also reported that chief finance officers thought that credit was easily available and cheap. In the third quarter of 2017, the CBI noted that manufacturing investment intentions for buildings had fallen to its lowest since July 2009.

Hiring intentions also weakened but with some signs of recovery

5.35 Bank of England regional agents (2017e) report employment intentions across the economy. Figure 5.8 shows that employment intentions weakened from mid to late 2014 until around the middle of 2016, since when they have rebounded. This rebound has been strongest in manufacturing – buoyed by the depreciation of sterling – and business services. However, employment intentions in consumer services – covering the majority of minimum wage workers – have barely changed since the EU Referendum.

Figure 5.8: Employment intentions, UK, 2010-2017



Source: Bank of England; Agents scores, monthly, UK, 2010-17.

5.36 The BCC (2017) reported that its survey respondents had, on balance, increased their workforces over the year to the third quarter of 2017, and also expected to increase their workforces over the next three months. This was true of both manufacturing and services, with the balance for manufacturing being stronger than services on both counts. Firms in both sectors had also increased investment in training. In its Industrial Trends Survey, the CBI (2017a) reported that, in the second quarter of 2017, investment in training and retraining was expected to increase at its strongest pace since the start of 2015. Employment growth continued to be strong.

5.37 In its Report on Jobs, the Recruitment and Employment Confederation (REC, 2017) reported that permanent placements had risen at their weakest pace for five months but remained solid overall, while temporary placements increased strongly. This improved picture has been consistent since the concerns around the impact of the EU Referendum eased. The number of vacancies for both permanent staff, and temporary and contract staff across the UK continued to rise. This chimed with the ONS vacancy numbers that have continued to grow. However, staff availability continued to deteriorate among both permanent and temporary staff, and this had led to increased pressures on pay for both permanent and temporary workers.

5.38 REC-IHS Markit (2017), in their Jobs Outlook, found that confidence in the economy had fallen for the third consecutive month but that employers across the board were still intending to hire and invest. Medium-sized firms (50-249 employees) were more optimistic than larger firms (250 or more employees) who in turn were more optimistic than micro and small firms (0-49 employees). Firms were looking to hire permanent workers rather than temporary ones. The outlook for

temporary agency staff had fallen, with medium-sized firms most likely to cut back on temporary agency staff.

5.39 In its survey of chief financial officers, Deloitte (2017a) found that hiring expectations had improved in the first three quarters of 2017 from the lows in the middle of 2016, but still remained weak, with chief finance officers, on balance, expecting to cut back on hires.

Increasing concerns about the supply of labour

5.40 Bank of England (2017e) regional agents and REC (2017) had noted that skill shortages and availability of labour was becoming a problem. Over the last decade, there had been sharp increases in the supply of labour from three sources: those over the statutory retirement age; those who were out of work, particularly women; and migrants. However, it is unclear whether these sources of labour supply will continue to grow.

5.41 Between April 2008 and August 2016, the employment rate of those aged 65 and over increased from 7.3 per cent to 10.7 per cent. The numbers employed grew by around 72 per cent from 690,000 to 1.23 million. However, over the last year (to August 2017), the numbers employed have fallen by 47,000 and the employment rate has fallen back to 10.1 per cent.

5.42 The employment rates for women aged 25-49 have also increased strongly since April 2008 – rising from 72.4 per cent those aged 25-34 to reach 77.3 per cent in August 2017, and from 76.5 per cent to 78.7 per cent for those aged 35-49. Conversely, their inactivity rates over the same period, April 2008-August 2017, have also fallen from 23.9 per cent to 19.5 per cent for 25-34 year olds, and from 20.6 per cent to 18.6 per cent for 35-49 year olds.

5.43 Migration, particularly from the EU, has also been an important component of the recent increase in UK workforce.

Migration and the labour supply will be affected by exiting the EU

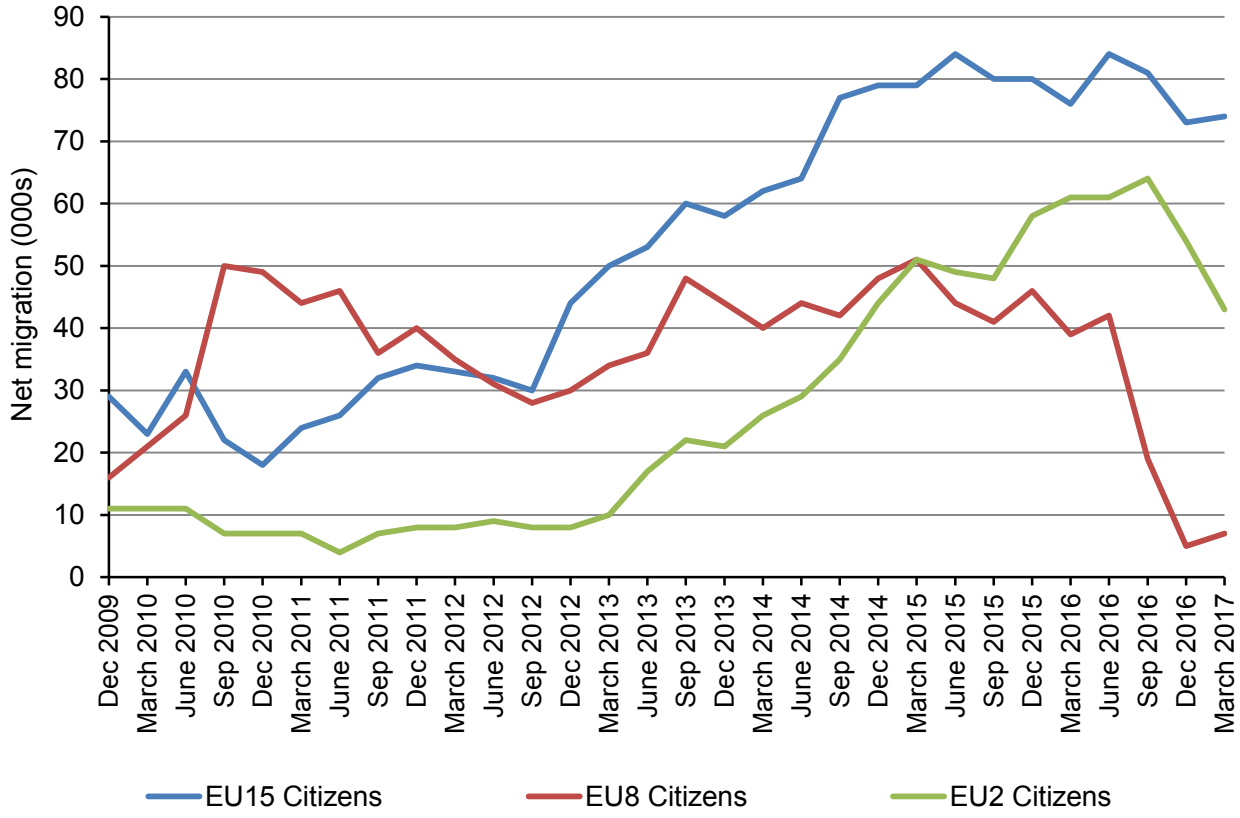
5.44 Leaving the EU with the likelihood that the freedom of movement will be restricted in some way will affect the supply of labour in the UK. In the second quarter of 2017, there were around 5.7 million non-UK born workers in the UK, accounting for nearly 18 per cent of the workforce. Of these, around 2.4 million were from the EU and they accounted for just over 7 per cent of the workforce.

5.45 The result of the EU Referendum and the subsequent triggering of Article 50 may have affected migration. The latest migration data, in the year to March 2017, found that immigration to the UK fell by 50,000 over the year from 638,000 to 588,000. This was made up of more or less equal falls among EU (down 19,000 to 248,000) and non-EU citizens (down 22,000 to 266,000). Fewer British citizens returned home (down 9,000 to 74,000). The picture across citizenship was different for emigration. Immigration remains much larger than emigration.

5.46 Emigration in total rose by 31,000 to 342,000 in the year to March 2017. However, the pattern is different among EU and non-EU citizens. EU emigration out of the UK increased from 89,000 to 122,000, while for non-EU citizens it fell by 9,000 to 86,000. The largest group of emigrants were British citizens – 134,000, up 8,000 on a year ago.

5.47 Combining these flows, net migration was down by 81,000 to 246,000 in the year to March 2017. This comprised around 51,000 EU citizens, 13,000 non-EU citizens and 17,000 British citizens. Figure 5.9 shows the fall in net migration among EU citizens since June 2016. The largest reductions in net migration have been among those from the EU8 countries – those mainly Eastern European countries that joined the EU in 2004. Net migration for them was just 7,000. The fall for Bulgarians and Romanians is also noticeable – down from over 60,000 to 43,000. For those from the pre-2004 members of the EU, net migration is larger but there have been smaller changes – falling to 74,000 in the year to March 2017. That is lower than the net migration of 84,000 in the year to June 2016.

Figure 5.9: Net migration to the UK from the EU, 2009-2017



Source: LPC estimates using ONS data: Long-term international migration and international passenger survey, UK, Q4 2009-Q1 2017.

5.48 EU workers are disproportionately concentrated in many low-paying sectors, such as agriculture, horticulture, food processing, hospitality, and warehousing and logistics. Concerns about the future workforce have been raised by business organisations from these sectors. The alternatives to the use of EU labour include non-EU labour, UK-born labour, or automation.

5.49 It is possible that EU labour could be replaced by non-EU labour. However, that seems unlikely as the Government has again committed to a target of reducing migration to the tens of thousands. The current visa system for non-EU nationals allows skilled workers to apply for vacancies not filled by EU nationals (including UK citizens), which have been identified by the Migration Advisory Committee as shortage occupations. There is also a minimum income threshold that is required. Many of the jobs currently done by EU workers are paid less than those stipulated thresholds.

5.50 The employment rates of UK-born and UK nationality workers are the highest they have been since the series began (in 1997), and are likely to be at or close to record levels. Those with employment rates that are currently lower – women, older workers, some ethnic minority workers and those with disabilities – have also experienced recent increases in their employment rates.

5.51 Automation also provides possibilities of replacing workers, but its potential, to replace labour and meet any skill shortages, should not be over-estimated. Although investment in such technologies may be possible for large firms, with access to credit at reasonable costs, it may be too expensive for small and medium-sized firms. In addition, many tasks do not lend themselves to automation.

5.52 In general, the academic research in the UK – the Migration Advisory Committee (2012), Dhingra, Ottavano, van Reenen and Wadsworth (2016), and Alfano, Dustmann and Frattini (2016) – has found little evidence that immigration has affected the wages or employment of native workers. However, some researchers have found evidence that migration may have held back pay growth at the bottom of the distribution but that this effect was small – Dustmann, Frattini and Preston (2016), and Nickell and Saleheen (2015). Most recently, Forte and Portes (2017) estimated that Brexit-induced reductions in migration would likely increase wages in the low-skill service sector, but only marginally. They also estimated that it was likely to lead to significant negative falls in GDP per capita for the UK. Looking more broadly at the impact of migration on other advanced countries, Jaumotte, Koloskova, and Saxena (2016) found positive effects of migration on both employment and wages for both low-skilled and high-skilled native workers, albeit with the effects greater for the higher skilled. That research found that migrants helped increase productivity in both low-skilled and high-skilled jobs and that this was the main driver behind those positive wage effects.

Output forecasts have been revised down

5.53 GDP in the second quarter of 2017 was around 0.5 per cent higher than in the fourth quarter of 2016 following growth of 0.3 per cent in each of the first two quarters of 2017. The National Institute of Economic and Social Research (NIESR, 2017), using its monthly estimates of GDP series, estimated that GDP had grown by 0.4 per cent in the third quarter of 2017. It forecast that economic growth was likely to be a touch stronger in the second half of 2017 than it had been in the first half, but noted that activity had slowed since 2016 and that other major economies, particularly in the Euro area and the US, were experiencing stronger real GDP growth. It expected the UK economy to rebalance away from domestic demand and towards international trade, as it responded to stronger global demand and took advantage of the weakness of sterling.

5.54 If growth turns out in the third quarter of 2017 as estimated by NIESR, it would mean that the economy had grown at an annualised rate of around 1.6 per cent.[6] If growth in the fourth quarter of 2017 were to be 0.1-0.4 per cent, then GDP growth for the whole of 2017 would be 1.5 per cent. Higher growth of 0.5-0.8 per cent would give 1.6 per cent.

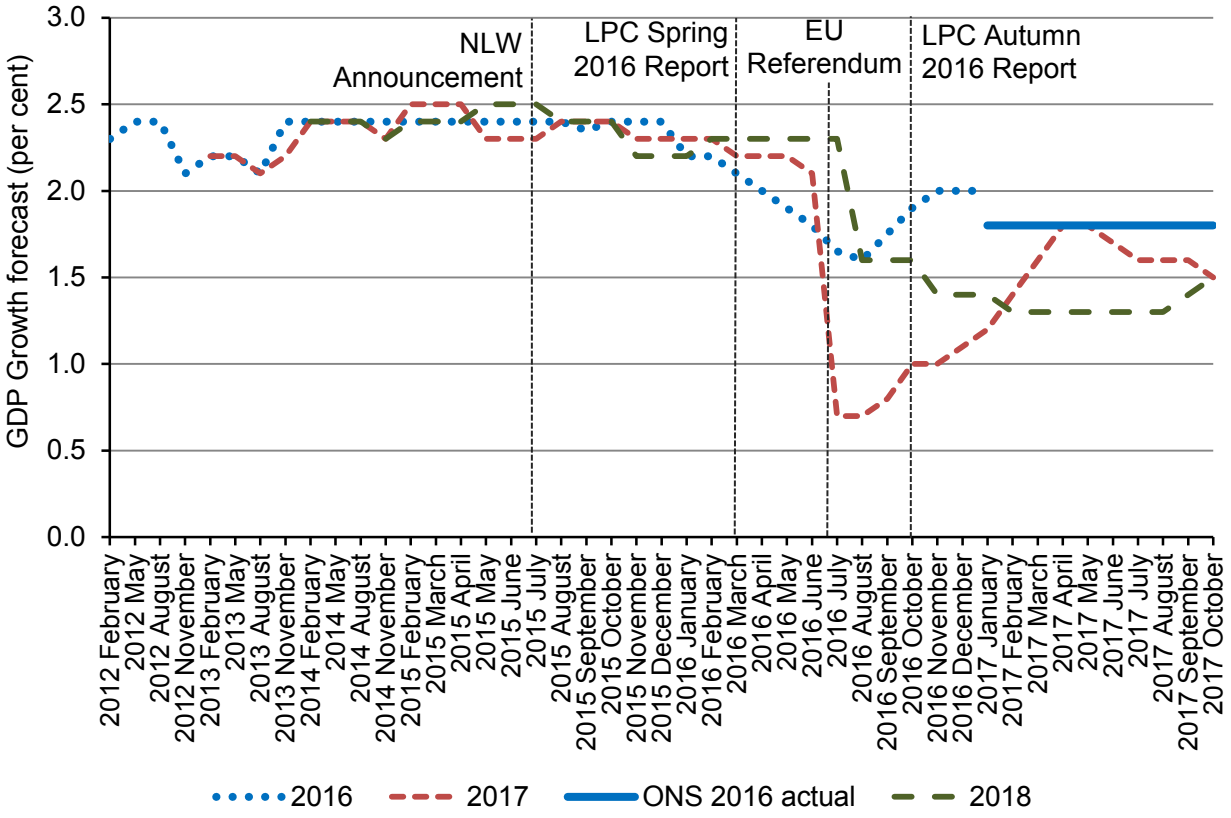
6 On 25 October, in its preliminary estimate of GDP growth, the ONS confirmed that the UK economy had grown by 0.4 per cent in the third quarter of 2017.

5.55 At the time of our deliberations for the Autumn 2016 Report, several geopolitical risks, as well as Brexit, were flagged. These included: ongoing tensions between the Ukraine and Russia; Islamic State and its spread across the Middle East and North Africa; the resulting migration of refugees to Europe from those war zones; tensions in Syria, Iraq and Afghanistan; and forthcoming elections in the United States, Netherlands, France and Germany. Elections in those European countries have resulted in pro-EU governments that have maintained commitment for multinational solutions. In contrast, the election of Donald Trump in the US has led US policy to become more unilateral – pulling out of the Trans-Pacific Partnership (TPP) trade deal; looking to renegotiate the North American Free Trade Agreement (NAFTA); and leaving UNESCO. New conflicts have also emerged from a more assertive stance from the President, especially with North Korea and Iran. Elsewhere, the Islamic State has been rolled back, but the conflict continues across the Middle East and North Africa.

5.56 Global growth strengthened in the first half of 2017, with the Eurozone, China, Japan and Russia doing better than had been expected. As a result, both the International Monetary Fund (IMF, 2017) and the Organisation for Economic Co-operation and Development (OECD, 2017) revised up their global growth forecasts for 2017 and 2018. Growth had become more synchronised across countries with employment, investment and trade expanding, although the OECD noted that investment and trade were still weaker than needed to sustain growth. In stark contrast to this more optimistic outlook, both organisations revised down their growth forecasts for the UK. While the IMF revised its forecasts in line with the consensus of UK forecasters – to 1.7 per cent in 2017 and 1.5 per cent in 2018 – the OECD took a more pessimistic view on 2018. It revised its forecasts to 1.6 per cent in 2017 and just 1.0 per cent in 2018, the lowest of any country in the G7.

5.57 Prior to January 2016, as shown in Figure 5.10, most forecasters were predicting GDP growth in line with trend, at around 2.4 per cent in each year from 2016 to 2018. However, since then these forecasts have generally been revised down. After the EU Referendum in June 2016, there was a sharp downwards revision, in particular for the 2017 and 2018 forecasts – to 0.7 per cent and 1.6 per cent respectively. As the worst fears were not realised in the autumn of 2016, the forecasts for 2017 were revised upwards and the forecasts for 2018 downwards. The latest median forecast by the HM Treasury panel is for 1.5 per cent in both years. Cumulative growth over those three years is now expected to be around 4.9 per cent, more than a third lower than expected by the forecasts made at the time of the NLW announcement in July 2015 (7.5 per cent).

Figure 5.10: Forecasts of GDP growth in 2016, 2017 and 2018, UK, 2012-2017



Source: LPC estimates using HM Treasury panel of independent forecasts: median of recent forecasts, UK, 2012-17.
Note: The forecasts from February 2012-February 2015 are quarterly. Those from February 2015 onwards are monthly.

5.58 The revisions by the Bank of England have been of a similar magnitude – revising GDP growth from 2.3 per cent in 2017 and 2018 in its May 2016 forecast, to 0.8 per cent in 2017 and 1.8 per cent in 2018 in its August 2016 forecast. In line with other forecasters, the latest Bank of England forecasts from August 2017 are for growth of 1.7 per cent in 2017 and 1.6 per cent in 2018. The Bank of England (2017c) expected GDP growth to be subdued as real household incomes were squeezed, but that net trade and business investment would firm up.

Labour market resilience

5.59 With GDP growth expected to be weaker than in recent years, forecasts for jobs growth have also weakened. The Bank of England (2017c) noted that indicators pointed to reasonably solid employment growth in the third quarter of 2017 with vacancies high relative to the size of the labour force in the second quarter and redundancies low. Although it noted that employment intentions in most surveys were above historic averages, it concluded that job growth was expected to slow, as output growth remained subdued. It therefore expected employment growth to ease to 0.5 per cent in 2018, half of that for 2017, but to then pick up again in 2019 to around 0.8 per cent.

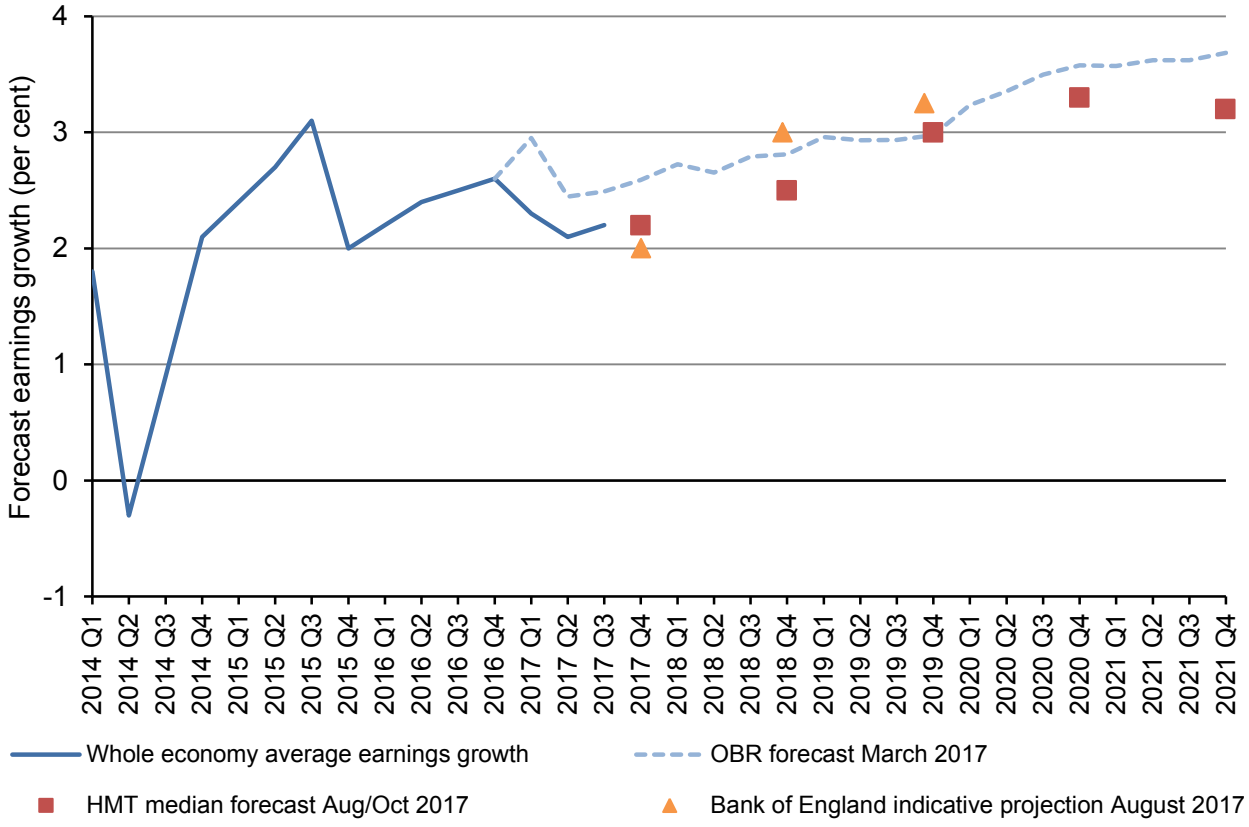
5.60 Although employment has also shown strong growth over the year, it should be noted that total employment in the three months to August 2017 was 31,000 lower than the equivalent figure for July. This may indicate some weakening. However, ONS advise against such monthly comparisons. Indeed, month-on-month falls were also reported in February 2017 and October 2016. These falls were reversed in the following month. Using the ONS preferred measure, employment

was 95,000 higher in August 2017 than in the three months to May 2017 and was 317,000 or 1.0 per cent higher than in August 2016.

Wage growth expected to be weaker than previously forecast with a near-term squeeze on real earnings growth

5.61 Forecasts for annual average earnings growth, as shown in Figure 5.11, show a modest increase from the current low levels (2.2 per cent for the three months to August 2017), with earnings growth expected to remain below 3 per cent in 2018. The latest assumption from the Bank of England is for 3.0 per cent earnings growth in 2018, revised down from a 3.5 per cent assumption at the time of our Autumn Report 2016. The median of HM Treasury independent forecasts indicates lower earnings growth, of 2.5 per cent in 2018, which implies zero real earnings growth.

Figure 5.11: Average earnings growth and forecasts, UK, 2014-2021

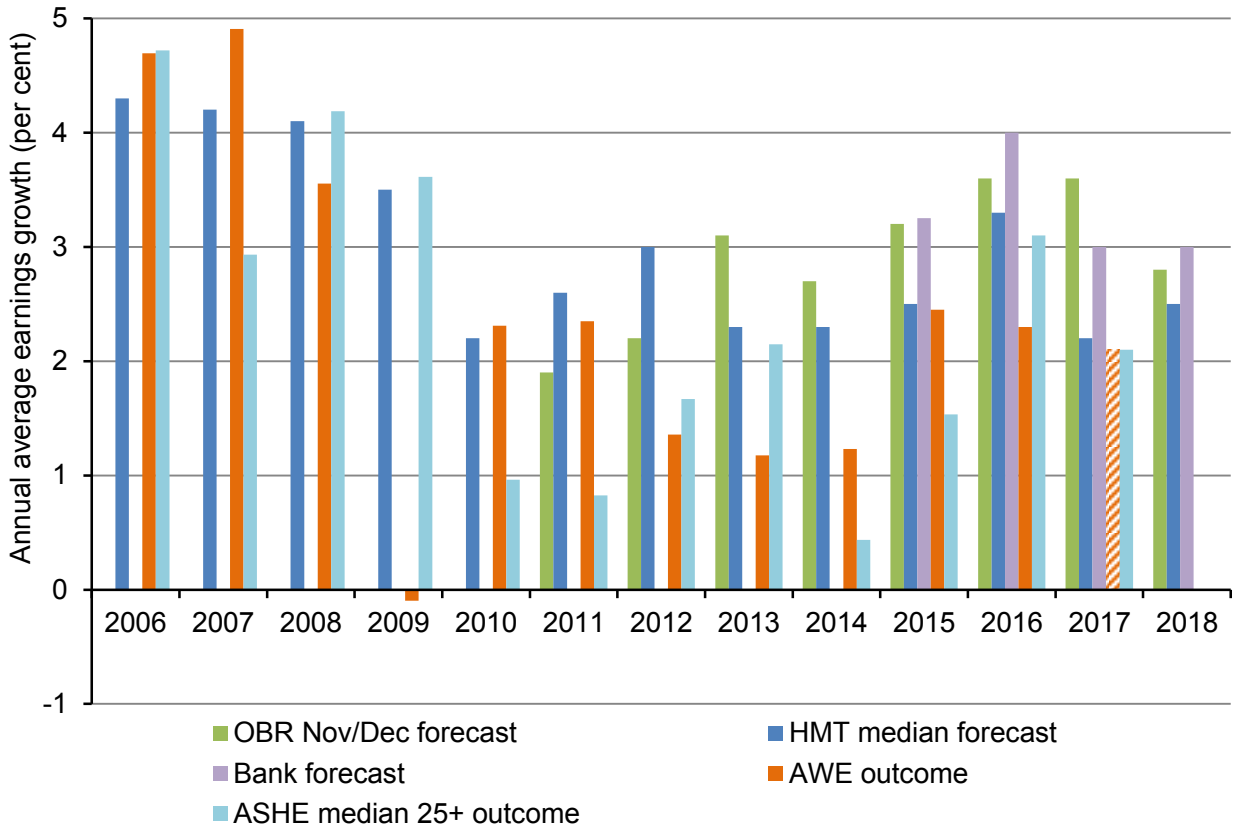


Source: LPC estimates using: ONS AWE total pay (KAC3), quarterly, seasonally adjusted, GB, 2014-2017; OBR (2017b); HM Treasury panel of independent forecasts (2017e and f), Bank of England (2017c) average weekly earnings projections.

5.62 Earnings forecasts have persistently over-estimated the level of earnings growth since 2009, as shown in Figure 5.12. Most economic models have expected earnings growth to encompass inflation on top of productivity growth. But recent years have seen unexpectedly low productivity growth, coupled with average earnings growth that has failed to keep up with inflation. Furthermore, it has been assumed that historic low levels of unemployment will provide an upward push to earnings, which has not proved to be the case. Pay bargaining expectations have continued to be grounded in 2 per cent pay rises, irrespective of the level of inflation, with employers pushing down on pay bill extras, such as premium pay and pay progression, since the recession. The lower earnings growth forecasts for 2018, than seen previously, in part reflect an adjustment of the

underlying economic models to the reality of the recent labour market, of low productivity growth, weak pay expectations, and a flexible labour supply.

Figure 5.12: Average earnings growth, forecasts and outcomes, 2006-2018



Source: LPC estimates using: ONS AWE total pay (KAB9) annualised, monthly, seasonally adjusted, GB, 2006-2017; ASHE: 2007 methodology, April 2006-10; and 2010 methodology, April 2011-17, standard weights, UK; HM Treasury panel of independent forecasts, October 2006-18; OBR average earnings forecasts 2011-18; and Bank of England average weekly earnings projections, 2015-18.

Note: The data for 2017 is for January-August 2017, compared with January-August 2016.

5.63 In a recent survey of private sector pay expectations for 2018, conducted by XpertHR, private sector employers predicted a 2 per cent median pay award over the year to August 2018, suggesting that pay awards will be at 2 per cent for the sixth consecutive year. The most common pay award expected was 2 per cent, with around a third of predictions at this level. The interquartile range of pay awards is expected to be 1.8 to 3.0 per cent, slightly higher than the range in private sector pay awards recorded by XpertHR in 2017, of 1.5 to 2.5 per cent.

Summary of the economy

5.64 In summary, Table 5.1 shows that the forecasts for GDP growth in 2018 and 2019 are expected to be similar to the growth in 2017 and a bit lower than in 2016 (1.8 per cent). This would represent four years of below-trend growth using the trends from 1955-2007, 1992-2007 or 2010-15. Employment growth is expected to be more modest in 2018 than in 2017 at around 0.4 per cent, and that is not considered enough to prevent unemployment rising slightly, albeit with unemployment rates remaining historically low.

Table 5.1: Forecasts available in October 2017, 2017-2019

	OBR forecasts (March 2017)			Bank of England forecasts (August 2017)			Median of HM Treasury Panel (August/October 2017)		
	2017	**2018**	**2019**	**2017**	**2018**	**2019**	**2017**	**2018**	**2019**
GDP Growth (whole year)	2.0	1.6	1.7	1.7	1.6	1.7	1.6	1.4	1.6
Average Earnings AWE (whole year)	2.6	2.7	3.0	2.0	3.0	3.3	2.2	2.6	3.0
Inflation RPI (Q4)	3.7	3.6	3.1				3.9	3.2	3.2
Inflation CPI (Q4)	2.4	2.3	2.0	2.8	2.5	2.2	3.0	2.4	2.2
Employment growth (whole year)[3]	0.6	0.4	0.4	1.0	0.5	0.8	1.1	0.4	
ILO unemployment rate (Q4)	4.9	5.1	5.2	4.4	4.5	4.5	4.4	4.6	4.9

Source: OBR (2017b); Bank of England (2017c); and HM Treasury panel of independent forecasts (2017e and f); GDP growth (ABMI), total employment as measured by workforce jobs (DYDC), ILO unemployment (MGSC) and claimant unemployment (BCJD), quarterly, and AWE total pay (KAB9), monthly, seasonally adjusted; RPI (CZBH) and CPI (D7G7), quarterly, not seasonally adjusted, UK (GB for AWE), 2017.

Note: Bank of England forecasts of ILO unemployment rates are for the third quarters, 2017-19.

5.65 Inflation is expected to peak at over 3 per cent for CPI and 4 per cent for RPI in the fourth quarter of 2017 before falling back towards the 2 per cent target but remaining above it over 2018 and 2019. Wage growth is expected to pick up towards 3 per cent in 2018 and 2019. The Bank of England's forecasts for wage growth are again higher than the median of the HM Treasury panel.

Implications for the NLW

5.66 We use our panel of wage forecasts made up of those that have contributed in the last three months to the HM Treasury panel of independent forecasts, and add the Bank of England's August wage forecasts to it. This panel consists of 25 organisations, who all contribute wage forecasts for 2017 and 2018. Fewer forecasts are available for the medium-term with 13 contributing to 2019, and 11 to those in 2020 and 2021.

5.67 Table 5.2 shows that the wage forecasts for 2018 range from 1.7 per cent (Societe Generale) to 4.0 per cent (Economic Perspectives) and widens in 2019 to range from 1.5 per cent (Societe Generale) to 4.6 per cent (Liverpool Macro Research). The median is 2.6 per cent in 2018, with an interquartile range of 0.5 per cent (from 2.4-2.9 per cent). That increases to 3.0 per cent in 2019, with an interquartile range of 0.5 per cent (from 2.9-3.4 per cent). The median then increases to 3.3 per cent in 2020 and 3.2 per cent in 2021. We make use of these to generate the NLW path to 60 per cent of median earnings.

Table 5.2: Variation in forecast earnings, UK, 2017-2021

Average wage growth	2017	2018	2019	2020	2021
Median	2.2	2.6	3.0	3.3	3.2
Mean	2.2	2.7	3.1	3.1	3.2
Interquartile range	0.3	0.5	0.5	0.8	0.8
Lower quartile	2.0	2.4	2.9	2.8	2.7
Upper quartile	2.3	2.9	3.4	3.5	3.5
Range	1.1	2.3	3.1	2.9	2.8
Minimum	1.6	1.7	1.5	1.3	1.7
Maximum	2.7	4.0	4.6	4.2	4.5
Count	25	25	13	11	11

Source: LPC estimates using forecast data from HM Treasury panel of independent forecasts (2017e and f) and Bank of England (2017c), UK.

5.68 We make use of these wage forecasts to generate the NLW path to 60 per cent of median earnings in 2020. The ASHE median for 2017 was £13.03. Table 5.3 shows the revised NLW path calculated on a straight-line basis, implying a figure of £8.61 in 2020 and an on-course rate in 2018 of £7.83. This is a similar path to that projected in our Autumn 2016 Report. It is, however, much lower than the projected path and target in July 2015, when the NLW was first announced. Our initial projections suggested a path of £8.19 in 2018 and £9.35 in 2020. These were lowered again in our Spring 2016 Report, when we projected that the NLW path to be £8.12 in 2018, and £9.16 in 2020.

5.69 In summary, the central path for the NLW to reach the target is £7.83 in 2018, £8.20 in 2019 and £8.61 in 2020. The Government has also committed to this target of 60 per cent until the end of this Parliament. That means the bite will remain at 60 per cent, implying that the NLW will be £8.89 in 2021.

5.70 However, as we noted in the discussions of the wage forecasts above, there is some divergence. Using the interquartile range of the available forecasts, Table 5.4 shows the central path of the NLW, with ranges to signify the degree of uncertainty around these measures. These ranges are narrower than those made last year. The range for 2019 is quite narrow – £8.17-£8.23 (down from £8.15-£8.31), while the range for 2020 is now £8.55-£8.66 (down from £8.50-£8.73).

Table 5.3: Updated paths for the NLW, 2017-2021

LPC estimates using:				Year				
ASHE (year)	**Earnings forecast**	**Measure**		**2017**	**2018**	**2019**	**2020**	**2021**
2014	**OBR July 2015**	**Median (April)**	£	13.41	13.97	14.57	15.23	
		NLW	£	7.68	8.19	8.74	9.35	
		Bite (October)	%	56.1	57.4	58.7	60.0	
2015	**OBR November 2015**	**Median (April)**	£	13.31	13.83	14.37	14.96	
		NLW	£	7.64	8.12	8.61	9.16	
		Bite (October)	%	56.3	57.6	58.8	60.0	
2015	**OBR March 2016**	**Median (April)**	£	13.20	13.69	14.20	14.72	
		NLW	£	7.60	8.05	8.50	9.02	
		Bite (October)	%	56.6	57.7	58.9	60.0	
2016	**OBR March 2016**	**Median (April)**	£	13.24	13.73	14.25	14.77	
		NLW	£	7.61	8.07	8.52	9.05	
		Bite (October)	%	56.5	57.6	58.8	60.0	
2016	**HM Treasury panel including the Bank (May/June)**	**Median (April)**	£	13.05	13.48	13.96	14.45	
		NLW	£	7.55	7.95	8.38	8.82	
		Bite (October)	%	57.0	58.0	59.0	60.0	
2016	**Bank[1] (August)**	**Median (April)**	£	13.04	13.47			
		NLW	£	7.55	7.95			
		Bite (October)	%	57.0	58.0			
2016	**HM Treasury panel including the Bank (August/October)**	**Median (April)**	£	13.07	13.38	13.75	14.18	
		NLW	£	7.50	7.84	8.22	8.65	
		Bite (October)	%	56.7	57.8	58.9	60.0	
2016	**OBR March 2017**	**Median (April)**	£	13.05	13.44	13.88	14.38	14.93
		NLW	£	7.50	7.89	8.30	8.79	9.13
		Bite (October)	%	56.6	57.7	58.9	60.0	60.0
2017	**OBR March 2017**	**Median (April)**	£	13.03	13.41	13.85	14.35	14.90
		NLW	£	7.50	7.88	8.29	8.77	9.11
		Bite (October)	%	56.7	57.8	58.9	60.0	60.0
2017	**Bank[1] (August)**	**Median (April)**	£	13.03	13.35	13.77		
		NLW	£	7.50	7.86	8.25		
		Bite (October)	%	57.0	58.0	59.0		
2017	**HM Treasury panel including the Bank (August/October)**	**Median (April)**	£	13.03	13.33	13.70	14.12	14.59
		NLW	£	7.50	7.83	8.20	8.61	8.89
		Bite (October)	%	56.9	58.0	59.0	60.0	60.0

Source: LPC estimates using ASHE April 2014-17, standard weights, UK; OBR (2015a, 2015b, 2016b, 2016d and 2017b) forecasts for hourly earnings; HM Treasury panel of independent forecasts (2016e, 2016g, 2016i, 2016j, 2017e and 2017f); and Bank of England (2016c and 2017c).

Note:

1 Bank of England only forecast earnings growth up to 2018 in 2016, and up to 2019 in 2017.

Table 5.4: Forecast range for the NLW path, 2016-2021

	2016	2017	2018	2019	2020	2021
Lower quartile				£8.17	£8.55	£8.78
Median	**£7.20**	**£7.50**	**£7.83**	**£8.20**	**£8.61**	**£8.89**
Upper quartile				£8.23	£8.66	£8.96

Source: LPC estimates using ASHE April 2017, standard weights, UK; HM Treasury panel of independent forecasts (2017i and j); and Bank of England (2017c) average weekly earnings projections.

5.71 We now go on to discuss stakeholder views of the target rate.

Stakeholder views

5.72 Chapter 2 considered the effects of the NLW since its introduction. Most employers have successfully managed, but there have been widespread effects on differentials, prices and profits. Many businesses across a range of sectors have accepted reduced profits or raised prices, while in some sectors, including convenience retail, social care, and hair and beauty, we heard that businesses are at, or approaching, a tipping point at which rising costs may have significant effects on employment. In general, businesses thought the lower-than-forecast rate for 2017 had meant less serious consequences than they predicted last year.

Future responses to the National Living Wage

5.73 Stakeholders were split over whether the responses described in Chapter 2, particularly ongoing cuts to profits and increasing prices, will continue to be sustainable in the future. If not, it could mean more employers resort to cutting jobs. In general, stakeholders thought that businesses that could raise prices would do so. Looking ahead, more employers in a wider range of sectors were worried about the affordability of the NLW by 2020. The CBI estimates that over half of all businesses will be affected by 2020, with 'a real risk of more serious consequences for employment and hours'. Organisations in a variety of sectors thought the NLW would be a catalyst for employers to reassess their employment structures, and the way they manage reward and progression. Employee representatives were optimistic, and thought it would have business benefits.

5.74 The CBI told us that the challenge with the NLW is 'sustainability', and argued that 'the rising cost of employment on the path to 2020 will be a real challenge'. Increases in the NLW also increase other employment costs (such as National Insurance and pension contributions), so the effect will be amplified. The CBI expects more firms to have to take difficult decisions, some of which will affect employment. More firms plan to reduce employment and hours, or rethink their business model, and almost a third are considering increasing automation. Similarly, the Federation of Small Businesses (FSB) argued that the responses we have seen so far cannot simply be repeated until 2020 – we are approaching the 'tipping point' where we will see job loss in small and micro businesses. Hospitality industry representatives used the same term when warning about the effects on the sector as the NLW continues to increase.

5.75 The BCC Workforce Survey 2017 asked members about how they expect to respond to the NLW up to 2020. The most likely response was to raise prices (respondents were not asked about profits), followed by reducing differentials and then staff benefits. Fewer thought they would reduce recruitment (20 per cent), hours (14 per cent), and make redundancies (8 per cent). 35 per cent did not anticipate having to take action, down from 46 per cent in the equivalent survey in 2016. All the possible responses were chosen by more respondents this year, with the biggest increase being in the proportion of firms planning to recruit workers on flexible contracts (15 per cent, up from 6 per cent).

5.76 Some sector representatives thought the NLW's path to its relative target of 60 per cent of median earnings would be, overall, manageable. This is based on evidence that most workers in these sectors are being paid ahead of the current and forecast rates. EEF (the Manufacturers' Organisation) thought manufacturing would cope, but that as coverage rises and the NLW determines more manufacturing workers' pay, more companies will feel its effects and have to take action. The Food and Drink Federation (FDF) thought the NLW would be broadly affordable, with some effects on differentials and premium pay. The British Retail Consortium's (BRC) survey found that only 10 per cent of large retailers (with more than 10,000 employees) that responded believed that the 2020 on-course rate of around £8.70 would be too high. It did think there would be effects though, especially on differentials, with some firms also looking to cut back on workers' hours. However, it is important to note that these organisations do not represent all businesses in their sectors, with the CBI expressing concern about small businesses, and where the NLW's bite is highest.

5.77 The likelihood of a rate lower than the £9-plus that was initially forecast appears to have assuaged the concerns of some firms. EEF's members had been worried about a figure in excess of £9, but are now generally more positive about the NLW. While the lower projected figure is a result of poorer economic performance, it seems that the increases 'feel' smaller to businesses.

5.78 Differentials, pay structures and progression are some of the biggest future challenges for businesses. It seems so far that most businesses have been able to cope with the rising NLW, but many are starting to run into problems with differentials. The CBI flagged it as a growing issue that will increasingly affect staff motivation and willingness to take on additional responsibility. For the staff themselves, redesign of pay structures may be good, but if it simply means removing some management positions, progression opportunities will diminish. Such changes might also have consequences for employment levels. Other employers thought it would mean fundamental business model redesign.

5.79 There are limits to viability of price rises. Stakeholders, in sectors that previously had not felt able to increase prices due to competition for sales (like retail), have cited rising inflation caused by the falling value of the pound as a useful reason to raise prices and recoup some of the cost of the NLW; but markets remain price-competitive (in the BRC's survey only a small proportion of respondents had raised prices because of the NLW). It is not yet clear though whether this effect will trickle down to price-taking sectors like agriculture and textiles. Other sectors told us about problems with government funding. Funding issues in childcare and adult social care mean these sectors, that are already feeling cost pressures, may not see them alleviated.

5.80 Ideally, firms would be able to increase productivity. Unions, including Usdaw, thought higher pay would make productivity improvements more likely. But we heard mixed information from business representatives about the effect of the NLW on staff performance and motivation, and also that achieving higher productivity though automation can be either difficult, expensive, or counter-productive. Some supermarkets are not planning to increase the pace of automation. Indeed, one large supermarket chain told us that it has scaled back self-service tills because they are unpopular with customers. Hospitality firms have been investing in technology to save on labour costs; we heard in Cardiff that even in smaller hotels, self-service check-in and key cards in place of keys are becoming more popular. Other firms in retail and hospitality might have more room to automate, but there are limits to what can be achieved without affecting customer experience. In other sectors that might benefit from automation, such as horticulture, the technology simply does not exist yet, or is not worth the investment outlay. Mechanised fruit picking is still years away, we heard, although progress is still being made on advanced plant genetics and growing practices, such as table-top growing.

5.81 Organisations in convenience and hair told us that more serious consequences, including business failures and redundancies, are likely if the NLW continues to increase on a path to 60 per cent of median earnings. This, thought the Association of Convenience Stores (ACS) and National Hairdressers' Federation (NHF), would lead to employment losses. Other sectors were also concerned, but thought that employment effects were more likely to take the form of hours cuts, slowed hiring, and 'natural wastage' in staff levels. This camp included hospitality employer groups, and was suggested by other sectors, but it is hard to judge how widespread the effects might be.

5.82 The Association of Licensed Multiple Retailers (ALMR) argued that the effect of the NLW on investment would mean hospitality chains not expanding at the rate they would have done, meaning the sector will not create jobs at as fast a rate. It is difficult to judge the merit of this counter-factual argument and the role of the NLW, especially with the effects stakeholders have told us that Brexit is having on investment decisions.

5.83 A variety of employer representatives, in sectors including hospitality, convenience retail, childcare, and social care, thought that some businesses would fail and consolidation would occur with larger firms filling the gaps left. These changes in the composition of sectors would be real effects, but could limit the aggregate employment effect of the NLW. The ACS and British Hospitality Association (BHA) also warned us that there might be regional differences in business failures, which could pose more serious problems.

5.84 Unions thought the NLW would continue to be affordable for businesses. UNISON described increases so far as 'well within the limits of affordability'. The TUC cited high profitability and business reserve levels, and thought that 'the UK economy, and especially the low-paid sectors, are robust enough to cope with a further significant increase in the minimum wage'. The Communication Workers Union (CWU), meanwhile, thought strong hiring intentions were evidence that businesses can afford the NLW. Unions also told us they thought future increases would benefit both workers and the UK economy as a whole. The TUC and UNISON thought future increases would increase demand in the economy. GMB and UNISON sounded a note of warning regarding the social care sector, telling us that while the NLW is a real positive for care workers, it is very important that it be properly funded in the sector.

The National Living Wage rate

5.85 Last year, stakeholders had a wide range of views and suggestions regarding the path of the NLW. In our consultation for this report, it was apparent that employer representatives understand the nature of the NLW's 60 per cent target, and that this relative figure, not the £9 cited when the policy was announced, is the goal for 2020; although for some individual employers, the £9 figure has stuck. However, we heard that employers have found the relative target a useful feature of the policy, as projections have been revised down in line with economic performance.

5.86 Few organisations specified a recommended rate for 2018. Instead, most employer organisations, indeed including some from sectors that report struggling with the NLW, advised the LPC to set rates according to the path it calculates is needed to reach 60 per cent of median earnings in 2020, as opposed to a cash target. Employer organisations, including EEF, FDF, National Farmers' Union (NFU), ALMR, BHA and British Beer and Pub Association (BBPA), thought the LPC should remain focused on the relative target. The LGA also backed the LPC to continue on the path. Also supportive of the 60 per cent target were the CBI, BRC and FSB (which suggested a rate of £7.85), although they all stressed the importance of the LPC taking economic conditions into account. Social care organisations also supported the proposed approach with the NLW, but with the proviso that contract rates need to take wage costs into account.

5.87 Other organisations repeated their calls for the LPC to assess the NLW on the same basis as the other rates. The ACS, the Federation of Wholesale Distributors (FWD) and the Chartered Institute of Personnel and Development (CIPD; which thought that a rate of £7.80 in 2018 would be acceptable, but questioned the sustainability of increases), all favoured a return to the LPC recommending rates based on the highest level possible without affecting employment. The FWD and ACS told us that members would like to see rates frozen, but the organisations themselves did not support this approach, instead arguing for modest increases. The BCC thought increasing the NLW in line with inflation would be appropriate to avoid negative employment effects. The NHF strongly urged the LPC to move away from the path. It described the NLW increases as 'too much, too fast' and called for more time to assess their effects. It recommended increasing the NLW in line with inflation. Some small businesses we met on our visits thought a freeze was necessary to allow time to assess the effects and plan for the future.

5.88 Employee representatives generally saw the 60 per cent target as a minimum aspiration, and wanted younger workers to be entitled to the rate. A target of £10 per hour was often quoted. The CWU, TUC, Unite and GMB all wanted this rate as soon as possible. Unite suggested an increase of £1.50 in 2018 as an intermediate step. UNISON wants the NMW rate to be raised to the UK Living Wage rate for all age groups and sees payment of the NLW from the age of 21 as a step toward that goal. The RMT, the National Union of Rail, Maritime and Transport Workers, was less specific, calling for increases 'above RPI'.

5.89 Several employer representatives wanted more clarity about the path of the NLW after 2020. EEF, FDF and the British Independent Retailers Association (bira) all called for the LPC to set out the approach from 2020. The CBI has also told us that clear information is important to allow firms to plan ahead.

Rates for those aged under 25

5.90 There has not been a marked increase in stakeholders telling us of more use of the 21-24 Year Old Rate, nor of the rates for workers aged 20 and under. It appears that most employers, for various reasons, have decided to pay the NLW to younger workers too. We have heard a small number of reports though of firms that initially paid the NLW to younger workers now looking to use the 21-24 Year Old Rate, with the extent varying by sector.

5.91 Use of all the age-specific rates of the minimum wage is still common in hospitality. We heard at a round table event organised by the BHA that one large company that initially announced that younger workers would be paid the NLW were now embarking on a cost-saving drive, including bringing back age-differentiated pay. Hair and beauty businesses, and convenience retailers also make use of the youth rates, although few of the latter have staff younger than 18 because of age-restricted products. On the other hand, the ACS's survey indicated that some stores might look to use more younger workers to take advantage of the lower rates. The CIPD told us that use of the youth rates is more common in small businesses, where it helps them manage costs.

5.92 As few employers use the youth rates, bira thought that the NLW could encourage them to hire older workers ahead of younger people. In larger retail, the BRC told us that most firms pay all workers the NLW, but that some paid the age rates (or somewhere in between) as a 'starter rate', an option FDF also described as 'useful', but one that few manufacturers use.

5.93 National Day Nurseries Association (NDNA) told us that some nurseries are looking to hire more younger people, but that most pay younger staff the NLW as they cannot justify a differential. In adult social care, employer organisations told us that use of the youth rates is rare, with the UK Homecare Association (UKHCA) saying it would be 'counter-productive'.

5.94 The NFU told us that a third of horticulture firms use the 21-24 Year Old Rate, but that the age profile of the horticulture workforce is such that it covers relatively few workers. Few businesses use the rates for workers aged under 21.We also heard from a farm in Gloucestershire that it uses the rate, in an apparent contravention of Ethical Trading Initiative rules; the business had had a dispute with the body that enforces the rules, but had resolved it and continued to use the lower rate.

5.95 Some stakeholders expressed concern about the prospect of the gap between the NLW and the 21-24 Year Old Rate growing. The CBI thought 'the LPC should look to prevent the gap between the NLW and 21-24 NMW rate widening'; it thought the LPC should recommend cautious increases and ensure that the 21-24 NMW rate continues to be set with employment effects in mind. It did not call for the rates to be equalised, emphasising the importance of 'giving a leg up into employment to young people'. Nevertheless, it argued that there is scope to prevent the gap widening as the bite of the 21-24 rate has fallen over the last two years. A large hospitality firm agreed that the age rates are important for businesses and young workers, but also called for the gap between the NLW and 21-24 Year Old Rate to be limited to a maximum of 50p. NDNA told us that, 'on balance, we believe that too large a gap must not be allowed to open up'. Few employer groups suggested specific rates, but the BCC thought increases of around 1 per cent for all the rates would be suitable to protect the employment of younger workers.

5.96 Union views on the age rates centred on the extension of the NLW to younger workers. UNISON has previously argued for the NLW to apply from 18, but this year called for it to apply to those aged 21 and over, as a step towards its goal of all age groups being paid the UK living wage. It also noted the fall in the real value of the 21-24 Year Old Rate (and, to an even greater extent, the rates for 16-20 year olds). In support of its argument for the NLW to be paid from 21 at a minimum, it submitted a research report it commissioned from the New Policy Institute (NPI). The report argued that 21-24 year olds are currently experiencing stronger wage growth than older workers, and that employment levels are high and rising, with unemployment falling. It pointed out that around 86 per cent of workers in that age group already earned at least the NLW in April 2016. It also referenced the LPC's decision in 2010 to lower the age group entitled to the adult rate of the NMW from 22 and over to include 21 year olds, and the fact that the outcomes were not negative for 21 year olds, as evidence that the NLW should be applicable to them. The NPI thought that labour market participation might increase if 21-24 year olds were entitled to the NLW (New Policy Institute, 2017).

5.97 Other unions called for the NLW to be paid from 21 or 18. This was largely for reasons of fairness, but GMB argued that the age rates are not justified on productivity grounds either, and the TUC noted improved labour market performance of younger workers as evidence that the labour market could tolerate higher rates. GMB also pointed out that the rates for younger workers have not recovered in real terms since the recession. It called for rates to increase faster than inflation. In the same vein, a number of unions expressed particular concern at the gap between the NLW and other rates.

5.98 The Welsh Government too expressed its opposition to the differentiation between 21-24 year olds and older workers. It argued that there is no evidence that 21-24 year olds 'make a significantly less valuable contribution' than older workers. The Scottish Government argued that the LPC should recommend decreasing the differential between the youth rates and the NLW, and thought that it should 'a priority' in the LPC's recommendations. It thought that not doing so would risk incentivising 'low-margin employers to cut costs by replacing over 25 year old staff with younger staff'. It agreed with the proposed straight-line path for the NLW up to 2020, but saw the voluntary Living Wage becoming the norm its 'aspiration'.

Apprentice Rate

5.99 The range of views we received on the Apprentice Rate must be taken in the context of the recent policy changes discussed at length in Chapter 4. Debate centred on the quality, status and attractiveness of apprenticeships for those arguing for a higher rate, and on the affordability for those arguing for smaller increases. The CBI called for the Apprentice Rate to rise 'cautiously' 'to support businesses to create high quality opportunities'. FSB favoured progressively closing the gap to the 16-17 Year Old Rate. It thought a higher Apprentice Rate would 'help boost the attractiveness of apprenticeships … relative to other routes such as paid employment or higher education. It should also help improve the parity of esteem between vocational and academic routes'.

5.100 Hospitality sector representatives thought recent increases in the Apprentice Rate would help attract applicants, though in the sector apprentices are typically paid above the rate already (from £4.05 per hour). Partly, but not wholly because of the Apprenticeship Levy, firms in the sector are looking to increase recruitment of apprentices. The ALMR expects its members to increase recruitment by 35 per cent.

5.101 Unions generally argued that the Apprentice Rate should be higher. UNISON and the TUC both expressed concern that the rate being too low could adversely affect the quality of apprenticeships, and that the gap between the rate and the NLW increases the incentive to take on apprentices as cheap labour for what the TUC described as 'business-critical roles'. GMB favoured aligning the Apprentice Rate with the age-related minimum wage rates.

5.102 The Young Women's Trust argued that the Apprentice Rate is too low to cover transport to college and work, meaning that young people living independently cannot cover rent and bills. It argued that this deters people from disadvantaged backgrounds. The principal of East Kent College agreed and told us that to make courses viable for apprentices it provides uniforms, laptops and meal vouchers to ease the financial burden an apprenticeship puts on some people.

5.103 Some employer representatives agreed that the Apprentice Rate should be raised, or aligned with age rates. EEF thought increasing the Apprentice Rate, in light of the Levy, would help 'safeguard the apprenticeship brand'. It suggested paying the age rates to apprentices. The FDF told us that its members question the need for a separate rate, as most of them pay well above it, according to the market. The Welsh Government also thought that 'the logic of having a lower Apprentice Rate is questionable'.

5.104 Conversely, NDNA and NHF appreciated the lower level of the Apprentice Rate, but questioned why apprentices' pay should rise before qualifications are attained. The NHF argued that this puts hairdressers off hiring older apprentices who they will have to pay the NLW after a year, even though they are still in training. The UK Fashion and Textile Association also argued that there should be a rate for the whole apprenticeship. NDNA also noted the cost of training for businesses that do not pay the Apprenticeship Levy.

5.105 The Association of Accounting Technicians (AAT) accepted the rationale for a lower Apprentice Rate, but thought the current level can sometimes invite abuse, with employers using apprentices for cheap labour and offering little training. It used the example of Subway 'sandwich artist' apprenticeships. UNISON also thought that the gap between the Apprentice Rate and other rates creates an incentive to hire apprentices instead of regular workers.

The Accommodation Offset

5.106 Several organisations commented on the level or structure of the Accommodation Offset. Employer groups in sectors where firms use the Offset generally appealed for the rate to continue to increase. Unite also supported raising the Offset towards the 21-24 Year Old Rate when the real value of the latter rate is rising, while maintaining it as the only allowable deduction from the minimum wage, arguing that 'ill-thought through deregulation without effective enforcement guidelines could lead to further exploitation'. On the other hand, the RMT union called for it to be scrapped, saying that it is a 'tax on the low-paid'. RMT also pointed out that seafarers on NMW rates of pay are unfairly

penalised for the cost of being accommodated on board, and argued that as there is no data on how many seafarers it affects, the Offset should not be applicable in the maritime sector.

5.107 The NFU welcomed recent increases, but said that most of the businesses using it would like to see it increased further. It said the Offset is not high enough to meet the cost of housing workers, especially with minimum standards being brought in with regard to caravan accommodation. The Association of Labour Providers argued that 'the current level … only covers the cost of the most basic accommodation', and asked that the LPC reconsider the level or workings of the policy. It also wanted optional provision of transport to be an allowable deduction from the NMW. The BHA agreed that the offset is too low relative to the cost of alternative accommodation.

5.108 The British Grooms' Association (BGA) also told us that the level of the Offset is too low to cover the provision of housing for people working in the equine industry. On a slightly different note, it warned that grooms, who often live on site and have the Offset deducted from their wages, lose their home if they lose their job.

Implications of other government legislation for employer costs

5.109 Across a wide range of sectors, employer representatives described a variety business costs rising. It is this accumulation of costs, rather than just the NLW, that is starting to cause problems for some employers. The situation was again described as a 'perfect storm' by some stakeholders, with the BHA using the term 'cauldron of costs' on our visit to Wales. The CBI put the cumulative cost of the NLW, business rate revaluations, the insurance premium tax, and the insurance discount rate cut, at £12 billion by 2020. In the CBI's calculations, no single cost is much greater than the others. This is in line with what we heard this year about the NLW – the problem for businesses is not usually one thing, but a combination. On the other hand, unions argued that other business costs have fallen, citing corporation tax cuts and business rates relief for small businesses.

Apprenticeship Levy

5.110 Employer groups had mixed views on the Apprenticeship Levy, but the majority of employers we heard from have so far struggled to spend their Levy funds this year. This is often because they have not had time to make arrangements yet, but others have written off the Levy as a 'stealth tax'. The CBI described it as 'a significant challenge', and argued that the policy's narrow design was a barrier to unlocking the Levy's potential benefits for businesses and workers. The CIPD was concerned that the Levy could just lead to a rebranding of training already offered.

5.111 The term 'stealth tax' was used by several people we talked to on our visits this year. Evidence from bira mirrored this view. The UKHCA also said that as the development of apprenticeship standards takes so long, employers will not be able to get value from their levy contributions and will treat it as a business tax. However, many were of the view that employers were still considering how to make best use of their Levy funds, given that they have 24 months to do so. We heard examples of employers who intended to use their funds, but were waiting for their apprenticeship 'standard' – essentially the curriculum – to be completed.

5.112 Others had decided not to use their funds on lower-level apprenticeships, instead opting to spend their training allowance on mid-level staff in head offices. This is especially true of sectors like convenience where most workers are part time and therefore ineligible for apprenticeships.

5.113 Several organisations called for more flexibility in the ways Levy funds can be spent, including the CBI. The NFU said that some farms found it hard to benefit from the Levy where the majority of workers are seasonal and the Levy could not be used to pay for any training for them. It also thought that basing Levy contributions on a wage bill, which included seasonal workers, unfairly inflated some businesses' payments. The ALMR was disappointed that the Levy fails to recognise in-house training, while the BBPA wanted firms to be allowed to use more funds for training in their supply chain (the limit is currently 10 per cent).

5.114 Some stakeholders were more positive about the Levy. The TUC thought the Levy was likely to raise apprentice numbers (although it is still worried about quality and exploitation). Chartered Institute of Payroll Professionals members said that the Levy had encouraged them to employ apprentices (it also noted that none of the members it asked said changes in the Apprentice Rate of the NMW had affected the number of apprentices they employ).

Pensions

5.115 Pensions auto-enrolment was repeatedly cited as a big cost pressure for businesses, and all businesses have now passed their staging dates. This is proving particularly problematic where no such arrangements existed before, in small firms (that often did not offer a pension scheme) and sectors that are already struggling with rising costs, like convenience and wholesale. Across the board, opt-out rates have been low, so employers are having to pay more than expected. While not complaining about the policy, employer groups have urged the LPC to be aware of the various new and rising costs their members are dealing with.

5.116 Employer contributions will grow over the next few years, from 1 per cent now to 2 per cent in 2018 and 3 per cent in 2019 (with employee contributions also rising to 5 per cent by 2019, which may affect opt-out rates). As the NLW rises, it compounds contributions. Consequently, we heard anecdotal evidence on our visits of small hospitality and retail businesses using multiple part-time staff instead of one full-time worker to stay under auto-enrolment and employer National Insurance contribution thresholds.

Business rates

5.117 The ACS, amongst others, also complained about business rate revaluations. This was a regular theme on our visits too, and was raised by individual businesses, local chambers of commerce, and sector organisations. Revaluations have been particularly costly for businesses in towns and cities: FSB reported that three quarters of businesses in London say business rates are the biggest cost issue they face, and that two fifths expected more than a 20 per cent rise; one Cardiff hotel manager told us that her business rates had gone up by 58 per cent.

5.118 Business rate relief for small businesses has been cited as a mitigating factor for those that might be most under pressure from rising costs. However, business organisations have recently argued that many Local Authorities have failed to implement the measures, meaning increased costs for small firms.

Other business costs

5.119 Stakeholders told us about a range of other costs, some of which are compounded by the rising NLW. In convenience retail, the Scottish Grocers' Federation commissioned research, which found that a 40p increase in the NLW actually costs a business 51p per worker hour. The largest components of the added cost of the employment, which it found is 29 per cent higher than the minimum wage, are Statutory Holiday Pay, Statutory Sick Pay, and employer National Insurance contributions. The FWD also pointed out that the cost of the NLW is compounded by such policies. Variously, we also heard about increasing cost pressure from inflation of raw materials prices caused by the devaluation of the pound, the soft drinks levy (which FDF called a 'punitive tax'), and the immigration skills charge.

Offsetting savings

5.120 UNISON argued the opposite of most employer groups, saying that corporation tax cuts and National Insurance Contribution exemptions have meant a particularly sharp downward pressure on employer costs over recent years to counterbalance increases resulting from the NMW and NLW.

Conclusion

5.121 This chapter has shown that while the prospect of the UK leaving the EU has increased uncertainty and inflation has risen, the economy is still forecast to grow above the 1 per cent per year threshold of sustainable growth over the next few years. Inflation is set to peak later this autumn and will then trend back down towards – but remaining above – 2 per cent over the next few years. More importantly, employment is projected to continue to perform well despite a weakening in output. Forecasts for further growth in employment levels are on top of existing record highs. However, despite the forecast tightening in the labour market, earnings growth is only expected to pick up slowly, with earnings growth much lower than before the financial crisis.

5.122 Taking account of new data since our Autumn 2016 Report and revised wage forecasts, our current projected path to 60 per cent of median earnings remains much the same as it was last year. The on-line rate, £7.83, is within the range we gave last year – £7.80-£7.91 – and the target NLW for 2020 remains at £8.61.

5.123 A lower NLW rate in 2017 than was initially forecast seems to have provided some relief to businesses so far, but it remains to be seen whether the actions they have taken will continue to be sustainable. In some sectors, we were told that the 'tipping point' had been pushed back by the smaller increase in 2017, but that soon there might be effects on employment, despite the projected rates of the NLW being lower than anticipated when the policy was announced.

5.124 Those sectors reporting serious concerns already warned that business failures and job losses could become more widespread. More businesses are likely to see their wage bills increase, and we heard that more would see profits reduced, or respond by increasing their prices, and reducing differentials between staff on or near then NLW and higher-paid workers. We heard that some are planning to respond by changing pay structures or cutting back other areas of workers' reward packages. A growing proportion plan to avoid having to take such action, by improving productivity. Worker representatives generally thought the NLW would continue to be affordable and would not affect employment levels. They cited strong labour market performance and high business profitability as evidence that the UK economy could tolerate a higher minimum wage.

Chapter 6
Recommended rates and implications

Introduction

6.1 In the preceding chapters, we set out the evidence base which informed our recommendations. Chapter 1 gives an overview of the state of the economy in 2017. Chapter 2 considers the early evidence on the impact of the introduction and subsequent uprating of the National Living Wage (NLW) and projections of the impact of its 2020 target level. Chapter 3 analyses the youth (16-24 year old) labour market, while Chapter 4 looks at apprentices. Chapter 5 sets out our evidence on the economic prospects for the UK economy, stakeholder views on future rates and other costs facing business. In this chapter, we set out our rationale for the recommended rates and our view of their implications, if implemented.

Recommended rates

6.2 The core decision for our report was whether the most recent economic evidence met the condition of sustained economic growth to enable the NLW to be uprated in line with the path to 60 per cent of median earnings. Compared with when we last reported, fears of a recession following the decision to leave the European Union have abated and short-term confidence appears stronger. Uncertainty about the medium-term remains high and is likely to until there is greater clarity on the terms for leaving the EU.

6.3 The economy is growing and several indicators, notably business confidence, investment and employment intentions have improved. Last year we reported that GDP growth for 2017 was forecast to be around 1 per cent, but the outturn has surpassed this with growth now likely to be 1.5-1.6 per cent for the year as a whole.

6.4 Importantly, jobs growth forecasts have been significantly revised upwards. Last year the Bank of England and the HM Treasury panel of independent forecasts anticipated job growth of 0 per cent and -0.1 per cent respectively for 2017 while the outturn was 1.2 per cent or 420,000 jobs. For 2018 the Bank of England and HMT panel forecast 0.4 per cent and 0.5 per cent respectively, which would mean an additional 125,000-175,000 jobs. The OBR's July 2015 forecast of 1.1 million additional jobs by 2020 has already been met and unemployment is at its lowest since the 1970s.

6.5 Performance of other indicators we reviewed, however, gave cause for concern. While economic growth has been sustained since 2010, it slowed in 2017. GDP per head has grown, but only by some 2 per cent, reflecting weak productivity. Overall, productivity has remained relatively flat since 2007, despite the strong labour market. Investment as a whole remains about the same as in 2015. We also noted that inflation is growing, albeit expected to peak later this year. Consumer

spending has weakened; as real incomes have fallen, net borrowing has increased, with likely increases in personal debt.

6.6 In written and oral evidence, employers remained concerned about the impact of the NLW. Some sectors, notably convenience retail and hair and beauty remained very concerned. However, the evidence from stakeholders also suggested that employers have coped better with the NLW than they originally anticipated and few called for a move off the path. However, this was a greater challenge for small and medium sized enterprises, compared with large companies with greater capacity to absorb the costs and planning adjustments necessitated by the introduction of the NLW and subsequent uprating. Some employers also felt that the likelihood of a straight line path to 2020 enabled them to plan ahead for future increases, while others highlighted concerns about the challenge of future increases. To some extent, these responses reflect the lower than originally predicted upratings, an outcome of the flexible design of the NLW. Compared with last year's report, many more employers have now factored the NLW into planning, and while the predicted cash value for 2020 has reduced, the likely large upratings still required to achieve the target of 60 per cent of median earnings by 2020 remain challenging.

6.7 Employee stakeholders were more positive, pointing to continued strong labour market performance, better than expected economic performance, and survey data suggesting that most employers had adapted to the NLW. They called for (at a minimum) a recommendation for an on-course rate as a fair outcome, given strong employment, low unemployment rates, and growing inflation.

6.8 We have weighed these considerations carefully and judged that the evidence available was consistent with the NLW remaining on its path to 60 per cent of median earnings by 2020. Having discussed whether to round to the nearest 5 pence, and deciding to neither frontload nor backload the increase, our recommendation is that the NLW should increase to £7.83 an hour in April 2018, an uplift of 33 pence or 4.4 per cent. This approach fulfils our remit, while also taking into account the issues raised by both employers and workers.

6.9 In line with our original intention, this is the on-course rate using the median of available forecasts from the Bank of England and the HM Treasury panel of independent forecasts. (We did not have access to the Office for Budget Responsibility's forthcoming November forecasts, though in recent years the HM Treasury panel forecasts have come somewhat closer to the outturn.) It is also in line with the indicative on-course rate that we set out in our Autumn 2016 Report last year, and thus supports employers in their forward planning.

6.10 For 2019, we estimate an indicative on-course rate of £8.20, with HM Treasury panel and Bank of England forecasts implying a NLW within an interquartile range of £8.17 to £8.24. A material worsening in economic performance and prospects would lead us next year to consider whether to recommend that the NLW should not increase relative to median earnings, moving below a straight line path to 60 per cent in 2020, to safeguard employment.

6.11 Looking further forwards, using the available HM Treasury panel and Bank of England forecasts, we estimate that 60 per cent of median earnings in 2020 will equate in cash terms to an NLW of £8.61, within an interquartile range of £8.54 to £8.67. Again, this is the same as the estimate made in our Autumn 2016 report, although it is lower than our estimates in Spring 2016 (£9.16), or when the policy was announced in July 2015 (£9.35).

6.12 While organisations have adapted through accepting lower profits, squeezing differentials and, where possible, increasing prices, we recognise that most will still find it a continuing challenge to accommodate the NLW. However, it was clear to us from oral and written evidence and visits, that the NLW was not the sole factor driving some of these behaviours, and employers had coped better with the NLW than they had thought when it was originally introduced. Continuing uncertainty about the outcome of negotiations for leaving the EU and long-term plans to change workforce structures were also important. We will continue to closely monitor the impacts of the NLW, bearing in mind the tolerance for some job loss built in to this policy.

6.13 Last year, we made recommendations for the NMW rates that would take effect just six months after the previous uprating, as these rates moved to synchronise with the April uprating of the NLW. We were concerned that two increases in a short space of time presented additional risks and so we have monitored the evidence carefully.

6.14 In the aftermath of the recession, we made recommendations for lower percentage increases to the NMW rates, in order to protect the employment position of younger workers, bearing in mind the particular risks of scarring effects for these workers. The evidence suggests that this was the right decision, but a necessary consequence was that these rates lost some of their relative value. In our reports from 2011 to 2014, we made a commitment to restore these differentials as soon as economic conditions had improved sufficiently to do so with minimum risk. This year, we judged that there was sufficiently strong evidence to be more ambitious for the rates for younger workers:

- Employment in the UK continues to grow more strongly than forecast and is at record levels.
- Unemployment has fallen to its lowest rate since 1975.
- There have been ongoing improvements in the employment and unemployment rates of 18-24 year olds, despite two increases in their NMW rates in quick succession in the last year.
- Wage growth for those aged between 18 and 24 has been higher than for those aged 25 and over for the last three years. As a result, the bite, which is the NMW as a percentage of median earnings and a key measure of pressure, has fallen for workers of these ages.
- Both employers and unions raised the importance of fairness and employee relations between age groups in the workforce.
- The concerns we raised in our Autumn 2016 Report, about two increases to these rates over six months, were not reflected in stakeholder evidence. Rather, analysis shows that the use of these rates for the two older age groups (18-20 and 21-24 year olds) has fallen because more employers are choosing to pay above those minimum rates.
- Finally, the evidence does not suggest a particular compliance problem in relation to these rates.

6.15 In weighing up this evidence, we also considered the risks of substitution and exploitation, as well as widening employment and unemployment disparities, while keeping in mind that our objective for younger workers is to recommend a rate that should not reduce employment prospects.

6.16 Taking all the above into account, this year we have agreed percentage upratings which match or exceed that for the NLW for all NMW rates with the exception of the 16-17 Year Old Rate. For the 21-24 Year Old Rate, while the evidence shows that a majority of workers in this age bracket are paid above the minimum hourly rate, we noted the important protection it provides for the 120,000 workers paid at the rate. We recommend an increase of 4.7 per cent to £7.38 from 1 April 2018. Assuming our recommendation of £7.83 for the NLW is accepted, this recommendation, if also accepted, will maintain the penny gap of 45 pence between this rate and the NLW, something we consider important for transition to the higher rate.

6.17 Employment, unemployment and pay of 18-20 year olds have continued to improve strongly. Our view is that this supports a significant increase for the pay floor for 18-20 year olds and a move towards restoring the relative value of this rate compared with the 21-24 Year Old Rate. Therefore, we recommend an increase in the 18-20 Year Old Rate of 5.4 per cent to £5.90 from 1 April 2018. If accepted, this increase will restore the real value of the 18-20 Year Old Rate.

6.18 For 16-17 year olds, we noted that the evidence on employment was less positive than for the older age groups. Pay growth for this group was also less than half that seen by 18-24 year olds. A greater proportion of 16-17 year olds in work are paid at or just above the minimum rate for their age, compared with the two older age groups, indicating that greater protection is afforded by the pay floor for this age group. We therefore considered it prudent to recommend a smaller increase for this group to £4.20. If accepted, this recommendation represents an increase of 3.7 per cent, balancing an above inflation increase for this group with their greater vulnerability in the labour market.

6.19 We also noted the ongoing and welcome increase in the proportion of 16-17 year olds remaining in full-time education. This suggests that the original rationale for this rate – protecting 16-17 year olds in full-time work (with no training) from exploitation – has become less relevant over time.

6.20 Overall, it appeared to us that there is merit in looking more closely at the operation and effectiveness of the NMW rates, both in the light of the impact of the NLW, as well as social and policy changes. We will continue to monitor this and consider what it might imply for the age-banded rates.

6.21 For apprentices, we found that the group most affected by the Apprentice Rate – 16-18 year old apprentices – had seen high growth in their earnings, with a consequent fall in their bite. Furthermore, research into the 21 per cent increase in the Apprentice Rate in October 2015 found no impact on the volumes or composition of apprenticeships. On that basis we recommend an increase to £3.70. This recommendation, if accepted, would deliver an increase of 5.7 per cent on the year. However, we also note that apprenticeship policy in England is in the midst of a significant transition, and therefore we will look carefully at the function and impact of the Apprentice Rate next year when the new funding policy is bedded in and better evidence is available in the form of the biennial Apprenticeship Pay Survey.

6.22 Finally, we recommend a 60 pence increase in the accommodation offset to £7.00, in keeping with our aim to bring it up to the level of the 21-24 Year Old Rate as long as that rate is rising in real terms. This means the rate better reflects the costs of providing accommodation and helps the horticulture sector in particular.

Implications of the recommended rates

6.23 In assessing the likely impact of our minimum wage rate recommendations, we have looked at changes to the bite, the coverage, and the implications for household income taking account of tax and benefit changes. In order to estimate the effect of our recommendations on the bite and coverage of the rates, we need to forecast how earnings are likely to change between April 2017 and October 2018. Reflecting earnings growth through the year, the bite and coverage are at their highest in April and fall gradually over the year to the following March. For the NLW, October is the point at which the bite is measured for the purposes of the 2020 target, because it is the mid-point of the year, and the Government has previously advised that this timing best represents the underlying policy intention of the target – an average 60 per cent bite across the year. We take two approaches to estimating the future bite and coverage. Our first approach assumes that all workers (and apprentices) receive pay increases in line with forecast average earnings growth. We use the median of the HM Treasury panel of independent forecasts (adding the Bank of England forecasts), which estimate average wage growth of 2.2 per cent for 2017 and 2.6 per cent for 2018. We then adjust these to estimate wage growth in each respective period between April and October of each year. This leads to projected wage growth of 1.1 per cent between April 2017 and October 2017; 1.2 per cent from October 2017 to April 2018; and 1.3 per cent between April 2018 and October 2018.

6.24 However, forecasts of average earnings growth are not available for young people, and in the recent period young people have seen earnings growth that was notably higher than the average. To illustrate the impact of different wage growth assumptions on the bite and coverage of the recommended rates we estimate growth under two assumptions: first using average earnings growth and then assuming that the wage growth observed between April 2016 and April 2017 was repeated in the next year.

6.25 The adopted approach contains a number of caveats which should be noted. Firstly, the coverage estimates assume that there is no spillover from the NLW/NMW increases; assuming spillovers would obviously reduce coverage. Secondly, using growth at the median to estimate coverage assumes that growth was similar at the bottom of the earnings distribution. While this was true for some groups in the year to April 2017 – particularly for 21-24 year olds and 18-20 year olds – this was not the case for those aged 25 and over. For the latter group, earnings growth was much higher at the bottom than at the median (4.4 per cent at the 10th percentile compared with 2.1 per cent at the median). Hence, using median growth may overestimate future coverage for the NLW, although it should be noted that increases in the NLW may well explain this divergent growth. Equally, assuming that young workers will again see relatively high median earnings growth, as observed over the last year – and assuming that this will be reflected across the earnings distribution – is likely to underestimate future coverage.

Bite of the recommended rates

6.26 Table 6.1 summarises the bite estimates based on the two approaches outlined above. It shows the bite to October 2018, measured against the projected median hourly earnings of workers and apprentices covered by their respective rates. Looking first at workers aged 25 and over, we estimate that the recommended rate of the NLW in April 2018 (£7.83 an hour) will have a bite of 58.7 per cent upon implementation, falling to 58.0 per cent by October of that year. This compares with a bite of 57.6 per cent in April 2017 (£7.50), falling to a projected 56.9 per cent in October 2017. The increase in the bite of the NLW, of 1.1 percentage points over the year, maintains the straight-line path to a NLW which, on this trajectory, will be 60 per cent of median earnings in October 2020. Under the second assumption, where annual earnings of the NLW cohort grow at the same rate as over the past year, at 2.1 per cent, the bite is slightly higher in April 2018 (58.9 per cent), falling to 58.2 per cent in October 2018.

6.27 Turning to younger workers, the estimated bite varies considerably depending on whether we assume that young people will see average earnings growth or assume they will repeat the outturn growth observed between April 2016 and April 2017: that being above-average growth for 18-20 year olds, 21-24 year olds and apprentices; and below-average growth for 16-17 year olds. Looking first at 21-24 year olds we estimate that the recommended rate (£7.38) will have a bite of 79.3 per cent in April 2018 assuming average earnings growth; or a bite of 77.1 per cent assuming above-average earnings growth. The mid-cycle bites of the recommended rates, measured in October 2018, will have fallen to 78.3 per cent and 75.2 per cent respectively. These mid-cycle bites – under both assumptions of earning growth – will be lower than the peak bite for this group, of 78.9 per cent, measured in April 2014 and April 2015; lower by 0.6 percentage points if we assume average earnings growth, and lower by 3.7 percentage points if we assume above-average earnings growth for 21-24 year olds, akin to that observed over the last year.

6.28 Turning to 18-20 year olds, we estimate that the recommended rate (£5.90) will have a bite of 76.9 per cent in April 2018 assuming average earnings growth; or a bite of 75.5 per cent assuming above-average earnings growth. The mid-cycle bites of the recommended rates, measured in October 2018, will have fallen to 75.9 per cent and 74.0 per cent respectively. These mid-cycle bites – under both assumptions of earning growth – will be lower than the peak bite for this group, of 77.3 per cent, measured in April 2013; lower by 1.4 percentage points if we assume average earnings growth, and lower by 3.3 percentage points if we assume above-average earnings growth for 18-20 year olds, akin to that observed over the last year.

Table 6.1: Bite of the NMW and NLW, UK, 2017-2018

	Actual Bite	Estimated bite		
Bite assuming average earnings growth	**Apr-2017**	**Oct-2017**	**Apr-2018**	**Oct-2018**
National Living Wage	57.6	56.9	58.7	58.0
21-24 Year Old Rate	77.5	76.6	79.3	78.3
18-20 Year Old Rate	74.7	73.9	76.9	75.9
16-17 Year Old Rate	72.3	71.5	73.3	72.4
Apprentice Rate	62.5	61.8	64.6	63.8
	Actual Bite	**Estimated bite**		
Bite assuming 2016-17 earnings growth	**Apr-2017**	**Oct-2017**	**Apr-2018**	**Oct-2018**
National Living Wage	57.6	57.0	58.9	58.2
21-24 Year Old Rate	77.5	75.5	77.1	75.2
18-20 Year Old Rate	74.7	73.2	75.5	74.0
16-17 Year Old Rate	72.3	71.7	73.7	73.0
Apprentice Rate	62.5	60.8	62.5	60.8

Source: LPC estimates based on ASHE, standard weights, including those not on adult rates of pay, UK, April, 2016-17; HM Treasury panel of independent forecasts (2017f); Bank of England (2017c) average weekly earnings projections.

6.29 Unlike their older counterparts, 16-17 year olds saw below-average earnings growth over the last year. Table 6.1 shows that the recommended rate (£4.20) will have an estimated bite of 73.3 per cent in April 2018 assuming average earnings growth, rising to 73.7 per cent if earnings growth is lower. By October 2018, the bites are estimated to fall to 72.4 per cent and 73.0 per cent respectively. These mid-cycle bites will be slightly above the peak bite for this group – 72.2 per cent in April 2014 – but will remain lower than the bites for 18-20 year olds and 21-24 year olds.

6.30 The bite of the Apprentice Rate is lower than the bites of the youth rates, reflecting both the lower rate (which recognises the additional training cost to employers) and the divergence of apprentice pay, with many older apprentices paid far above the Apprentice Rate. Our preferred source of earnings data for apprentices, the Apprentice Pay Survey (APS), is a biennial survey and not available for 2017. We therefore use earnings estimates from ASHE to estimate the bite (and coverage) of the recommended Apprentice Rate. It should be noted that the ASHE tends to provide higher estimates of median hourly pay than the APS, being collected from employers rather than apprentices. As such, it likely underestimates both the bite and the coverage. According to the 2017 ASHE, apprentices saw above-average earnings growth over the year. Table 6.1 shows that the bite is estimated at 64.6 per cent in April 2018 if apprentice earnings grow more slowly, in line with average earnings forecasts, next year. If apprentices see higher earnings growth, akin to that observed in ASHE over the last year, the bite will remain stable at 62.5 per cent in April 2018 (the percentage increase in the recommended rate, of 5.7 per cent, matching earnings growth), and 60.8 per cent in October 2018.

Coverage of the recommended rates

6.31 Another way of looking at the impact of the NMW is to assess the number of people who will be covered by the minimum wage upratings. As with the bite, this is sensitive to when in the year it is measured, and to pay forecasts. Table 6.2 sets out estimates of coverage in April 2018 using two assumptions: firstly, assuming average earnings growth of 2.3 per cent between April 2017 and April 2018 (using the median from the HM Treasury panel of independent forecasts and including the Bank of England); and secondly, assuming that earnings growth over the year to April 2018 will match that observed over the year to April 2017. Coverage is shown for April, when the new rates are introduced but, as noted previously, coverage falls through the year and will be lower in October 2018 when we measure the bite of the NLW. The coverage counts do not include any assumptions of employment or population change.

6.32 Looking first at the NLW for workers aged 25 and over, the recommended rate is estimated to raise coverage by 529,000 assuming average earnings growth; from 1.6 million jobs (6.4 per cent of the cohort) in April 2017 to 2.1 million (8.6 per cent) in April 2018. If we assume slightly lower earnings growth of 2.1 per cent, in line with the growth seen over the last year, the recommended rate is estimated to cover 2.2 million jobs (8.9 per cent) in April 2018. As noted earlier, these estimates assume no spillover effects; spillover effects will reduce our estimates of coverage (and increase the number of beneficiaries, those benefiting – directly or indirectly – from increases to the minimum wage).

6.33 Turning to 21-24 year olds, the recommended rate is estimated to increase coverage by 76,000 if earnings growth matches average earnings growth forecasts, covering 232,000 jobs (11.7 per cent of the cohort) when it is introduced in April 2018. Alternatively, if pay growth over the year matches that observed in the last year, coverage would fall slightly below the 2017 level, covering around 145,000 jobs (7.3 per cent of the cohort).

Table 6.2: Coverage of the NLW and NMW, UK, 2017-2018

Rates	April 2017		Coverage in April 2018 under two assumptions			
			Assuming average earnings growth		Assuming 2016-17 earnings growth	
	(000s)	%	(000s)	%	(000s)	%
National Living Wage	1,559	6.4	2,088	8.6	2,164	8.9
21-24 Year Old Rate	156	7.8	232	11.7	145	7.3
18-20 Year Old Rate	108	11.1	134	13.8	120	12.3
16-17 Year Old Rate	33	12.1	36	13.2	36	13.2
Apprentice Rate	30	15.2	34	16.9	30	15.2

Source: LPC estimates based on ASHE, low pay weights, including those not on adult rates of pay, UK, April 2016-17; HMT panel of independent forecasts (2017f) and Bank of England (2017c) average weekly earnings projections.

6.34 For the 18-20 Year Old Rate, coverage rises by 26,000 assuming average earnings growth, to cover 134,000 jobs (13.8 per cent of the cohort); and rises by 11,000 (rounded) to cover 120,000 jobs (12.3 per cent of the cohort), assuming higher earnings growth akin to that observed in the year to April 2017. Coverage of the 16-17 Year Old Rate rises by 3,000 to 36,000 jobs (13.2 per cent of the cohort), under both assumptions; but methodological issues in estimating coverage for this small group suggest that these estimates should be treated with caution. As with the bite, coverage for the Apprentice Rate is not estimated to increase if earnings growth over the year to April 2018 matches that observed in the year to 2017; on this basis the recommended rate would cover 30,000 jobs (15.2 per cent). If earnings growth for the Apprentice Rate cohort is akin to average earnings growth, total coverage rises to 34,000 jobs (16.9 per cent). As noted previously, these estimates, being based on the ASHE, likely underestimate coverage.

Impact on personal tax allowance and household income

6.35 In 2015, the previous Government said it intended to raise the Personal Tax Allowance such that no minimum wage worker working 30 hours or fewer at the adult rate of the NMW (covering workers aged 21 and over) paid income tax. While the NLW has become the de facto main rate for many workers and employers, the tax commitment was tied to the successor of the adult rate, the 21-24 Year Old Rate. The Government was subject to a duty to consider the impact on an individual working 30 hours a week on the adult NMW/21-24 Year Old Rate and report at each fiscal event. In support of this, the Government increased the income tax personal allowance, from £11,000 in 2016/17 to £11,500 in 2017/18. From 2018/19, OBR (2017a) assumes it will increase to £11,800. On this basis, the recommended increase in the 21-24 Year Old Rate has no implications for the personal tax allowance. For those working 30 hours a week on the 21-24 Year Old Rate, gross annual earnings will rise from £11,028 in April 2017 (based on £7.05 an hour) to £11,544 in April 2018 (based on £7.38), thus remaining below the tax threshold.

6.36 By contrast, the tax liability of workers aged 25 and over, working 30 hours a week on the NLW, will increase in 2018/19. The 2.6 per cent increase in the tax threshold – from £11,500 in 2017/18 to £11,800 in 2018/19 – set against the 4.4 per cent increase in the recommended rate of the NLW, increases their taxable pay for the year by £216.19 (93 per cent), from 231.50 to £447.69. In terms of weekly income, the recommended rate of the NLW implies a pre-tax increase of £9.90 a week (4.4 per cent), from £225 to £234.90, between 2017/18 and 2018/19. However, after-tax earnings vary according to household circumstances, with tax credits boosting the earnings of low-income households, particularly those with children. Modelling is sensitive to the precise assumptions, including whether the household is receiving 'legacy' benefits or Universal Credit. For simplicity, we assume that households are receiving Universal Credit.

6.37 Using HM Treasury estimates, Table 6.3 shows that the pre-tax and benefits increase of 4.4 per cent in the NLW translates into a post-tax and benefits increase of 3.9 per cent for a single NLW worker with no children. For a married couple household, with one working parent on the NLW and two children, the 4.4 per cent increase in the NLW translates into a post-tax and benefits increase of 0.8 per cent to household income.

Table 6.3: Impact of Personal Tax Allowance and benefit changes on household income of NLW workers, UK, 2017/18-2018/19

NLW worker, 30 hour week	2017/18	2018/19	2017/18 to 2018/19	
	£	£	£	%
Hourly rate	7.50	7.83	0.33	4.4
Annual pay	11,732	12,248	516.19	4.4
Tax threshold	11,500	11,800	300.00	2.6
Taxable pay	231.50	447.69	216.19	93.4
Weekly pay before tax/NICs/Tax Credits	225.00	234.90	9.90	4.4
Single, no children				
Weekly pay after tax/NICs/Tax Credits	215.83	224.26	8.43	3.9
Post-tax/benefit change (£)	-9.17	-10.64		
Post-tax/benefit change (%)	-4.1	-4.5		
After-tax hourly rate	7.19	7.48	0.28	3.9
Married couple, one working, 2 children				
Weekly pay after tax/NICs/Tax Credits	404.04	407.47	3.43	0.8
Post-tax/benefit change (£)	179.04	172.57		
Post-tax/benefit change (%)	79.6	73.5		
After-tax hourly rate	13.47	13.58	0.11	0.8

Source: LPC estimates using HM Treasury data, October 2017.

Notes:

a. Estimates assume that the household is in receipt of Universal Credit rather than 'legacy benefits'.
b. Estimates exclude Housing Benefit and Council Tax Benefit.

6.38 Table 6.4 shows the same analysis for a worker on the 21-24 Year Old Rate. The pre-tax and benefits increase of 4.7 per cent in the 21-24 Year Old Rate translates into a post-tax and benefits increase of 4.5 per cent for a single worker household with no children. For a married couple household, with one working parent on the NLW and two children, the 4.7 per cent increase in the NLW translates into a post-tax and benefits increase of 0.9 per cent in household income.

Table 6.4: Impact of Personal Tax Allowance and benefit changes on household income of NMW workers aged 21-24 years, UK, 2017/18-2018/19

21-24 Years, 30 hour week	2017/18	2018/19	2017/18 to 2018/19	
	£	£	£	%
Hourly rate	7.05	7.38	0.33	4.7
Annual pay	11,028	11,544	516.19	4.7
Tax threshold	11,500	11,800	300.00	2.6
Taxable pay	0.00	0.00	0.00	0.00
Weekly pay before NICs	211.50	221.40	9.90	4.7
Single, no children				
Weekly pay after NICs	204.84	214.12	9.28	4.5
Post-tax/benefit change (£)	-6.66	-7.28		
Post-tax/benefit change (%)	-3.1	-3.3		
After-tax hourly rate	6.83	7.14	0.31	4.5
Married couple, one working, 2 children				
Weekly pay after NICs/Tax Credits	375.78	379.22	3.44	0.9
Post-tax/benefit change (£)	164.28	157.82		
Post-tax/benefit change (%)	77.7	71.3		
After-tax hourly rate	12.53	12.64	0.11	0.9

Source: LPC estimates using HM Treasury data, October 2017.

Notes:

a. Estimates assume that the household is in receipt of Universal Credit, rather than 'legacy benefits'.
b. Estimates exclude Housing Benefit and Council Tax Benefit.

6.39 The analysis illustrates that the recommended increases in the NLW and 21-24 Year Old Rate are expected to deliver a nominal increase in household income for both of our example households – a single person and a married couple with two children – albeit that those receiving other financial support, in the form of benefits, will see a smaller improvement to total household income. Related to this, we commissioned research for this report to examine the interaction of the National Minimum Wage/National Living Wage with the tax and benefit system.

6.40 Brewer and De Agostini (2017) found that NMW workers (those on the 21-24 Year Old Rate) were more likely to be single than NLW workers and less likely to be in receipt of benefits. As such, their earnings contributed more to their families' income than the earnings of NLW workers. NMW workers were also more likely to be found in the bottom half of the working-age family income distribution, and particularly in the poorest decile of families. NLW families tended to be better off than NMW families because they were paid more per hour, and they were more likely to live with a working partner. Looking further ahead, the researchers estimated that forecast increases in the NMW and NLW by 2020-21 will increase net real incomes of minimum wage families by, on average, about 1.5 per cent. Within these families, low-income minimum wage families will gain by slightly more than high-income minimum wage families. These findings are discussed further in Appendix 2.

Conclusion

6.41 Our recommended rates for the NLW and the other rates of the minimum wage reflect a careful assessment of the outlook for older and younger workers, the economy and the labour market. We judged that the evidence available at this still early stage did not justify departing from a straight-line path for the NLW. For younger workers, we judged that their consistently strong labour market performance over three years warranted some progress towards our commitment to restore the relative value of the youth rates after the smaller increases they had seen in the aftermath of the recession. After reviewing a wide range of evidence, and considering views from stakeholders, we have made recommendations we judge to be appropriate to an economy that enjoys a strong labour market, but one that is also facing a period of uncertain adjustment.

Appendix 1
Consultation

We are grateful to all those people and organisations that contributed to the preparation of this report. We would like to thank in particular those who provided evidence, either written or oral, and those who organised or participated in Low Pay Commission visits and meetings. All such individuals and organisations are listed below, unless they expressed a wish to remain unacknowledged.

Written Evidence

Able Radio
Allstate NI
Apex Scotland Ltd
Asda Stores Ltd
Asda Stores Ltd, NI
Association of Accounting Technicians (AAT)
Association of Convenience Stores
Association of Directors of Adult Social Services
Association of Labour Providers
Association of Licensed Multiple Retailers
Association of School and College Leaders
Association of Scottish Visitor Attractions
Bakers Food and Alliance Workers Union
bira (British Independent Retail Association)
Brightwork Recruitment
British Beer & Pub Association
British Chambers of Commerce
British Grooms Association
British Hospitality Association
British Hospitality Association (Scotland)
British Hospitality Association (Wales)
British Hovercraft Company
British Institute of Facilities Management
British Retail Consortium
Brocklebys
Brunts Farmhouse Day Nursery
Burton's Biscuits

Canterbury College and East Kent College
Cardiff Hoteliers Association
Care England
CBI
Charity Finance Group
Chartered Institute of Payroll Professionals
Chartered Institute of Personnel and Development
Coalition of Care and Support Providers in Scotland (CCPS)
Cobrey Farms
Communication Workers Union
Cornerstone
Darrell Sturmey
East Midlands Chamber (Derbyshire, Nottinghamshire, Leicestershire)
EEF, the manufacturers' organisation
Employers For Childcare
Equity
Federation of Wholesale Distributors
Food and Drink Federation
FSB
Glasgow Chamber of Commerce
GMB
GMB NI
Hft
HM Government
Holiday Inn, Manston
Homecare Independent Living
Horatio Tremoine
Hospitality Ulster
Incomes Data Research
Institute for Fiscal Studies
Irish Congress of Trade Unions
Jeremy Knight Estate Agents Limited
Joseph Rowntree Foundation
K Laundry
Learning Disability Voices
Lemonpath Limited
Living Wage Foundation
Local Government Association
Macklin Group
Malmaison Hotel, Belfast
McCain Foods (GB) Limited

MED Clean South
Medina Costcutter
Migrant Rights Support Unit
Migration Advisory Committee
My Guy Clothing
National Care Association
National Council for Voluntary Organisations
National Day Nurseries Association
National Farmers' Union (NFU)
National Farmers' Union Scotland
National Hairdressers Federation
National Institute of Economic and Social Research
Nevin Economic Research Institute
North Ayrshire Council
Northern Ireland Chamber of Commerce and Industry
Partnership in Care Group
Rail, Maritime and Transport Workers' Union
Recruitment & Employment Confederation
Registered Nursing Home Association
Retail NI
Rushcliffe Care Group
Scarborough Chamber of Commerce
Scarborough Hospitality Association
Scotfresh
Scottish Council for Development and Industry
Scottish Government
Scottish Grocers' Federation
Scottish Social Services Council
Scottish Tourism Alliance
Scottish Trades Union Congress
Scottish Women's Convention
Shulmans LLP
South Wales Chamber of Commerce
Thanet and East Kent Chamber of Commerce
The Eco Cleaner
Torfaen County Borough Council
Trades Union Congress
TUC Yorkshire and the Humber
UK Fashion & Textile Association
Union of Shop, Distributive and Allied Workers
UNISON

Unite
United Kingdom Home Care Association
Walpole Bay Hotel
Welsh Government
West & North Yorkshire Chamber of Commerce
Whitbread Plc
Willows Nursing Home
XpertHR
Yorkshire Youth Fight for Jobs
Young Women's Trust

Appendix 2
Research summary for the 2017 Report

1. Since the Low Pay Commission (LPC) was established in 1997, research has played a vital role in informing Commissioners about the impact of the National Minimum Wage (NMW). In both its commissioned research and that conducted independently, the Commission has sought to use the findings to better understand the impact of the NMW and how it might affect the labour market and economy more generally. This continues to be the case. Indeed, the importance of research has been given an added boost with the introduction of the National Living Wage (NLW) – a step change in the value of the minimum wage for those aged 25 and over, as well as a stated commitment to increase it significantly above average earnings growth over the next three years.

2. When the NMW was first introduced in 1999, there was limited official data on pay and employment to conduct detailed and robust econometric studies to assess its impact. Instead, emphasis was placed on surveys of employers, case studies of particular sectors and firms, and focus groups. The more detailed econometric studies came later and indeed did not become the dominant research type until the Fourth Report in 2003.

3. For this report, we commissioned a comprehensive programme of ten research projects. Only a couple of these used econometric methodologies, the others made use of surveys, case studies and simulations. Eight of these projects have reported in full and covered the following areas:

- an assessment of the impact of the NLW on businesses, especially on pay structures;
- a complementary study of low-paying sector pay settlements and pay review dates;
- an exploratory look at the impact of the UK minimum wage on employment and hours exploiting the border between Northern Ireland and the Republic of Ireland;
- an investigation of small migrant-owned firms to further understand non-compliance;
- a related study on non-compliance and the workings of the minimum wage in New Zealand;
- an exploration of the impact of the NLW on non-standard employment arrangements, including zero hours contracts, minimum hours contracts, agency work and dependent self-employment;
- an assessment of the interaction between the National Minimum Wage and the National Living Wage, and the tax and benefit system; and
- an investigation into the impact of the large Apprentice Rate increase in October 2015.

4. There are two ongoing research projects:

- an investigation of the impact of the NLW on employment and hours; and
- an assessment of the impact of the UK minimum wage on automation and offshoring.

5. The investigation into the impact of the NLW on employment and hours is not due to report in full until October 2018, however, an interim report of preliminary findings has been produced. The research on automation and offshoring has been extended to enable analysis of an additional data set. An interim report, based on the Labour Force Survey, has been written. The findings to date of these two ongoing projects have been incorporated into the summaries that follow, with the final findings informing our 2018 deliberations and report.

6. We start our summary by considering the impact of the National Living Wage on businesses in general before focusing on pay, employment and hours. The role of minimum wages in advancing automation and offshoring is then considered. Non-compliance among firms in the UK and New Zealand is discussed followed by the role of non-standard employment arrangements and the interaction of the minimum wage with the tax and benefit system. We conclude by looking at apprentices.

7. Last year, Incomes Data Research (2016) had found that most firms had implemented the NLW without trouble although some, particularly in childcare, had found it difficult. Most firms were looking to cope by raising prices and productivity or by accepting reduced profits. Firms were more likely to change grade structure and premia payments than to reduce hours or cut jobs. Incomes Data Research (2017a) built on that research by examining the impact of the increases in the NLW and NMW in April 2017 on 120 mostly medium-sized and large firms across the low-paying sectors. It also conducted more detailed case studies with 10 of those firms.

8. It found that the NLW was having a significant impact on pay structures leading to: the merging of pay grades at the bottom of the scale; the removal of separate starter rates; and making greater use of age-related pay. Around half of the surveyed firms had narrowed or removed differentials, with many of those contributing this to the NLW. Retail and hospitality was most affected as their main grade wage rates were already at or close to the NLW. Most retailers had removed their starter rates for induction or training periods. In the other low-paying sectors surveyed, typical main grade wage rates were significantly above the NLW. While some employers had reduced or removed the scope of age-related pay, more had expanded or introduced them. Indeed, the survey found the majority of respondent firms paying adult rates at 25. Two years ago that would have been at age 21. However, the large supermarkets – the largest employers in this sector – do not use the youth rates and pay adult rates from the age of 18.

9. In its panel of 31 retail and catering/hospitality organisations, the gap between the median for the adult rate at the main grade and the statutory minimum wage had reduced from 4.5 per cent in 2012 to just 2.1 per cent in 2016, after the NLW had been introduced.

10. The study found little evidence of large-scale reductions in other aspects of pay or benefits to fund the increases in the NLW. The researchers attributed this to the fact that many additional parts of the reward package had already been eroded or removed over the last decade, especially overtime premia and unsocial hours payments. Thus reducing the scope to reduce these further. In addition, most work benefits were relatively low cost and their reduction or ending would save

employers little. Despite that, around 1 in 8 surveyed employers had reduced overtime or unsocial hours payments. There had been reductions in weekend pay and bank holiday enhancements along with a narrowing of the night premium window reducing the number of applicable hours.

11. Although the study found an increase in the use of zero hours contracts compared with last year, the researchers thought that it might be a sampling issue: there was no such increase when comparing the same firms across the two surveys. More firms had reduced hours for individual staff than had increased them, with most citing the NLW as a factor for reducing hours. The NLW appeared to have been the major factor for the 10 per cent of firms that had increased hours to staff on youth rates.

12. Firms had again looked to increase productivity or raise prices, as a way of absorbing NLW increases. Compared with last year, more firms had increased prices (55 per cent against 33 per cent). The NLW was an important factor for those price rises, particularly for firms in the childcare and social care sectors. Retailers generally found it more difficult to raise prices. Many employers had introduced productivity-related changes – reorganising job roles, extra training, and upskilling staff – but only a quarter had linked these to the NLW. Some firms did cite the NLW as a rationale for investment into automation. The evidence on profits was mixed but for those firms that had not increased profits, the uplift in the NLW was a factor albeit combined with other increased input costs.

13. In general, as many businesses, in the low-paying sectors covered, were expanding as were reducing their workforces, although this pattern varied by sector. While hospitality was expanding, headcount reductions were most common among retailers and in the public/not-for-profit sector. Overall, over a third had reduced staffing (38 per cent) with over 40 per cent of them citing the NLW as a factor in that decision. There was some tentative evidence of an impact of the NLW on the age profiles of the workforce, with a shift towards younger workers in some cases. However, others that had reduced youth employment had also cited the NLW as a factor.

14. Responses to concerns about future rates were similar to the survey a year ago with just over a half expecting future increases to be difficult to manage.

15. Incomes Data Research (2017a) concluded that the NLW had affected pay structures and led to increases in prices. There was also some evidence of a reduction in individual hours. However, there was limited evidence of effects on headcount. There were also some useful insights into how firms were adapting to the new age structure of the minimum wage. These will be important when we review the youth rates in future.

16. In additional research, Incomes Data Research (2017b) looked at the level, distribution and timing of pay settlements in the low-paying sectors compared with the rest of the economy. The analysis was based on a total of 1,496 pay settlements between 1 January 2015 and 31 July 2017, around a quarter of which were in low-paying sectors. For much of this period, the median of pay settlements was 2 per cent for the whole economy, the private sector and the low-paying sectors. There was limited evidence of an impact of the NLW on introduction, however, pay settlements have generally been slightly above those in the rest of the economy since October 2016, when the youth rates of NMW were uprated. There was some evidence that pay awards in childcare had been greater than in other low-paying sectors.

17. Looking at the distribution of pay awards since 2015, there have generally been more higher pay awards (3 per cent or more) in the low-paying sectors than in the rest of the economy. This has been particularly marked at the times of minimum wage upratings – October 2015, April 2016, October 2016 and April 2017. Surprisingly, perhaps, there were also a large number of freezes in the low-paying sectors in April 2016. Although 38 per cent of low-paying sector pay awards were above 3 per cent, 14 per cent were freezes. That compared with just 3 per cent that were freezes for the rest of the economy and 8 per cent that were higher than 3 per cent.

18. The change in the cycle of minimum wage upratings appears to have had a significant effect on the timing of pay awards in the low-paying sectors, with the proportion of pay reviews in October declining sharply (from 23 per cent in 2015 to 13 per cent in 2016) and the proportion in April increasing (from 31 per cent in 2015 to 48 per cent in 2016). There was little change in the timing of pay reviews across the rest of the economy, although the proportion in April had increased slightly, mainly at the expense of those in January. The research concluded by looking at the impact of inflation on pay settlements. It did not find any strong evidence that recent increases in inflation had fed through into increases in pay settlements.

19. We commissioned the National Institute of Economic and Social Research to conduct an econometric analysis of the impact of the National Living Wage on employment and hours. Recognising the limited data available, this research was commissioned over a longer time period than usual with interim findings delivered this autumn in time for this report. The final report with an additional year's data is expected in the autumn of 2018. In the interim report, Aitken, Dolton, Ebell and Riley (2017) used the Annual Survey of Hours and Earnings (ASHE) up to 2016 and the quarterly Labour Force Survey (LFS) up to the second quarter of 2017. They found that the introduction of the National Living Wage in April 2016 had led to large increases in real wages for NLW workers, particularly for those that had previously been paid the National Minimum Wage. There was evidence of spillover effects: these real wage increases were larger than for those workers paid just above the NLW who in turn received larger increases in real wages than those further up the earnings distribution. Having established an impact on wages, they then investigated the impact on employment and hours.

20. They used two methods to investigate the impact of the NLW: differences-in-differences (DiD), which compares a treatment group (those directly affected by the NLW) with a control group (those earning just a little more than those directly affected); and differences-in-differences-in-differences (DDD), which additionally makes comparisons with the younger age group (those aged 21-24) who were not entitled to the NLW. They investigated the impact by gender and hours of work (full-time or part-time) using both ASHE and the LFS. Further analysis is planned before it reports in full in October 2018.

21. At this stage, they found no conclusive evidence of a negative impact on employment retention. Although, they did find some weakly significant negative effects on employment in some specifications, these were not robust to placebo tests. Conducting differences-in-differences-in-differences analysis using ASHE, they found large negative but only marginally significant employment effects for full-time male employees, but again these were not robust to placebo tests. No negative and significant effects were found for part-time workers – the group that might be expected to have been most affected.

22. Using difference-in-difference analysis, they again found some negative employment effects but only for women. Once again, however, these effects were not robust to placebo effects. Repeating these analyses using the LFS, they found no evidence of negative effects on employment retention from the introduction of the NLW.

23. Using ASHE data, the researchers found mixed evidence on the impact of the introduction of the NLW on hours worked for those workers who retained their jobs. There was some evidence from the differences-in-differences specification that hours worked may have declined by about one hour a week, but only for women working part-time. However, the differences-in-differences-in-differences specification shows a marginally significant positive impact on hours worked, but only for full-time men, and no statistically significant impact on the hours of part-time women. The difference-in-difference analysis using LFS also found significant and slightly larger negative hours effects for females working part-time. The evidence on hours is therefore mixed.

24. Overall, their preliminary findings point to no robust impact on employment from the introduction of the NLW. The evidence on hours is mixed. We again emphasise the preliminary nature of this research, as it is based on a limited time frame including only one year of data after the introduction of the NLW.

25. McGuinness, McVicar and Park (2017) also used econometric methods to investigate the impact of the introduction of the NLW on employment and hours. Their analysis, however, focused on Northern Ireland and also looked at the impact of the introduction of the National Minimum Wage. As well as having wages that are generally lower than in much of the rest of the United Kingdom, Northern Ireland is also the only part of the UK with a land border – that with the Republic of Ireland. Additionally, workers are free to live and work either side of that border. Using quarterly LFS data for Northern Ireland and the Irish Quarterly National Household Survey (QNHS), the researchers estimated the impacts of the National Minimum Wage and the National Living Wage by comparing changes to employment and hours either side of the border around the times of the introduction of the NMW (April 1999) and the NLW (April 2016). At the time that the NMW was introduced, the Republic did not have a minimum wage. It introduced one in July 2000. The introduction of the NLW meant that the UK minimum wage increased by 10.8 per cent over the year to April 2016. By comparison, the Irish National Minimum Wage had increased by 5.8 per cent in January 2016 with another 1.0 per cent in January 2017.

26. In common with research in the US, such as Card and Krueger (1994), which looks at differences across states, they used a difference-in-difference approach – utilising individuals in the Republic as the control group and those in Northern Ireland as the treatment group. They found a small but significant decrease in employment of up to 2 percentage points for working age people aged 22 and over in Northern Ireland in the year following the introduction of the National Minimum Wage. This estimate is of similar magnitude to the fall in employment retention of part-time female workers in the whole of the UK, following the introduction of the NMW, reported by Dickens, Riley and Wilkinson (2012 and 2015). Their finding corresponds to employment in Northern Ireland being around 20,000 less than it would otherwise have been (in a workforce of around 825,000 people). This finding was generally robust to various sensitivity checks. However, this analysis did not fully take account of the appreciation of sterling against the Irish pound in 1999 and 2000 or the faster economic growth in the Republic compared with Northern Ireland at that time. The authors concede that these factors could explain the finding.

27. In contrast, they found no evidence of any impact of the introduction of the NLW on employment in Northern Ireland. However, the depreciation of sterling amid concerns about Brexit and the increase in the Irish minimum wage of nearly 6 per cent may have offset the employment impacts of the large increase in the NLW.

28. In addition, they found no evidence of any impact of the introductions of either the NMW or NLW on weekly hours worked in Northern Ireland. This finding was consistent across various model specifications. In all cases the estimates tended to be small in magnitude and were statistically insignificant.

29. They concluded that the research adds to the small body of evidence that had found negative employment effects of the introduction of the NMW. However, those negative employment effects had not been repeated in 2016 on the introduction of the NLW, despite Northern Ireland remaining one of the lowest-paying areas of the UK.

30. Lordan (2017) built on recent US studies to investigate the impact of minimum wage increases in the UK on automatable jobs and extended the analysis to cover those jobs also more susceptible to offshoring. Taking account of the definitions used previously in the US but utilising the UK Skills and Employment Survey series, she distinguished occupations that were automatable (and those that were not) and those that were offshorable (and those that were not). Before discussing her findings, we give a brief summary of the findings from those US studies.

31. Lordan and Neumark (2017) investigated the impact of minimum wages on automatable jobs – those that employers find easier to substitute with machines – in the United States over the period 1980-2015. Using pooled monthly samples from the Current Population Survey (CPS) and matching them to monthly state-level data on minimum wages, they found that minimum wage increases significantly decreased the share of automatable employment held by low-skilled workers and increased the likelihood of unemployment for those low-skilled workers in automatable jobs. The effects were larger for older, low-skilled workers in manufacturing.

32. In complementary work, Aaronson and Phelan (2017) – again using the CPS – also analysed the impact of minimum wage hikes on the susceptibility of low-wage employment to technological substitution. They found evidence that minimum wage increases led to reductions in employment of cognitively routine tasks but found no evidence of reductions in manually-routine or non-routine low-wage occupations. The effects appeared small due to concurrent growth in other low-wage jobs but workers previously employed in cognitively routine jobs did experience relative wage losses.

33. Using quarterly Labour Force Survey data from 1997-2017, Lordan (2017) calculated employment shares for automatable and offshorable jobs. She then used individual-level data to estimate whether increases in the minimum wage increased the likelihood of those in automatable or offshorable employment losing their jobs in the next period. She also considered the impact on hours.

34. She found that minimum wage increases had been followed by falls in the employment shares of automatable or offshorable jobs but that, in aggregate, these effects were modest. They were larger for manufacturing, particularly for automation, but remained modest. Larger effects were also found for low-skilled males, older workers and Black low-skilled workers.

35. In her analysis at the individual level she found that, following a minimum wage increase, low-skilled workers in automatable or offshorable employment were less likely to keep their jobs in the next period than those in non-automatable or non-offshorable jobs. They also worked fewer hours. Again the effects were modest, but they were greater for manufacturing, males and older workers.

36. Following a minimum wage increase, those in automatable or offshorable employment were also more likely to switch jobs to non-automatable or non-offshorable jobs in the next period. In aggregate, these effects were again small.

37. Significant but modest effects were also found when using shares of hours in automatable or offshorable employment. These were again larger for males, older workers and Black workers.

38. She also speculated about the future of automatable and offshorable jobs. She thought that the classification of offshorable jobs was unlikely to change in the short to medium term but considered that the definition of automatable jobs was evolving. She identified three classifications of low-skilled jobs that were useful in thinking about the future. First, those where the jobs were unlikely to be fully automatable as they required some human interaction, such as childcare and hairdressing. Second, those where human interactions are not always required but where they may be preferred, such as waiting and bar staff. These jobs are to some extent automatable and it is likely that there will be some polarisation in these occupations between robots and humans. Third, there are those jobs where customers do not care whether the service is delivered by a human or a robot, and where innovation has been advancing. These are jobs that have a high risk of disappearing completely and might include drivers, delivery jobs and security. She summarised this section by noting that jobs would be lost to automation but that new jobs would be created that require different skills. In the past, the jobs lost had been more than replaced by new jobs. However, that did not mean that would happen in the future and we needed to be prepared.

39. She concluded her econometric analysis by noting that the effects she had found in the UK so far were smaller than those found in the US. Over the next few months, this research will be extended to incorporate additional analysis using the Annual Survey of Hours and Earnings.

40. In our report on non-compliance (LPC, 2017), we set out our evidence on non-compliance and the enforcement of the National Living Wage and the National Minimum Wage. This highlighted some concerns particularly around certain sectors and across some sizes of firm. Previous research (for example, Edwards, Jones and Ram, 2004 and Edwards, Ram, Jones and Doldor, 2016) had found that informality was embedded in the day-to-day operations of many small firms. There was considerable ambiguity over whether the minimum wage was being paid: the employment of family and friends; whether someone was a worker or not; what constituted the hourly wage; imprecise recording of hours; and discretionary approaches to pay and reward.

41. That informality may enable firms to absorb some of the costs of the NLW but there had been little evidence in the past of labour-saving innovation or long-term strategic cost reductions. Edwards, Meardi and Ram (2017) and their research team – Doldor, Jones, Kispeter and Vilares – provided additional insights into this area of compliance with the NLW by focusing on ethnic minority and migrant-owned businesses.

42. They conducted a total of 24 case studies of small businesses and their workers to investigate how firms operate in respect of non-compliance with the minimum wage and other employment legislation. Detailed qualitative interviews were conducted with the owner and a worker in each firm. Twelve case studies looked at the behaviour of long-established firms drawn from clothing, food processing and restaurants, while the other twelve cases studied new migrant business owners and workers.

43. Among the long-established firms, five had also been investigated in previous studies by the research team. Of the twelve case study firms, only four were compliant – the other eight were not. The firms in the second part of the study had previously been investigated in 2010 as part of a broader project of business practices of newly arrived migrant employers (Edwards, Ram, Jones and Doldor, 2016). At that time, all twelve of the firms were non-compliant with the NMW. This new study found three were now compliant with the NLW.

44. Although firms were still grappling with the implications of the NLW for their businesses amid concerns about Brexit, three broad responses to the NLW had emerged. First, firms that had complied with the NMW continued to comply with the NLW. Compliance was seen as necessary to operate in their markets. These employers were also generally pursuing growth strategies rather than concentrating on survival. However, these firms did appear to be finding the NLW more challenging than the NMW – the large sustained increases in the NLW adding to the difficult competitive environment.

45. Second, firms that were struggling to comply were uncertain how they would absorb future upratings of the NLW. They had already sought savings elsewhere by reducing staff, removing overtime payments, and cutting training budgets. These employers saw few benefits of the NLW.

46. Third, many firms in the study did not comply with the NLW but the boundary between compliance and non-compliance was blurred. There was uncertainty about the status of workers with some being paid the NLW while others, in the same firm, were treated as casual labour or helpers and paid less, even though they were integral to the successful running of the business. Most employers in these firms were unaware of recent measures to strengthen the compliance regime by HMRC. They regarded the risks of being caught and punished as low. They also had little fear of complaints from workers. Workers often had strong personal ties to the employer and were reluctant to report non-compliance. Further, there continued to be a ready supply of illegal and undocumented workers.

47. They concluded that their findings confirmed the conclusions of previous research, particularly the self-perpetuating inertia of the informal labour process. As long as businesses operate in sectors of intense competition and there is a willing supply of labour, employment practices on the borders of legality will continue to exist. The three broad themes are not coincidental but rooted in the form of management and how firms had developed their business models. These had hardly ever changed over time and, in the absence of external shocks, were unlikely to do so in the future. However, the NLW and Brexit offered that possibility. Firms were still working out their coping strategies for the NLW amid the uncertainty of Brexit and its implications, particularly for migrant labour.

48. In complementary research in New Zealand, de Vries (2017) examined how small and medium-sized firms in New Zealand administered the minimum wage and how they were responding to calls for a National Living Wage (NLW). He examined the issue of compliance among businesses in low-paying sectors (food, hospitality and clothing) and assessed whether businesses could afford a NLW. As background, in 1894, New Zealand became the first country in the world to adopt a minimum wage, and its minimum wage is one of the highest in the OECD when compared against the average wage. New Zealand is a small open economy with sizable manufacturing and service industries complementing a highly efficient export-oriented agricultural sector.

49. Owner-operator participants in the study all stated that they paid at least the minimum wage and this was confirmed by employees in those firms. Within his sample of small firms, those in food manufacture generally competed on price while those in hospitality and clothing mainly competed through differentiation and niche products. The clothing employers were not aware of non-compliant businesses. However, those employers in hospitality and food were concerned about being undercut by non-compliant competitors exploiting vulnerable workers, usually immigrants working within their own ethnic communities. Despite that, employers were concerned about the administrative costs of compliance for compliant businesses and that these regulatory burdens did not help identify non-compliant firms or enable them to be penalised.

50. There was common agreement that productivity, investment and skills needed to be improved to support a move to a higher minimum wage in New Zealand. Although employers thought that increasing the minimum wage would attract higher quality staff, they were not convinced that it would automatically lead to better service or higher productivity. They argued that there needed to be financial incentives that allowed for a rising pay scale that was affordable. They were concerned that raising the minimum wage would squeeze differentials and reduce those financial incentives. However, employers were also concerned about staff quality and retention. Most minimum wage workers regarded their jobs as stop-gaps to earn money and not as a career option.

51. He concluded that there were many historic barriers in New Zealand that prevented the lowest wages from rising to the level of a NLW and that a transition (rather than a step change) may be the only scenario that small business would accept and that would sustain viable sub-sectors within food, clothing and hospitality.

52. The relationship between the National Living Wage and non-standard work arrangements in the UK was explored by Antunes, Moore, Newsome, Tailby and White (2017). Their report addresses a number of the issues raised by the Taylor Review (2017). They carried out a qualitative study, using in-depth interviews, to illuminate the lived experiences of 36 workers from six low-paying industries. It highlighted the relationship between non-standard contractual arrangements (zero hours contracts, minimum hours contracts, agency work and dependent self-employment) and pay and work conditions. These contractual forms often meant that workers received variable pay from week to week.

53. The case studies explored: the voluntary or involuntary nature of contractual status; the organisation of working time; the notion of unsocial hours; elements of unpaid working time; the work-effort bargain; and whether these workers were paid at least the NLW once these considerations had been taken into account. The impact of the NLW on contractual arrangements and pay structures was also investigated.

54. The study revealed considerable uncertainty about contractual status and whether those on zero or minimum hours contracts, with variability in hours, were permanent workers or not. Many of those on such contracts were required to be available by employers and felt they were continually on-call. Contracted hours often bore little resemblance to actual hours worked. Workers could be sent home when there was insufficient work or be asked to work extra hours in busy times or to cover staff shortages. There were also issues of waiting around between visits or shifts for workers in homecare and hotels. The scheduling of hours and days of week varied from week to week with notification of shifts or changes often at short notice. While some employees (often students, pensioners, and those with other jobs) might welcome this flexibility, many others did not (especially those with family or regular financial commitments, particularly rental costs). They wanted more predictable hours. Many thought that they would be disadvantaged by employers if they took sick leave or did not accept the hours offered. Those on zero hours contracts were particularly insecure, concerned that they could be effectively dismissed through the employer not offering them any hours. Guaranteed hours contracts were dependent upon workers being available for extra hours and thus did not offer predictability. The case studies also highlighted the dependent nature of many of the self-employed – with limited control over working time.

55. With regards to being paid the NLW, there were issues concerning: redefining elements of the working day as unproductive and therefore unpaid; travel time in homecare paid at less than the NLW; unpaid overtime in hotels, for example, bar staff waiting for guests to go to bed; and the difficulty of measuring hours. Although not entitled to the NLW, some of the self-employed may have been paid less than it when costs and unpaid hours are taken into account.

56. They found some evidence that the NLW had led to employers making adjustments to terms and conditions, primarily through cuts to hours and some premia. The concept of 'unsocial hours' was increasingly being redefined: the night shift premia window narrowing; and Sunday and bank holiday working becoming part of the normal working week. There were also instances of work being reconstructed – moving to shifts of less than six hours – in order to avoid having to provide (20 minute) breaks, and some instances where employers had increased their use of young workers.

57. The case studies showed that workers were experiencing the intensification of work, particularly where there were staff shortages. The episodic nature of working time did not encourage training and development. This was further discouraged by the squeezing of differentials leaving little financial incentive to take on supervisory and managerial roles.

58. They concluded by emphasising the difficulty that variable hours posed to household budgeting. Variable incomes not only affected the ability to pay bills but also had consequences for benefit entitlement, where complying with hours thresholds was a particular concern.

59. Brewer and De Agostini (2017) looked at the interaction of the National Minimum Wage/ National Living Wage with the tax and benefit system. Their work complemented research previously undertaken for the Commission by the Bushe, Kenway, MacInnes, Tinson and Withers (2015), Brewer and De Agostini (2013), Brewer, May and Phillips (2009) and the Institute for Fiscal Studies (2003).

60. The research had several aims: to identify where minimum wage families are in the income distribution; to assess the importance of minimum wages to family incomes; to assess how minimum wage families are affected by increases in the NLW taking account of tax and benefit changes; to assess the financial incentives minimum wage workers face when increasing hours; and to quantify the number of minimum wage workers that will be covered by in-work conditionality.

61. The researchers used information about minimum wage workers and families from the Family Resources Survey (FRS) and the LFS to inform its simulation of the tax and benefit system. Using the UK part of EUROMOD, the European tax and benefit microsimulation model, they assessed the impact of tax and benefit changes on minimum wage families (those with at least one worker on the NMW or the NLW). Taking the circumstances of minimum wage families observed in 2014/15, they then use projections to model family income and the tax and benefit system in 2017/18 and in 2020/21, and make comparisons between these two scenarios. They do not try to predict actual incomes in 2017/18 and 2020/21 or take account of employment and demographic changes.

62. They found that NMW workers are more likely to be single than NLW workers as they are under the age of 25. As such, they contribute more to their families' income than do NLW workers. They are also more likely to be found in the bottom half of the working-age family income distribution, and particularly in the poorest decile of families. NLW workers are more evenly distributed across the family income distribution, and are most likely to be found in the third decile. The contribution of NMW and NLW earnings to minimum wage families' net income falls as total family income rises. NLW workers in families in the third and fourth deciles contributed, on average, just over a half of their families' net income. NLW families tend to be better off than NMW families because they are paid more per hour, and they are more likely to live with a working partner.

63. Forecast increases in the NMW and the NLW by 2020-21 will increase net real incomes of minimum wage families by, on average, about 1.5 per cent. Within these families, low-income minimum wage families will gain by slightly more than high-income minimum wage families, except for the poorest decile group, which contains very few NLW recipients. The poorest decile is composed mainly of benefit recipients who are out of work.

64. Announced but not yet implemented tax and benefit changes will have small effects on minimum wage families, but the roll-out of Universal Credit (UC) could lead to considerable income gains for minimum wage families in the bottom two income decile groups. This mainly benefits families not currently entitled to or receiving legacy benefits or tax credits, particularly those aged under 25 and without children, and those working fewer than 30 hours per week. Combined with the planned increases in the NLW, minimum wage families in the bottom two income decile groups could gain over 8 per cent of net income by 2020-21. This is a remarkably different prospect from previous years, where the impact of welfare cuts would have dominated any projection of the incomes of NMW families.

65. The weakest financial incentives to work – those with the highest marginal effective tax rates (METRs) – among minimum wage workers are found in the second to fourth deciles, where minimum wage workers can pay extra tax and NICs and lose benefit entitlements when earnings rise. If those aged under 25 move onto Universal Credit, in line with the researchers' assumptions, then the poorest NMW workers could see a very large rise in their marginal effective tax rates (METRs). Under current rules for in-work conditionality, when Universal Credit is fully rolled-out, around 21 per cent of minimum wage workers will be subject to in-work conditionality.

66. They estimated that a hypothetical increase in both the NMW and NLW of 5 per cent in 2020-21 would increase the net incomes of minimum wage families by an average of less than 1.2 per cent. This is a lot less than the 5 per cent gross increase because some of the rise is lost to extra tax liabilities and foregone earnings, and because some minimum wage families have other sources of income. Among minimum wage families, the poorest families would gain a larger fraction of their income, on average. A rise in the NMW and the NLW would also help the poorest families most among all working-age families where someone is in work. It becomes less progressive when set among all working-age families or the whole population, because minimum wage increases do nothing to directly benefit non-workers.

67. The research found that the comparisons of the tax and benefit system between 2017/18 and 2020/21 would deliver net gains for most families across the income distribution and particularly for minimum wage families. Single people and couples generally gain but lone parents do not. The loss is greater for lone parents in minimum wage families, who are set to lose around 5 per cent of their net incomes. The research concluded by noting that these overall gains would not be apparent if the analysis for 2020/21 had been compared with the tax and benefit system in place in 2014/15.

68. The Apprentice Rate is an important part of the National Minimum Wage framework, particularly for young workers and even more so in light of the Government's commitment to 3 million new apprentices by 2020. The Apprentice Rate is a minimum wage applicable to all apprentices under the age of 19, and to those aged 19 and over in the first year of their apprenticeship. In October 2015, the Government increased the Apprentice Rate by 21 per cent from £2.73 an hour to £3.30. This was a much larger increase than the Commission had recommended (2.6 per cent to £2.80). The Government was concerned to reduce the gap with the 16-17 Year Old Rate and hoped that this would increase the number of applicants and improve their quality. Using a combination of administrative data (mainly the Individual Learner Record) and survey data (the Apprentice Pay Surveys of 2014 and 2016), Frontier Economics (2017) investigated the impact of that large increase on apprentice numbers and their characteristics. Due to data availability, the research focused on the impact in England.

69. Exploiting the geographic variation in apprentice pay across England, the researchers employed a difference-in-difference approach that effectively compared outcome variables in areas of low pay with those in higher-paying areas. The main econometric specifications found no statistically significant evidence of a negative impact on apprentice numbers, starts or completions. This finding was robust to a number of robustness checks. Indeed, the study found some evidence of positive effects on apprentice numbers. However, these positive effects were generally in apprentice frameworks, where relatively few apprentices were paid at or near the Apprentice Rate. The effect was also larger for men. The researchers could not rule out the possibility that the increases in apprentice numbers in low-paying areas were not driven by other policy changes

(including the introduction of the National Living Wage) and greater promotion of apprenticeships. When focusing on the lowest-paid frameworks, the study did find suggestive evidence of a negative employment effect in hairdressing, where a relatively large proportion of workers were affected by the increase in the Apprentice Rate, but limited sample sizes raised concerns about the robustness of this result.

70. The research found no evidence that the increase in the Apprentice Rate had affected the quality of apprentices, although the ability to measure quality was very limited. It also found no evidence that it had changed the composition of apprentices. The proportion of apprentices that had disabilities or were from a non-white ethnic background did not appear to have changed.

71. Frontier Economics (2017) concluded by highlighting the limitations of the available data on apprentices. Although the Apprentice Pay Surveys are the largest data sets on apprentice pay in Great Britain, the sample sizes prevent a comprehensive exploration of the variation in pay by detailed location and other characteristics. Further, information on off-the-job and on-the-job training hours was lacking in the 2016 survey. Data on the quality of apprentices in the Individual Learner Record were also mixed. The researchers suggested that future research might: make better use of matched administrative data; utilise new data sets (such as the National Pupil Database) to complement the data used in this study; and investigate the interdependencies between the Apprentice Rate and the other minimum wages, including the NLW.

72. In summary, the initial findings of the research on the NLW can be summarised as that the NLW has led to a large increase in wages for the lowest paid and that there has been some significant spillovers on the wages for those aged under 25. Firms initially appear to have coped by: a limited squeezing of differentials; increasing prices; and accepting a squeeze in profits. Survey evidence on reductions in employment and hours was limited and the results mixed. These findings are similar to those found on the NMW. Future research will continue to monitor and assess these effects for all the minimum wage rates.

Future Research

73. We will commission further research for our 2018 Report to complement the ongoing research that we have already in progress.

- **The impact of the National Living Wage on employment and hours –** Andrew Aitken, Peter Dolton, Monique Ebell, and Rebecca Riley (National Institute of Economic and Social Research).
- **Minimum wage and the propensity to automate or offshore** – Grace Lordan (London School of Economics and Political Science)
- **The impact of the National Living Wage on employment and hours using geographic variation –** Richard Dickens and Kieran Lind (University of Sussex and Low Pay Commission).

Table A2.1: Low Pay Commission Research Projects for the 2017 Report

Project title and researchers	Aims and methodology	Key Findings
The National Living Wage: employers' responses to the 2017 increase **Katherine Heffernan, Ken Mulkearn, Sarah Welfare Louisa Withers** and **Georgia Young** (Incomes Data Research)	This research built on previous research (Incomes Data Research, 2016), which had monitored the effects of the introduction of the NLW on key aspects of pay and reward, as well as other outcomes. It monitored employers' implementation of the April 2017 NLW and NMW upratings by conducting a structured survey of employers in low-paying sectors in April and May 2017. Detailed responses were achieved for 120 employers – mainly medium-sized or large – with a quarter each in childcare & housing/social care, and the public sector/not-for-profit, a fifth in retail, and the remainder split between manufacturing, hospitality, and business or financial services. Ten of these were targeted for follow-up case study interviews. The analysis examined employers' approaches to managing the costs arising from NLW increases, looking in particular at other aspects of pay and benefits. It explored changes in the age profile of workforces; assessed any effect on grading structures and pay, including salary differentials; and investigated the effect on jobs, job content and work organisation. The study also examined the changing relationship between statutory minimum wages for workers of different ages, employers' starting rates, and employers' pay rates for established staff, using a panel of low-paying employers from 1999 to 2017. The researchers also constructed a panel of pay rates for staff on the main grade at 31 major retail and hospitality firms between 2012 and 2016 to explore the changing relationship with the statutory minimum adult rate.	The key findings were: • The April 2017 NLW uprating has affected areas that were unaffected by the NLW's introduction in April 2016. • 46 per cent of respondents have narrowed or removed differentials, with over half saying that the NLW was a major factor behind such moves, and most of the remainder citing it as a contributing factor. • Some employers have introduced or expanded age rates. The majority of respondents pay adult rates at age 25, a response to the NLW. However, the major supermarkets – who employ a large proportion of retail staff – do not operate age-related pay. • Almost half of respondents reported that the differential between the main grade and supervisors had narrowed. There was also a much smaller gap between the adult main grade and the NLW. • Only 12 per cent of employers have made some off-setting changes, with reductions in premiums for overtime or unsocial hours the most common change to the reward package. • Around a third found introducing the NLW in 2016 'difficult', with just below half finding it 'easy' and the rest said it was 'neither easy nor difficult', with similar responses to the 2017 uplift. • A quarter of respondents offered fewer hours to individual staff, while 15 per cent increased basic contractual hours. • Many employers have implemented productivity changes since April 2016. The most common approaches were to reorganize roles and responsibilities (50 per cent), provide staff with extra training (45 per cent) and upskill staff (44 per cent). • Over half of respondents increased the prices they charged customers, compared with just a third in the 2016 survey. These increases were linked to the NLW by two-thirds of respondents. • Only a third of respondents reported a decline in profits. The majority of those that did linked it to the NLW. • For many sectors, the majority of businesses were expanding or maintaining their workforces. Headcount reductions were most common in the retail and public/not-for-profit sectors.

Project title and researchers	Aims and methodology	Key Findings
Pay settlements in the low-paying sectors **Claire De Bond, Katherine Heffernan, Ken Mulkearn** and **Louisa Withers** (Incomes Data Research)	This research project supplemented the previous analysis. It focused on pay settlements in the low-paying sectors. The research analysed: • how far the level of the NLW uplift affected the level (and distribution, or range) of pay settlements, especially settlements effective in the month of uplift (April) and adjacent months; • whether uplifts in the National Minimum Wage, now applicable to workers aged 16 to 24, were continuing to have an effect on the level and distribution of pay settlements; • the extent to which the shift from October to April for the annual uplift in the statutory floor had affected the timing of pay settlements; and • the key developments in relation to the NLW's impact on pay reviews and reward decisions. The study used IDR data on settlements collected directly from companies and organisations. The analysis was based on a total of 1,496 pay settlements with effective dates between 1 January 2015 and 31 July 2017. The data included 367 settlements in low-paying sectors which comprised the retail, fast food, pubs and restaurants, hotels, social care and housing, childcare and leisure sectors. The pay data exclude bonuses or lump-sum payments. For settlements with varying percentage increases in pay, the analysis used either the average increase, or the most common increase among employees. It presented a general analysis, on an unweighted and employee-weighted basis, of the distribution of settlements by: whole economy, private sector, low-paying sectors and individual low-paying sectors. The analysis also looked at the timing of pay awards using monthly data.	The key findings were: • Private sector pay awards have been broadly stable, with the exception of March, April and May 2016, when the weighted average figures were boosted by comparatively high pay awards at larger retailers. This period covers the introduction of the NLW. • Low-paying sector pay awards had been running at 2.0 per cent for much of 2015 and 2016, with upticks around the October NMW uplifts. Notably there was no uptick in the median around the implementation of the NLW but there was a large increase in the weighted average of pay settlements. • Since the start of 2017, low-paying sector pay awards have been running at a higher level, at around 2.5 per cent. This is higher than for the economy as a whole and for the private sector. • In low-paying sectors with severe constraints on funding, particularly social care, organisations paid for the implementation of the NLW by bearing down on the level of the general award for most employees. • In months coinciding with upratings of the NMW and NLW, pay awards were much greater in low-paying sectors, than in the rest of the economy. • A number of companies' (particularly in the retail sector) awards differentiated rises depending on employee group or position in the pay structure. Some retailers responded by applying higher increases to their lowest rates of pay while applying a lower or sometimes no across-the-board increase to all other rates. • There has been a noticeable shift in the timing of pay reviews in the low-paying sectors, with the proportion of pay reviews in October declining sharply (from 23 per cent in 2015 to 13 per cent in 2016) and the proportion in April increasing (from 31 per cent in 2015 to 48 per cent in 2016). The only noticeable shift in the rest of the economy has been away from January and towards April.

Project title and researchers	Aims and methodology	Key findings
Impact of the introduction of the National Living Wage on employment and hours **Andrew Aitken, Peter Dolton, Monique Ebell,** and **Rebecca Riley** (National Institute of Economic and Social Research)	This project is an extended 18 month study investigating the impact of the NMW and the National Living Wage on employment and hours. It investigated the impact of the introduction of the National Living Wage in April 2016. It will also provide subsequent analysis on the recent April 2017 minimum wage upratings. This study used two econometric approaches to assess the impact of the minimum wage applied to both ASHE and LFS data: • the standard wage-based differences-in-differences (DiD) approach on employment retention rates and changes in hours as used previously by Stewart (2004a, 2004b), Dickens and Draca (2005), Dickens, Riley and Wilkinson (2009); and Bryan, Salvatori and Taylor (2013); • a differences-in-differences-in-differences (DDD) approach, which exploited the fact that before April 2016 the NMW was the same for workers aged 21-24 and those aged 25 and over. It also uses the wage-dimension of the treatment-control group distinction. That is, the DDD approach uses the triple interaction between treated ages, treated wage groups and treated periods. These different approaches are intended to address some of the criticisms of the difference-in-difference methodology outlined in Brewer, Crossley and Zilio (2015). The study used Annual Survey of Hours and Earnings (ASHE), although the timing of ASHE may affect the identification of minimum wage effects in April 2016. It was supplemented by the quarterly Labour Force Survey (LFS). The focus of the study was minimum wage changes since October 2010, when 21 year olds became eligible for the adult rate.	The key interim findings were: • Consistent increases in real wage growth associated with the introduction of the NLW across demographic groups across all of the ASHE specifications considered. • There is no conclusive evidence of an impact of the introduction of the NLW on employment retention. Using ASHE data, some specifications did show weakly significant but negative effects on employment retention for some groups, but these were not robust to placebo effects. • The researchers found mixed evidence on the impact of the introduction of the NLW on hours worked for those workers who retained their jobs. • In the DiD specifications, there was some evidence from ASHE of a decline of less than an hour a week, and from the LFS of a decrease in hours of about one and a half hours per week, but concentrated among part-time women. • However, the researchers also found some marginally statistically significant evidence from DDD specifications using ASHE that the introduction of the NLW might have led to small increases in hours worked for workers who retained their jobs, but only for men working full-time. • Further robustness analysis using additional data is planned before the research is finalised in October 2018.

Project title and researchers	Aims and methodology	Progress to date and next steps
Employment and hours impacts of the National Minimum Wage and the National Living Wage in Northern Ireland **Seamus McGuinness** (Economic and Social Research Institute, Dublin), **Duncan McVicar** (Queen's University Belfast) and **Andrew Park** (Ulster University Economic Policy Centre)	The research examines the employment and hours impacts of two UK minimum wage policy shocks: • the original introduction of the National Minimum Wage in April 1999; and • the introduction of the National Living Wage for those aged 25 and over in April 2016. The analysis used a difference-in-differences methodology with Northern Ireland as the treatment group and the Republic of Ireland as the comparison or control group. The study made use of the substantial discontinuity in minimum wage rates provided by the jurisdictional border between Northern Ireland and the Republic of Ireland. The introduction of the NMW in April 1999 in the UK including Northern Ireland, was not matched by a minimum wage in the Republic of Ireland with a minimum wage not introduced there until July 2000. More recently, the introduction of the National Living Wage in Northern Ireland in April 2016 was not echoed by any contemporaneous increase in the Republic of Ireland. Both of these events were used by the researchers as a natural experiment to estimate employment and hours impacts of the introduction of, or increase in, minimum wages. The research considered how the relativities of the two minimum wages in terms of exchange rates and purchasing power parity have changed. The study used data from the Quarterly Labour Force Survey (QLFS) for Northern Ireland and the Quarterly National Household Survey (QNHS) for the Republic of Ireland. As the QNHS evolved from the Republic of Ireland's own Labour Force Survey there is a high degree of compatibility between the two data sources. Cross-sectional unit record data were available quarterly in both jurisdictions from the second quarter of 1998 through to the third quarter of 2016.	The key findings were: • A small decrease in the employment rate of the affected group of working age (those aged 22-59/64) in Northern Ireland, of up to two percentage points, in the year following the introduction of the NMW. • Similar significant decreases were found for men and women, and between the younger group (those aged 22-34) and the older group (those aged 35-59/64). • In the main specifications, these estimates were statistically significant at conventional levels. They are consistent with a non-trivial negative employment effect. • However, other potential explanations (including the employment impacts of the appreciation of sterling relative to the Irish pound during 1999 or of faster economic growth in the Republic of Ireland relative to Norther Ireland during 1999) cannot be entirely ruled out. • No evidence of an impact of the introduction of the NLW on employment in Northern Ireland. However, this period coincided with a depreciation in the relative value of sterling to the euro, and was preceded by a smaller but reasonably large increase in the Irish NMW (of 6 per cent in January 2016). • No evidence of impacts on weekly hours worked of either the introduction of the NMW or the introduction of the NLW, regardless of the particular model estimated.

Project title and researchers	Aims and methodology	Progress to date and next steps
Minimum wage and the propensity to automate or offshore **Grace Lordan** (London School of Economics)	The main aim of this research was to provide a deeper understanding of how minimum wage policies have affected automation and offshoring, focusing on the impact on those workers with low or no qualifications. The research built on similar research by Lordan and Neumark (2017), and Aaronson and Phelan (2017) looking at similar issues in the United States. This research project was the first such study to focus on the impact of the UK minimum wage on automation and offshoring. The report contributes to the UK minimum wage literature in a number of ways: • First, it explored whether increases in the minimum wage affected the employment possibilities for low-skilled workers relying on automatable employment. • Second, it explored whether firms substituted their production process with cheaper labour from a different geographic location following a minimum wage increase. • Third, it gave a full picture of any labour-market adjustment by industry and a variety of demographic groups to uncover differential responses. The Occupational Information Network (ONET) and the Employers Skills Survey were used to distinguish between occupations that were high in automatable and offshorable tasks by drawing on UK data to re-create accepted definitions from the US. These were then matched to the relevant occupation codes in the Quarterly Labour Force Survey (QLFS) using a consistent coding system as described in Lordan and Pischke (2016). The measure of routine task intensity (automation) is provided by Autur and Dorn (2013) while offshorability is derived using ONET. The main analysis was conducted using UK data from the Quarterly Labour Force Survey (QLFS) from 1992-2017. The study will be supplemented by analysis using the Annual Survey of Hours and Earnings (ASHE). This will report early next year.	The key findings were: • Minimum wage increases are followed by decreases in the shares of offshorable and automatable employment, but on aggregate, these effects are modest. • A £1 increase in the minimum wage leads to a 0.24 percentage point decline in the share of automatable employment (an elasticity of -0.055 if evaluated at the current NLW of £7.50). • A £1 increase in the minimum wage leads to a 0.15 percentage point decline in the share of offshorable employment (an elasticity of -0.034 if evaluated at the current minimum wage of £7.50). • These effects are small. • There are larger effects in manufacturing, particularly with respect to automation. A £1 increase in the minimum wage leads to a 0.58 and 0.34 percentage point decline in the share of automatable and offshorable employment in manufacturing respectively. • Low-skilled males and the older workers are the demographic groups affected the most, with larger effects also evident for Black low-skilled workers. • Low-skilled workers in automatable or offshorable employment are less likely to keep their jobs in the next period as compared to similar workers in non-automatable and non offshorable jobs. • They are also more likely to work fewer hours. • It concluded by speculating about the future of jobs, suggesting that some jobs would continue (social care, childcare and hairdressing) while others may disappear completely (delivery drivers and security).

Project Title and Researchers	Aims and Methodology	Key findings
Non-compliance and the National Living Wage: case study evidence from ethnic minority and migrant-owned businesses **Sabina Doldor, Paul Edwards, Trevor Jones, Monder Ram** (University of Birmingham), **Erika Kispeter**, **Giuglielmo Meardi** (University of Warwick), and **Maria Vilares** (University of Southampton)	The research aimed to investigate ways in which small firms in the 'informal economy' operate, particularly in respect of compliance with the NLW and other employment legislation. The research had two elements, comprising: • long-established firms in low-paying sectors, and • business owners and workers from new migrant communities. The study had four objectives: • To assess the actual experiences of how pay systems work in small firms in the clothing, food manufacture/processing, and hospitality (including restaurants). • To investigate the relationship between the level of the NLW and informal/illegal working and consider reasons for non-compliance. • To assess both employer and worker experiences in the context of broader work relationships and conditions, including how the NLW affects firms in the informal economy. • To compare firms that are 'compliant' with firms that operate 'informally'. In the first element – compliance in-depth and over time by long-established firms – the researchers conducted case studies of twelve Birmingham-based firms in clothing, food processing and hospitality. Five of these had been covered in previous research. Interviews were undertaken with the owner and one worker in each firm. Of the twelve case studies, four were compliant and eight were not. In the second element – new migrant business owners and workers – an ongoing survey of 30 firms was supplemented with questions about the NLW. Interviews with the owner and one worker from twelve of these firms were conducted. Only three of the twelve were compliant. A similar parallel study was also conducted in New Zealand. The findings of that study are detailed next.	The key findings were: • Although firms were still grappling with the implications of the NLW for their businesses, three broad responses had emerged. • First, firms that had complied with the NMW continued to comply with the NLW. Compliance was seen as necessary to operate in their markets. These employers were also generally pursuing growth strategies rather than concentrating on survival. However, these firms did appear to be finding the NLW more challenging than they had found the NMW. • Second, firms that were struggling to comply were uncertain how they would absorb future upratings of the NLW. They had already sought savings elsewhere by reducing staff, removing overtime payments, and cutting training budgets. • Third, many firms in the study did not comply with the NLW but the boundary between compliance and non-compliance was blurred. There was uncertainty about the status of workers with some being paid the NLW while others, in the same firm, were treated as casual labour or helpers and paid less. • Most employers in these firms were unaware of recent measures to strengthen the compliance regime by HMRC. They regarded the risks of being caught and punished as low. They also had little fear of complaints from workers. • They concluded that the findings confirmed the conclusions of previous research, particularly the self-perpetuating inertia of the informal labour process. • They argued that the three broad themes were not coincidental but rooted in the form of management and how firms had developed their business models. These had hardly ever changed over time.

Project Title and Researchers	Aims and Methodology	Key findings
The Minimum Wage and the National Living Wage in New Zealand: case study evidence from small owner-operators and employees in the food, clothing and hospitality sectors **Huibert de Vries** (University of Canterbury, Christchurch, New Zealand)	This study examined how small and medium-sized firms in New Zealand coped with the minimum wage legislation and how they were responding to calls for a National Living Wage. It complemented the research project conducted by Monder Ram and colleagues that is discussed above. It focused in particular on the issue of compliance or non-compliance of the New Zealand minimum wage legislation and the adoption of a wage strategy that supports the call for a NLW. The study aimed to: • investigate the reasons why many business owners believe they cannot afford to support a NLW in NZ; • examine well-established firms in the low paying sectors of clothing, food manufacture/processing, and hospitality (restaurants and supporting services); • explore the characteristics of a sample of small and medium-sized firms in each sector; • consider the composition of the labour force, the pay structures, and key features of work organisation; • observe organisational structures, sector-specific pay practices, as well as other formal and informal benefits; and • consider any changes in management practices, recruitment practices for firms positioning themselves as payers above the MW, and any move towards a NLW. Face-to-face structured interviews were conducted for the case studies in Christchurch, in the South Island of New Zealand. There were 5 firms and 6 workers from the food industry, 5 firms and 6 workers from the restaurant sector, and 5 firms and 7 workers from the clothing industry. The methods paralleled the study undertaken in the UK.	The key findings were: • Owner-operator participants in the study all stated they paid at least the MW and this was confirmed by their employees. • Within the small firms, those in food manufacture generally competed on price while those in hospitality and clothing mainly competed through differentiation and niche products. • The clothing employers were not aware of non-compliant businesses. However, those employers in hospitality and food were concerned about being undercut by non-compliant competitors exploiting vulnerable workers, usually immigrants working within their own ethnic communities. • Despite that, employers were concerned about the administrative cost of compliance for compliant businesses and that these measures did not help identify non-compliant firms or enable them to be penalised. • There was common agreement that productivity, investment and skills needed to be improved to support a higher minimum wage. • There were many historic barriers that prevented the lowest wages from rising to the NLW and a transition (rather than a step change) may be the only scenario that small business would be able to accept and that would sustain viable sub-sectors within food clothing and hospitality. • Although employers thought that increasing the minimum wage would attract higher quality staff, they were not convinced that it would automatically lead to better service or higher productivity. • Employers argued that there needed to be financial incentives that allowed for a rising pay scale that was affordable. They were concerned that raising the minimum wage would squeeze differentials and reduce those financial incentives. • However, employers were also concerned about staff quality and retention. Most minimum wage workers regarded their jobs as stop-gaps to earn money and not as a career option.

Project Title and Researchers	Aims and Methodology	Key findings
Non-standard contracts and the National Living Wage **Bethania Antunes, Sian Moore** (University of Greenwich), **Kirsty Newsome** (Sheffield University Management School), **Stephanie Tailby** (University of the West of England, Bristol), and **Geoff White** (University of Greenwich)	This research explored the relationship between contractual arrangements and the payment of the National Living Wage (NLW) focusing on non-standard employment arrangements, specifically: • zero hours contracts (ZHCs); • minimum hours contracts (MHCs); • agency work (effectively zero hours in this research); and • dependent self-employment (DS-E) (defined by the researchers as workers who are, to all intents and purposes, employees, but who are considered self-employed). Using qualitative data collection the research contributed a set of worker case studies – 36 in total – drawn from six low paying industry sectors (retail, hotels, logistics, social care, security, and recreation, sports and leisure). The research was conducted in London, the South West, and Yorkshire and Humberside. The approach allowed detailed scrutiny of hours and their relationship with earnings and consideration of whether the NLW was achieved, taking into account fluctuations and paid and unpaid components of working time. Drawing upon the experiences and perceptions of workers with non-standard employment contracts, this research explored the organisation of working time, the notion of unsocial hours and the payment of premia. It also identified changes in contractual arrangements and pay and grading structures in the light of the NLW. The impacts of contractual forms on work and the work-effort bargain are also explored. Finally the research illustrated how workers cope in the context of wider household and familial relationships, including interaction with the tax and benefits systems.	The key findings were: • There was uncertainty about contractual status among those on ZHCs and MHCs, with variability in hours leading to confusion over permanence with workers required to be available to the employer. Workers could be sent home if there was insufficient work, but also may work extra hours or back-to-back shifts. • Contracted hours can bear little relationship to actual hours worked. For workers on MHCs the scheduling of hours and days of work can vary from week to week, with shifts arranged only days in advance and changed at short notice. • MHCs appear to be used in retail to restrict employment rights to contracted hours only, rather than total hours worked. • Self-employed workers have limited control over their working time, as the work is paid on a task completion basis rather than by the hour. • Unpaid availability is a feature of ZHCs; where workers may wait between shifts or, in homecare, between visits with no guarantee that travel between visits is paid at the NLW. • The use of non-standard contracts can allow employers to redefine elements of the working day as 'non-productive' time and thus not paid. • One fifth of the workers were on an hourly rate at or close to the NLW, (this may be underestimated due to the inclusion of London in the sample). The NLW was welcomed but was still insufficient. • Awareness of minimum wages varies. Dependent self-employed did not consider it relevant. There was awareness of age rates among 20-29 year-olds. • Working time can be constructed to avoid the statutory breaks that workers would otherwise be permitted. • Some evidence that employers have made adjustments to terms and conditions to accommodate the NLW, primarily through cuts to hours and premia, but also increased use of younger workers. • Evidence of withholding of pay, as it can be difficult to keep track of 'extra' hours and complex while non-transparent pay systems, particularly for 'piece work', can facilitate non-payment.

Project Title and Researchers	Aims and Methodology	Key findings
The National Minimum Wage, The National Living Wage and the tax and benefit system **Mike Brewer** and **Paola De Agostini** (University of Essex)	This project built on previous work (Brewer and De Agostini, 2013, and Brewer, May and Phillips, 2009) on the interactions between the tax and benefit system and the NMW. It took account of the introduction of the NLW, and tax and benefit changes. It compared net incomes for minimum wage families observed in 2014/15 under the NLW, tax and benefit regimes in 2017/18 with those in 2020/21. The project: • showed where NMW and NLW recipients are in the distribution of household income; • estimated what fraction of NMW and NLW recipients are in households entitled to receive benefits or tax credits; • quantified how households containing NMW and NLW recipients are likely to be affected by current and future changes in the direct tax and benefit system; • calculated the marginal effective tax rate (METR) facing NMW and NLW recipients, and showed how this varied by household characteristics and place in the income distribution; and • quantified how possible future changes in the NMW and NLW would affect the distribution of household income, having accounted for the position of NLW and NMW recipients in the income distribution, the importance of earnings from the NMW and NLW to those households, and the way that the tax and benefit system responds mechanically to increases in earnings of NMW and NLW recipients. The EUROMOD microsimulation model was used, based on inputs from the Family Resources Survey (FRS) and supplemented by imputation from the Labour Force Survey to more accurately identify minimum wage workers. The newly created synthetic dataset was combined with the tax and benefit rules simulated by EUROMOD to produce an estimate of the net income of each family, and their incentives to work.	The key findings were: • NMW families (that is, families that contain a worker who is receiving the NMW) are mostly found in the bottom half of the working-age income distribution. • NLW workers are more evenly distributed, and are most likely to be found in the third decile of family income distribution. • NLW families tend to be better off than NMW families because they are paid more per hour, and they are more likely to live with a working partner. • NMW workers contribute more to their families' income than do NLW workers. This mostly reflects that NMW workers are more likely to be single. The contribution of NMW and NLW earnings to minimum wage families' net income falls as family income rises. • Forecast increases in the NMW and NLW by 2020-21 will increase real net incomes of minimum wage families on average by about 1.5 per cent. • Announced but not yet implemented tax and benefit changes will have small effects on minimum wage families, but the roll-out of UC could lead to considerable income gains for those families in the bottom two income decile groups. • The weakest financial incentives to work among minimum wage workers are found in the 2nd-4th decile, where they can pay extra tax and NICs but lose benefit entitlements when earnings rise. • Under current rules for in-work conditionality, when universal credit is fully rolled-out, around 21 per cent of minimum wage workers will be subject to in-work conditionality. • A 5 per cent hypothetical rise in the NMW and NLW in 2020-21 would increase the net incomes, on average, by less than 1.2 per cent. • The study compared 2017/18 with 2020/21, when most of the welfare cuts have already happened. Comparisons with 2014/15 would not yield such positive gains across family types and income deciles.

Project Title and Researchers	Aims and Methodology	Key findings
Estimating the impact of the October 2015 increase in the Apprentice Rate **Federico Cilauro, Stefano Piano** and **Danail Popov** (Frontier Economics)	In March 2015, the Government announced that the Apprentice Rate would increase by 21 per cent from £2.73 to £3.30 from October 2015. This was a considerably larger increase than for the other minimum wage rates – around 3 per cent – although the introduction of the National Living in April 2016 increased the minimum for those aged 25 and over by around 11 per cent over the year. This project aimed to assess the impact of that large increase in the Apprentice Rate on: • apprentice pay; • the number of new apprenticeships, and their completion rates; and • the nature of apprenticeships, including the quality of the training provided to apprentices. Apprenticeship policy is devolved across the four nations of the UK. The project described the variation in levels of apprentice pay in the UK before and after October 2015 along a number of dimensions, including: geography; apprenticeship level; industry; and age of apprentices. This provided an understanding of how different groups of apprentices were affected by the large October 2015 increase. Due to data availability, the econometric evaluation of the impact was restricted to England only. The analysis exploited the geographic variation in the proportion of apprentices paid below the Apprentice Rate – identifying low-paying and higher-paying areas – to understand the impact of the large increase in the Apprentice Rate, using difference-in-difference methodology. In addition to estimating the average effect of the Apprentice Rate increase, it also attempted to assess its impact by geography; age (under 19 compared with 19 and over); sector and occupation groups; apprenticeship level (focusing on Levels 2 and 3); and gender. The study used data from the Individual Learner Record (ILR), the 2014 and 2016 Apprentice Pay Surveys (APS), and the Annual Survey of Hours and Earnings (ASHE) for 2015 and 2016.	The key findings were: • No evidence that the 21 per cent increase in the Apprentice Rate had reduced the number of apprenticeships; the number of apprentice starts; or apprentice completions. • Indeed, there was evidence of significant positive effects, albeit generally in apprentice frameworks that had relatively few apprentices paid at the Apprentice Rate. These findings may have been due to other policies, including, potentially, the introduction of the NLW some six months later. • When focusing on low-paying frameworks, there was some evidence that hairdressing apprenticeships had been reduced, but these findings were based on small samples. • It found no evidence that training quality had fallen, but there were limited data to explore this properly. • There were, however, limitations of the available data on apprentices. There were problems with data access and quality across the UK, which restricted the analysis to England. • Sample sizes in the Apprentice Pay Surveys prevented a more comprehensive exploration by detailed location and other characteristics. Information on off-the-job and on-the-job training hours was also lacking. • Data on the impact on the quality of apprentices was also mixed. • The researchers suggested that future research might usefully also investigate the interdependencies between the Apprentice Rate and the other minimum wages, including the NLW.

Appendix 3
Main data sources

Introduction

1. In this appendix we document the main data sources used in our analyses and outline any major changes that have occurred since our Autumn 2016 Report. We use three main sources of data in this report to measure earnings: the Annual Survey of Hours and Earnings (ASHE), Average Weekly Earnings (AWE), and the Labour Force Survey (LFS). These are all published by the Office for National Statistics (ONS). There are two main sources of employment information: the LFS and the ONS employee jobs series. The LFS captures the number of people in employment, whereas the employee jobs series measures the number of jobs in the economy. This is an important distinction as a person can have more than one job.

2. In addition to employment and earnings data, we also look at a variety of macroeconomic data and statistics. This appendix outlines the two main macroeconomic series on inflation and gross domestic product (GDP) used in our analyses, as well as summarising revisions that ONS made to GDP estimates.

3. In our 2013 Report, we reviewed and updated our definitions of the low-paying sectors based on the latest Standard Occupation Classification (SOC) 2010 codes. Following the introduction of the NLW, which has affected the number and type of workers (and jobs) covered by the minimum wage, we agreed to review our classification of low-paying sectors, to include any new (or returning) sectors. The final section of this appendix sets out in full our new definitions of each low-paying occupation and industry.

Annual Survey of Hours and Earnings

4. ASHE is the main source of structural earnings data in the UK and is regarded by ONS as the best source of earnings information for cross-sectional analysis. It provides information on the level, distribution, and composition of earnings, as well as information on hours, gender, age, geography, occupation and industry. It is a survey of employees completed by employers and conducted in April each year. The sampling frame consists of a 1 per cent sample of employee jobs in Pay-As-You-Earn income tax schemes obtained from HM Revenue & Customs (HMRC). The self-employed are excluded.

5. Employees not on an adult rate of pay are excluded from the headline ASHE earnings estimates produced by ONS, but we include them in our own analysis of earnings from ASHE. This means that our earnings estimates may differ from those of ONS. The 2017 ASHE was based on approximately 183,000 returns and related to the pay period which included 26 April.

6. From 2011, ASHE data have been reweighted to SOC 2010 codes. Thus, earnings estimates for 2011 onwards are not directly comparable with those prior to 2011. In light of these changes to occupation codes, we reviewed and updated our definitions of low-paying occupations in our 2013 Report. The results and methodology of the review were outlined in Appendix 6 of our 2013 Report.

7. In 2013 HMRC changed the criteria which determined how businesses reported employees' earnings via their PAYE schemes. Previously businesses only needed to operate PAYE for employees earning above the Lower Earnings Limit (LEL) for National Insurance contributions (NICs); and they did not need to report all new jobs until the end of the tax year. Since 2013 employers have been required to report details of all employees via their PAYE scheme, including those below the LEL, provided they had at least one employee earning above the LEL. In addition, they have been required to report all jobs in 'real-time', rather than at the end of the year. ONS advise that it is not possible to precisely quantify the impact of these changes as many employers (particularly large firms) already provided information for all employees, including those below the LEL, and it is not possible to identify specific jobs that are included as a result of the changes. Analysis of the 2014 ASHE by ONS (2016b) showed that the composition of the sample was not distorted as a result of this change to real time information with minimal impact on ASHE low pay estimates.

8. Owing in part to these changes, there is no official, consistent, long-run time series of structural earnings in the UK. The best source available now consists of five overlapping New Earnings Survey (NES)/ASHE data sets: NES, 1975-2003; ASHE without supplementary information, 1997-2004; ASHE with supplementary information, 2004-2006; ASHE 2007 methodology, 2006-2011; and ASHE 2010 methodology, 2011 onwards. In order to produce a consistent series over time, we have used the annual increases in the older data series to adjust the level of earnings to make the previous series compatible with the current series. This generally has the effect of reducing the estimates of the mean and median in years prior to 2011, which increases our estimates of the bite (the minimum wage relative to the median or mean) for that period.

Apprentices

9. In 2013 two new questions on apprentices were included in ASHE as experimental statistics. These required employers to identify whether an employee was an apprentice and, if so, to record the date that the apprenticeship had commenced. The 2013 data were not fully validated and have not been published by ONS. In the 2014 ASHE the apprentice questions were fully validated by ONS. The new data allow us to analyse underpayment of the Apprentice Rate and whether apprentices aged 19 and over beyond their first year of apprenticeship receive at least their entitlement to the age-related minimum wages. It also allows us to separately identify minimum wage jobs held by apprentices.

10. Drew, Ritchie and Veliziotis (2015 and 2016) compared estimates of apprentice earnings from ASHE with estimates from the 2014 BIS Apprentice Pay Survey. Their findings suggested that ASHE data may produce an upper-bound estimate of apprentice pay and, correspondingly, a lower-bound estimate of non-compliance.

11. The identification of apprentices also means that we can examine earnings and non-compliance separately for workers and apprentices. Until 2014 the grouping together of apprentices and non-apprentice workers had a downward effect on earnings for young people,

as apprentices tend to have lower earnings. From 2014 onwards we are able to produce three distinct time-series: an adjusted time series from 1997 onwards, including both workers and apprentices; a series from 2014 onwards for non-apprentice workers only; and a series from 2014 onwards for apprentices only.

NLW alignment

12. The introduction of the NLW has important implications for our use, analysis, and interpretation of ASHE data. A key change is that the NLW was introduced in April, coinciding with the ASHE data collection period. Previously, new minimum wage rates were introduced in October, with measurement of earnings, the bite and underpayment occurring six months after implementation of the new rates. Both the bite of the minimum wage, and measured underpayment, are at their highest upon introduction, and correspondingly lower when measured six months after implementation. In April 2017 all minimum wage rates were uprated to ensure alignment with the NLW. This introduced a break in the time series, with a jump in estimates of both the bite and underpayment.

13. The increase in measured underpayment poses particular difficulties. In addition to a time-lag in implementing the new rates, employers are not legally required to increase pay to the new minimum wage until the first full pay period after the introduction of the minimum wage. Hence workers may be paid below the new rates and not considered to be non-compliant, provided they are paid at least the previous minimum wage. In order to identify these workers ONS introduced a new question in the 2016 ASHE to identify the start date of the pay period, the results of which are shown in the variable 'ppstart'. However the timing of the ASHE survey largely determines the number affected by this variable.

14. In 2016 the ASHE survey used a pay reference period which included 13 April 2016, just two weeks after the introduction of the NLW. This identified around 175,000 workers aged 25 and over who were paid at or above the old minimum wage (£6.70) but below the NLW (£7.20) and whose latest pay period started in March and continued into April – hence spanning the introduction of the NLW on 1 April 2016. These cases are identified in the ASHE Microdata by the variable 'nlpflag'. In 2017 only 24,000 flagged individuals were identified. There were many fewer in this category as the later pay reference period date for the ASHE survey of 26 April meant that most employees had already received pay for a pay period following the uprating.

15. This year ONS have provided an additional variable which is related to both the pay period and how the hourly pay variable is derived. The 'pcflag' variable identifies those employees who have a monthly pay period that should have a derived rate of exactly the NMW or NLW but are slightly different because the employer/payroll provider has calculated the rate based on exactly 52 weeks per year rather than 52.18 (365.25/7) as used by ONS. A further addition to the dataset was the variable 'hrpayx' which is the derived hourly rate used by both ONS and ourselves for low-pay estimates.

16. An additional consequence of the change in our reporting cycle has been the impact on the timing of the publication of ASHE. In 2016, to enable us to report to the Government in October as requested, ONS brought forward the release of the ASHE from mid-November to 26 October. The same applied this year. It was published on 26 October 2017. We are grateful for its co-operation.

Average Weekly Earnings

17. AWE is a short-term measure of the level of average weekly earnings per employee in Great Britain which is based on data from the Monthly Wages and Salaries Survey. It replaced the previous measure of short-term changes in earnings, the Average Earnings Index (AEI). AWE provides a monthly measure of regular pay, bonus pay and total pay. This measure uses current industry weights that are updated each month to take account of the distribution of jobs across sectors. ONS also produces a decomposition of the growth rates to show how much growth is due to wage growth, and how much growth results from changes in employment across sectors. The AWE estimates do not just measure pay, they also reflect compositional changes within the workforce.

18. There have also been changes to the data resulting from the reclassification of major employers between the private and public sectors. Guidance, as a result of the introduction of the 2010 European System of Accounts (ESA10) from 1 September 2014, meant that Network Rail was reclassified from the private sector to the public sector. This affected the estimates of Average Weekly Earnings (AWE) released in December 2014, resulting in revisions to the AWE and PSE estimates. These revisions to the AWE estimates only go back to 2010. Apart from Network Rail, Lloyds Banking Group plc was reclassified to the private sector from April 2014 following the sale of some government-owned shares to private sector investors. It had been classified to the public sector between July 2009 and March 2014. ONS estimates that, if the April 2014 reclassification had not occurred, the public sector single month growth rates from April 2014 would have been around 0.3 percentage points higher and the corresponding private sector growth rates would have been around 0.1 percentage points lower.

19. During 2013, ONS released three AWE historic time series, all of which are monthly in frequency and include bonus payments: the whole economy series runs from January 1963 to 2010, while public and private sector series are available from January 1990 to 2010. The method used to compile these time series takes into account the observed relationship between AEI and AWE, in particular that AWE increased faster than AEI for most of the period between January 2000 and July 2010. Therefore, these AWE historic time series show more growth than the AEI. The differences are relatively small between 1990 and 1999, but larger when earlier periods are considered. The difference between the AEI and AWE wage growth should not be over-interpreted, as there is considerable uncertainty introduced by the estimation process. As these historic time series are only available up to 2010, when the AEI was discontinued, there is no fully consistent complete time series for these data sets up to the present time.

20. Further AWE revisions were carried out this year following a review of the methodology used to calculate estimates of earnings of employees in small businesses. Businesses with fewer than 20 employees are excluded from the Monthly Wages and Salaries Survey which is largely used for the calculation of the AWE. To compensate for this omission, pay is estimated using a factor derived from ASHE which does cover small businesses. As a result changes were announced that aim to better reflect earnings of employees in small businesses as well as reflecting improvements to the coverage of small businesses on the main sampling frame, the Inter-Departmental Business Register.

21. The results of the review were released by ONS on 29 March 2017. They showed that while at the whole economy level (between July 2010 and December 2015) the trend in earnings remained similar, total pay levels had decreased by between £7 and £10 (1.6-1.9 per cent). At the sectoral level

there were two distinct phases to the changes: the first covered July 2010-July 2015 (the last time the small business factors were modified) with the second covering the period post-July 2015. This step-change occurs due to inconsistencies introduced at the point at which the small business factors were last modified compared with the revised historical estimates.

22. For the first phase (July 2010-June 2015), in terms of total, regular and bonus pay levels, the finance and business services industry sector was the most affected, with the construction industry sector also notably affected, while wholesaling, retailing, hotels and restaurants industry sector was the least affected. For the second phase (July 2015 onwards), the construction industry sector was the most affected for both total and regular pay. Construction was particularly affected due to the sector having a relatively high proportion of small businesses.

23. In the first phase construction saw differences of between -0.8 and +0.4 percentage points, with larger negative effects in the second phase of up to 4 percentage points. Manufacturing and finance and business services saw the largest upwards revisions with other sectors slightly revised upwards.

24. While these revisions specifically affect the period from July 2010 onwards, the discontinuity introduced has led to the whole series back to 2000 being revised. The trend in this earlier period remains the same but levels for total pay have been revised downwards. Revised total pay is between £5.00 and £8.10 lower (across the revised period) for the whole economy, and is down between £6.80 and £10.90 for the private sector across the same period. Finance and business services is the industry sector most affected due to the reduction in bonuses (which are relatively large for this sector), followed by construction, consistent with the trend seen for the period from July 2010 onwards.

An overview of and comparison between Annual Survey of Hours and Earnings (ASHE) and Average Weekly Earnings (AWE): 2017

25. ONS (2017d) released an article on ASHE and AWE that:

- Presented an overview of both measures;
- Highlighted which source was better for certain types of analysis; and
- Analysed the movements of the whole economy series between 2005 and 2016

26. It found that while both measure similar aspects of the labour market, they are different measures of employee earnings with distinct differences. ONS discussed the impact of changes in workforce composition within both ASHE and AWE e.g. the proportions of full and part-time employees, the number of hours worked and the impact of new joiners and leavers. The article explained the differences in headline measures and outlined the reasons for a divergence between the headline series in 2011 that continues thereafter. This divergence was primarily due to the use of SOC 2010 in ASHE but other factors included revisions made to the historic AWE data, the re-estimation of small businesses within AWE, and the reclassifications of businesses between the public and private sector.

Labour Force Survey

27. The Labour Force Survey (LFS) is the official data source used to measure employment and unemployment. It is a quarterly survey of around 60,000 UK households conducted on a rolling monthly basis and provides information on: employment; unemployment; earnings; and personal and socio-economic characteristics, including gender, ethnicity and disability.

28. In this report, analyses of aggregate employment, unemployment and hours worked use seasonally adjusted monthly and quarterly LFS data published by ONS. For detailed analyses of the labour market by age, ethnicity, disability and other personal characteristics, we use the non-seasonally adjusted LFS Microdata. In our analyses, we generally use the four-quarter moving average of these outputs to take account of seasonality, which is different to the seasonal adjustment method used by ONS. Consequently our analyses based on LFS Microdata produce estimates of levels that differ from the headline aggregates published by ONS.

29. ASHE contains no information on disability, ethnic background, country of birth, nationality or education level. The LFS is, therefore, our only timely source of data on earnings for disabled people, ethnic minorities, migrants and people with no qualifications. However, data on pay and hours in the LFS tend to be less reliable than in ASHE. Reasons for this include: a smaller sample; people answering the earnings questions without reference to pay documentation (although they are prompted to consult available documents); and some information being provided by proxy respondents. ASHE collects information from employers about employees' paid hours, whereas the LFS collects information from individuals about their actual and usual hours of work, which might include unpaid hours. This generally means that the derived hourly earnings variable in the LFS is lower than the derived hourly pay rate recorded in ASHE. For some workers, a stated hourly rate of pay is available in the LFS. For these workers, hourly pay is similar to that in ASHE. Where a stated hourly rate of pay is unavailable from the LFS, ONS has developed an imputation method using a nearest-neighbour regression model, which also takes account of information on second jobs in estimating the median earnings of various groups of workers. This methodology reduces the differences between hourly earnings estimates from the LFS and ASHE, and we use it to estimate earnings in our LFS analyses.

30. ONS (2017e) published estimates using this methodology. It provided low-pay estimates from the fourth quarter of 2016 for a range of characteristics including gender, disability, nationality and skill level and used a refined version of the imputation methodology. The analysis examined wage distributions and showed how females, those disabled, non-UK nationals, workers in lower skilled jobs and private sector workers were all more likely than their counterparts to be earning the NLW.

31. The article also estimated the proportions of a wider set of job and personal characteristics that were paid less than or close to (within 2 per cent) the relevant age-related NMW or NLW. It identified that those working in elementary occupations, sales and customer service occupations or in the distribution, hotels and restaurant sector had the highest proportion paid below or close to the NMW or NLW. Also those with no qualifications, in lower skilled jobs or working part-time were also much more likely to be paid below or close to minimum wages. We intend to make use of this new methodology in future reports and analysis.

Employee Jobs

32. The employee jobs series provides a timely breakdown of jobs in the UK. A number of Short Term Employer Surveys, which collect data from businesses across the economy, are used to compile the employee jobs series. Figures at a more detailed industry level, however, are available only for Great Britain and are not seasonally adjusted. This makes quarter-on-quarter comparisons problematic, particularly as much of the employment in the low-paying sectors is of a seasonal nature, for example, Christmas trading in the retail sector. Comparisons between one quarter and the same quarter a year earlier, however, help to alleviate this problem.

33. In December 2014 ONS revised estimates of workforce jobs, including the employee jobs series, back to 1981. These revisions were caused by benchmarking to estimates from the annual Business Register and Employment Survey (BRES), updating the seasonal factors and taking on board late information such as later responses to the survey. A consistent back-series, based on the Standard Industry Classification (SIC) 2007, is also available back to the second quarter of 1978.

Inflation

34. ONS publishes monthly inflation indices which reflect changes over twelve months in the cost of a 'basket' of goods and services on which people typically spend their money. In our analyses, we have used two main inflation measures: the Consumer Prices Index (CPI), and the Retail Prices Index (RPI).

35. Each measure uses the same basic price data, but the CPI (which follows international definitions) excludes Council Tax and a number of housing costs faced by homeowners that are included in the RPI. Other differences include: the methodologies used to combine individual prices at the first stage of aggregation; the sources used to derive the weighting that each component contributes; and the population whose spending the 'basket' is designed to represent. The RPI is never revised and the CPI, although revisable in theory, has only ever been revised in exceptional circumstances.

36. In early 2013, the RPI was assessed against the Code of Practice for Official Statistics and found not to meet the required standard for designation as a National Statistic due to the formulae not meeting internationally-recognised best practices. In January 2015, the UK Statistics Authority published an independent review of UK consumer prices statistics led by Paul Johnson (2015), Director of the Institute for Fiscal Studies which recommended that ONS should move towards making CPIH (the measure of consumer price inflation including owner occupiers' housing costs) its main measure of inflation. However, CPIH had its National Statistics status removed in August 2014 following issues relating to how some administrative data sources used to estimate owner occupiers' housing costs were processed. The UK Statistics Authority announced in March 2016 that CPIH still did not meet the standards to be a National Statistic.

37. In November 2016 John Pullinger, the National Statistician, made it clear that CPIH was to be the preferred measure of consumer price inflation by March 2017 despite not being a recognised National Statistic. He also outlined the removal of RPIJ from March 2017 as, despite addressing problems in the RPI's use of the Carli formula, it shared other shortcomings with RPI, including using a direct measure of house prices to estimate owner occupiers' housing costs.

38. In July 2017 the Director General for Regulation at the Office for Statistics Regulation wrote to the National Statistician confirming the re-designation of CPIH as a National Statistic. It confirmed that following concerns raised in their Assessment Report: quality assurance of the private rents administrative data had improved; a suite of comparative analyses to provide assurance of the index had been developed; and clarification around the role of CPIH as an indicator of inflation had been provided in conjunction with proactive user engagement.

39. Despite these changes the RPI measure is still one of the main measures of inflation used in wage negotiations although to a lesser extent in recent years; and the time series goes back to 1948. Further, following an independent exercise looking at consumer price indices, Courtney (2014) came to the opposite conclusion with regards to the relative merits of CPI and RPI. Until CPIH or another measure of inflation becomes as widely used, and as commonly forecast, as RPI, we will continue to use RPI, along with CPI, as our main measures of consumer price inflation. CPIH has been included in our analyses of current price inflation and is used as the deflator for the real weekly earnings series, based on AWE, published by ONS covering the period from January 2005.

Gross Domestic Product

40. GDP provides a measure of total economic activity. It is often referred to as one of the main 'summary indicators' of economic activity and is used to measure growth in the economy.

41. Further revisions were made in June 2016 as a result of improvements made to the UK National Accounts (Blue Book) in current price terms. Methodological changes included improvements to imputed rental estimates. Estimates of the revision to annual GDP growth in current prices (1998 to 2014) is -0.35 percentage points with real GDP annual growth (1998 to 2014) revised down by 0.03 percentage points. Larger revisions have been made to current price estimates than real GDP because the main impact on rental estimates is on the prices being used.

Definitions of Low-paying Sectors

42. Throughout this report we refer to the low-paying sectors. We define these as occupations or industries which contain a high number or large proportion of low-paid workers based on the SOC and SIC codes published by ONS. We have two distinct definitions of low-paying sectors, one based on industries and one on occupations. These definitions are used when conducting detailed analysis of low-paying sectors using ASHE or the LFS.

43. As proposed in our Autumn 2016 Report we have undertaken a review of the low-paying classifications to identify new low-paying sectors arising from the NLW, taking into account the NLW target of 60 per cent of median pay for workers aged 25 and over. As a result we have added two new groups to the industry classification: security and wholesale food (including agents), both of which included above average proportions of low-paying workers. Small changes were also made within the cleaning and maintenance and social care groups. We have also added two new groups within the occupation classification: security and enforcement, and call centres. As with the industry classification we have also made a number of small changes within some of the other occupational groups. Table A3.1 sets out our revised list of low-paying sectors defined by SIC 2007 and SOC 2010 respectively.

44. Industry definitions will capture many workers, such as managers and supervisors, who will not necessarily be low paid while occupational definitions can be more focused on specific low-paid jobs. Ideally we would like our earnings and employment analyses to be based on the occupational definitions. However, official employment data using these definitions are not readily available although we can estimate them quarterly using LFS Microdata and annually using ASHE. There is no regular, official data series on employment by occupation but ONS does provide one on employment by industry, the ONS employee jobs series. In addition, policymakers and stakeholder groups tend to be industry-based. Therefore, we tend to focus our analysis on industries.

Table A3.1: Definitions of low-paying industries and occupations, by SIC 2007 and SOC 2010

Low-paying industry/ occupation	Current industry definition (SIC 2007)	Old industry definition (SIC 2007)	Current occupation definition (SOC 2010)	Old occupation definition (SOC 2010)
Retail	45, 47, 77.22, 95.2	45, 47, 77.22, 95.2	1254, 5443, 7111,7112,7114, 7115, 7123-7125, 7130, 7219, 925	1254, 5443, 7111,7112,7114, 7115, 7123-7125, 7130, 7219, 925
Hospitality	55, 56	55, 56	5434, 5435, 9272-9274	5434, 5435, 9272-9274
Social care	86.10/2, 87, 88.1, 88.99	86.10/2, 87, 88.1	6145, 6146, 6147	6145, 6147
Employment agencies	78.10/9, 78.2	78.10/9, 78.2	-	-
Cleaning and maintenance	81, 96.01	81.2, 96.01	6231,6232, 6240, 9132, 9231, 9233-9236, 9239	6231,6240, 9132, 9231, 9233-9236, 9239
Leisure, travel and sport	59.14, 92, 93	59.14, 92, 93	3413, 3441, 3443, 6131, 6139, 6211, 6212, 6219, 9275, 9279	3413, 3441, 3443, 6131, 6139, 6211, 6212, 6219, 9275, 9279
Food processing	10	10	5431-5433, 8111, 9134	5431-5433, 8111, 9134
Wholesale food incl. agents	46.1, 46.2, 46.3	-	-	-
Childcare	85.1, 88.91	85.1, 88.91	6121-6123, 9244	6121-6123, 9244
Agriculture	01, 03	01, 03	5112-5114, 5119, 9111, 9119	1213, 5112-5114, 5119, 9111, 9119
Security	80.1	-	7122, 9241, 9242	-
Textiles and clothing	13, 14	13, 14	5411, 5414, 5419, 8113, 8137	5412-5414, 5419, 8113, 8137
Hairdressing	96.02, 96.04	96.02, 96.04	622	622
Office work	-	-	4129, 4133, 4216, 7213, 9219	4129, 4216, 7213, 9219
Non-food processing	-	-	8112, 8115-8116, 8119, 8121, 8125, 8127, 8131, 8134, 8139, 9120, 9139	5211, 5441, 8112, 8114-8116, 8125, 8131, 8134, 8139, 9120, 9139
Storage	-	-	9260	9260
Transport	-	-	5231, 8135, 8212, 8214	5231, 8135, 8212, 8214
Call centres	-	-	7113, 7211	-

Note: '-' denotes not applicable.

45. Unfortunately, the ONS employee job series does not have a detailed breakdown of sectors up to four-digit SIC codes. We therefore use broader industry-based classifications when considering the ONS employee jobs series. Table A3.2 contains the SIC 2007 codes used to define low-paying sectors in our analysis of the ONS employee jobs series. In our 2013 Report and reports prior to that time, we only used the SIC code '87' to define social care in our analysis of employee jobs. However, this definition only covered social care workers who undertook residential care activities. In subsequent reports, we use SIC code '88' for our definition of social care in order to include a large number of domiciliary care and childcare workers.

Table A3.2: Definitions of low-paying industries for ONS employee job series, by SIC 2007

Low-paying industry	SIC 2007
Textiles, clothing	13, 14
Retail	45, 47
Hospitality	55, 56
Cleaning	81, 96.01
Hairdressing	96.02
Agriculture	01, 03
Food processing	10
Leisure/Travel/Sport	92, 93
Employment agencies	78.2-3
Residential care	87
Domiciliary care/childcare	88

Appendix 4
International comparisons

1. For this report, we have updated our analysis of the value of the UK National Living Wage when compared with the equivalent minimum wage of other countries. We can now better assess how the introduction of the National Living Wage has affected the UK's position compared with other nations. We have also drawn upon recently released data from the Organisation for Economic Co-operation and Development (OECD) to update our comparisons of the bite of minimum wages across countries. This appendix also includes a brief discussion of the current trends in minimum wage setting in relevant countries, and the recent research conducted on new and increasing minimum wages in Germany and the United States.

The limitations of international minimum wage comparisons

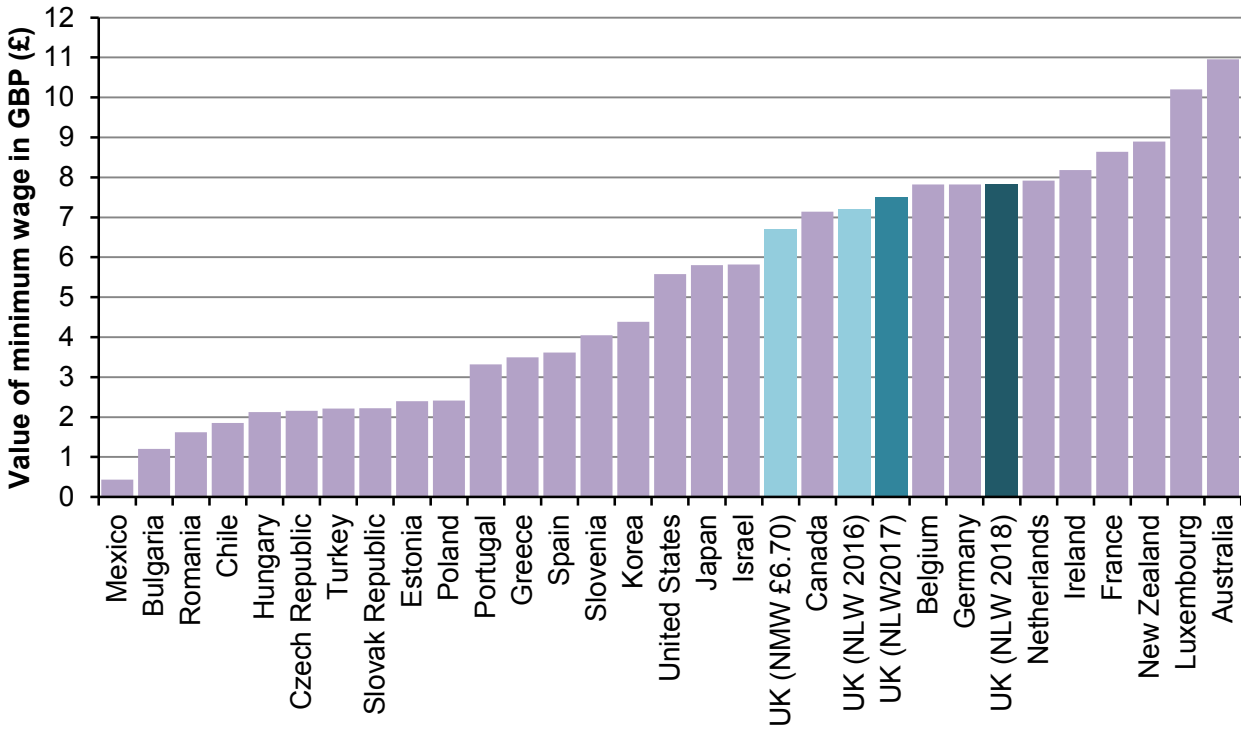
When making international comparisons, there are several factors to take into account. These include:

- The relevant pay period for minimum wages is defined differently (hourly, daily, monthly) between countries and may not readily be converted into an hourly rate for comparative purposes. For example, in Europe, many minimum wages are defined on a monthly basis.
- Definitions of minimum wage coverage differ, particularly with regards to the age and experience of those workers covered.
- In the UK, nearly all workers are covered irrespective of contract status but in some countries the minimum wage is limited to blue collar workers, or permanent and full-time workers. It might exclude seasonal, migrant, and casual workers, or have lower rates for workers in 'tipping' sectors.
- Upratings to minimum wages take place at different times in different countries, which weakens the accuracy of comparisons.
- It is difficult to compare the value of minimum wages across countries because exchange rates and the cost of living fluctuate. Purchasing power parities (PPPs) attempt to address this problem but these also have considerable weaknesses.
- The cost of minimum wage workers to employers also differs across countries, with some countries subsidising employers of minimum wage labour, and others having tax regimes that directly or indirectly affect labour costs of minimum wage workers.

2. We continually monitor international developments in setting minimum wages. To this end, we hosted a workshop in September 2017 attended by representatives of the minimum wage-setting bodies in Germany, Australia, and Ireland, along with French and UK officials and a researcher from the EU research and policy agency, Eurofound. This has helped enable us to better understand how these countries set their minimum wages and assess their impacts.

3. We showed in our Autumn 2016 Report that the introduction of the NLW had raised the position of the UK's minimum wage against that of other OECD countries, but that the depreciation of the pound relative to the Euro and other currencies had limited the gains. Figure A4.1, using average exchange rates for the month of July 2017, shows that the UK remained in the same position among our comparator countries when the NLW increased from £7.20 to £7.50. However, as the NLW increases towards its 60 per cent target (of the median for all workers aged 25 and over), the UK will move towards the group of high minimum wage countries consisting of our closest European neighbours (Ireland, France, Germany and the Benelux countries), Australia and New Zealand.

Figure A4.1: Nominal value of the minimum wage, by country, July 2017

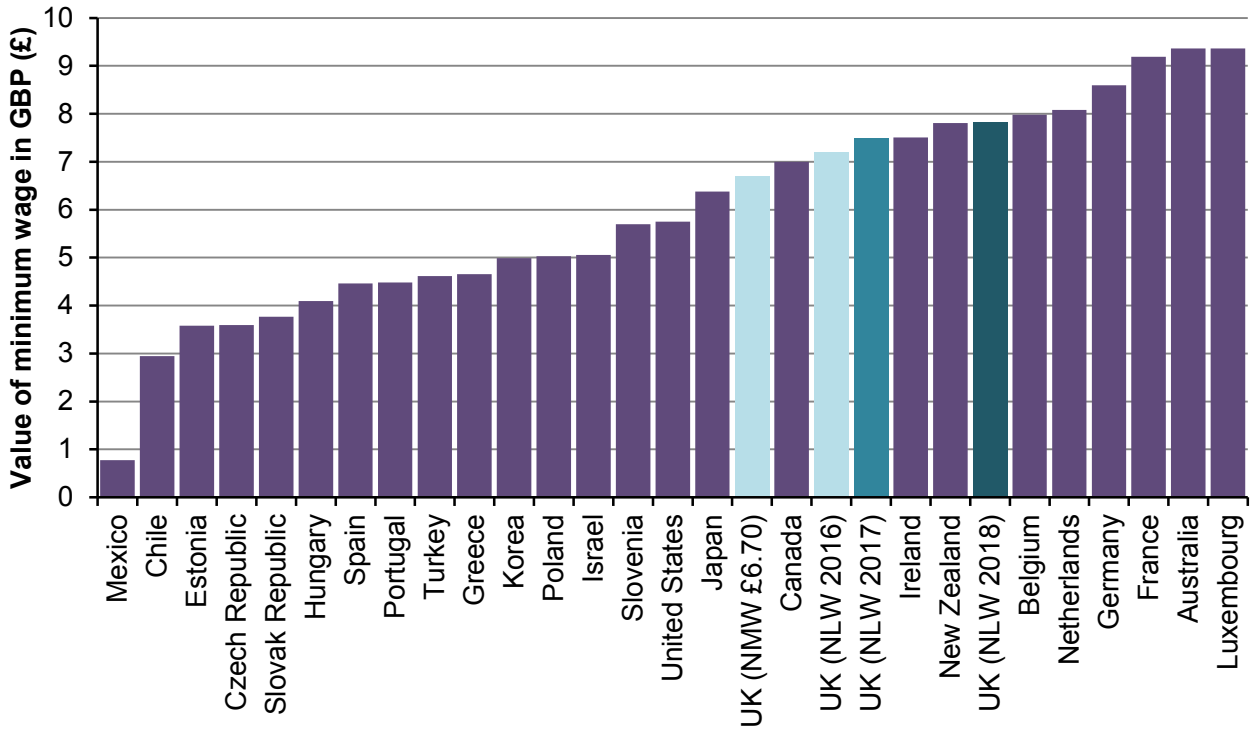


Source: LPC estimates using OECD data, July 2017.
Notes:
a. Data are converted to GBP (£).
b. Exchange rates are July 2017 monthly averages.

4. Of course, we also expect these nations to increase their minimum wages in the coming years, but none currently have committed to the rate of growth expected in the UK. It is worth noting though that nominal comparisons can be dramatically affected by fluctuating exchange rates. Putting those limitations aside, at £7.83, the on-course rate for the NLW in 2018, the UK would sit above Germany and below the Netherlands.

5. Exchange rate comparisons of minimum wages do not fully take into account the relative cost of living in different countries. By using purchasing power parities (PPPs), derived from the OECD's Comparative Price Levels (OECD, 2017a), we can attempt to address this issue. PPPs take account of the cost of living in each country, allowing us to more accurately compare the real value of minimum wages across countries. Figure A4.2 shows that, while the UK had not moved up in the rankings as a result of the NLW when measured using PPPs, its relative value had increased.

Figure A4.2: Purchasing power parity of the minimum wage, by country, July 2017



Source: LPC estimates based on OECD data, July 2017.
Notes:
a. Data are converted to GBP (£).
b. PPP estimates calculated using OECD July 2017 comparison ratios.

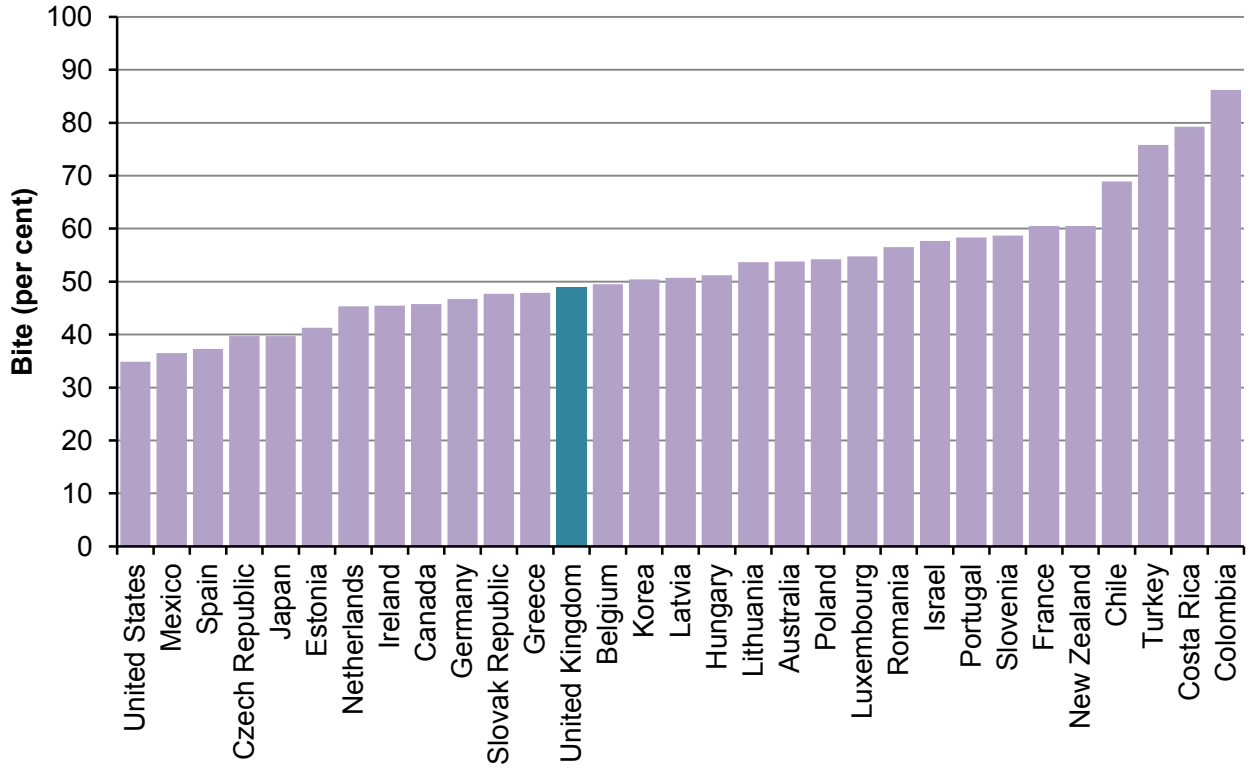
6. Last year we projected that the UK would move above Ireland and sit close to Belgium in the purchasing power of its minimum wage. However, inflation in the UK has risen to be the highest in the G7 and higher than most of the countries included in this analysis. This is reflected in the UK's position. The projected move upwards has not yet been realised.

7. Still, an above-inflation increase in the NLW in 2018 should mean that the UK moves up the scale of real minimum wages, into that group of western European and antipodean countries with relatively high statutory minimum wage levels. As will further increases up to 2020, though the relative effect will be limited by inflation in the UK and the pace of increases elsewhere. Eurofound (2017) reported that the real increase in the UK's minimum wage of 4.6 per cent from 2010-2016 (not including the April 2017 uprating) was higher than in Belgium, France, Ireland and the Netherlands. In Chapter 1, Figure 1.29 showed how the UK's real wage performance, between 2007 and 2016, had been weaker than in all the other OECD countries apart from Greece and Mexico. Real wages have fallen by 2.5 per cent in the UK in this period, compared to growth of 16 per cent in Germany and around 20 per cent in Poland, Estonia and Slovakia. This highlights the difference in growth between the minimum wage and average wages in the UK.

8. The implication for the bite of the UK's minimum wage is, intuitively, that it has increased relative to that of the statutory minima in other countries. Figure A4.3 shows the bite of minimum wages in OECD countries. It is worth noting that neither the level of the minimum wage nor its bite tell us about the effects it has on the labour market. This is affected by a multitude of factors – we do not have readily available data on the coverage of other countries' minimum wages, nor the operation of them or their interaction with tax and benefit systems.

9. The OECD recently updated its data series on the bite of the minimum wage (its value relative to the median wage) to 2016. It is calculated using an average across the year, meaning that it has not fully taken into account the introduction of the NLW – for a quarter of 2016 the NMW was £6.70 and for the three quarters, the NLW was £7.20. For comparability across countries, the OECD level of the bite is calculated against the pay of full-time workers. This results in a lower bite than that calculated for the purpose of advising on the NLW (which is calculated against all workers, including part-time workers who are likely to be more lowly paid). The UK has a higher proportion of part-time workers than in many of the countries with higher indicated bite. Further, OECD only uses the age group that the main rate of the minimum wage covers in each country. That will also give a lower bite compared with other countries (the median wage for those aged 25 and over will be higher than for those aged 18 or 21 and over). Other countries, like France with a bite of over 60 per cent, have minimum wages that are applicable from age 18. Even so, the UK has moved up the bite rankings compared with 2014, the period covered by the previous OECD comparisons. Then, the bite of the NMW was similar to that of the Netherlands. As the NLW is tied to a bite path, the UK is likely to continue to move further up the rankings on this measure.

Figure A4.3: Bite of the minimum wage, by country, 2016



Source: LPC estimates using OECD data, October 2017.

10. The introduction of the NLW meant an increase in the main rate of the minimum wage that far outstripped increases in comparable countries. The minimum wage increased by 7.5 per cent overnight and 10.8 per cent year-on-year in April 2016. The next largest increase we observed was a 5.8 per cent annual increase in Ireland in 2016. However, in Ireland, this was then followed by an increase of 1.1 per cent in 2017. This contrasts with the 4.2 per cent increase in the NLW in 2017 and a commitment to increase it above average earnings growth until 2020. Between 2016 and 2017, as shown in Figure A4.4, all of the countries with similar or higher minimum wage levels saw smaller minimum wage increases than in the UK. We project that the UK will move up the rankings as we move towards 2020 and achieve a target of 60 per cent of median earnings for the NLW.

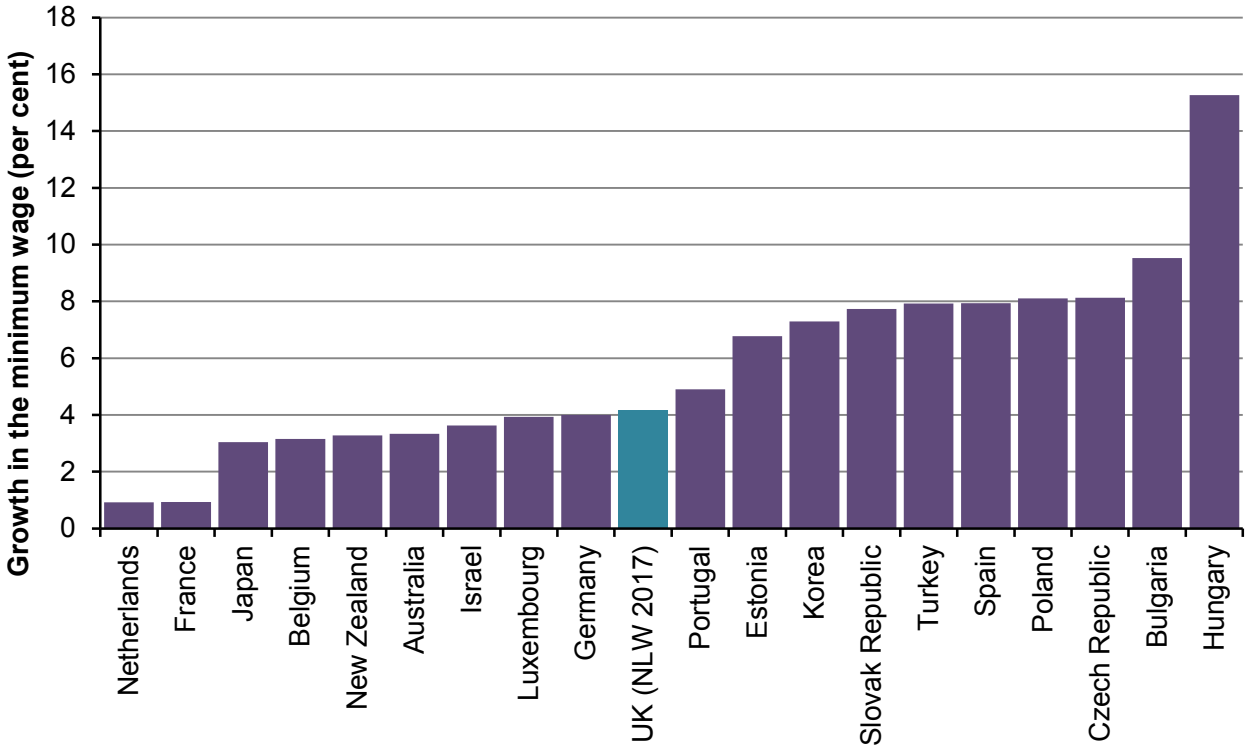
Table A4.1: Selected recent changes in nominal adult minimum wages, by country, 2016-2017.

Country/City	Previous hourly rate[a]	New hourly rate	Date of uprating	Percentage change
UK	**£7.20**	**£7.50**	**1 April 2017**	**4.2**
Australia	$AU17.70	$AU18.29	1 July 2017	3.3
Belgium[b]	€8.57	€8.84	1 June 2016	3.1
Bulgaria	BGN2.42	BGN2.65	1 January 2017	9.5
France	€9.67	€9.76	1 January 2017	0.9
Germany	€8.50	€8.84	1 January 2017	4.0
Ireland	€9.15	€9.25	1 January 2017	1.1
Japan[c]	JPY823	JPY848	August 2017	3.0
Netherlands	€8.87	€8.95	1 July 2017	0.9
New Zealand	$NZ15.25	$NZ15.75	1 April 2017	3.3
Portugal[d]	€3.06	€3.21	1 January 2017	5.1
Romania	RON7.21	RON8.37	1 February 2017	16.0
South Korea	KRW6,030	KRW6,470	1 January 2017	7.3
Spain[d]	€3.78	€4.08	1 January 2017	8.0

Source: LPC estimates.
Notes:
a. For countries where the minimum wage is not expressed as an hourly rate, the rate has been converted to an hourly rate assuming a working time of 8 hours per day, 40 hours per week and 173.3 hours per month.
b. Rate for workers aged 18 and over with no experience.
c. Data for Japan are mean average of prefectural (regional) rates.
d. Not including annual supplementary payment of two months of salary for full-time workers.

11. Figure A4.4 also shows that many countries had larger increases in their minimum wages than the NLW over the last year. These are all characterised by having significantly lower nominal levels of the minimum wage than in the UK. However, the large increases reveal a broad trend of rising minimum wages around the world. In several of these countries there is a concerted effort to raise the minimum wage.

Figure A4.4: Growth of the minimum wage, by country, by country, 2016-2017



Source: LPC estimates using OECD data, October 2017.

12. In Europe, the largest increases over the last 7 years have been in Romania and Bulgaria, which both joined the European Union in 2007. In Bulgaria the minimum wage has risen from around €120 per month in 2010 to €235 in 2017, and in Romania from around €150 to €322 over the same period. This also means they have seen the highest real increases in statutory minimum wages in Europe, at around 80 per cent since 2010 (Eurofound, 2017). The trend is repeated to a lesser extent in all of the A8 EU countries – Estonia, Lithuania, Poland, Latvia, Hungary, Slovakia, Slovenia and the Czech Republic.

13. One potential impact is that, as minimum wages increase in these countries, the attractiveness of the UK's labour market for migrant workers wanes. As discussed in Chapter 2 of this report, the effect of this is already becoming evident in sectors that are heavily reliant on migrant labour, such as horticulture. Exchange rate changes in the last 18 months have exaggerated the trend. Several of the countries mentioned above also have relatively high bite levels according to OECD data (see Figure A4.3). It is difficult to assess the practical implications of the bite of different minimum wages for these countries' labour markets, and any effect on migration patterns, because there will be differences in the implementation and coverage of the rates.

14. We also monitor research into the effects of minimum wage increases abroad. In a study into the effects of the introduction of the minimum wage of €8.50 an hour in Germany in 2015, Garloff (2016) revealed a positive relationship between regional minimum wage bite and the growth of regular employment but a statistically significant negative relationship between the regional bite and marginal part-time employment. In contrast, Bossler and Gerner (2016) found that there had been statistically significant slower employment growth in companies with high minimum wage coverage: this slower growth resulted in about 60,000 fewer jobs, mostly in marginal part-time work. In other research, Gürtzgen, Kubis, Rebien and Weber (2016) found evidence that job demands had risen for recruitment at the minimum wage level, while Lesch (2017) found that the minimum wage affected the dynamic of collective bargaining in low wage industries.

15. Several US cities and states have been raising their minimum wages to levels significantly above the federal statutory minimum of $7.25 an hour. Seattle increased its city-wide minimum wage from $9.47 to $15.00 between 2015 and 2017 (with slower phasing for small employers and some large employers that provide medical benefits). Two papers have looked at the impact so far.

16. Researchers from the University of Washington, Jardim, Long, Plotnick, van Inwegen, Vigdor, and Wething (2017) found little significant effects from the initial increase from $9.47 to $11, but large negative employment effects of the increase to $13 in January 2016. They found that it led to a 9 per cent reduction in hours in low-wage jobs, and a reduction in their number by 6.8 per cent, leading to reduced average earnings for low-wage employees of $125 (6.6 per cent) a month. However, this research has been much criticised by a number of other researchers and commentators. Despite the large negative effects in general, they found no effect on wages or employment in one of the lowest-paying sectors – the restaurant sector. The study effectively looked at the number of jobs paid below $19 in Seattle and compared with a control group with the difference attributed solely to the minimum wage increase, and found the number of under $19 jobs fell more in Seattle than in the control area. But, there was no fall in trend employment growth or wage growth in Seattle. Zipperer and Schmitt (2017) noted that by the logic the study used, it could be argued that the minimum wage 'caused' an increase of 20 per cent in the number of restaurant jobs paying over $19. There were also some concerns about the control area. The data used were also not fully representative as they excluded multi-site firms (accounting for 40 per cent of employees) and the methodology did not account for general wage growth.

17. The second study on Seattle's minimum wage, conducted by researchers at the University of California, Berkeley, has been subject to fewer criticisms. In contrast to that first study, Reich, Allegretto and Godoey (2017) found no employment effects from the increase to $13, with average weekly wages increasing by 1 per cent for each 10 per cent increase in the minimum wage (though less and not significantly in full-service restaurants, where tips were paid). We will continue to monitor the situation as new research emerges, not only on Seattle's minimum wage but elsewhere, such as New York, and California, where minimum wages are also increasing rapidly.

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