



## **The Economic Impact of Increasing the National Living Wage to Two-Thirds of Average Earnings**

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## Acknowledgements

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## Introduction

UNISON has commissioned Landman Economics to carry out an economic analysis of the potential impact of increasing the National Living Wage – the statutory minimum wage rate for employees aged 25 and over in the UK – from the UK Government’s 2020 target level of 60% of average earnings to two-thirds of average earnings.

The National Living Wage (NLW) was announced by the then Chancellor George Osborne in his summer 2015 Budget as an above inflation increase in the statutory minimum wage rate for employees aged 25 and over, with the target of reaching 60 per cent of median hourly earnings for employees in this group by 2020. In April 2019 the NLW was increased from £7.83 to £8.21 per hour. Based on current forecasts of median earnings in 2020, the projected increase for the NLW in April 2020 is to £8.67 per hour.

The UK Government is currently consulting on the LPC’s remit after 2020 (HM Treasury, 2018) and it is possible that it may set a target level for the NLW in future years that is higher than 60 per cent of median earnings. This report models the impact of two different scenarios for increasing the NLW from from £8.67 (60 per cent of median earnings) to two-thirds of average earnings:

- **Scenario 1:** an increase where the age coverage of the NLW remains the same as it is now (employees aged 25 and over). In this scenario, the NLW increases to **£9.63 per hour**.
- **Scenario 2:** an increase where the age coverage of the NLW is extended to cover employees aged 21 to 24 in addition to employees aged 25 and over. Extending the coverage of the NLW means that the hourly earnings of employees aged 21-24 are included in the calculation of median earnings, which reduces the median. Calculations by Landman Economics using data from the UK Labour Force Survey suggest that the rate for a NLW set at two-thirds of average earnings would be **£9.23 per hour** in this scenario. (Currently, the NMW rate for 21-24 year olds is £7.70 per hour).

The aim of this report is to make a realistic assessment of the economic impact of an increase in the National Living Wage to two-thirds of average earnings, taking into account potential employment impacts, the impact on the public finances and consumer demand, and potential multiplier impacts. The report is structured as follows. Section 1 looks at the theoretical evidence on the microeconomic impact of increasing the National Living Wage (drawing on evidence on the employment impact of minimum wages in the UK and elsewhere). Section 2 looks at the impacts on the public finances, while Section 3 looks at potential multiplier impacts on employment (taking macroeconomic stimulus into consideration). Section 4 concludes.

## 1 The microeconomic effects of increasing the National Living Wage

This section discusses the potential employment impact of increasing the National Living Wage, focusing on the 'microeconomic' impacts – not taking account, for the moment, of potential macroeconomic impacts on employment resulting from increased demand for goods and services in the economy. Section 3 below discusses potential macroeconomic effects.

### Theoretical models of the effect of minimum wages on employment

The predictions from economic theory about the potential employment effect of a wage floor depend on the assumptions made about the way the labour market works.

The most simplistic economic model of the labour market assumes 'perfect competition', whereby each worker is paid the value of what he or she produces. This model predicts that a minimum wage will either have no effect on the labour market whatsoever (if set at a level below what the lowest-paid worker in the labour market is paid) or will reduce employment (if set above this level). In this view, the higher the minimum wage is, the higher unemployment will be. Any worker for whom the minimum wage is greater than the value of their hourly productivity will lose their job when the minimum wage is introduced in this model.

Alternative models based on 'imperfect competition' in the labour market (e.g. Manning 2003) suggest that due to features of real-world labour markets such as employers' market power and the costs to employees of moving jobs, it is quite possible that many workers are being paid less than the value of what they produce. In this situation, it is possible for a minimum wage to raise wages without having any adverse effect on employment. In fact, in certain models there may be a positive impact on employment (Card and Krueger, 1995). There is still a certain critical level of minimum wage above which we would expect to encounter adverse employment effects, but it is an empirical question as to where that level is.

Kaufman (2009) suggests that there is an additional rationale for minimum wages that goes beyond arguments about the structure of the labour market. This is the inequality of bargaining power between workers and employers. Bargaining inequality arises partly from the fact that labour is a perishable good which cannot be inventoried like most other production goods. Most workers' bargaining power in employment negotiations is limited by the fact that they cannot afford to live for long without working – in other words they are likely to have 'shallower pockets' than employers. This is particularly the case for workers on very low wages who are

unlikely to be able to save large amounts. Also, in countries with relatively weak employment protection, unskilled workers are easier to substitute with alternative sources of labour in the event of industrial action (because employers do not need to spend a lot on training up new workers if they dismiss the strikers). Hence, the particular conditions of low-wage labour markets tilt bargaining power in favour of employers and results in low-wage workers having to accept lower average wages than they would do if bargaining strength of employers and workers were equal.

## Empirical research on minimum wage employment effects

Theory, then, suggests that the employment impact of a minimum wage is an open question. What does the empirical evidence suggest? The debate has swung wildly between defenders and opponents of minimum wages ever since 1995, when two eminent American labour economists, David Card and Alan Krueger, produced results from micro-studies on US data<sup>1</sup> which seemed to overturn the standard orthodoxy, showing that the best estimate of the effects of the minimum wage on US employment using micro-data from the 1980s and early 1990s was zero (Card and Krueger, 1995). This conclusion has since been challenged: Neumark and Wascher (2007) argued, based on a meta-analysis of findings from micro-studies in the US and other countries, that there is a significant negative impact of increases in the minimum wage on employment, averaging across all studies.

However, more recent analysis by Doucouliagos and Stanley (2009) using a meta-study of 1,474 empirical estimates of the effect of minimum wages on employment from 64 studies using US data finds that the results of Neumark and Wascher – at least for the US – are entirely driven by publication bias. This is the tendency, well-documented in empirical academic publications in a host of subjects, for empirical research which produces an outcome of an intervention or policy significantly different from zero to be more “interesting”, and hence more likely to be published, than research which shows no effects of the policy or intervention (Sackett, 1979). In a minimum wage context, this gives two implications:

1. Studies which find a negative impact of minimum wages on employment are more likely to be published than studies which find no effects.

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1 In the US there is a national (federal) minimum wage but each individual state can choose to set a state-level minimum wage in excess of the national minimum. Most of the US studies are based on “difference-in-differences” estimates which look at the change in employment levels in a state or states where the minimum wage was increased and compare this with the change in employment levels in a state or state where the minimum wage was held constant. Often, the studies look at matched workplaces in each state (for example, fast food outlets).

2. Where researchers conduct an empirical study which produces several different results<sup>2</sup>, there is a tendency to focus on the results which are statistically significant and different from zero, as this will make the paper more likely to be published (publication being the immediate objective of most researchers).

Once publication bias is controlled for using appropriate statistical techniques<sup>3</sup>, the estimated average effect of minimum wages on employment in the United States from the meta-analysis is almost exactly zero.

More recent meta-analysis studies from Stanley and Doucouliagos (2012), Belman and Wolfson (2014) and Wolfson and Belman (2016) confirm the finding that in the US, increases in minimum wages at state level have had no statistically significant impact on employment.

Recent evidence for the UK reaches comparable conclusions. Hafner *et al* (2017) conducted a recent meta-analysis study for the UK Low Pay Commission (LPC) on the impact of the National Minimum Wage on employment, using evidence from research studies up to and including 2016. The results were that there is “no overall ‘genuine’ adverse employment effect, neither on employment and hours nor on employment retention probabilities.” (Hafner *et al* 2017, introduction). This confirms the findings of an earlier meta-analysis conducted for the LPC by de Linde Leonard *et al* (2014).

## The employment effects of the National Living Wage

The National Living Wage for workers aged 25 and over was only introduced in April 2016, which means that there is only a limited amount of data to go on so far in assessing its employment impacts. Whereas previous upratings to the National Minimum Wage had been made based on advice from the LPC “to increase pay for the lowest earners without any detriment to their employment prospects”, the NLW represented a significant increase in hourly wages for workers aged 25 and over (initially from £6.70 to £7.20 in April 2016, £7.50 in April 2017 and £7.83 in 2018). Because of the size of the increase, the UK Government estimated that the

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<sup>2</sup> Most empirical research, whether based on macro or micro data, produces several different estimates of the impact of the policy intervention being studied. The reason is that there are many different specifications that can be used for a regression (in terms of which variables are included and which are left out, the sample period, the particular econometric estimation technique used, etc.)

<sup>3</sup> The techniques are based around the idea that in the absence of publication bias, the probability distribution of the estimated effects of a policy should follow a symmetric distribution around the average. If the estimated effects are asymmetrically distributed (as is the case for the minimum wage studies examined by Doucouliagos and Stanley, 2009) then it is clear evidence of publication bias, and the 'real' average effect has to be estimated from the 'truncated' distribution.

introduction of the NLW would result in small-scale job losses, of between 20,000 and 110,000 jobs.

In its Autumn 2017 report (LPC, 2017) the Low Pay Commission assessed the impact of the introduction of the NLW in April 2016 by looking at the change in employment and hours worked for workers aged 25 and over who were especially likely to be paid at the NLW rate – in particular women, ethnic minorities, workers with disabilities, non-UK born workers and workers without qualifications. The results from this comparison suggested that employment growth was *stronger* for workers who were more likely to be affected by the introduction of the NLW (LPC 2017, Figure 2.18, p85). In particular:

- Employment for female workers grew faster than for male workers;
- Employment for workers born outside the UK grew more quickly than for those born in the UK;
- Employment for workers with no qualifications grew more quickly than for those with qualifications;
- Employment for workers with disabilities grew more quickly than for workers without disabilities;
- Employment for workers from ethnic minorities grew more quickly than for white workers;
- Employment for workers aged 25 or over grew more quickly than for workers aged under 25 (who are not covered by the NLW).

As the LPC observes, “these positive labour market outcomes suggest that these groups of workers have suffered no obvious initial impacts from the NLW”. There is some evidence of lower growth in hours worked for affected workers who were already in employment following the introduction of the NLW, but overall the results from data from April 2016 onwards are consistent with the imperfect competition model of the labour market outlined above, where increasing the minimum wage can – up to a certain level – result in *increases* in employment.

Further analysis of the employment impact of the NLW by Aitken, Dolton and Riley (2018) referenced in the most recent LPC report (LPC 2018, p77) suggests that the NLW has had no robust impact on employment retention, although there is some evidence of negative effects on employment retention in specific industries (retail and hospitality) and among women working part-time.

Overall, there does not seem to be any evidence of an adverse employment impact of the NLW based on the increases so far, and there may even be evidence of a *positive* employment impact.

## 2 The impact of increasing the National Living Wage on wages, profits and the public finances

Modelling by Landman Economics for UNISON finds that increasing the National Living Wage to two-thirds of average earnings would result in the following effects:

### *An increase in gross wages for the low paid*

Landman Economics calculations using the UK Family Resources Survey data for 2016/17 suggest that the total gross wage bill for the UK would increase by around £4 billion pounds if the NLW were raised to two-thirds of median earnings for employees aged 25 and over (Scenario 1, as listed on page 9). If the NLW coverage were extended to employees aged 21-24 the overall gross wage bill would increase by around £3.3 billion pounds – a slightly lower amount. This is because although the NLW would cover more people, it only rises to £9.23, rather than £9.63, in Scenario 2.

### *An increase in net wages for the low paid and a boost to the public finances*

Low-paid workers only get a proportion of the increase in the NLW as higher disposable income; some of the increase goes to the government in the form of higher income tax and employee National Insurance Contribution payments, and reduced payments of tax credits and means-tested benefits. There is also an additional boost to the public finances from increased employer National Insurance Contribution payments.

Based on calculations from the Landman Economics Tax-Transfer Model, it is estimated that increasing the NLW to two-thirds of average earnings will have the effects on the public finances shown in Table 2 below:

**Table 2. Estimated impact on public finances of increasing the NLW to two-thirds of average earnings**

Coverage	Scenario 1: Employees aged 25 and over, £9.63 per hour	Scenario 2: Employees aged 21 and over, £9.23 per hour
Improvement in the public finances from:		
Increased income tax receipts	£560m	£430m
Increased employee NICs receipts	£390m	£310m
Increased employer NICs receipts	£460m	£370m
Reduced benefit, tax credit and Universal Credit payments	£480m	£320m
<b>Total</b>	<b>£1,880m</b>	<b>£1,420m</b>

Source: Landman Economics tax-transfer model

This implies that the boost to net wages is equal to the overall increase in gross wages minus the improvement in the public finances (excluding increases in employer NICs). If the NLW is increased based on current age coverage, i.e. employees aged 25 and over (Scenario 1), the increase in net wages is around £4bn - £1.4bn = **£2.6bn**. If the NLW is extended to employees aged 21 to 24 (Scenario 2), the overall increase in net wages (across all employees aged 21 and over) is around £3.3bn – £1.05bn = **£2.25bn**.

#### *An increase in the wage bill for employers*

The flipside of the increase in gross wages for employees is an increase in the wage bill for employers. Some of these employers will be in the public sector: calculations by Landman Economics using the 2016-17 FRS data suggest that the cost of increasing the NLW to two-thirds of average earnings across the public sector would be around £510m if increased to £9.63 for employees aged 25 and over, or £350m if the NLW were increased to £9.23 and extended to employees aged 21-24 as well as those aged 25 and over. Given that the overall increase in gross wage bill resulting from increasing the NLW is estimated at around £4.02 billion for employees aged 25 and over in Scenario 1, or £3.31bn for employees aged 21 and over in Scenario 2, this means that the increase in the wage bill for private sector employees is around £3.5 billion in Scenario 1, or £2.95 billion if the NLW in Scenario 2. In the short run this would result in a reduction in profits, an increase in product prices or a reduction in wages for workers further up the earnings distribution. In this report we have assumed that the statutory living wage results in a decrease in profits in the short term. In the longer term, the boost in demand may lead to an *increase* in profits through higher volumes of sales of goods and services.

### 3 Potential multiplier impacts on employment

To estimate the impacts of increasing the NLW on the UK macroeconomy it is necessary to make assumptions about the size of the fiscal **multiplier**. The relevant multiplier for the current report is a number capturing the extent to which increases in net incomes and the improvement in the government's fiscal balance arising from the introduction of a statutory living wage feed through into increases in GDP through increased economic activity among UK-based companies and workers.

An increase in the NLW to two-thirds of average earnings has three potential multiplier impacts on UK GDP:

- The *wages* impact: the increase in net incomes arising from the increase in gross wages should lead to increased consumer demand which has a positive multiplier impact on GDP.
- The *profits* impact: the reduction in net incomes arising from a decrease in profits may lead to reduced consumer demand which would have a negative multiplier impact on GDP.
- The *public finances* impact: the increase in income tax and NICs receipts and the reduction in benefit and tax credit spending leads to an improvement in the public finances which means that government spending does not need to be cut as badly as current plans suggest. If the improvement in the public finances is matched by an increase in government departmental and investment spending – so that the overall government fiscal position is unchanged – then there should be a positive multiplier impact on GDP.

The UK's Office of Budget Responsibility makes the following assumptions about the size of the multiplier in the UK in its economic forecasting model<sup>4</sup>, with the size of the multiplier depending on where the increase (or decrease) in demand comes from. Table 2 below shows the OBR's multiplier assumptions. In general the multiplier impact of increases in public spending is higher than the multiplier impact of tax cuts or benefit increase, largely because consumers tend to save rather than spend a portion of the extra disposable income which they gain from the tax cut, which reduces the multiplier effects.

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<sup>4</sup> The OBR model is the same model that HM Treasury uses.

**Table 2. OBR multiplier assumptions**

<b>Source of demand increase (decrease)</b>	<b>multiplier</b>
Reduction (increase) in VAT	0.35
Reduction (increase) in personal tax and NICs	0.3
Increase (reduction) in benefit/tax credit spending	0.6
Change in government spending on departments	0.6
Change in government capital investment spending	1.0

Source: OBR (2015), Box 3.2

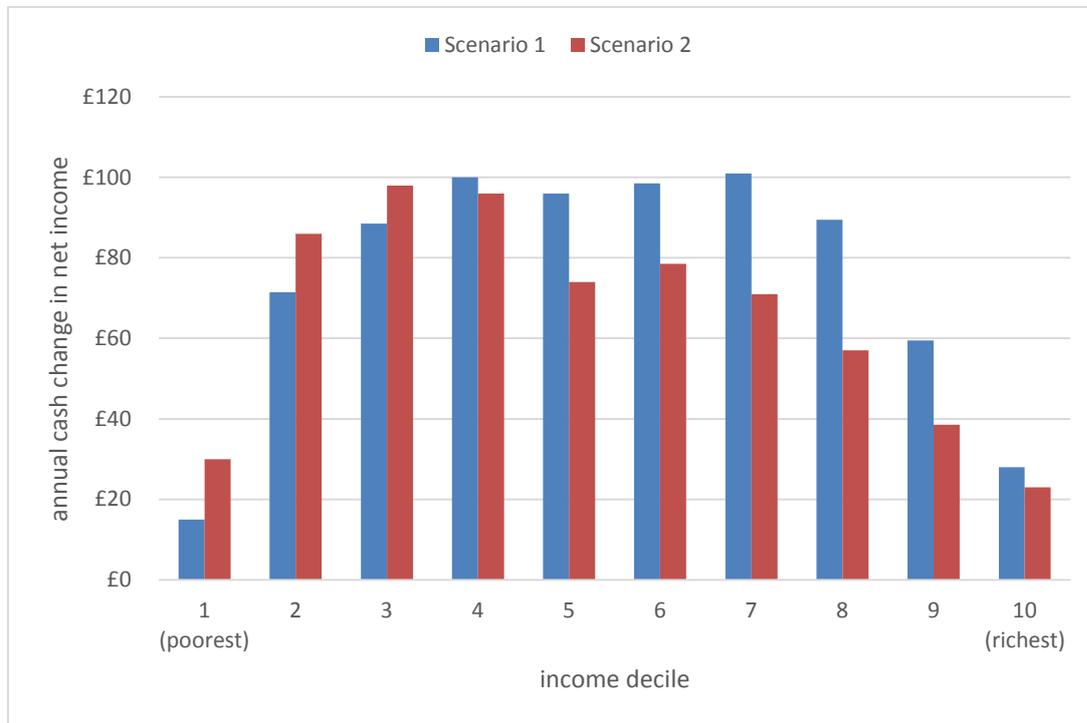
Using the OBR multiplier assumptions, the macroeconomic effects of increasing the NLW to two-thirds of average hourly earnings can be calculated by estimating the change in GDP arising from increased wages, reduced profits and improved government finances, and then converting this into a number of (full-time equivalent) extra jobs. The calculation proceeds as follows:

**The wages impact:** as explained previously, increasing the NLW to two-thirds of average earnings leads to an increase in net incomes for low-paid workers of £2.55 billion for employees aged 25 and over in Scenario 1 (at an hourly rate of £9.63), or £2.25 billion if NLW coverage is extended to employees aged 21-24 in Scenario 2 (using an hourly wage rate of £9.23). In terms of the multiplier effects, these are likely to depend to a large extent on how much the income of poorer households is boosted compared to richer households. Research from the Bank of England (Bank of England 2012, pp338-339) suggests that the marginal propensity to consume out of income is higher for lower income households than for high income households<sup>5</sup>. Meanwhile, Figure 1 below showing the cash impact of increasing the NLW to two-thirds of average earnings shows that the cash impact of the increase is highest for individuals and families in the middle of the income distribution (deciles 4 to 7), in Scenario 1 (the blue columns in the Figure). If the coverage of the NLW is extended to 21-24 year olds (Scenario 2), then the distributional impacts are more progressive, with the biggest impact in deciles 2 through 4 (the red columns in the Figure).

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<sup>5</sup> Specifically, the Bank of England research (based on a household survey carried out by NMG Consulting) suggests that the reduction in consumption for a negative income shock is around 78 pence for every pound of reduced income for households with gross incomes of less than £9,500 per year compared with 45 pence for every pound of reduced income for households with gross incomes of more than £50,000 per year.

**Figure 1. Distributional impact on UK individual and family incomes of increasing the NLW to two-thirds of average incomes: average annual cash changes in net income**

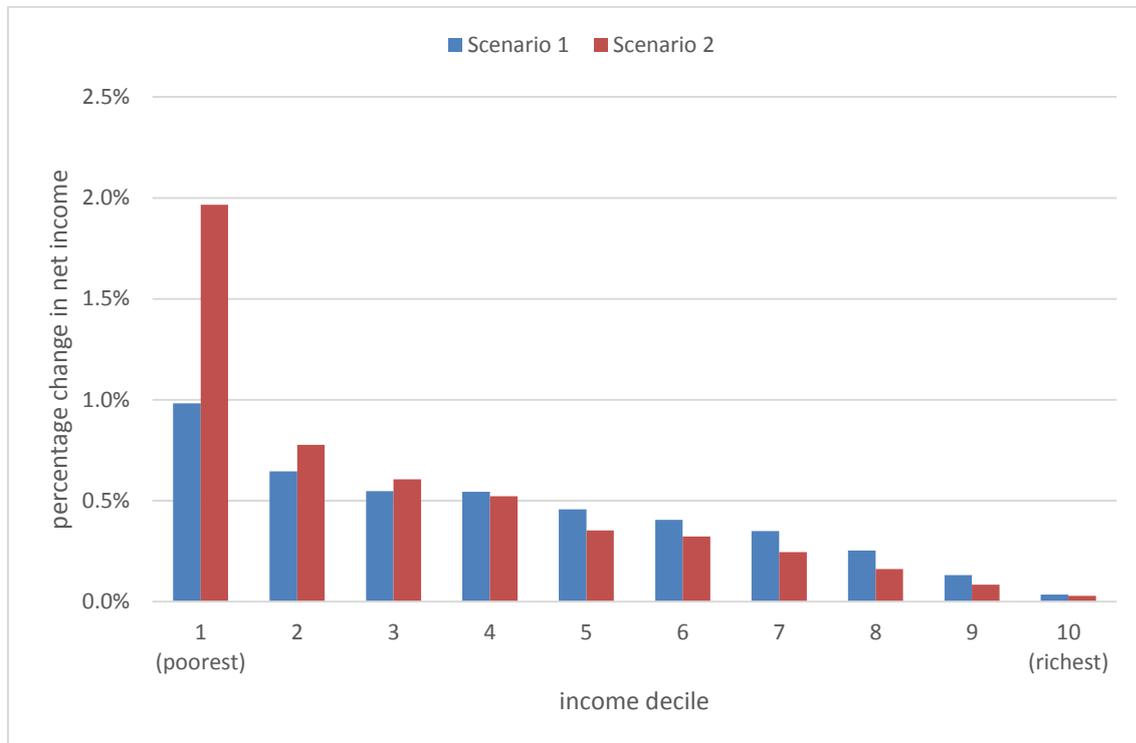


Source: Calculations using Landman Economics Tax-Transfer Model on 2016-17 FRS data. Income deciles and changes in income calculated at benefit unit level.

Figure 2 shows the distributional impacts of both scenarios for increasing the NLW as a percentage of net income for benefit units<sup>6</sup> in each decile. The Figure shows that both scenarios are progressive (i.e. percentage increases in net income are larger for benefit units lower down the income distribution) but Scenario 2, where the NLW is extended to 21-24 year olds, is more progressive than Scenario 1, with much bigger average gains in net income in the lowest decile in particular. This is mainly because 21-24 year olds are more likely to be located at the bottom of the income distribution than adults aged 25 and over.

<sup>6</sup> A 'benefit unit' is defined in the Family Resources Survey as a single adult or adult couple plus any dependent children who live with the adult(s).

**Figure 2. Distributional impact on UK individual and family incomes of increasing the NLW to two-thirds of average incomes: average percentage changes in net income**



Source: as Figure 1.

The OBR multiplier estimates suggest that increases in demand arising from cuts to income tax and National Insurance Contributions have a multiplier effect of 0.3 whereas increases in demand arising from benefit and tax credit increases have a multiplier effect of 0.6. Given that the distributional effect of increasing the NLW is more progressive than the effect of income tax and NICs cuts but less progressive than the impact of benefit and tax credit (or UC) increases, it makes sense to use a value for the multiplier impact of minimum wage increases that is somewhere in between the OBR’s multiplier estimates for tax cuts and its estimate for benefit increases. Therefore, I assume that the multiplier impact of increasing the National Minimum Wage and National Living Wage is 0.45.

A multiplier of 0.45 implies that the impact on GDP is as follows:

- $0.45 \times \text{£}2.55\text{bn} = \text{£}1.15\text{bn}$  (to the nearest £50m) if the NLW is increased for employees aged 25 and over (Scenario 1);
- $0.45 \times \text{£}2.25\text{bn} = \text{£}1.00\text{bn}$  (to the nearest £50m) if the increased NLW is extended to cover employees aged 21 and over (Scenario 2).

**The profits impact:** the impact of reduced profits on consumer demand is likely to be relatively minor, at least in the short run. A proportion of profits is paid out to

shareholders as dividends and it is likely that reductions in profits will result in reduced dividend payments. However, most company shares are held by institutional investors such as pension funds; in most cases there will be a considerable time lag between the dividends being paid and the accumulated pension funds being used by the relevant policyholder to purchase an annuity. Furthermore, a substantial proportion of UK company shares are held by institutions or individuals who are not based in the UK. For these two reasons, I have assumed here that the short-run impact of reduced profits on consumer demand is zero.

**The impact of improved government finances:** as shown in **Table 3** above, increasing the NLW to two-thirds of average earnings results in an improvement of between £1.9 billion and £2.4 billion in the public finances (receipts minus expenditure), depending on whether the increase is for employees aged 25 and over only, or whether it is extended to employees aged 21-24. If this extra income is used to increase public spending relative to current government plans, the OBR estimate of the multiplier impact depends on what the extra resources are spent on. I assume here that half of the improvement in the public finances is spent on capital investment (e.g. infrastructure) with the other half being used to increase other aspects of departmental spending. This implies a multiplier impact of 0.8 (halfway between the OBR's estimate for investment spending and its estimate for other spending) which means that the overall increase in GDP resulting from the improvement in the public finances arising from the increase in the NLW is estimated as follows:

- £970m x 0.8 = **£750m** (to the nearest £50 million) based on current NLW coverage of employees aged 25 and over (Scenario 1);
- £1,190m x 0.8 = **£950m** (to the nearest £50 million) if NLW coverage were extended to employees aged 21-24 (Scenario 2).

This implies that increasing the NLW to two-thirds of average earnings would result in a total GDP increase (via multiplier effects) of:

- £1.15bn (wages impact) + £0.75bn (public finances impact) = **£1.9bn** in Scenario 1;
- £1.55bn (wages impact) + £0.95bn (public finances impact) = **£2.5bn** in Scenario 2.

How many jobs is this macroeconomic stimulus likely to lead to? The most recent currently available estimates of the share in wages in GDP suggest that it is about 54 percent – implying that the increase in the total wage bill arising from the macroeconomic stimulus provided by the increase in the NLW is just over £1 billion (for a NLW covering employees aged 25 and over), or £1.35 billion (if coverage were extended to 21-24 year olds). Given current average (full-time) wages of around £29,600 per year, this implies:

- $(£1.0 \text{ billion} / 29,600) =$  approximately **35,000** extra full-time equivalent jobs in Scenario 1;
- $(£1.35 \text{ billion} / 29,600) =$  approximately **45,000** extra full-time equivalent jobs in Scenario 2.

However, it is possible that the overall positive macroeconomic employment effect from increasing the NLW could be higher than this. There is substantial evidence that fiscal multipliers are higher during an economic downturn (for example, IMF, 2013; Glocker *et al*, 2017). If the UK's exit from the EU causes a significant reduction in GDP (as is predicted by most leading forecasters)<sup>7</sup> then it is likely that the fiscal multiplier will be higher than the OBR estimates. In a similar vein, recent research by Blanchflower (2019) on the amount of underemployment in the UK economy (defined as the number of workers who would like to work more hours but are unable to find additional work at their current wage level) finds that there is substantial underemployment in the UK economy despite record levels of employment, suggesting that the UK is still significantly below full employment and, therefore, that the fiscal multiplier is higher than the OBR estimates would imply.

Furthermore, as explained in Chapter 4, the LPC's initial analysis of employment growth since the introduction of the NLW in 2016 suggests that the UK government was overly pessimistic about the potential negative employment impacts of minimum wage increases. So far, the NLW does not seem to have had any negative impacts, and indeed may even have had *positive* employment impacts (in line with the predictions from the imperfect competition model of the labour market outlined in the previous chapter). Of course, an increase in the NLW from the current target level of 60 per cent of median earnings to two-thirds of median earnings is a substantial increase, and particularly so if the NLW is extended to workers aged under 25. But even if it turns out that there is a small amount of job loss due to microeconomic factors if the NLW is raised to two-thirds of average earnings, the macroeconomic estimates here suggest that overall employment impact is likely to be at worst neutral, and perhaps slightly positive.

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<sup>7</sup> For example, HM Treasury (2017), Dhingra *et al* (2016), House of Commons Exiting the European Union Committee (2018).

## 4 Conclusions

The research in this report suggests that an increase in the National Living Wage from 60 per cent to two-thirds of average earnings would have substantial economic benefits. It would boost demand and economic growth, and would have a progressive impact on the distribution of individual and family incomes. Based on the employment impact of the National Living Wage since its introduction in 2016, there is little reason to think that increasing the NLW to two-thirds of average earnings would have a negative impact on employment. In practice, any negative impacts in particular sectors are likely to be more than cancelled out by gains in employment through macroeconomic stimulus.

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