Landman Economics

An alternative affordability measure for the National Minimum Wage

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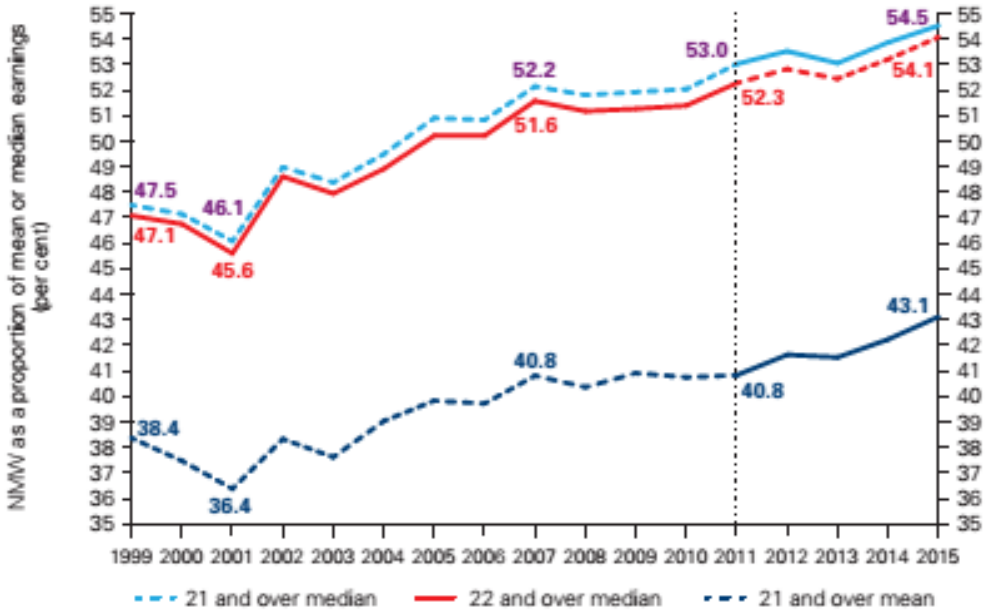
Introduction

Since the introduction of the National Minimum Wage (NMW) in 1999, the Low Pay Commission (LPC) has used a measure of the 'affordability', or 'bite', of the NMW as an important determinant of its recommendation as to the level at which the NMW should be set for various age groups of workers. The affordability measure which the LPC currently uses measures the NMW as a proportion of average (median) hourly wages for each particular age group (for example, workers aged 21 and over for the main rate). Based on this measure, the LPC calculates that the 'bite' of the NMW has increased over the last 15 years, from just under 46% of median earnings to just over 54% in 2015 (see Figure 1.3 reproduced from the 2016 report of the Low Pay Commission, below).

Figure 1.3: Bite of the Adult Rate of the National Minimum Wage, UK, 1999-2015



Source: Low Pay Commission (2016), *National Minimum Wage: Low Pay Commission Report Spring 2016*

However, there are good reasons for thinking that this measure of affordability is flawed because it is only based on wages, and pays insufficient attention to corporate profitability in the UK economy.

This short report develops an alternative measure of the affordability of the NMW based on total wages plus profits per employee in the UK economy, and calculates the value of this new measure over the period for which the NMW has been in operation, comparing it with the conventional measure based on wages only.

1 The case for a new measure of affordability

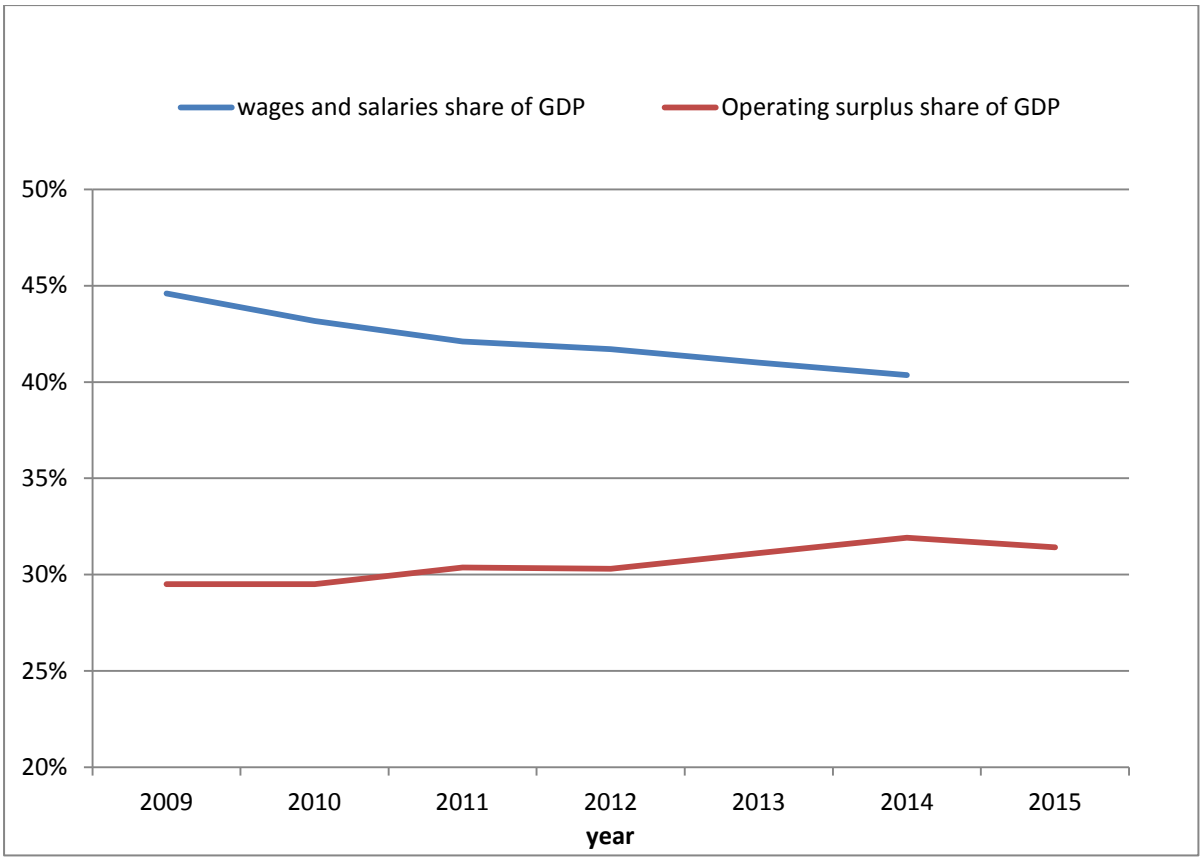
The LPC's conventional measure of minimum wage affordability is based on the NMW as a proportion of average earnings, without any consideration of profits. But in the type of labour market that has been prevalent since the 2008 economic crisis, the balance of strength between employers and employees has remained in favour of the employer despite a decline in unemployment lasting over four years. There is evidence of this from a number of sources:

- underemployment has grown by close to a million since the recession to reach 3.3 million people by 2015;
- the composition of the labour market has made a significant shift towards low-paid, insecure work;
- zero-hours contracts have expanded greatly as a proportion of total employment in recent years, and covered 2.5% of the workforce by 2015;
- self-employment (and in particular part-time self-employment) has grown as a proportion of the overall labour force since the 2008-09 recession;
- involuntary part-time and temporary work have increased markedly as a proportion of total employment since the recession.

The upshot of all these developments in the labour market is that increases in average earnings to which the bite of the minimum wage is pegged have remained at extremely moderate levels. However, at the same time, corporate profits as a proportion of national income have increased. In these circumstances changes in average earnings have not been a representation of the limits of affordability for employers but of the weakness of labour in the labour market.

Figure 1 demonstrates these trends by charting the two biggest components of national income – wages and salaries, and operating surpluses (profits) as a share of total Gross Domestic Product (GDP), since the introduction of the NMW in 1999. From 2001 onwards there was a reasonably consistent decline in the share of wages in GDP – from around 46.5 percent in 2001 to just above 40 percent in 2014 (unfortunately, data from 2015 are not available yet). Meanwhile, operating surpluses increased from around 28 percent of GDP in 2001 to around 31.5 percent by 2015. Hence there has been a clear shift from wages to profits. The thinking behind developing a new measure of affordability based on wages *plus* profits is that with profitability increasing, firms can afford to pay a higher minimum wage.

Figure 1. UK wages/salaries and operating surpluses as a share of GDP, 1999-2015



Source: ONS *Blue Book* 2015

2 Methodology

To produce a measure of affordability of the minimum wage which is not affected by weakness or strength of labour's bargaining power, it is necessary to measure the minimum wage in relation to not just average wages, but instead a wider measure of economic output which includes corporate profits. The widest measure of economic output, Gross Domestic Product at Factor Cost, is equal to:

wages *plus* companies' operating surpluses *plus* 'mixed' [self-employed] income.

Removing self-employed income from the equation (because self-employed people are not covered by the minimum wage), a better affordability measure can be expressed as:

Hourly minimum wage as a proportion of ((total wages + total operating surpluses) / total hours worked in the economy)

This contrasts to the traditional affordability measure which equals:

Hourly minimum wage as a proportion of (total wages / total hours worked in the economy)

This new affordability measure is not affected by changes in bargaining power of workers vis-a-vis firms. Reduced bargaining power leads to increased corporate operating surpluses at the expense of lower wages. Because the traditional affordability measure only includes wages and not operating surpluses, a certain level of minimum wage would become less affordable on that measure if bargaining power were to be reduced. Whereas, with an affordability measure which includes operating surpluses as well as wages in the denominator, affordability is unaffected by changes in bargaining power. Instead, affordability would be primarily driven by overall productivity (output per hour worked).

This report uses data from the ONS National Accounts to construct the new measure of minimum wage affordability, and estimates it from the introduction of the NMW in 1999 up to 2014 (ideally the measure would have been estimated up to and including 2015, but that is not possible at the present time because the ONS have not published information on total wages and salaries for 2015). All the measures are taken from the ONS's Blue Book which is the standard source of UK economic accounts data[1].

[1] As the 2015 *Blue Book* (the most recent at the time of writing) only provides data up to and including 2014, the data on total operating surpluses and Gross Domestic Product has been extended up to 2015 using the ONS's Time Series Explorer online tool. Unfortunately a 2015 figure for total wages and salaries was not available, so the affordability measures based on aggregate data in this report could only be calculated up to 2014.

For comparison, this report also calculates the LPC's preferred affordability measure, which is the hourly minimum wage as a proportion of average earnings as measured using the Annual Survey of Hours and Earnings (ASHE). The LPC uses *median* earnings as its main measure of average earnings, but I have also calculated affordability using *mean* earnings as this is closer to the calculation of affordability using aggregate data as explained above. An additional difference is that because the ASHE dataset used for the LPC measures includes information on the ages of employees in the dataset, the LPC affordability measures can be calculated excluding workers below the minimum age for the main rate of NMW (21 from 2010 onwards, 22 before that), whereas the aggregate measures defined above have to include all workers. This makes the aggregate measures slightly less accurate than the LPC measures but as shown below, the difference is not large.

For all the affordability measures, the National Minimum Wage rate used to calculate affordability is the adult rate (covering workers aged 21 and over since 2010; workers aged 22 and over before that).

3 Results

Trends in wage-based affordability measures

Figure 2 shows trends since 1999 in the affordability ("bite") of the National Minimum Wage, using three different measures:

1. Hourly minimum wage as a proportion of median hourly wages in ASHE (labelled "ASHE median" in the figure)
2. Hourly minimum wage as a proportion of mean hourly wages in ASHE ("ASHE mean")
3. Hourly minimum wage as a proportion of total wages and salaries in the economy divided by total hours worked in the economy ("aggregate wages/hours")

Figure 2. Affordability of the National Minimum Wage using wage-based measures, 1999-2015 (percentage)

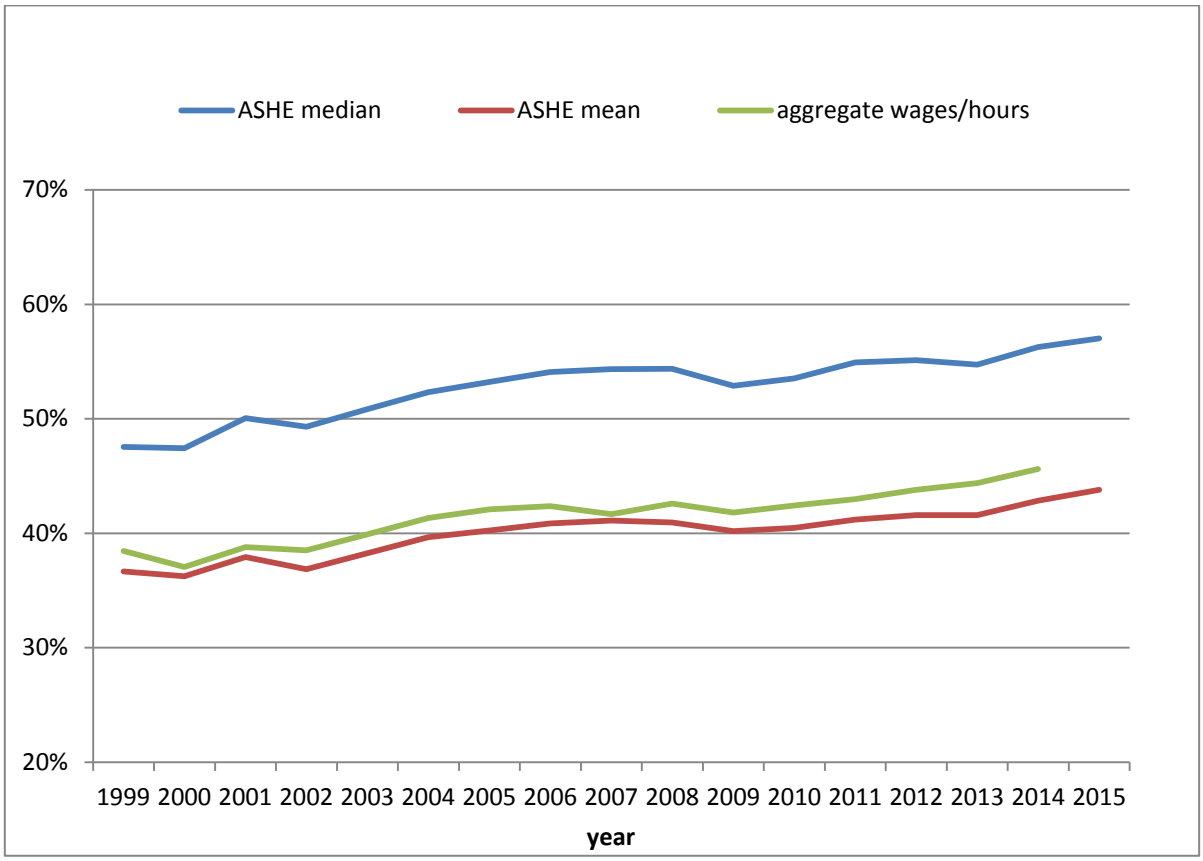


Figure 2 shows that on the ASHE median-based affordability measure, the NMW rose from 47.6% of median earnings in 1999 to 54.4% in 2008, before falling back slightly in the 2008-09 recession. From 2010 onwards the NMW continued to rise, up to 57% of median earnings in 2015.

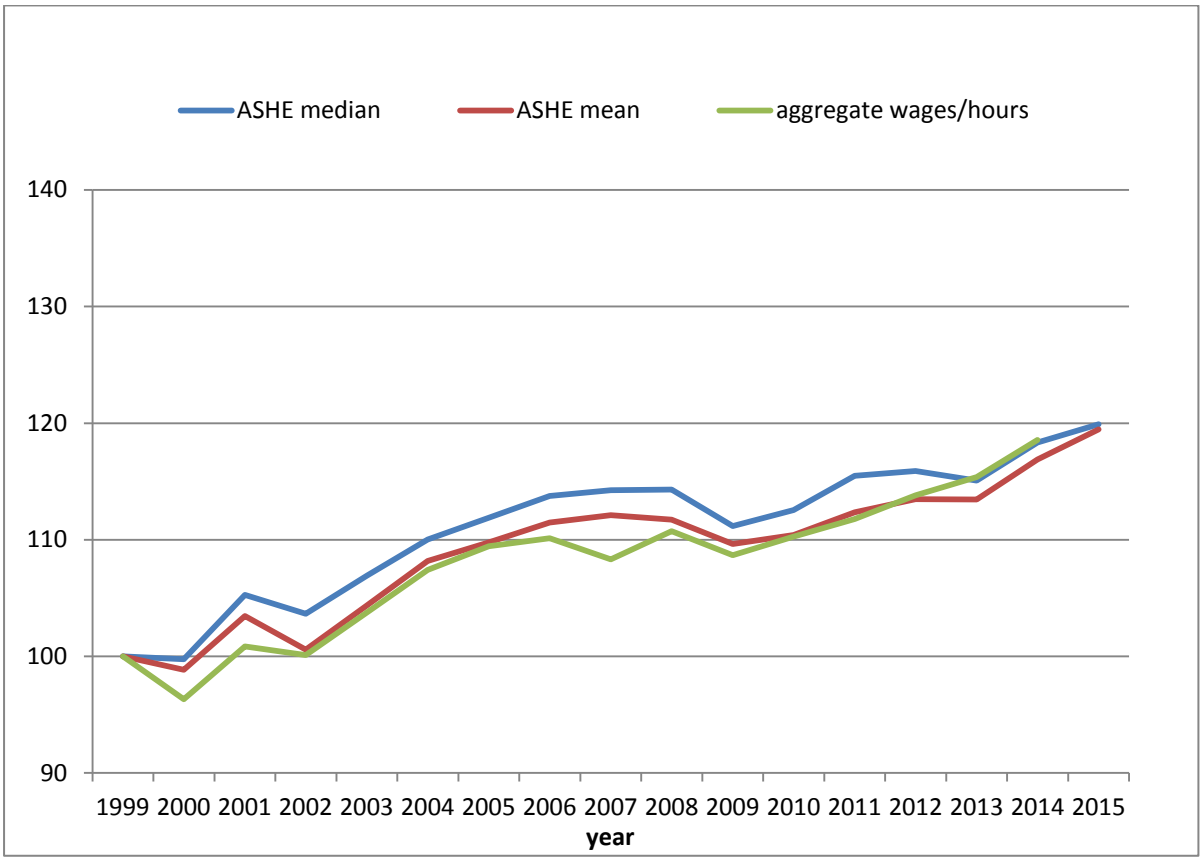
Based on ASHE *mean*-based earnings, the NMW is more affordable, but the broad pattern of increased bite over time is the same, with the NMW rising from 36.7% of mean wages in 1999 to 41.1% in 2007, and then to 43.8% in 2015.

Meanwhile, on the affordability measure based on aggregate wages divided by total hours worked, the bite of the NMW is slightly higher than for the ASHE mean-based measure, but tracks that measure relatively closely. Bite rose from 38.5% of mean wages in 1999 to 45.6% in 2014.

Figure 3 shows trends in each of the three wage-based affordability measures based solely on wages, indexed to 100 in 1999 to show the percentage increase in "bite" of the NMW (i.e. the percentage decrease in affordability) between 1999 and 2015. The ASHE mean-based measure and the aggregate wages/hours measure track each other very closely over most of the series. The increase in bite is slightly higher for most of the time period since 1999 under the ASHE median-based measure, but not

by much. Between 1999 and 2014, bite increased by around 19 percent under the aggregate wages/hours measure, which was almost exactly the same as the ASHE median-based measure, and about 2 percentage points higher than the ASHE mean-based measure.

Figure 3. Change in affordability of the National Minimum Wage using wage-based measures, 1999-2015 (indexed, 1999=100)



Comparing the measure of affordability based on wages plus profits with the measure based on wages only

Figure 4 shows the measure of NMW affordability where the total wage bill is divided by the total number of hours worked (labelled "aggregate wages/hours") and compares it the measure where the total wage bill *plus total operating surpluses* is divided by total hours worked (labelled "(wages + profits)/hours").

Obviously, because the denominator for the wages and profits-based measure of affordability is larger than for the wages (only) based measure, "bite" of the wages and profits based measure is much lower. The NMW increases from 22.6% of (wages plus profits) divided by total hours worked in 2000 to 25.1% in 2006.

However, between 2006 and 2014, "bite" on the wages and profits-based measure is almost constant, only increasing from 25.1% to 25.5%. On the wage-based measure, bite increases from 42.4% to 45.6% over the same period. Clearly, the trend in affordability looks very different when affordability is calculated using profits and wages, compared to the more traditional calculation based on wages only.

Figure 4. Comparison of affordability of the National Minimum Wage using aggregate measure based on wages only versus measure based on wages and profits, 1999-2014 (percentage)

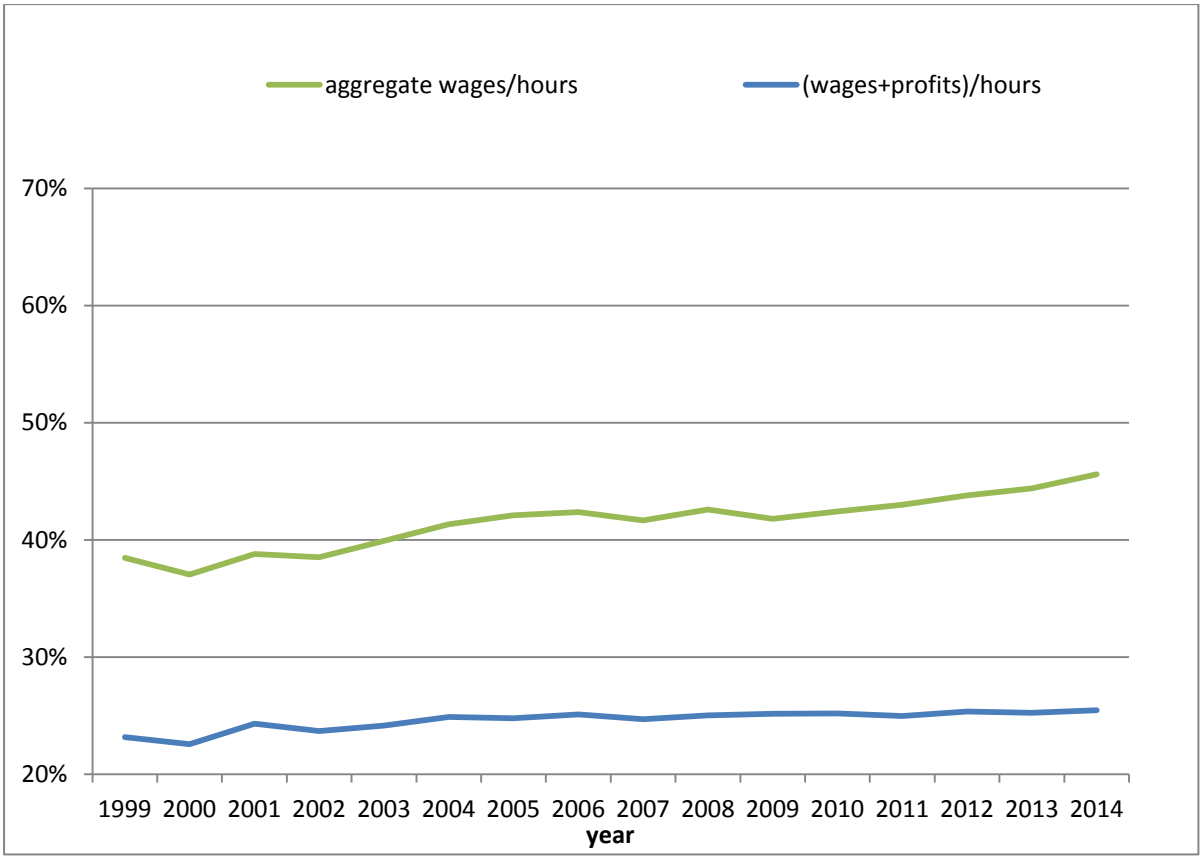
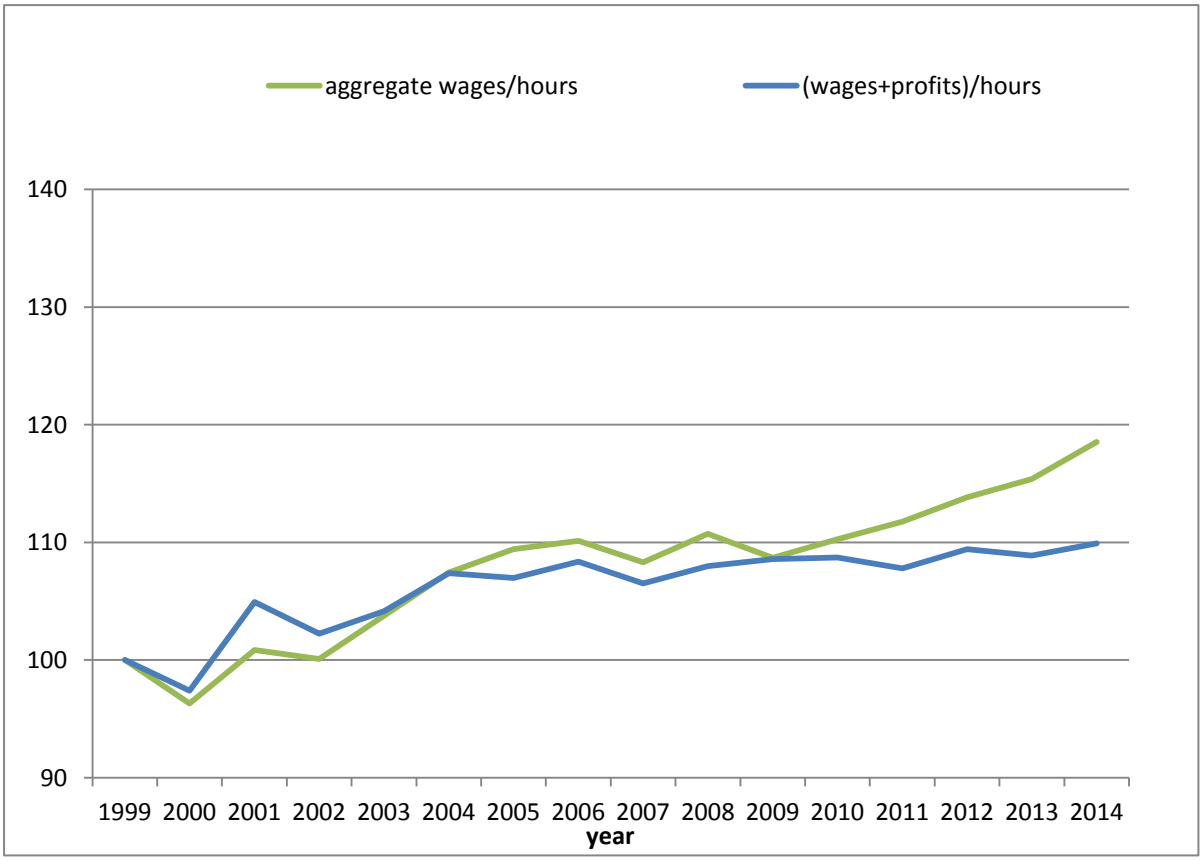


Figure 5 below plots the two measures of affordability indexed to 100 in 1999 (as in Figure 3). The Figure shows that between 2000 and 2002, the NMW was slightly more affordable based on the wage-based measure than the wage and profits-based measure, whereas between 2005 and 2008 the opposite was the case. However, the overall percentage decline in affordability (i.e. increase in bite) between 1999 and 2009 was almost exactly the same using both measures. However, from 2010 onwards there is a clear divergence: the wage-based measure rises significantly from an index of 108.7 to 118.5, whereas the wages and profits-based measure rises only very slightly, from 108.6 to 109.9. This is a clear indication that increases in the

National Minimum Wage are much more affordable when company profits are taken into consideration.

Figure 5. Change in affordability of the National Minimum Wage using aggregate measure based on wages only versus measure based on wages and profits, 1999-2014 (indexed, 1999=100)



4 Conclusion

This report has shown that, when the affordability of the National Minimum Wage is calculated using a measure based on the NMW as a proportion of total wages plus operating surpluses divided by total number of hours worked, the minimum wage looks much more affordable over the last six years than it does when a conventional affordability measure based on the NMW as a proportion of average wages only is used. The bite of the NMW increased hardly at all between 2009 and 2014 using the wages-and-profits-based measure, compared to a significant increase in bite using the measure based solely on wages.

The difference between the two measures of affordability arises because profits as a share of GDP have risen significantly during the recovery from the 2008-09 recession, whereas wages have fallen as a share of GDP over the same period. In these circumstances, it seems sensible for calculations of the affordability of the NMW to take into account the ability of firms to pay higher increases in exchange for slightly lower profits. With the introduction of the National Living Wage for employees aged 25 and over in April 2016, at a significantly higher rate than the NMW for workers aged 21-24, using an appropriate affordability calculation becomes more important than ever before.