

Real Wage Changes on the JNCHES Pay Spine (Updated for August 2019 Inflation Release).

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This report provides independent calculations of the real-terms change in the value of the New JNCHES pay spine over a five-year and ten-year period.¹

In order to assess how the real value of earnings have changed across spine points, this report looks at changes in the real value of earnings at seven different pay spine points with 2008/09, 2009/10, and 2013/14 serving as baseline years. Calculating real changes in pay is not a trivial task due to the difficulty in measuring how prices faced by consumers change from one year to the next. In this report, I use three measures of price inflation - the consumer price index (CPI), the consumer price index including owner occupied housing costs (CPIH), and the retail price index (RPI) – to determine whether nominal wage changes at different spine points have kept pace with prices.

Table 1 looks at how the real value of wages have changed between the baseline year 2008/09 and the years 2013/14, 2018/19, and 2019/20. As the baseline implementation date is in August, I normalize wages using the prices prevailing in August 2018 as measured by the CPI.

Tables 2 and 3 repeat the exercise using 2009/10 and 2013/14 as baseline years respectively.

Table 1: Real Changes in Pay (CPI – 2008/09 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)		
		2008/09	2013/14	2018/19	2019/20	2013/14	2018/19
3	17,133	15,478	16,146	16,443	-9.7	-5.8	-4
11	21,158	19,075	19,202	19,268	-9.8	-9.2	-8.9
21	28,290	25,449	25,482	25,486	-10	-9.9	-9.9
31	38,019	34,145	34,189	34,194	-10.2	-10.1	-10.1
41	51,098	45,833	45,892	45,899	-10.3	-10.2	-10.2
51	68,671	61,538	61,618	61,628	-10.4	-10.3	-10.3

¹ The New JNCHES pay spine is a set of annual salary values that are used by 146 higher education institutions in the UK to set pay grade ranges for all staff up to, but not including, professorial and equivalent roles. The pay spine was originally 51 points but from 1 April 2020 will start at point 3. The values of the pay spine are subject to negotiation between employers, represented by UCEA, and the five HE trade unions.

Table 2: Real Changes in Pay (CPI – 2009/10 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)		
		2009/10	2013/14	2018/19	2019/20	2013/14	2018/19
3	16,962	15,478	16,146	16,443	-8.7	-4.8	-3.1
11	20,946	19,075	19,202	19,268	-8.9	-8.3	-8
21	28,007	25,449	25,482	25,486	-9.1	-9	-9
31	37,639	34,145	34,189	34,194	-9.3	-9.2	-9.2
41	50,585	45,833	45,892	45,899	-9.4	-9.3	-9.3
51	67,983	61,538	61,618	61,628	-9.5	-9.4	-9.3

Table 3: Real Changes in Pay (CPI – 2013/14 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)	
		2013/14	2018/19	2019/20	2018/19	2019/20
3	15,478	16,146	16,443	4.3	6.2	
11	19,075	19,202	19,268	0.7	1	
21	25,449	25,482	25,486	0.1	0.1	
31	34,145	34,189	34,194	0.1	0.1	
41	45,833	45,892	45,899	0.1	0.1	
51	61,538	61,618	61,628	0.1	0.1	

As can be seen from the above, when wages in 2013/2014, 2018/19, and 2019/20 are compared with wages on the same spine point in either 2008/09 or 2009/10 they are lower in real terms. For instance, the wages on spine points 11 through 51 in August 2018 are between 9.2% and 10.3% lower than they were in August 2008 in real terms. However, the wage for spine point 3 has declined much less than wages on other spine points. In 2018/19, the real wage on spine point 3 was 4.8% lower than its August 2008 level, while the nominal wage increase between August 2018 and 2019 exceeds the inflation forecast leaving wages 3.3% lower than their level eleven years earlier when measured in real terms. Looking at Table 3, one can see, at least for higher spine points, that real wages have changed very little between 2013/14 and subsequent years. For the lowest spine point, the real wage has increased over this period eroding some, but not all, of the losses between 2008/09 and 2013/14.

Below, I repeat the above analysis using the CPIH index rather than the CPI to deflate wages and calculate real changes. The main difference between the two being that the CPIH includes owner occupied housing costs.

Table 4: Real Changes in Pay (CPIH – 2008/09 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)		
		2008/09	2013/14	2018/19	2019/20	2013/14	2018/19
3	16,858	15,525	16,146	16,458	-7.9	-4.2	-2.4
11	20,818	19,133	19,202	19,286	-8.1	-7.8	-7.4
21	27,836	25,526	25,482	25,510	-8.3	-8.5	-8.4
31	37,408	34,249	34,189	34,226	-8.4	-8.6	-8.5
41	50,276	45,972	45,892	45,942	-8.6	-8.7	-8.6
51	67,567	61,726	61,618	61,684	-8.6	-8.8	-8.7

Table 5: Real Changes in Pay (CPIH – 2009/10 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)		
		2009/10	2013/14	2018/19	2019/20	2013/14	2018/19
3	16,712	15,525	16,146	16,458	-7.1	-3.4	-1.5
11	20,638	19,133	19,202	19,286	-7.3	-7	-6.6
21	27,595	25,526	25,482	25,510	-7.5	-7.7	-7.6
31	37,084	34,249	34,189	34,226	-7.6	-7.8	-7.7
41	49,840	45,972	45,892	45,942	-7.8	-7.9	-7.8
51	66,982	61,726	61,618	61,684	-7.8	-8	-7.9

Table 6: Real Changes in Pay (CPIH – 2013/14 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)	
		2013/14	2018/19	2019/20	2018/19	2019/20
3	15,525	16,146	16,458	4	6	
11	19,133	19,202	19,286	0.4	0.8	
21	25,526	25,482	25,510	-0.2	-0.1	
31	34,249	34,189	34,226	-0.2	-0.1	
41	45,972	45,892	45,942	-0.2	-0.1	
51	61,726	61,618	61,684	-0.2	-0.1	

Using the CPIH rather than the CPI to deflate wages does little to alter the conclusions of Tables 1-3. CPIH inflation has been somewhat more modest than CPI, meaning that the real terms losses calculated using the CPIH are slightly smaller. Despite this, real terms losses over the previous ten years still hover between 7-9% for those not on the lowest spine point, and between 2-3% for those on spine point 3.

Finally, Tables 7-9 use the RPI to deflate nominal wages and calculate real changes for each spine point over time.

Table 7: Real Changes in Pay (RPI – 2008/09 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)		
		2008/09	2013/14	2018/19	2019/20	2013/14	2018/19
3	18,040	16,241	16,146	16,306	-10	-10.5	-9.6
11	22,278	20,016	19,202	19,108	-10.2	-13.8	-14.2
21	29,787	26,705	25,482	25,274	-10.3	-14.5	-15.2
31	40,031	35,830	34,189	33,909	-10.5	-14.6	-15.3
41	53,802	48,094	45,892	45,517	-10.6	-14.7	-15.4
51	72,305	64,575	61,618	61,114	-10.7	-14.8	-15.5

Table 8: Real Changes in Pay (RPI – 2009/10 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)		
		2009/10	2013/14	2018/19	2019/20	2013/14	2018/19
3	18,367	16,241	16,146	16,306	-11.6	-12.1	-11.2
11	22,682	20,016	19,202	19,108	-11.8	-15.3	-15.8
21	30,327	26,705	25,482	25,274	-11.9	-16	-16.7
31	40,757	35,830	34,189	33,909	-12.1	-16.1	-16.8
41	54,776	48,094	45,892	45,517	-12.2	-16.2	-16.9
51	73,615	64,575	61,618	61,114	-12.3	-16.3	-17

Table 9: Real Changes in Pay (RPI – 2013/14 Baseline)

Spine Point	Baseline Year	Level of Pay (Real Terms £2018)			Real Change in Pay (%)	
		2013/14	2018/19	2019/20	2018/19	2019/20
3	16,241	16,146	16,306	-0.6	0.4	
11	20,016	19,202	19,108	-4.1	-4.5	
21	26,705	25,482	25,274	-4.6	-5.4	
31	35,830	34,189	33,909	-4.6	-5.4	
41	48,094	45,892	45,517	-4.6	-5.4	
51	64,575	61,618	61,114	-4.6	-5.4	

Deflating wages using the RPI, rather than the CPI, does change the picture. The RPI measure of inflation tends to be higher than the rate suggested by the CPI. In fact, in all years subsequent to 2009, the RPI has risen at a higher rate than the CPI/CPIH. This discrepancy means that the real falls over the previous ten years are around twice as large when measured with the RPI. Similarly, the wage gains for those at the bottom spine point between 2013/14 and 2019/20 disappear when the RPI is used, while the wage stagnation experienced by those on other points over the same period turn into real wage falls of around 5%.

A second point to note is that the real term reductions in wages between 2009/10 and any of the outcome years are smaller, when the CPI/CPIH are used, than the same changes when 2008/09 is used as the baseline year. The reverse holds true for the RPI where falls in real wages appear larger when 2009/10 is used as the baseline year rather than 2008/09. The reason for this is that the RPI fell by around 1% between August 2008 and August 2009 meaning that the nominal wage increases, across all spine points, between the two years translate into slightly larger real wage increases when the RPI is used to deflate wages. The opposite is true for CPI/CPIH, which rose between 1-2% over the same time suggesting a real wage loss between 2008 and 2009. Because of this discrepancy between the CPI and RPI,

real wages are at their highest in 2009 when the RPI is used whereas they reach a peak in 2008 if the CPI or CPIH are used to convert nominal wages into real ones.

As the estimates of wage decline are much larger when the RPI is used to deflate wages it is worth noting that the use of the RPI is very controversial. An independent review by the UK statistics authority published in 2015 concluded that the RPI was statistically flawed and that the Office for National Statistics should move towards using the CPIH as the main measure of inflation while using the CPI in the meantime². As well as this, the RPI lost its status as a national statistic in March 2013 due to perceived flaws in the way that average prices are calculated for individual items.

Notes & Data Sources

A Previous version of this report was released prior to the August 2019 inflation figures for the CPI, CPIH, and RPI being released by the ONS. The previous report used inflation forecasts for the CPI and RPI from the OBR in place of actual inflation figures. These forecasts are available at <https://obr.uk/forecasts-in-depth/the-economy-forecast/inflation/>

All data used in this report are publicly available. For price indices including the CPI, CPIH, and the RPI. <https://www.ons.gov.uk/economy/inflationandpriceindices>

A previous version of this report used inflation forecasts for August 2019. These are available at <https://obr.uk/forecasts-in-depth/the-economy-forecast/inflation/>

² UK Consumer Price Statistics: A Review by Paul Johnson (2015) available at <https://www.statisticsauthority.gov.uk/archive/reports---correspondence/current-reviews/uk-consumer-price-statistics---a-review.pdf> gives a good discussion of the flaws of the RPI and how the CPI is preferable.