

Compendium

Contributions to earnings growth in the UK: 2018

Composition of earnings growth, based on contributors using the Annual Survey of Hours and Earnings; basic pay, variable pay and hours. Broken down by sex, sector, region and country.

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1 . Main points

- The growth of mean weekly earnings near the median was 2.6% in the year to April 2018, up from 2.1% in the previous year, with weekly nominal pay (excluding bonuses and overtime) as the main driver.
- Earnings growth for males is more dependent on variable factors, such as hours worked, bonuses and overtime.
- The difference between earnings growth near the upper quartile for the public sector compared with the private sector is closed through higher contributions from variable elements of pay (bonuses and overtime).
- Across regions and countries in 2018, Yorkshire and The Humber faced the largest contributions to the growth of mean weekly earnings near the median from nominal pay excluding bonuses and overtime at 3.3%.

2 . Introduction

In recent years, the labour market has shown signs of continued tightening as the unemployment rate has fallen to historical lows while the employment rate has continued to increase.

In such labour market conditions we would expect to see higher earnings growth, as there are fewer unemployed people competing for each vacancy. As such, this would be expected to add upward pressure to wages with employers expected to pay higher wages to attract labour. Despite the tightness that has been observed in the labour market of late, there has been a wage puzzle in the UK labour market as this tightness has not so far shown up in a sustained increase in wage inflation.

[The latest Annual Survey of Hours and Earnings estimates](#) show that median gross nominal weekly earnings rose by 3.5% in the year to April 2018, up from 2.1% in the previous year. This article describes the growth in mean nominal weekly earnings in recent years for particular portions of the distribution of earnings growth. This is distinct from the growth of the median of the wage distribution given in the headline Annual Survey of Hours and Earnings (ASHE) statistics¹. Earnings growth here is broken down into underlying contributions in two ways. Firstly, it is broken down by type of earnings:

- basic pay: Nominal paid weekly wages or salary
- variable pay: Overtime pay, Incentive pay (bonuses), shift pay, and other variable pay types

Secondly, it is compared with the growth in paid weekly hours worked.

Growth in mean weekly earnings at the median was 2.6% in the year to April 2018, up from 2.1% in the previous year. This is the highest rate since late 2008 (Figure 1), although this is still somewhat subdued compared with pre-recession rates.

This article builds upon analysis used in the [May 2015 Economic review](#) that aims to uncover how the sources of earnings growth change across the distribution. It also uses its methodology to enable comparison of contributors to earnings growth.

To provide breakdowns of contributions, the distribution of the growth of weekly earnings has been divided by 20-quantiles (ventiles). The growth of mean earnings for the 5th, 10th, and 15th ventile groups have been used to estimate the first, second (median) and third quartiles, respectively. This process enables contributions to be estimated at each quartile and represents 5% of the population, rather than just a single individual observation for each quartile. This method helps retain representation, as three different variables are being analysed and negates the skewed compositional effect that would occur by using a single observation of one variable.

To differentiate them from standard estimates of the quartiles of the growth rates this article uses the terms “growth of mean weekly earnings at the quartile” and “growth of mean weekly earnings at the median.”

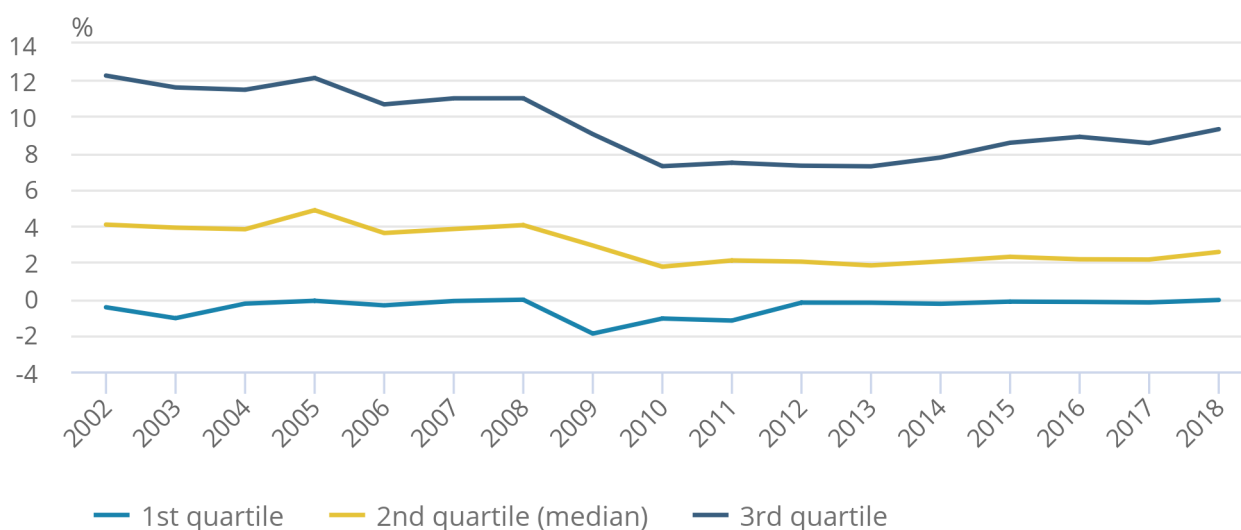
The growth of mean earnings constructed for these three groups can then be broken down into contributions from basic pay and variable pay by constructing those statistics for the same groups. Similarly, we can compare against growth in hours for each of those groups.

Figure 1: Earnings growth is at its highest since the 2008 economic downturn

Growth in average weekly earnings by earnings growth quartile, UK, 2002 to 2008

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Growth in average weekly earnings by earnings growth quartile, UK, 2002 to 2008



Source: Office for National Statistics - Annual Survey of Hours and Earnings

Notes:

- 1. 2018 data are provisional.

Figure 1 shows that earnings growth at the first quartile has been flat for around 20 years. Possible explanations for this are that there is an over-supply of low-skilled workers or that productivity has been weak especially in low-skilled sectors. This has been addressed before in a recent [distributional analysis of ASHE](#).

In contrast, the growth of mean earnings at the third quartile was 9.3% in the year to April 2018. This is its highest since 2008, picking up from 8.5% in the previous year. Other analysis in this release suggests that those with highest earnings growth are moving between jobs. As these employees are more active in the labour market, low unemployment is likely to be pushing up wages.

Figure 1 suggests that nominal weekly earnings growth has still not recovered to the pre-downturn rates for the majority of workers, whilst those in the bottom quartile have returned to the flat growth seen since the turn of the millennium. The following section looks at the contributions to weekly earnings growth from basic pay, variable pay and hours. And the remainder of this article examines how those contributions differ across, sex, sector, and regions and country

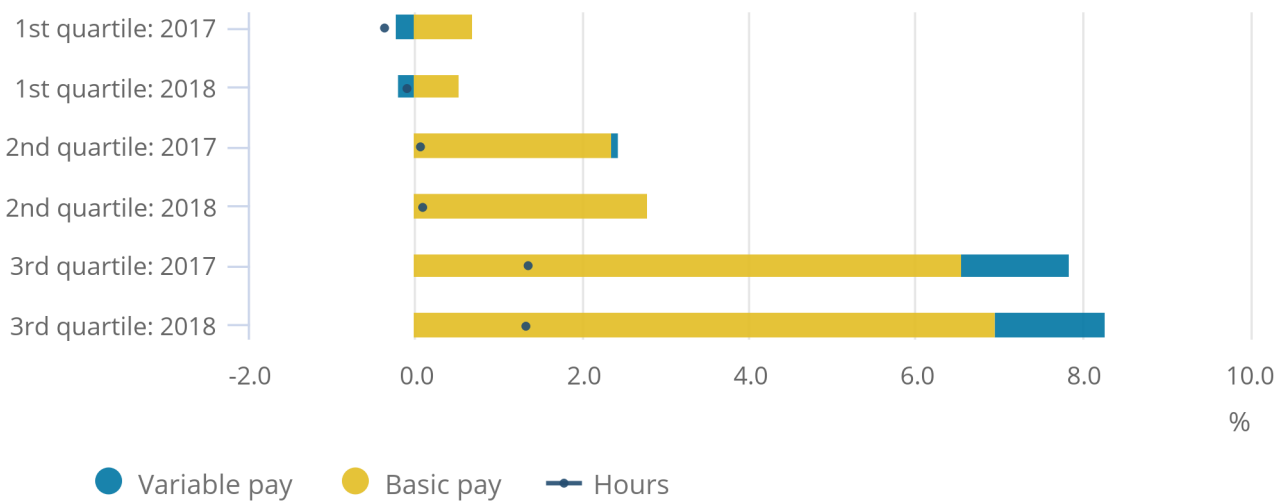
3 . Contributions to growth in weekly earnings

Figure 2: Growth in basic pay is the largest contributor to overall earnings growth

Contributions to growth of UK mean weekly earnings in 2017 and 2018 by earnings growth quartile

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Contributions to growth of UK mean weekly earnings in 2017 and 2018 by earnings growth quartile



Source: Office for National Statistics - Annual Survey of Hours and Earnings

Notes:

1. 2018 data are provisional.
2. The chart shows the growth of mean weekly earnings for selected portions of the earnings growth distribution.
3. The sum of the contributions split may differ from total wage growth. Decomposing growth rates by components never fully sums to its totals due to statistical interaction terms.

In 2018, the growth in mean weekly earnings at the median was 2.9%, up from 2.5% in the previous year and its highest since 2008. The breakdown of weekly earnings growth shown in Figure 2 demonstrates that basic pay acts as the primary contributor for the median increase in weekly earnings.

Variable pay played a more prominent role in earnings growth at either ends of the earnings growth distribution. For example, at the first quartile the contribution to growth from variable pay was negative 0.2% , while the contribution from basic pay remains positive at 0.5%. The third quartile exhibits larger contributions from all elements, whilst remaining dominated by basic pay at 7.0% . Variable pay contributes 1.3%. Hours increased by 1.3% for this group, however, so a higher average rate of pay was not the only driver of the increase in earnings.

Changes in the growth rates of average weekly earnings between 2017 and 2018 have been driven primarily by basic pay rather than variable pay at all three quartiles.

It might be that for those on higher wages, there is a strong income effect. As wages rise beyond a certain point, employees may then choose to work fewer hours and retain the same income, substituting income for leisure time. In other words, at a certain high wage level, employees will use additional income to reduce hours and increase leisure. As this analysis focuses on earnings growth and not income groups, it is not known for sure what income groups the wage growth quartiles represent.

4 . Contributions to growth in weekly earnings by sex

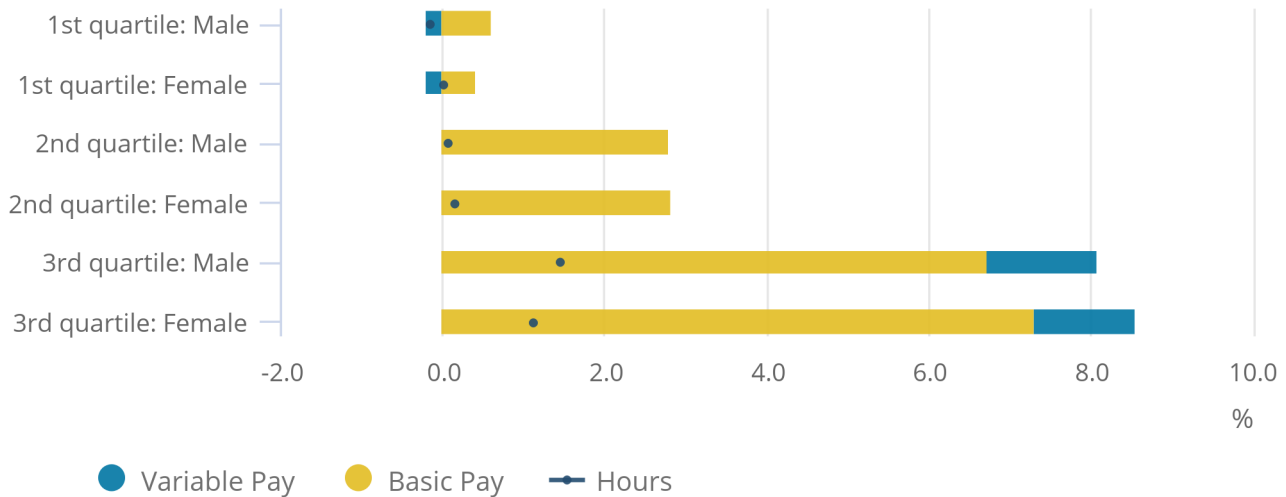
[Previous analysis of the gender pay gap](#) found it to have fallen to 8.6% among full-time employees. This is defined as the difference in average hourly earnings between men and women. This only looks at descriptive analysis, as factors have not been controlled to allow for like-for-like comparisons. Figure 3 shows that mean weekly earnings at the median for males increased by 2.8% in the year to April 2018, compared with 2.9% for females.

Figure 3: Variable elements contribute more to the earnings growth of males than of females

Contributions to growth of UK mean weekly earnings in 2018, by earnings growth quartile and sex

Figure 3: Variable elements contribute more to the earnings growth of males than of females

Contributions to growth of UK mean weekly earnings in 2018, by earnings growth quartile and sex



Source: Office for National Statistics - Annual Survey of Hours and Earnings

Notes:

1. 2018 data are provisional.
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The basic pay contribution to earnings growth is higher for females at the median and third quartile. At the median, basic pay makes up almost the total earnings growth, and in 2018, females experienced marginally higher earnings growth at 2.9%. The only place where hours play a negative role in earnings growth is for males at the first quartile, where a reduction in hours worked is holding back earnings.

5. Contributions to growth in weekly earnings by sector

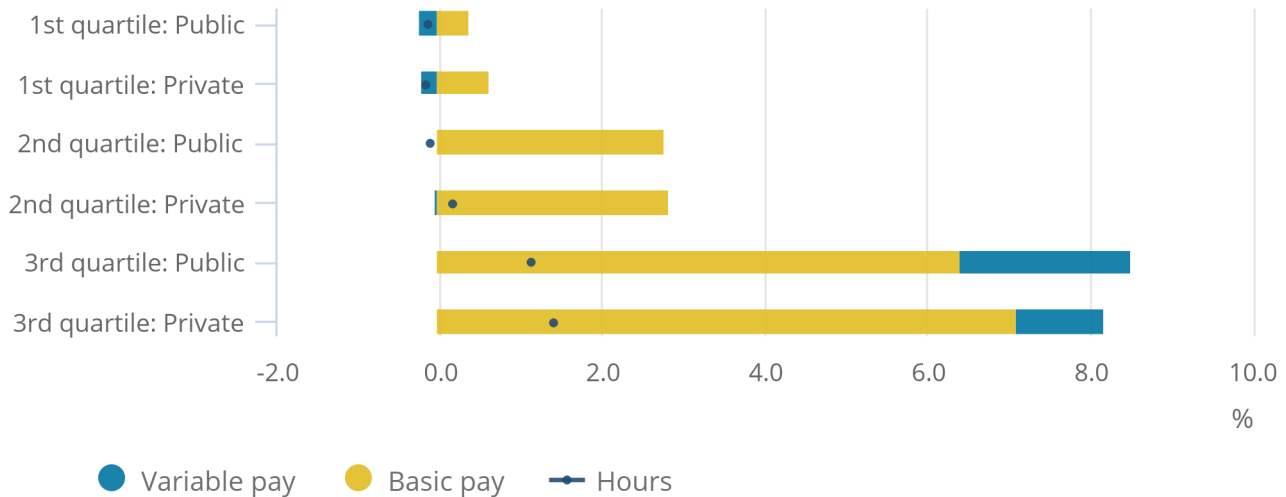
Wages traditionally differ between the public and private sectors, with public sector wages being restricted by the pay freeze since 2010. Variable pay may also be more prevalent in the private sector if bonuses and overtime pay are more common than in the public sector. It should be noted that this analysis focuses on contributions to earnings growth and not contributions to earnings levels.

Figure 4: Variable pay plays a notable role in explaining public sector earnings growth

Contributions to UK average weekly earnings growth in 2018, by earnings growth quartile and sector

Figure 4: Variable pay plays a notable role in explaining public sector earnings growth

Contributions to UK average weekly earnings growth in 2018, by earnings growth quartile and sector



Source: Office for National Statistics - Annual Survey of Hours and Earnings

Notes:

1. 2018 data are provisional.
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At the lower quartiles, first and second, the contributions from basic pay lead to the marginally higher growth in mean weekly earnings for the private sector in comparison with the public sector; with contributions at the median of 2.9% and 2.7%, respectively. The public sector shows a far larger contribution to earnings growth from variable pay, suggesting more growth in performance-related pay or overtime pay, for those experiencing the highest pay growth. Compared with the private sector, one possible explanation is that the public sector wage constraint has affected basic pay and employees may have opted to work overtime to increase their earnings (paid as variable pay).

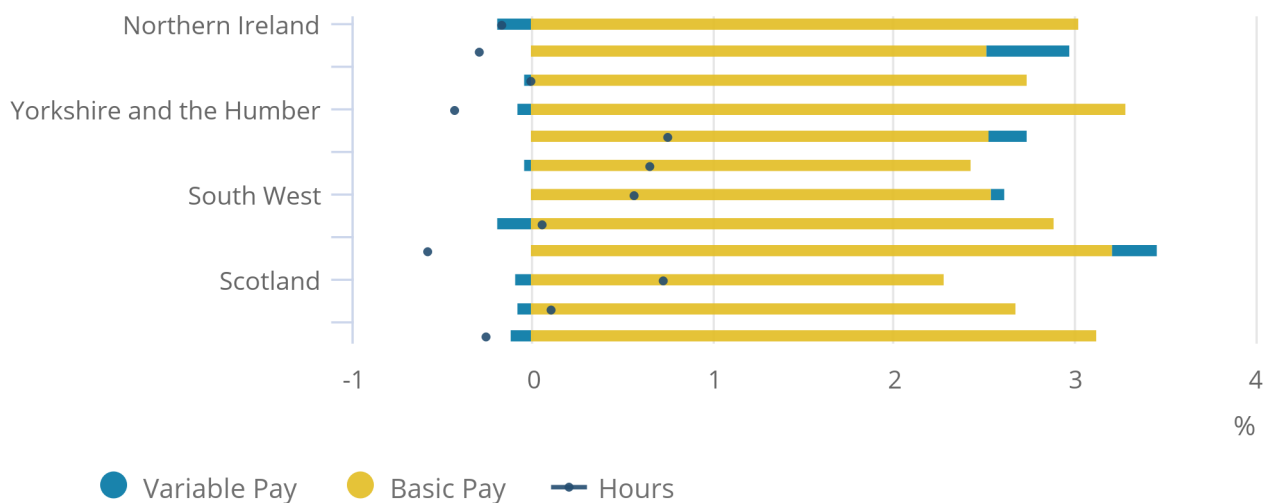
6 . Contributions to growth in weekly earnings by region and country

Figure 5 : There is large regional and country variation of contributors to earnings growth

Contributions to the growth of mean weekly earnings at the median

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Contributions to the growth of mean weekly earnings at the median



Source: Office for National Statistics - Annual Survey of Hours and Earnings

Notes:

1. 2018 data are provisional.
2. The chart shows the growth of mean weekly earnings for the portions of the earnings growth distribution proximate to the median.
3. The sum of the contributions split may differ from total wage growth. Decomposing growth rates by components never fully sums to its totals due to statistical interaction terms.

This regional and country breakdown looks at the growth at the median for each region and country for the year leading up to April 2018, and what can be seen is that all three elements are noticeably different.

There is a high degree of variation between regions and countries. London, and the South East have visibly different contributions to earnings growth from hours, at negative 0.3% and 0.1%, respectively. Hours play a negative role in London but a positive one in the South East.

In Scotland hours play a larger role than in Wales with contributions to earnings growth at 0.7% and negative 0.3%, respectively. However, these two countries experience similar basic pay contributions, at 2.2% and 2.5% , respectively.

Yorkshire and The Humber had the highest contribution from basic pay at 3.3%. around 0.2% higher than London. Wales faced the highest positive contribution from variable pay across regions and countries at 0.5%. The West Midlands faced the highest positive contribution from hours across regions and countries at 0.7%.

7 . Conclusion

The relatively stagnant nature of the first quartile of growth in weekly earnings apparent in Figure 1, can be seen in Figure 2 to be due to contributions from variable pay and hours. Where downward pricing of basic pay may be sticky, employers may seek to offset this and minimise cost constraints through fewer demanded hours and lower incentive pay as opposed to cutting staff. A reduction of hours and variable pay, is what has been to some extent holding back the earnings growth of the employees that have had negative or 0% earnings growth.

At the upper ends of the growth distribution, females face higher contributions from basic pay in comparison with males. Growth in earnings for males is slightly more reliant on variable factors (variable pay and hours) than for females. Despite evident differences in the make-up, total values of growth for all quartiles remain notably similar between males and females. Looking at how these trends fare when controlling for industry would be appropriate.

One conclusion that can be drawn from this analysis is that earnings growth as a whole is not being driven by increased working time and variable pay due to a flexible labour market and the growth of the “gig economy”, as is sometimes assumed. Basic pay remains the most important contributor.

Across all splits in contributions to growth, even in regions and countries where growth is smaller, the common theme shows basic pay as the majority driver in average weekly earnings growth. Growth near the median is almost exclusively dominated by this variable. Basic pay here consequently proves the strongest indicator for average growth in an employee’s weekly earnings growth. Higher basic pay could be the result of promotions or job changes, a theme picked up elsewhere in this publication.

8 . Authors

Henry Moore and Samuel Olokesusi, Office for National Statistics.

9 . Quality and methodology

This nominal analysis focuses on the most recent ASHE data [Employee earnings in the UK: 2018](#).

The Annual Survey of Hours and Earnings (ASHE) is based on a 1% sample of employee jobs taken from HM Revenue and Customs Pay As You Earn (PAYE) records. Information on earnings and hours is obtained from employers and treated confidentially. ASHE does not cover the self-employed or employees not paid during the reference period.

An analysis of the variation in the levels of earnings provides useful insight into distributional outcomes in the UK. By necessity, this work focuses on employees who reported being in employment in consecutive periods – which permits the calculation of earnings growth rates.

The analysis uses weekly pay as the variable of interest. This variable includes basic pay (normal weekly rate of pay) and variable pay (incentive pay (bonuses), overtime payments and other variable pay). It reflects the actual gross earnings of UK employees, independent of the number of hours worked. Pensions and benefits in kind are excluded from this analysis.

This analysis uses a standard filter – employees on adult rates of pay whose earnings have not been affected by absence.

All employees aged 16 years and over – with no upper age limit – are included in the analysis. This analysis is to show wage changes for the median (second quartile) as well as the first and third quartile from this range.

Growth rates illustrate the earnings change on the year. For example, the 2018 growth rate corresponds to the growth employees experienced between their April 2017 and 2018 earnings. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

Caution should be taken when drawing conclusions from comparisons across the time series because ASHE estimates were subject to discontinuities in 2006 and 2011.

Throughout this analysis, filters have been applied to the ASHE dataset, they are: sex, public or private sector, Nomenclature of Territorial Units for Statistics: NUTS 1 regions and countries.

Contributions to earnings analysis using Annual Survey of Hours and Earnings (ASHE) provisional 2018 data and previous ASHE datasets.