

## FEATURE

Hywel Daniels  
Office for National Statistics

# Patterns of pay: results of the Annual Survey of Hours and Earnings, 1997 to 2007

## SUMMARY

The main source for information on the distribution of earnings in the Office for National Statistics is the Annual Survey of Hours and Earnings (ASHE). It is the most detailed and comprehensive source of national information on levels of earnings, make-up of total earnings and distribution of the earnings of individual employees.

The first few sections of this article present summary analyses (overall medians, make-up and distribution of earnings) from the results of the 2007 ASHE, comparing them with the 2006 results (and where relevant the 1997 to 2006 back series). While these figures are of interest, they can hide wide variations between different industries, occupations, regions and age groups. The concluding sections of the article give summary analyses of each of these factors.

The main source for information on the distribution of earnings in the Office for National Statistics (ONS) is the Annual Survey of Hours and Earnings (ASHE). It is the most detailed and comprehensive source of UK information on:

- levels of earnings (separately for type of worker and for gender)
- make-up of total earnings (split between basic pay and other components), and
- distribution of the earnings of individual employees (the extent to which they are dispersed around the median)

It focuses on medians rather than means and on the distributions of paid hours worked (in total and on overtime).

More details on the methodology for the survey were published in November 2004 on the National Statistics website at [www.statistics.gov.uk/cci/article.asp?id=985](http://www.statistics.gov.uk/cci/article.asp?id=985)

The first few sections of this article present summary analysis (overall medians, make-up and distribution of earnings) from the results of the 2007 ASHE, comparing them with the 2006 results (and where relevant with the 1997 to 2006 back series). While these estimates are of interest, they can hide wide variations between different industries, occupations, regions and age groups. The concluding sections of the article give summary analyses of each of

these breakdowns.

The results presented in this article mainly relate to the median. This is preferred to the mean for earnings as it is less affected by extreme values and the skewed distribution of earnings data. The median is the value below which 50 per cent of employees fall. However, the means are still available in the annual published results.

Since the 2004 survey, supplementary information has been collected to improve coverage and make the survey more representative. This includes employees who have either changed or started new jobs between sample selection from HM Revenue & Customs records and the survey reference period in April. In 2005, a new questionnaire was introduced bringing significant improvement to the quality of the results for the 2005 survey. From 2006, the Labour Force Survey (LFS) has moved from using seasonal quarters to calendar quarters. As ASHE uses LFS data in the calculation of aggregation weights, it was necessary to move from using data taken from the LFS spring quarter to LFS quarter two. In addition, in 2006, ASHE moved to the ONS standard for geographic areas using Output Areas as the building block to higher level geographic breakdowns.

In March 2007, ONS released information on its statistical work priorities over the period 2007–08. ONS announced that the sample size of ASHE was to be reduced by 20 per cent. ASHE results for

2007 are based on approximately 142,000 returns, down from 175,000 in 2006. The impact of this change has been minimised by reducing the sample in an optimal way, with the largest sample reductions occurring in industries where earnings are least variable. The sample cut does not affect Northern Ireland; neither does it affect a number of organisations with an agreement to provide information electronically.

For 2004, results are available that exclude supplementary information, to be comparable with the back series generated by imputation and weighting of the 1997 to 2003 New Earnings Survey (NES) data. From 2004 to 2006, results are available on the same basis (they all have the 2004, 2005 and 2006 changes incorporated into them). The methodological changes made in 2007 have been taken back to 2006 so that 2006 and 2007 results are comparable. This means that, by producing two versions of 2004 results and two versions of 2006

results, ONS is able to produce a continuous series of growth rates over this period.

Both sets of 2004 and 2006 results are included in tables supporting this article that can be found on the National Statistics website at [www.statistics.gov.uk/statbase/product.asp?vlnk=14123](http://www.statistics.gov.uk/statbase/product.asp?vlnk=14123)

### Summary results for full-time employees

Median gross weekly earnings for full-time employees on adult rates working a full week in April 2007 were £457 (see **Figure 1**). At £394, the median gross weekly earnings of full-time women on adult rates, whose pay for the pay period was not affected by absence, increased by 2.8 per cent compared with a 2.9 per cent rise for men (to £498). Over the last ten years, however, median gross weekly earnings for full-time women have increased significantly more than for full-time men

(48.6 per cent compared with 39.6 per cent, respectively).

Median gross annual earnings of all full-time employees on adult rates who have been in the same job for at least a year were £24,000 for the 2006/07 tax year. Median gross annual pay for full-time women was £20,500 compared with £26,300 for men.

Median hourly earnings excluding overtime of all full-time employees were £11.34 in April 2007, representing an increase of 2.9 per cent since April 2006. Full-time female employees saw an increase in median hourly earnings of 0.3 percentage points more than that for men (3.1 per cent compared with 2.8 per cent).

There has been a slight fall since 1997 in the median total paid hours worked per week by employees in full-time employment and for whom weekly paid hours were reported (37.5 in 2007 compared with 37.9 in 1997). In April 2007, men worked 39.0 paid hours per week and women worked 37.0 paid hours per week, unchanged on the equivalent figures for 1997.

### Pay differences between men and women

Various methods can be used to measure the earnings of women relative to men. ONS prefers to use hourly earnings excluding overtime for full-time employees. Including overtime can skew the results because men work relatively more overtime than women. Including part-time employees could have a similar effect because women make up a much bigger proportion of part-time employees than men.

The hourly earnings excluding overtime were £10.46 for full-time women on adult rates whose pay for the pay period was unaffected by absence and £11.96 for men. The gender pay gap was 17.4 per cent in 1997 and has narrowed steadily since then, to reach its lowest point of 12.6 per cent in 2007 (see **Figure 2**). The gender pay gap for mean hourly earnings excluding overtime is wider than for medians and has fallen from 20.7 per cent to 17.2 per cent over the same time period.

When measured using median hourly earnings excluding overtime, the gender pay gap has narrowed by more than a quarter in the ten years since 1997.

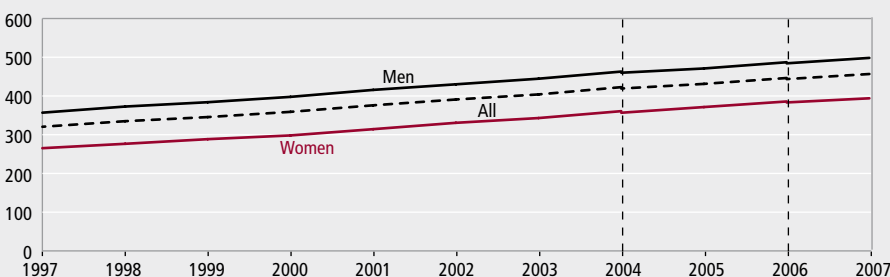
Although mean hourly pay excluding overtime provides a useful comparison of men's and women's earnings, it does not reveal differences in rates of pay for comparable jobs. This is because such measures do not highlight the different employment characteristics of men and

**Figure 1**

### Median gross weekly earnings of full-time employees: by gender,<sup>1</sup> April 1997 to April 2007

United Kingdom

£ per week



**Notes:**

1 Full-time employees on adult rates whose pay for the survey period was unaffected by absence. Vertical lines represent discontinuities in 2004 and 2006 ASHE results.

Source: Annual Survey of Hours and Earnings

**Figure 2**

### Pay gap between women's and men's hourly earnings,<sup>1</sup> April 1997 to April 2007

United Kingdom

Percentages

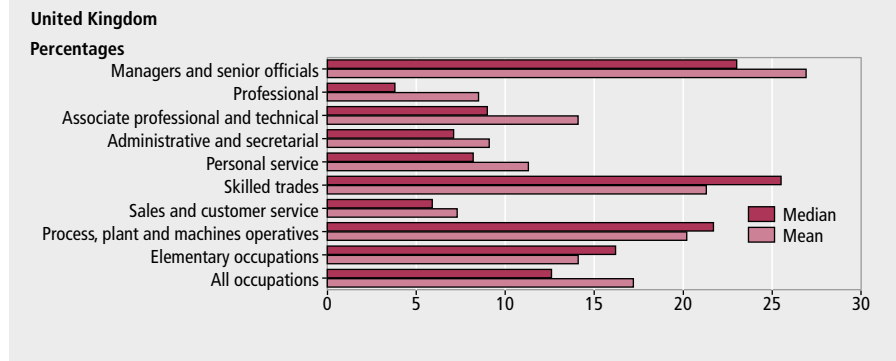


**Notes:**

1 Hourly earnings excluding overtime for full-time employees on adult rates, whose pay for the survey period was unaffected by absence. Vertical lines represent discontinuities in 2004 and 2006 ASHE results.

Source: Annual Survey of Hours and Earnings

**Figure 3**  
**Pay gap between women's and men's hourly earnings:**  
**by occupation,<sup>1</sup> April 2007**

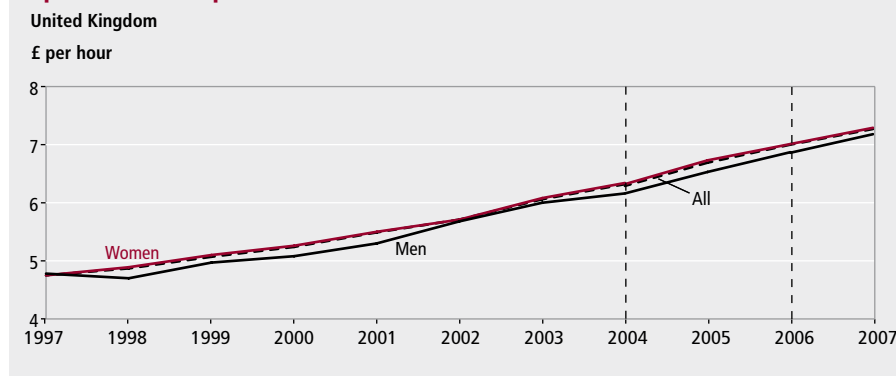


**Notes:**

1 Hourly earnings excluding overtime for full-time employees on adult rates, whose pay for the survey period was unaffected by absence by Standard Occupational Classification (SOC) 2000.

Source: Annual Survey of Hours and Earnings

**Figure 4**  
**Median hourly earnings of part-time employees: by gender,<sup>1</sup>**  
**April 1997 to April 2007**



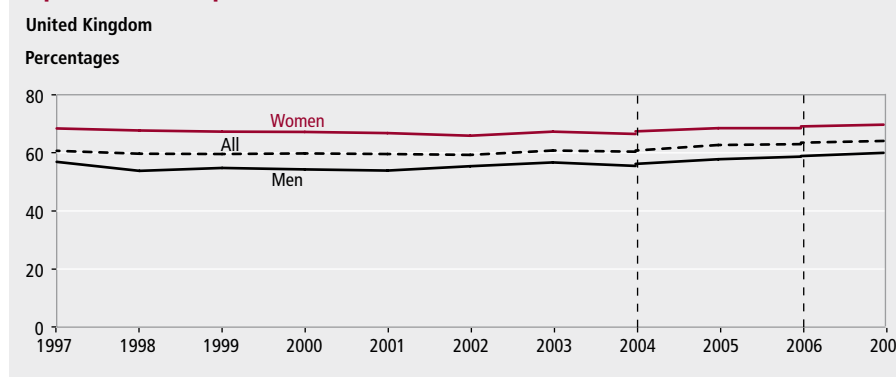
**Notes:**

1 Hourly earnings excluding overtime for part-time employees on adult rates whose pay for the survey period was unaffected by absence.

Vertical lines represent discontinuities in 2004 and 2006 ASHE results.

Source: Annual Survey of Hours and Earnings

**Figure 5**  
**Ratio of part-time to full-time median hourly earnings,<sup>1</sup>**  
**April 1997 to April 2007**



**Notes:**

1 Hourly earnings excluding overtime for employees on adult rates whose pay for the survey period was unaffected by absence.

Vertical lines represent discontinuities in 2004 and 2006 ASHE results.

Source: Annual Survey of Hours and Earnings

women, such as the proportion of each gender in different occupations and their length of time in jobs.

Figure 3 shows the median and mean gender pay gaps for 2007 broken down by the Standard Occupation Classification (SOC) 2000 major occupation groups. The median gender pay gap is narrowest for 'Professional occupations' (3.8 per cent) and widest for 'Skilled trades occupations' (25.4 per cent). The narrowest mean gender pay gap is for 'Sales and customer service occupations' (7.3 per cent) and the widest is for 'Managers and senior officials' (26.8 per cent).

The differences between median and mean gender pay gaps reflect the extent to which high earners skew the earnings distribution for men or women. For example, the higher mean pay gap relative to median for professional occupations reflects a small number of very high earning males in the distribution, whereas the lower mean pay gap relative to median in skilled trades occupations is due to the female mean being skewed by a relatively larger proportion of high earners in an occupation group with a small number of women.

Regional and age group analyses of the pay difference between the sexes are included later in the article.

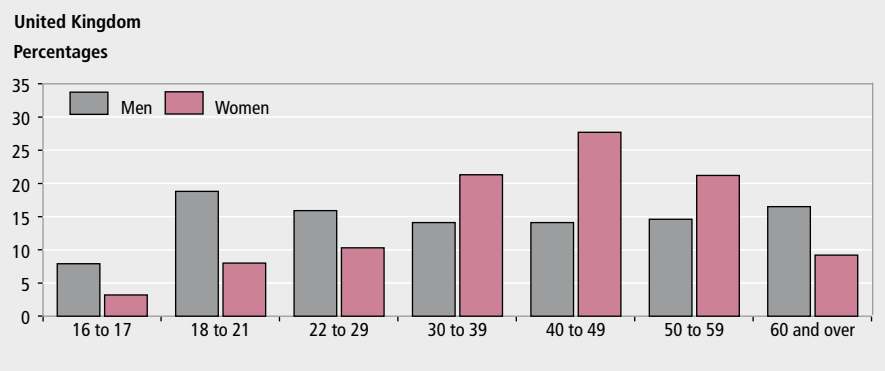
**Summary results for part-time employees**

Part-time employees earned a median hourly rate excluding overtime of £7.27 in April 2007, an increase of 3.8 per cent over the year. For part-time men, the increase was 4.6 per cent over the year to £7.18, while for part-time women it was 4.0 per cent to £7.29. Since 1997, female employee hourly rates have remained above the levels for male employees (see Figure 4) with little change to the pay gap during this period.

There has been a slight increase in the ratio of part-time to full-time median hourly earnings excluding overtime since 1997. Median hourly earnings in 2007 excluding overtime of part-time workers were 64.1 per cent of those for full-time workers (compared with 60.7 per cent in 1997). For part-time men they were 60.0 per cent of full-time male earnings (compared with 56.9 per cent in 1997) and 69.7 per cent for part-time women (compared with 68.4 per cent in 1997) (see Figure 5).

The proportion of part-time male employees in the total workforce rose from 3.7 per cent to 5.8 per cent between 1997 and 2007, but is still well below the proportion of part-time female employees, which rose from 19.5 per cent to 20.8 per cent over the same period.

**Figure 6**  
**Distribution of part-time employees: by gender and age group,<sup>1</sup>**  
**April 2007**



**Notes:**

1 Part-time employees on adult rates whose pay for the survey period was unaffected by absence. Results for 16 to 17 year olds include employees not on adult rates of pay.

Source: Annual Survey of Hours and Earnings

Part-time female median hourly pay is higher than part-time male hourly pay partly due to a higher proportion of females working part-time throughout their careers. Figure 6 shows the distribution of part-time employees by gender and by age. It illustrates a higher proportion of females working part-time in the higher income age groups (aged 30 to 39 and aged 40 to 49). Male part-time working is higher in the younger age groups as well as in the 60 and over age group.

**The make-up of earnings**

ASHE splits gross weekly earnings into four components: overtime, payments by results/incentive payments, premium payments for shift work, and the residual – which includes basic pay and allowances. The first three elements vary quite considerably by type of worker.

The 2005 ASHE questionnaire introduced a discontinuity in the make-up of gross weekly earnings regarding payments by results/incentive payments and this change was taken back to 2004 results. ASHE results for 2004 to 2007 include incentive pay paid and earned in the pay period, but exclude payments made less often than every pay period. As a result of this change in definition, there is a lower proportion of payments by results for these years than for earlier years. Because of this, the amount of incentive pay earned in the pay period is understated. However, the estimates are improved because the new definition results in greater consistency, as the data reported will not depend on the return date of the questionnaire or when bonuses are paid, as in previous years.

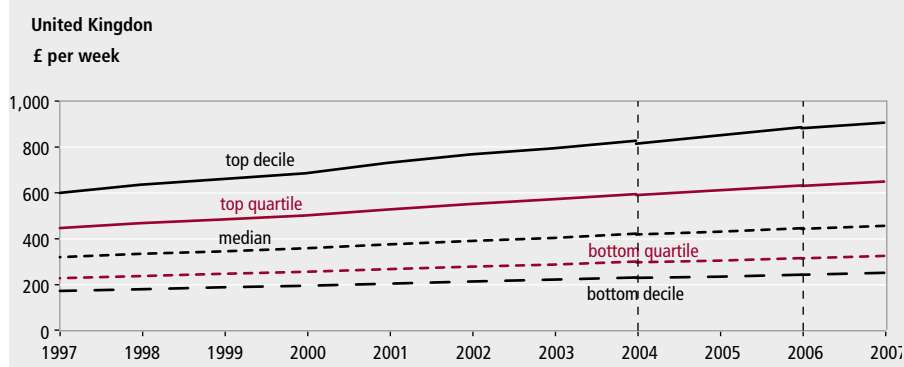
The proportion of additional payments for full-time male employees was higher

than that of their female counterparts over the period 1997 to 2007.

**The distribution of earnings**

Figure 7 displays the distribution of gross weekly earnings among full-time employees for the years 1997 to 2007. The median level of gross full-time weekly earnings in 2007 was £457 per week. This is lower than the mean, £550, since the latter is boosted by the number of people at the top end of the distribution with extremely high earnings. For 2007, at the bottom of the distribution, a tenth of full-time employees earned less than £252 per week, whereas at the other end of the scale a tenth earned more than £906 per week. The ratio of the highest to the lowest decile for gross weekly earnings (3.6 in April 2007) gives a measure of the distribution of weekly pay. This measure has

**Figure 7**  
**Distribution of gross weekly earnings for full-time employees,<sup>1</sup>**  
**April 1997 to April 2007**

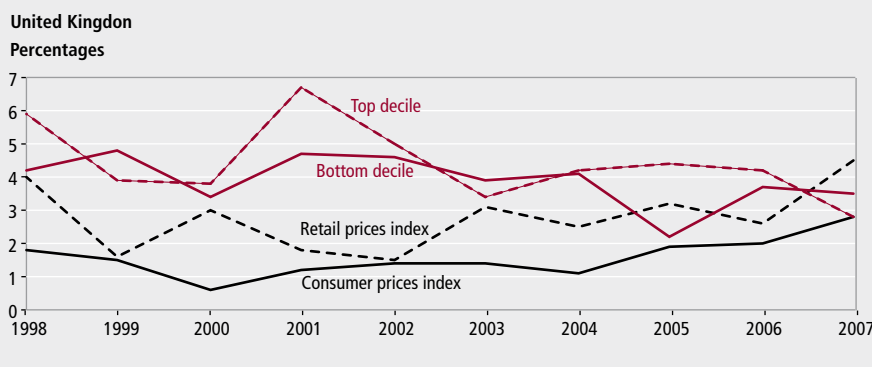


**Notes:**

1 Full-time employees on adult rates whose pay for the survey period was unaffected by absence. Vertical lines represent discontinuities in 2004 and 2006 ASHE results.

Source: Annual Survey of Hours and Earnings

**Figure 8**  
**Earnings growth in top and bottom deciles for full-time employees<sup>1</sup>**  
**and changes in RPI and CPI, April 1998 to April 2007**



**Notes:**

1 Full-time employees on adult rates whose pay for the survey period was unaffected by absence.

Source: Annual Survey of Hours and Earnings

been almost unchanged since 1997, when it was 3.5.

In the year to April 2007, gross weekly earnings of full-time employees in the bottom decile of the distribution grew faster than those in the top decile (3.5 per cent against 2.8 per cent, respectively). Between 1998, when the National Minimum Wage was introduced, and 2007, the top decile increased by 42.5 per cent against a bottom decile increase of 39.7 per cent. **Figure 8** shows the pattern of growth in the top and bottom deciles of gross weekly earnings for full-time employees and for the retail prices index (RPI) and consumer prices index (CPI) since 1997. For most years since 1997, median gross weekly earnings of full-time employees at both the top and bottom end of the distribution increased above both the RPI and CPI.

## Results by industry

Median gross weekly earnings for full-time employees in April 2007 were highest in the 'Mining and quarrying' sector at £589. This was £15 per week more than the second highest, the 'Electricity, gas and water supply' sector. Over the period 1997 to 2007, 'Electricity, gas and water supply' and 'Financial intermediation' have also featured as the highest median gross weekly earning sector. The weekly earnings for the 'Mining and quarrying' and the 'Electricity, gas and water supply' sectors are boosted by longer paid hours worked by employees in these sectors relative to other sectors.

In 2007, the median gross annual earnings of £31,900 for the 'Electricity, gas and water supply' sector was more than double that of the 'Hotels and restaurants' sector which, for all the years 1997 to 2007, was the lowest paid sector.

The 'Financial intermediation' sector had the highest median hourly earnings excluding overtime for full-time employees (£15.38), followed by the 'Education' sector (£14.10). The mean gross annual earnings for the 'Financial intermediation' sector are significantly higher than that of any other sector because of the skewed effect of extremely high earners on the earnings distribution.

The 'Hotels and restaurants' sector had the lowest median gross weekly earnings. At £288, full-time employees' earnings were some £64 per week lower than the median for 'Agriculture, hunting and forestry' (the second lowest paid). Median hourly earnings excluding overtime for the 'Hotels and restaurants' sector were £6.77, once again lower than the 'Agricultural, hunting and forestry' sector (£7.59).

Median gross weekly earnings in manufacturing were 2 per cent higher than in services (gross weekly earnings of £461 and £452, respectively).

The broad industrial groupings described above can hide substantial variation within the sectors. ASHE, however, allows more detailed industrial analyses. For example, it is possible to identify the highest and lowest paid industry divisions (two-digit Standard Industrial Classification 2003). Such analyses reveal that, in addition to those employees noted earlier within the 'Mining and quarrying', 'Financial intermediation' and 'Electricity, gas and water supply' sectors, full-time employees involved in the 'Manufacture of coal and lignite; extraction of peat', and 'Manufacture of coke, refined petroleum products and nuclear fuel' sectors were among the highest paid per week in April 2007.

Various branches of the manufacturing and the retail sectors make up much of the ten lowest paid industries. 'Hotels and restaurants' was the lowest paid sector of all.

## Public and private sector earnings

The adjustments made to the 2004 data in order to produce estimates comparable with the 2005 data also impact on the gap between public and private sector earnings. The exclusion of incentive payments paid outside the pay period pulls down the private sector estimates because private sector employees receive a higher proportion of incentive pay than public sector employees. Also, public sector employees receive greater proportions of pay for other reasons. Consequently, because of the adjustments to the 2004 data, private sector estimates have decreased and public sector increased.

The gap between private and public sector median earnings for full-time employees showed little change in April 2007. Private sector median gross weekly earnings were £439, up 2.9 per cent on 2006. For the public sector, the comparable figure was £498, up 3.0 per cent. Public sector mean gross weekly earnings (at £556) were higher than in the private sector (at £549). As with gender pay, the difference in gross weekly earnings does not reveal differences in rates of pay for comparable jobs. This is due to the types of occupations in the public and private sector being quite different.

## Results by occupation

ASHE 2007 data for occupation is coded to SOC 2000 which was introduced in 2002. Before this, SOC 1990 was used.

With median gross weekly earnings of £672, the occupational major group (as defined within SOC 2000) with the highest median gross weekly earnings for full-time employees was 'Managers and senior officials'. This group had the highest median gross annual salary (£35,400) which was more than £1,000 higher than that for 'Professional occupations'. Those in 'Professional occupations' had the highest median hourly earnings excluding overtime (£18.55). This was £1.04 higher than the median for 'Managers and senior officials' (£17.51), the second most highly paid major group on an hourly basis.

'Professional occupations' have had the highest median hourly earnings excluding overtime since SOC 2000 was introduced in 2002. Apart from 2005, 'Managers and senior officials' had the highest median annual earnings and median gross weekly earnings over the same period. This can be explained because the 'Managers and senior officials' group receive higher annual incentives and also work longer paid hours per week than full-time employees in the 'Professional occupations' group.

'Sales and customer service occupations' were, as for the years since the introduction of SOC 2000, the lowest paid median gross weekly major group, at £277 per week for full-time employees. This major group includes occupations that are generally acknowledged to be low-paid, such as 'Retail cashiers and check-out operators' and 'Market and street traders and assistants'.

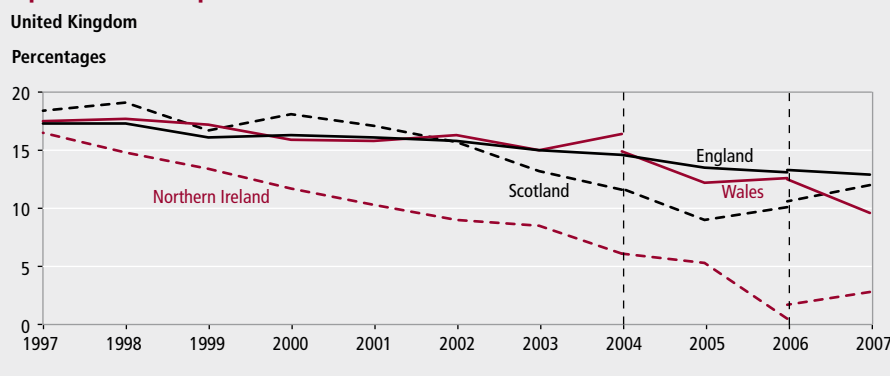
In April 2007, the increase in median gross weekly earnings was highest for 'Personal service occupations' (3.5 per cent) and lowest for 'Sales and customer service occupations' (2.4 per cent).

In the 2007 survey, looking at individual occupations, 'Directors and chief executives of major organisations' were the highest paid full-time employees with median gross weekly earnings of £1,917. The next highest paid occupation was 'Senior officials in national government' with median gross weekly earnings of £1,239 per week. With median gross weekly earnings of £202, 'Market and street traders and assistants' were the lowest paid of all full-time adult employees.

## Results by region

London tops the regional list in terms of median full-time gross weekly earnings, with £581 in April 2007. This was £100 above the next highest, the South East. London's high levels of pay are largely due to the fact that a high proportion of

**Figure 9**  
**Pay gap between women's and men's earnings: by country,<sup>1</sup>**  
**April 1997 to April 2007**



**Notes:**

1 Median hourly earnings excluding overtime for full-time employees on adult rates whose pay for the survey period was unaffected by absence. Vertical lines represent discontinuities in 2004 and 2006 ASHE results.

Source: Annual Survey of Hours and Earnings

its labour force is employed in higher-paying industries and occupations, and also because many employees are entitled to allowances for working in the capital. Northern Ireland (with median full-time gross weekly earnings of £402) was at the bottom of the regional list, with the North East (at £403) only £1 higher. Median gross weekly earnings for UK full-time employees were £457.

Employees in the North West and West Midlands received the largest increases in median gross weekly earnings (4.2 per cent to £434 and £430, respectively).

Since 1997, similar patterns were observed for median gross annual pay and median hourly pay excluding overtime, with London topping the list followed by the South East. The North East and Northern Ireland have the lowest pay levels across the regions.

It should be noted that earnings comparisons take no account of different price levels between regions and therefore do not indicate differences in the standard of living. Neither do they take account of the different mix of occupations and therefore cannot be used to claim that pay for like work is different. A region could have a lower level of median earnings than another if it has a higher proportion of employees in industries or occupations with relatively lower earnings.

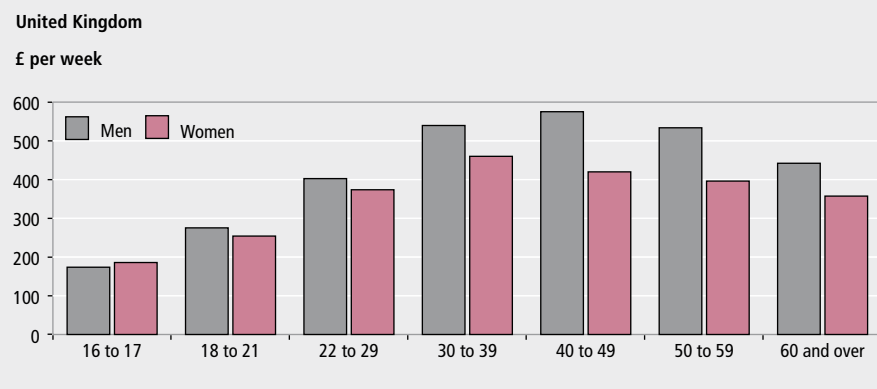
In the UK, the gender pay gap (when measured using the median full-time hourly earnings excluding overtime) was 12.6 per cent. The largest gender pay gap was 15.9 per cent in the South East region; the smallest was in Northern Ireland (at 2.8 per cent). Over the period 1997 to 2007, the largest reduction in the gender pay gap

was in Northern Ireland (16.5 per cent to 2.8 per cent); the smallest was in London (15.1 per cent to 13.7 per cent). **Figure 9** illustrates the gender pay gap for median hourly earnings excluding overtime for the four home countries.

**Results by age group**

In 2007, median gross weekly earnings for full-time employees climbed steadily with age to reach a maximum for those aged 40 to 49, declining thereafter. However, if the median earnings of men and women are considered separately, then women's earnings peaked earlier than those of men. This pattern is repeated over the period 1997 to 2007. Median gross weekly earnings of full-time women climbed with age to reach a maximum of £460 for those aged 30 to 39. Full-time men's median gross weekly earnings reached their maximum of £575 for those aged 40 to 49 (see **Figure 10**).

**Figure 10**  
**Median gross weekly earnings: by gender and age group,<sup>1</sup> April 2007**

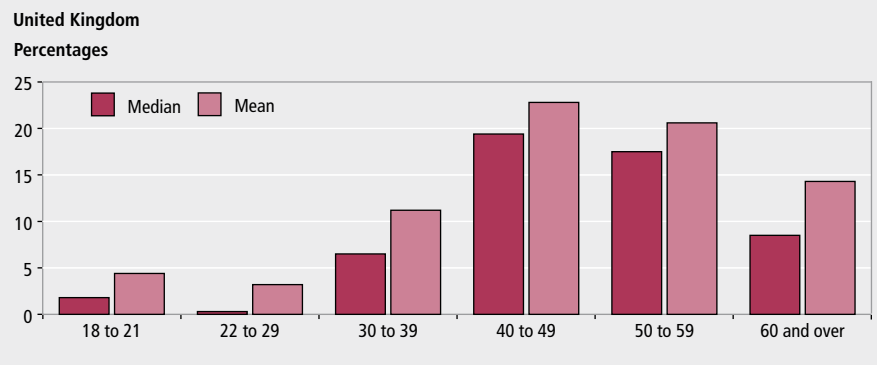


**Notes:**

1 Full-time employees on adult rates whose pay for the survey period was unaffected by absence. Results for 16 to 17 year olds include employees not on adult rates of pay.

Source: Annual Survey of Hours and Earnings

**Figure 11**  
**Pay gap between women's and men's hourly earnings: by age,<sup>1</sup> April 2007**



**Notes:**

1 Hourly earnings excluding overtime for full-time employees on adult rates, whose pay for the survey period was unaffected by absence.

Source: Annual Survey of Hours and Earnings

The largest increase in the median gross weekly wage between April 2006 and April 2007 was recorded among full-time employees aged 18 to 21, whose weekly earnings increased by 5.8 per cent to £265.

Figure 11 shows the mean and median gender pay gaps by age group. The gender pay gap increases and peaks in those aged 40 to 49 but remains at a high level in the 50 to 59 age group.

### Comparisons with the Average Earnings Index and Average Weekly Earnings surveys

Each month ONS also collects information on earnings from the Monthly Wages and Salaries Survey, used to construct the Average Earnings Index (AEI) and Average Weekly Earnings (AWE). This survey asks 8,900 employers to provide information about total pay and numbers of employees, but does not ask more detailed questions about, for example, the gender and occupations of their staff. At present, AWE is only published as an experimental statistic and is still undergoing development, which may lead to changes and refinements to its methodology before it becomes a National Statistic in 2008.

The AEI is used to provide an estimate of the growth in earnings per head, while the AWE is used to process estimates of levels of pay. It is therefore not possible to make detailed comparisons of the level in earnings between the AEI and ASHE. The closest measure that can be derived from these surveys is for gross pay. In the year to April 2007, the ASHE estimate of the growth in median gross weekly pay was 2.9 per cent. The comparable estimate from the AEI was 3.1 per cent and for the experimental AWE it was 4.3 per cent. For the public sector, comparable growth rates were 3.0 per cent (ASHE), 3.3 per cent (AEI) and 3.7 per cent (AWE). For the private sector these were 2.9 per cent (ASHE), 3.1 per cent (AEI) and 4.4 per cent (AWE).

### Low pay jobs

The number of UK jobs paid below the National Minimum Wage in spring 2007 was 292,000, amounting to 1.2 per cent of all jobs in the labour market. The estimate was produced using a methodology based solely on ASHE, which replaced NES.

In spring 2007 there were three rates for the National Minimum Wage: one for those aged between 16 and 17 (£3.30 per hour), one for those aged between 18 and 21 (£4.45 per hour) and one for those aged 22 and over (£5.35 per hour).

The number of jobs paid below the national minimum wage were:

- 16,000 jobs (4.1 per cent) held by those aged 16 to 17
- 45,000 jobs (2.5 per cent) held by those aged 18 to 21
- 231,000 jobs (1.0 per cent) held by those aged 22 and over

People in part-time work were almost three times as likely as people in full-time work to be paid less than the minimum wage, with 2.1 per cent of part-time jobs and 0.8 per cent of full-time jobs falling below the minimum wage. Jobs held by

women were more likely to pay less than the minimum wage than jobs held by men (1.4 per cent compared with 0.9 per cent), but this was due to the greater number of women in part-time jobs.

It is important to note that these estimates do not measure non-compliance with the National Minimum Wage legislation. ASHE does not indicate whether individuals fall into a category that is exempt from the legislation, such as apprentices or new trainees.

#### CONTACT

✉ [elmr@ons.gsi.gov.uk](mailto:elmr@ons.gsi.gov.uk)

#### TECHNICAL NOTE

### Survey details

The Annual Survey of Hours and Earnings (ASHE) is based on a sample of employee jobs taken from HM Revenue & Customs PAYE records. Information on earnings and paid hours is obtained in confidence from employers. It does not cover the self-employed, nor does it cover employees not paid during the reference period. In 2007, the information related to the pay period which included 18 April. The 2007 ASHE is based on approximately 142,000 returns.

ASHE replaced the New Earnings Survey (NES) as ONS's main source of information on the distribution of earnings. Articles describing the ASHE methodology and the impact of its introduction on 1997 to 2004 are available on the National Statistics website at [www.statistics.gov.uk/statbase/product.asp?vlnk=13101](http://www.statistics.gov.uk/statbase/product.asp?vlnk=13101)

The main differences between ASHE and NES are:

- ASHE results are weighted to the number of jobs given by the Labour Force Survey (LFS)
- ASHE imputes for item non-response
- the coverage of employees for ASHE is greater than that of NES
- the median replaces the mean as the headline statistic. The median is the value below which 50 per cent of employees fall. It is preferred over the mean for earnings data as it is less influenced by extreme values and because of the skewed distribution of earnings

### Changes since 2004

Since the 2004 survey, supplementary information has been collected to improve coverage and make the survey more representative. This includes employees who have either changed or started new jobs between sample selection from HM Revenue & Customs records and the survey reference period in April.

### Changes in 2005

A new questionnaire was introduced for the 2005 survey. This questionnaire brings significant improvement to the quality of the results. More details on the impact of introducing the new questionnaire can be found at [www.statistics.gov.uk/ci/article.asp?id=1294](http://www.statistics.gov.uk/ci/article.asp?id=1294)

Changes to the wording and definitions mean that some of the information requested from respondents will differ from that supplied in past surveys. The introduction of the pay 'for other reasons' question has resulted in the inclusion of earnings information which may not have been collected in the past. Results for 2004 including supplementary information have been reworked to allow for this missing pay. For more details on the methodology involved in estimating pay for other reasons, see the National Statistics website at [www.statistics.gov.uk/ci/article.asp?id=1299](http://www.statistics.gov.uk/ci/article.asp?id=1299)

Also, the definition of incentive/bonus pay changed for 2005 to only include payments that were paid and earned in April. This brings the definition more in line with that used in the Average Earnings Index (AEI) and will result in greater consistency of ASHE results. Results for 2004 including supplementary information have been reworked to exclude irregular bonus/incentive payments to make them consistent with results from 2005 onwards.

## Changes in 2006

In 2006, ASHE moved to the ONS standard for geographic areas using Output Areas as the building block to higher level geographic breakdowns. Previously, ASHE geographies were created by matching returned postcode information against the Inter-Departmental Business Register to give various levels of geographic information. The key points are:

- ASHE results for geographic areas are produced in line with the ONS standard and this allows further geographic analysis variables to be produced
- the quality of geographic results has improved

In addition, from 2006 the LFS has moved from using seasonal quarters to calendar quarters. As ASHE uses LFS data in the calculation of aggregation weights, it was necessary to move from using data taken from the LFS spring quarter to LFS quarter two.

The inclusion of supplementary information since 2004, the introduction of a new questionnaire in 2005, and the move to using new ONS geographies and LFS calendar quarters in 2006 has meant that the ASHE results are discontinuous in 2004. Therefore, a consistent series which takes into account all of these identified changes has been produced going back to 2004. For 2004, results are also available that exclude supplementary information, to be comparable with the back series generated by imputation and weighting of the 1997 to 2003 NES data.

## Changes in 2007

In March 2007, ONS released information on its statistical work priorities over the period 2007–08. ONS announced that the sample size of ASHE was to be reduced by 20 per cent. ASHE results for 2007 are based on approximately 142,000 returns, down from 175,000 in 2006. The impact of this change has been minimised by reducing the sample in an optimal way, with the largest sample reductions occurring in industries where earnings are least variable. The sample cut does not affect Northern Ireland; neither does it affect a number of organisations with an agreement to provide information electronically.

For 2006 and 2007 ASHE results, ONS has also introduced a small number of methodological changes which will improve the quality of the results. These include changes to the sample design itself, as well as the introduction of an automatic occupation coding tool, ACTR.

The key benefits of moving to ACTR coding are:

- an improvement in the quality and consistency of ASHE results
- out-of-date codes will be updated annually
- ACTR provides ASHE and ONS with a standard tool for coding occupation

Further information can be found on the National Statistics website at [www.statistics.gov.uk/downloads/theme\\_labour/ashe/changeinashe07.pdf](http://www.statistics.gov.uk/downloads/theme_labour/ashe/changeinashe07.pdf)

## Definitions

The earnings information collected relates to gross pay before tax, National Insurance or other deductions, and generally excludes payments in kind. With the exception of annual earnings, the results are restricted to earnings relating to the survey pay period and so exclude payments of arrears from another period made during the survey period. Any payments due as a result of a pay settlement but not yet paid at the time of the survey will also be excluded.

For particular groups of employees, changes in median earnings between successive surveys may be affected by changes in the timing of pay settlements, in some cases reflecting more than one settlement and in other cases no settlement at all.

Most of the published ASHE analyses relate to full-time employees on adult rates whose earnings for the survey pay period were not affected by absence. They do not include the earnings of those who did not work a full week, and those whose earnings were reduced because of sickness, short-time working, and so on. Also, they do not include the earnings of employees not on adult rates of pay, most of whom will be young people. Some more information on the earnings of young people and part-time employees is available in the detailed annual published ASHE results. Full-time employees are defined as those who work more than 30 paid hours per week, or those in teaching professions who work more than 25 paid hours per week.

## Factors contributing to earnings growth

The increase in average earnings from one year to the next reflects several factors: pay settlements implemented between the April survey dates; changes in the amount of paid overtime and other payments relative to basic pay; and the structural effects of changes in the composition of the ASHE sample and the employed labour force.

## Revisions

In line with normal practice, this article contains revised estimates from the 2006 survey results published on 26 October 2006. These take account of some corrections to the original 2006 data which were identified during the validation of the results for 2007, as well as late returns, and reflect the methodological changes to 2007 mentioned above.

## Other earnings information

The monthly AEI, based on the Monthly Wages and Salaries Survey of 8,900 employers, provides information on changes in mean earnings for broad industrial sectors. No information is available on occupation, paid hours worked, and other characteristics of the workforce.

The LFS collects information on the earnings and hours of about 15,000 households over each quarter. In addition, it collects data on a wide range of personal characteristics, including education level and origin. This enables the preparation of statistics on levels and distribution of earnings similar to ASHE but with lower precision due to the much smaller sample size.

## Publication arrangements

National averages of earnings hide wide variations between different collective agreements, industries, occupations, regions and age groups. The published tables containing the detailed ASHE results for UK include analyses of each of these and are now available on the National Statistics website at

[www.statistics.gov.uk/statbase/product.asp?vlnk=13101](http://www.statistics.gov.uk/statbase/product.asp?vlnk=13101)

Low pay estimates show the number of jobs paid below the National Minimum Wage in the UK. The estimates were produced using a methodology based solely on ASHE. Further information on the low pay methodology and detailed results are now available at

[www.statistics.gov.uk/statbase/product.asp?vlnk=5837](http://www.statistics.gov.uk/statbase/product.asp?vlnk=5837)