

Patterns of Pay: Estimates from the Annual Survey of Hours and Earnings, UK, 1997 to 2013

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Abstract

Patterns of Pay describes trends in UK earnings. The article examines earnings trends for full-time and part-time employees, by industry, occupation, region and age, with a particular focus on gender pay differences. It is accompanied by reference tables which give the underlying figures.

Key points

- Adjusting for inflation using the Consumer Prices Index, UK weekly earnings for full-time employees fell each year between 2008 and 2013.
- Although there is a long-term downward trend in the gender pay gap for full-time employees (from 17.4% in 1997), there was an increase from 9.5% to 10.0% between 2012 and 2013.
- The gender pay gap for full-time employees narrowed in all UK regions between 1997 and 2013, with by far the largest reduction in Northern Ireland (from 16.5% to -0.7%).
- Each year between 1997 and 2013 the weekly pay for the highest full-time earners (at the 90th percentile) has consistently been around 3.5 times that of the lowest earners (10th percentile).
- The proportion of overtime payments out of total weekly earnings for full-time employees has decreased in the long-term, reflecting a fall in overtime hours worked.

Introduction

Patterns of Pay presents analyses from the Annual Survey of Hours and Earnings (ASHE), which is the ONS's most detailed and comprehensive source of information on:

- levels of earnings (for both full-time and part-time employees and for gender);
- make-up of total earnings (split between basic pay and other components); and
- distribution of earnings (the extent to which earnings are dispersed around the median).

ASHE data are widely used within government for policy purposes, by external bodies and the general public. One of main areas of interest is the gender pay gap, hence the particular focus on this in the commentary.

ONS's headline measure of earnings from ASHE is median weekly earnings for full-time employees. This measure is therefore the main focus of this article but discussion of the mean, hourly earnings and earnings for part-time employees is also included for comparison (annual earnings are included in the accompanying reference tables but are not discussed here). In all cases figures are presented in terms of gross pay in current prices (unless otherwise stated).

The first few sections of this article present summary analyses on overall medians, the make-up of earnings, the distribution of earnings and gender pay differences for the provisional 2013 ASHE, comparing the analyses with the 1997 to 2012 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 and the corresponding gender pay differences.

An explanation of definitions used in this article and further methodological information can be found in the background notes. In addition, [the full suite of results tables from the 2013 ASHE and from all previous years back to 1997](#) are available on the ONS website. Interactive content such as [a thematic map showing earnings by local authority](#) and [an animated bar chart showing earnings by region](#) are also available.

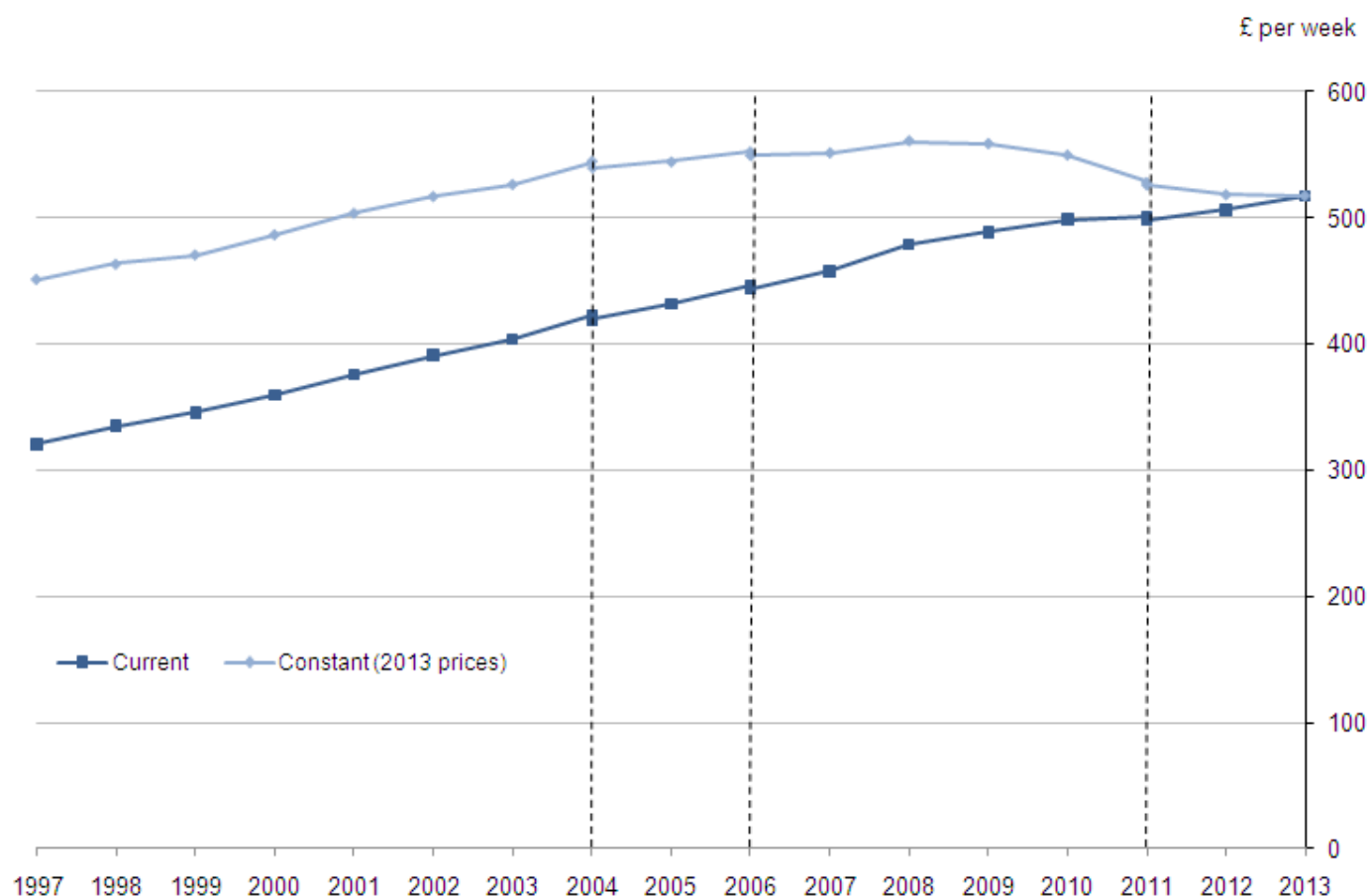
We constantly aim to improve our ASHE outputs and associated commentary. We would welcome any feedback you might have, and would be particularly interested in knowing how you make use of these data to inform your work. Please contact us via email: earnings@ons.gsi.gov.uk.

Earnings adjusted for inflation have fallen since 2008

Between April 1997 (the first year for which ASHE data are available) and April 2013 weekly earnings for full-time employees in the UK increased by over 60%, from £321 to £517. Up until 2008 the annual increase in weekly earnings was fairly steady, averaging at around 4% each year. However, since the start of the economic downturn earnings growth has slowed, with the annual increase averaging at around 2% each year between 2009 and 2013.

To put this recent slowing of earnings growth into context it is helpful to use the Consumer Prices Index (CPI) to adjust for inflation. This adjustment reveals that weekly earnings for full-time employees increased steadily by 24% overall between 1997 and 2008, peaking at £561 (in 2013 prices). Subsequently, weekly earnings decreased every year, by 8% in total, so that in April 2013 they were similar to the level seen in 2002 (see Figure 1).

Figure 1: Median full-time gross weekly earnings in current and constant (2013) prices, UK, April 1997 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
4. Earnings at constant (2013) prices are calculated using the All Items Consumer Prices Index of inflation for April.
5. 2013 data are provisional.

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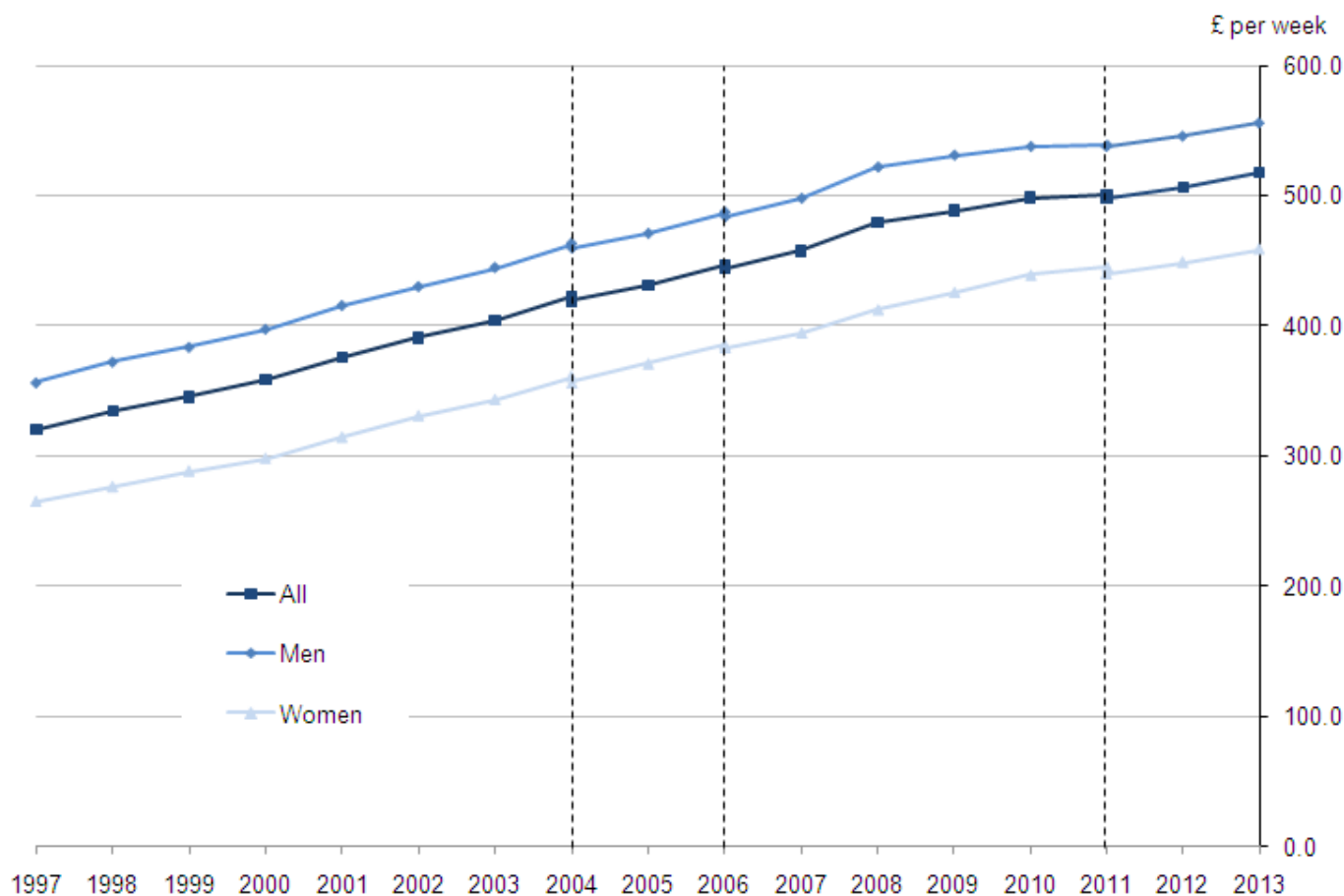
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Full-time male employees earn more than females but gap has narrowed

Men working full-time earn more than women (£556 per week in April 2013 compared with £459 respectively). Although the gap between men and women's earnings from 1997 to 2013 has remained relatively consistent at around £100 (see Figure 2), this corresponds to a faster rate of

increase for women than men over this period (a 73% increase compared with 56% respectively), meaning that the gap has been closing in percentage terms.

Figure 2: Median full-time gross weekly earnings by sex, UK, April 1997 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
4. 2013 data are provisional.

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It should be noted that weekly earnings are affected by differences in hours worked between men and women. In April 2013 the mean total weekly paid hours for full-time employees was 39.1. Men worked, on average, longer than women (40.1 hours compared with 37.4 respectively), mainly because men are more likely to work overtime than women. However between 1997 and 2013 the

total number of paid hours worked by men decreased (from 41.5 in 1997) whereas the hours worked by women remained fairly constant.

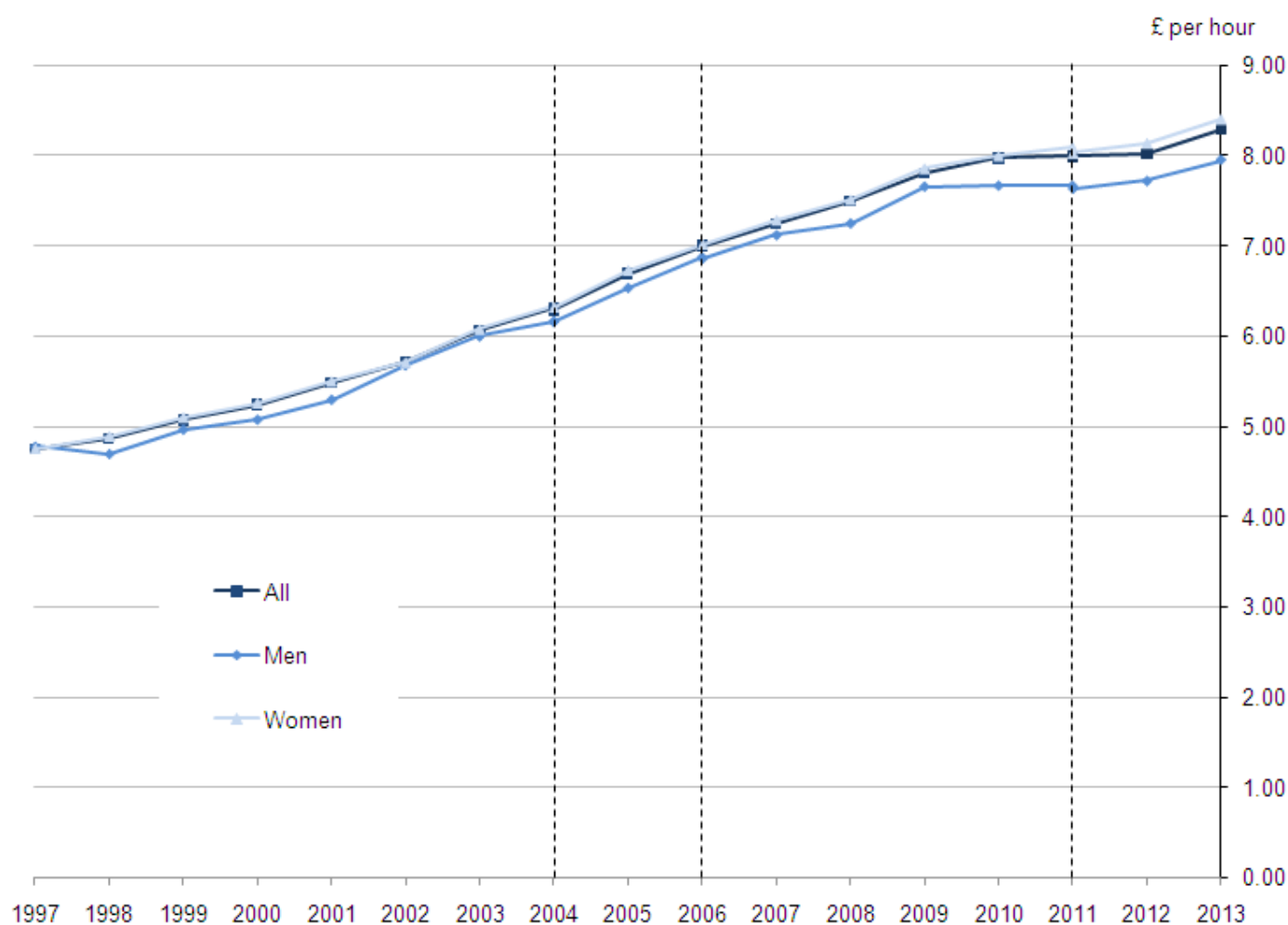
Part-time female employees earn more than males and gap has widened

Part-time working is less common than full-time working. The Labour Force Survey (LFS) shows that just over a quarter of the total employee workforce worked part-time in quarter 2 (April to June) 2013 compared with just under three-quarters who worked full-time. Women are more likely to work part-time than men, but the proportion of men working part-time has been growing in recent years. The proportion of male employees in the total workforce who worked part-time rose from 4.2% to 5.9% between 1997 and 2013. In comparison the proportion of female employees working part-time fell slightly from 21.2% to 20.6% over the same period.

Part-time employees worked, on average, 18.1 hours per week (including overtime) in April 2013. The mean weekly hours worked was 17.5 for men and 18.3 for women. When examining part-time earnings it can be misleading to compare weekly earnings due to the wide range of hours worked per week by part-time employees. Therefore it is most appropriate to consider hourly earnings, especially when comparing earnings by gender as it removes the effect of the differences in hours worked between men and women.

In general part-time employees earn lower rates of pay than full-time employees but, in contrast to the pattern seen for full-time earnings, women working part-time earn more than men. In April 2013 part-time employees earned a median hourly rate (excluding overtime) of £8.29, with women earning £8.40 per hour compared to £7.95 for men. Over the last 15 years female employee hourly rates have remained consistently above the levels for male employees (see Figure 3) and the difference appears to have widened slightly in recent years.

Figure 3: Median part-time hourly earnings (excluding overtime) by sex, UK, April 1997 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Part-time defined as employees working 30 paid hours or less per week (or less than 25 for the teaching professions).
3. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
4. 2013 data are provisional.

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The reason that median hourly pay for female employees working part-time is higher than that of male employees is partly due to a higher proportion of women working part-time throughout their careers. Figure 4 shows the distribution of part-time employees by gender and by age in 2013. This reveals that a higher proportion of females work part-time in the higher-earning age groups (30 to 39, 40 to 49 and 50 to 59). The proportion of males working part-time is higher in the younger age

groups as well as the 60 and over age group. There is more discussion of earnings by age later in this article.

Figure 4: Distribution of part-time employees by sex and age group, UK, April 2013



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

Notes:

1. All employees aged 16-17 and employees aged 18 and over on adult rates, pay unaffected by absence.
2. Part-time defined as employees working 30 paid hours or less per week (or less than 25 for the teaching professions).
3. 2013 data are provisional.

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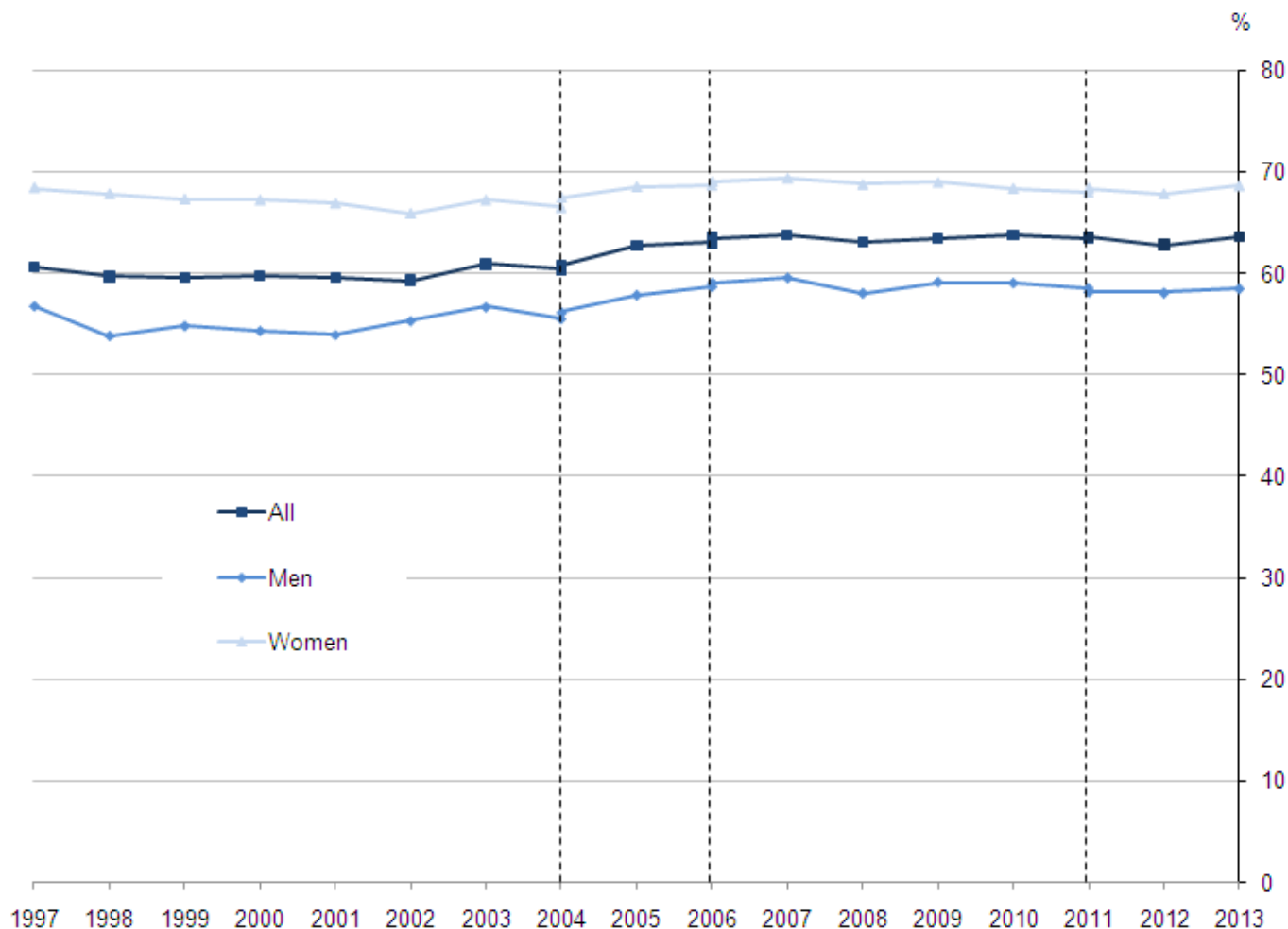
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As mentioned previously, part-time employees tend to earn less per hour than full-time employees. Between 1997 and 2004 median hourly earnings (excluding overtime) of part-time employees was consistently around 60% of that of full-time employees. This proportion then increased slightly in the next few years and has remained fairly stable at around 63-64% since the mid-2000s (see Figure

5). Since 1997 the proportion has been consistently lower for men than women. In April 2013 the ratio was 58% for men and 69% for women.

Figure 5: Ratio of part-time to full-time median hourly earnings (excluding overtime) by sex, UK, April 1997 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Part-time defined as employees working 30 paid hours or less per week (or less than 25 for the teaching professions).
3. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
4. 2013 data are provisional.

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Proportion of overtime and bonus payments has decreased over time

The main component of gross pay is basic pay and allowances. The remaining three components - overtime payments, incentive/bonus payments and premium payments for shift work - vary quite considerably by type of worker, so it is interesting to examine these separately to reveal trends over time.

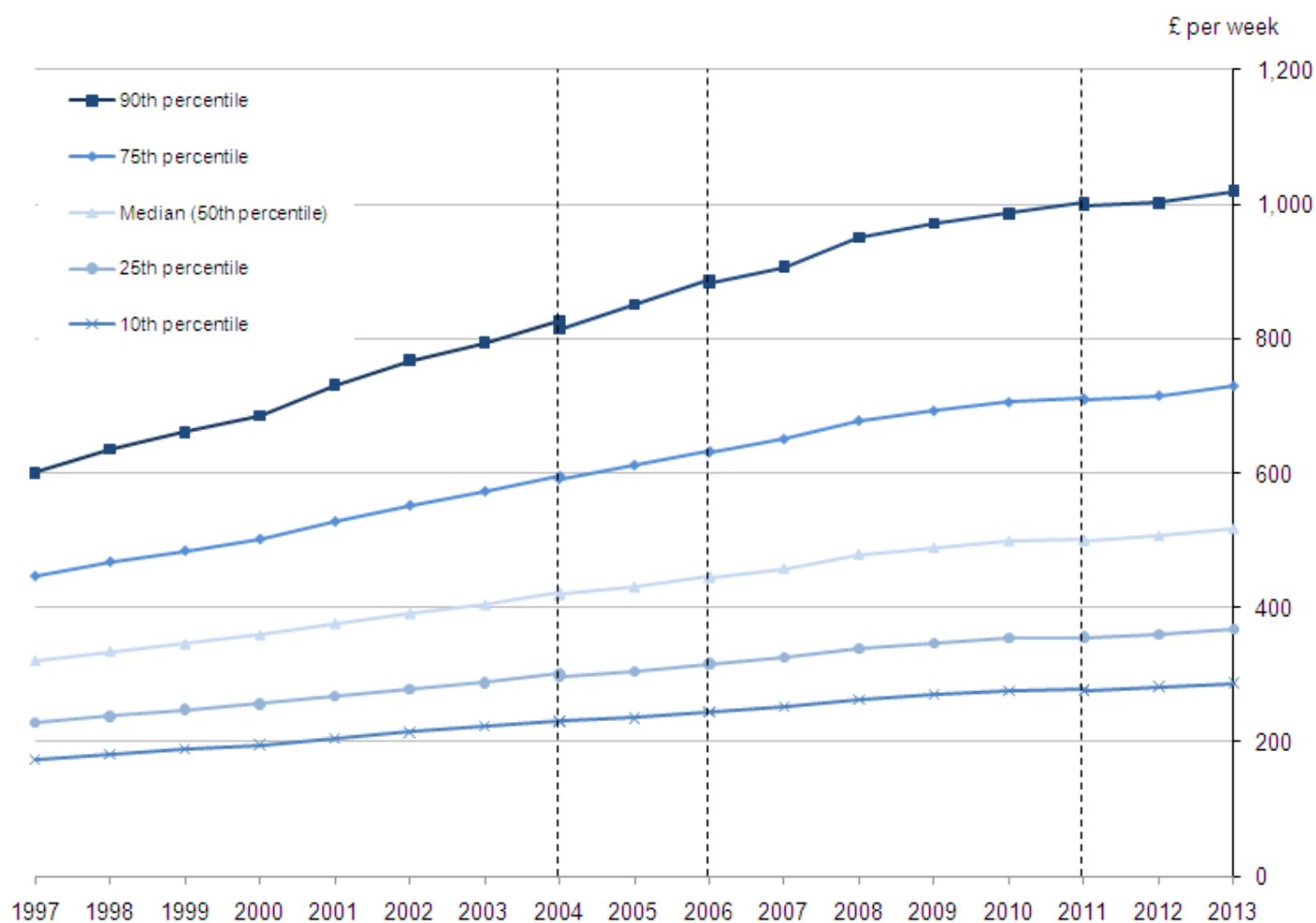
The proportion of these additional payments of mean weekly earnings for full-time employees has been decreasing over time, and this has been the case for both male and female employees. However the magnitude of the proportion varies for men and women, with the proportion for male employees consistently being double that of their female counterparts since 2000 (when the measures for incentive/bonus and shift premium payments were first introduced). In 2013 male employees earned £41.50 additional weekly payments, which accounted for 6.1% of their total pay, whereas women's additional payments (£16.90) accounted for just 3.2% of their total pay.

Of the three components, overtime payments makes up the largest proportion of the additional payments (2.7% of total mean earnings in 2013), but this proportion has decreased for both men and women in the long-term, reflecting a reduction in overtime hours worked. The proportion of incentive/bonus payments (1.3% in 2013) has also decreased and, again, the trend has been downwards for both men and women. Shift premium payments make up the smallest proportion of the additional components. They account for just over 1% of mean weekly earnings for both men and women and this proportion hasn't changed much since 2000.

Full-time earnings at 90th percentile consistently 3.5 times 10th percentile

Focusing solely on the median hides some interesting trends for low- and high-earning employees. Figure 6 displays the distribution of weekly earnings among full-time employees for the years 1997 to 2013. The median level of earnings for full-time employees in April 2013 (£517 per week) was lower than the mean (£620), since the latter is boosted by the relatively few people at the top end of the distribution with extremely high earnings.

For 2013, at the bottom of the distribution, 10% of full-time employees earned less than £287 per week, whereas at the other end of the scale 10% earned more than £1,020 per week. The weekly earnings at this 90th percentile were nearly double that of the median while the weekly earnings at the 10th percentile were just over half that of the median. Each year since 1997 earnings at the 90th percentile have remained consistently at around 3.5 times that of the 10th percentile.

Figure 6: Distribution of full-time gross weekly earnings, UK, April 1997 to 2013

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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
4. 2013 data are provisional.

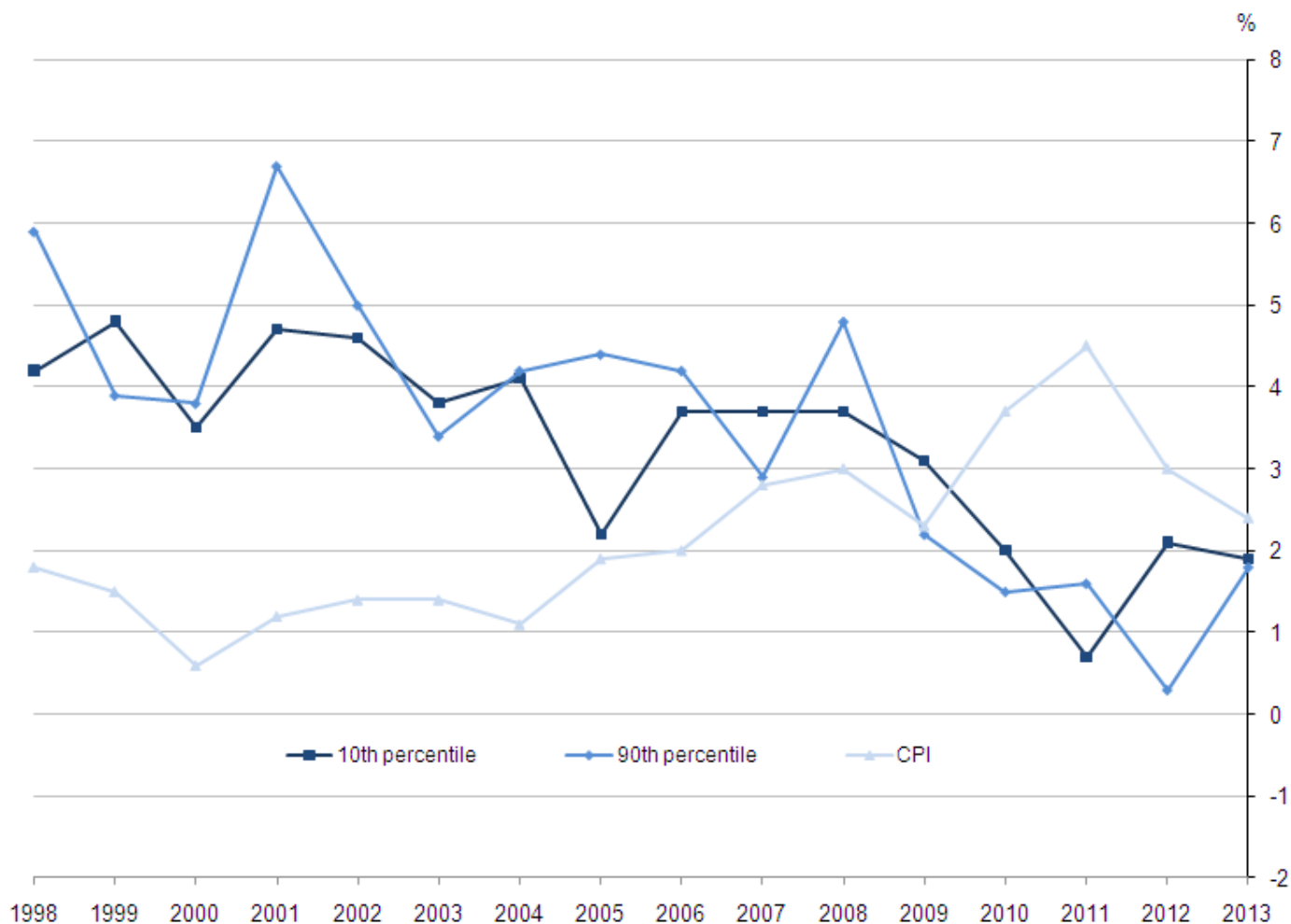
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Figure 7 shows the patterns of growth for the 10th and 90th percentiles for weekly full-time earnings and for CPI since 1997. In 2013 earnings growth for both percentiles was outstripped by growth in the CPI, which was 2.4%. This was the fourth consecutive year that the CPI had increased above the growth rate in both the 10th and 90th percentiles, and only the fourth year that this had happened since 1998 (the start of the ASHE series).

Figure 7: Annual percentage change in full-time gross weekly earnings for the 10th and 90th percentiles and the Consumer Prices Index (CPI), UK, April 1998 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. CPI figures are based on the All Items Consumer Prices Index of inflation for April.
4. 2013 data are provisional.

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Gender pay gap for full-time employees up despite long-term downward trend

While there is no single measure which adequately deals with the complex issue of the differences in men's and women's pay, ONS prefers to use hourly earnings (excluding overtime) and focuses on

estimates of the median. Including overtime can skew the results because, as mentioned previously, men work relatively more overtime than women.

It should be noted that although median hourly pay 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 it does not highlight the different employment characteristics of men and women, such as the proportion of each gender in different occupations and their length of time in service.

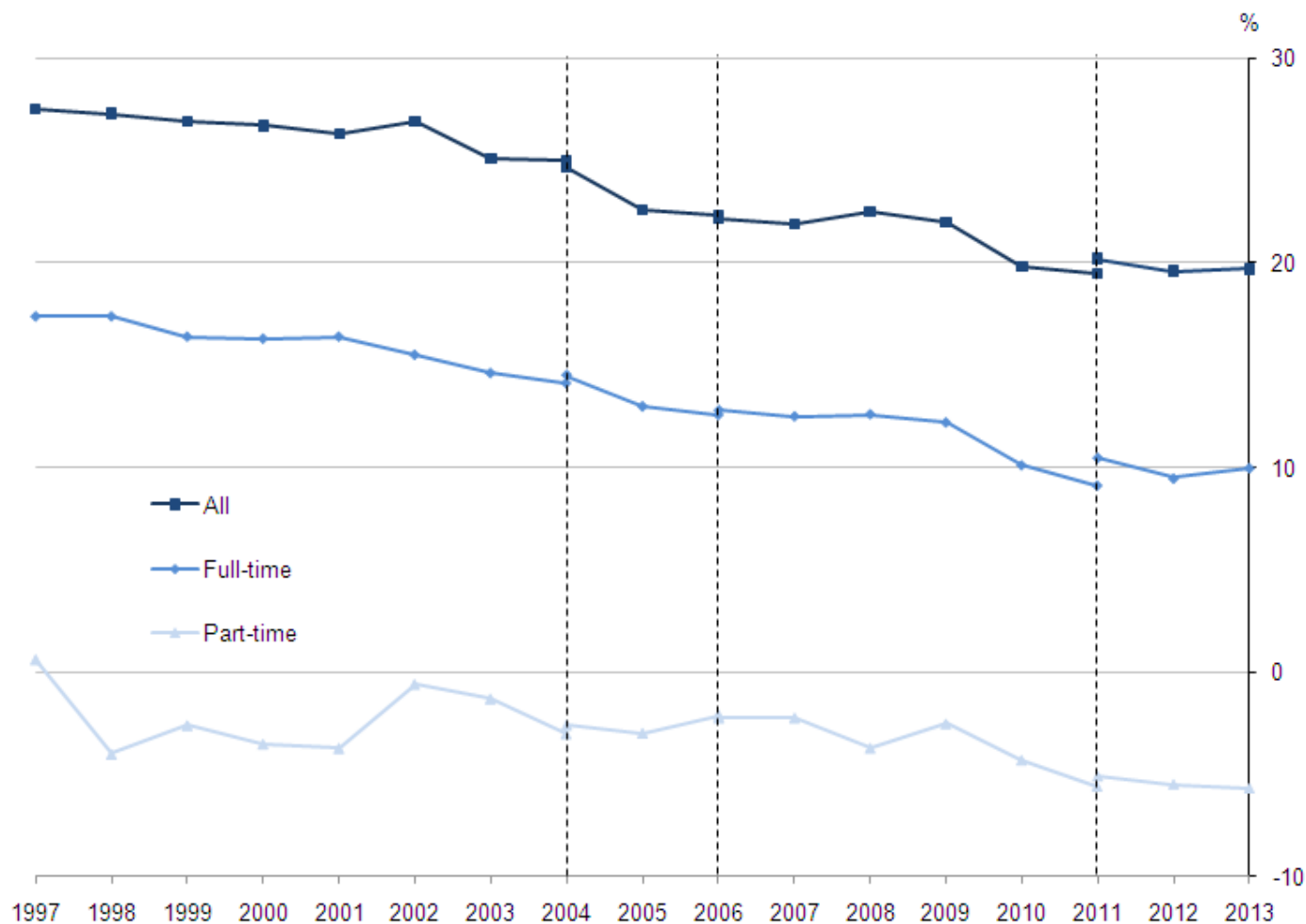
As discussed in the previous section, women are more likely to work part-time than men. In addition, full-time jobs tend to be higher paid than part-time jobs. Consequently women are, in general, more likely to receive lower hourly rates of pay than men. This means that the gender pay gap, which is the difference between men's and women's hourly earnings as a percentage of men's earnings, is 'positive' overall (i.e. for all full-time and part-time employees combined).

In April 2013 the gender pay gap for all employees (full-time and part-time) based on median hourly earnings (excluding overtime) was 19.7%, up from 19.6% in 2012. The gap had been decreasing in the long-term (from 27.5% in 1997) but it is not possible to tell if this slight increase marks a reversal (or a plateauing) of the overall downward trend.

For full-time employees the gender pay gap also widened in April 2013, to 10.0% up from 9.5% in 2012 (see Figure 8). This is, again, despite an overall steady downward trend from 17.4% in 1997. Again, it is not possible to tell if this marks a reversal of the trend.

For part-time employees the higher rate of pay for women than men results in a 'negative' gender pay gap. Although the trend is more volatile than for full-time employees, there is evidence that the gap is widening in the long-term, and particularly since 2009. In April 2013 it was -5.7%, which was the widest since the ASHE series began in 1997.

Figure 8: Gender pay gap for median hourly earnings (excluding overtime), UK, April 1997 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
4. Gender pay gap is defined as the difference between men's and women's hourly earnings as a percentage of men's earnings.
5. 2013 data are provisional.

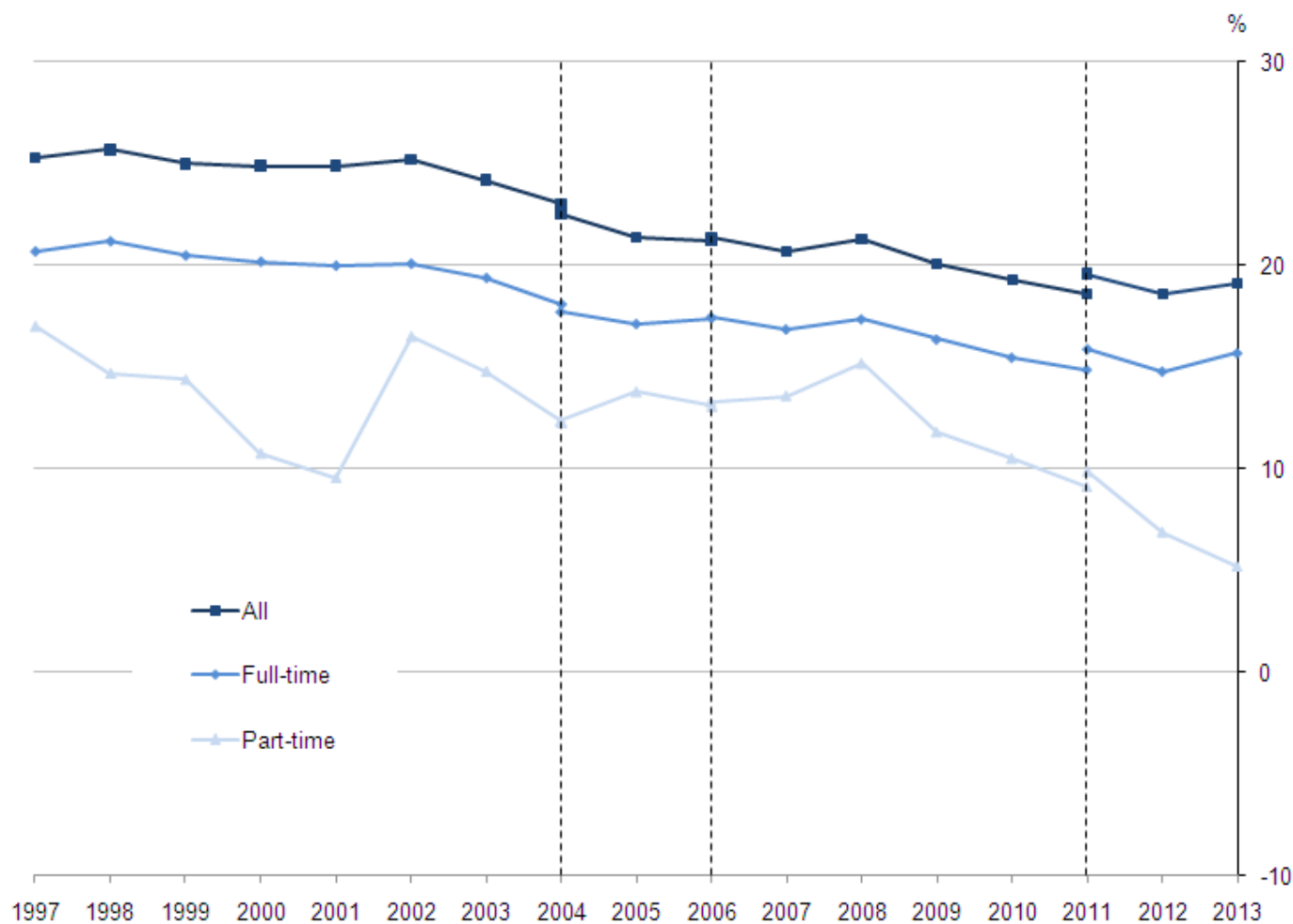
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Although ONS's headline estimates of gender pay differences are based on median hourly earnings, mean hourly earnings provide a useful supplementary measure. For the mean, the long-term trends in the gender pay gap are similar to the median but the size of the gap varies due to the effect that

higher earners have on the distribution. This is particularly striking for part-time employees where, in contrast with the median measure, mean hourly earnings are lower for women than for men. This is because there are a larger number of men than women who are working part-time with very high earnings. However, despite a rather erratic trend throughout the late 1990s and 2000s (see Figure 9), the gender pay gap based on mean hourly earnings has decreased fairly rapidly since 2008, to 5.2% in April 2013, the narrowest gap since the ASHE series was introduced in 1997.

Figure 9: Gender pay gap for mean hourly earnings (excluding overtime), UK, April 1997 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
4. Gender pay gap is defined as the difference between men's and women's hourly earnings as a percentage of men's earnings.
5. 2013 data are provisional.

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Public sector continues to earn more than private sector

Median full-time weekly earnings for public sector employees have been higher than for private sector employees every year since the start of the ASHE series in 1997 (see Figure 10). Private sector median weekly earnings were £490 in April 2013 and public sector earnings were £574.

Figure 10: Median full-time gross weekly earnings by public and private sectors, UK, April 1997 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).

3. Private sector comprised of businesses whose legal status is defined as 'Company', 'Sole Proprietor' or 'Partnership'; public sector comprised of those defined as 'Public Corporation', 'Central Government' or 'Local Authority'.
4. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
5. 2013 data are provisional.

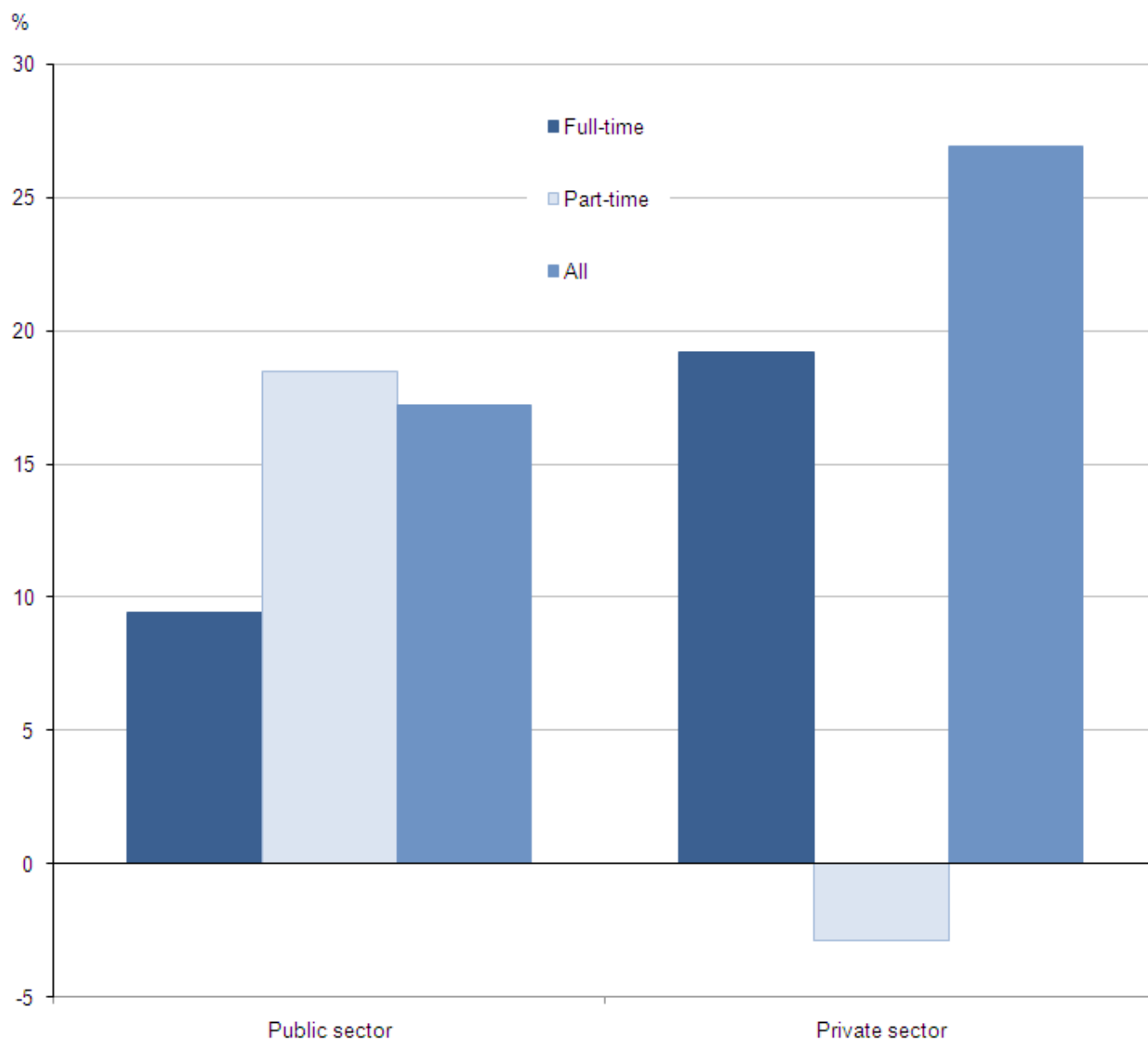
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It should be noted that the public and private sectors have workforces which are composed quite differently. Consequently, differences in weekly earnings do not reveal differences in rates of pay for comparable jobs. For example, many of the lowest paid occupations, such as bar and restaurant staff, hairdressers, elementary sales occupations and cashiers, exist primarily in the private sector, while there are a larger proportion of graduate-level and professional occupations in the public sector. [Further discussion and analyses relating to compositional changes in the public and private sectors](#) are available in the ASHE 2013 statistical bulletin.

Gender pay differences vary between the public and private sectors, depending on whether the employee is in full-time or part-time employment (see Figure 11). For full-time employees the gender pay gap (based on median hourly earnings excluding overtime) in the public sector was 9.4% in April 2013. The comparable figure for the private sector was 19.2%. For part-time employees, the gender pay differences in the public and private sectors were 18.5% and -2.9% respectively (meaning that, in general, part-time men earn more than women in the public sector but slightly less in the private sector).

Figure 11: Gender pay gap for median hourly earnings (excluding overtime) by public and private sectors, UK, April 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Private sector comprised of businesses whose legal status is defined as 'Company', 'Sole Proprietor' or 'Partnership'; public sector comprised of those defined as 'Public Corporation', 'Central Government' or 'Local Authority'.
4. Gender pay gap is defined as the difference between men's and women's hourly earnings as a percentage of men's earnings.
5. 2013 data are provisional.

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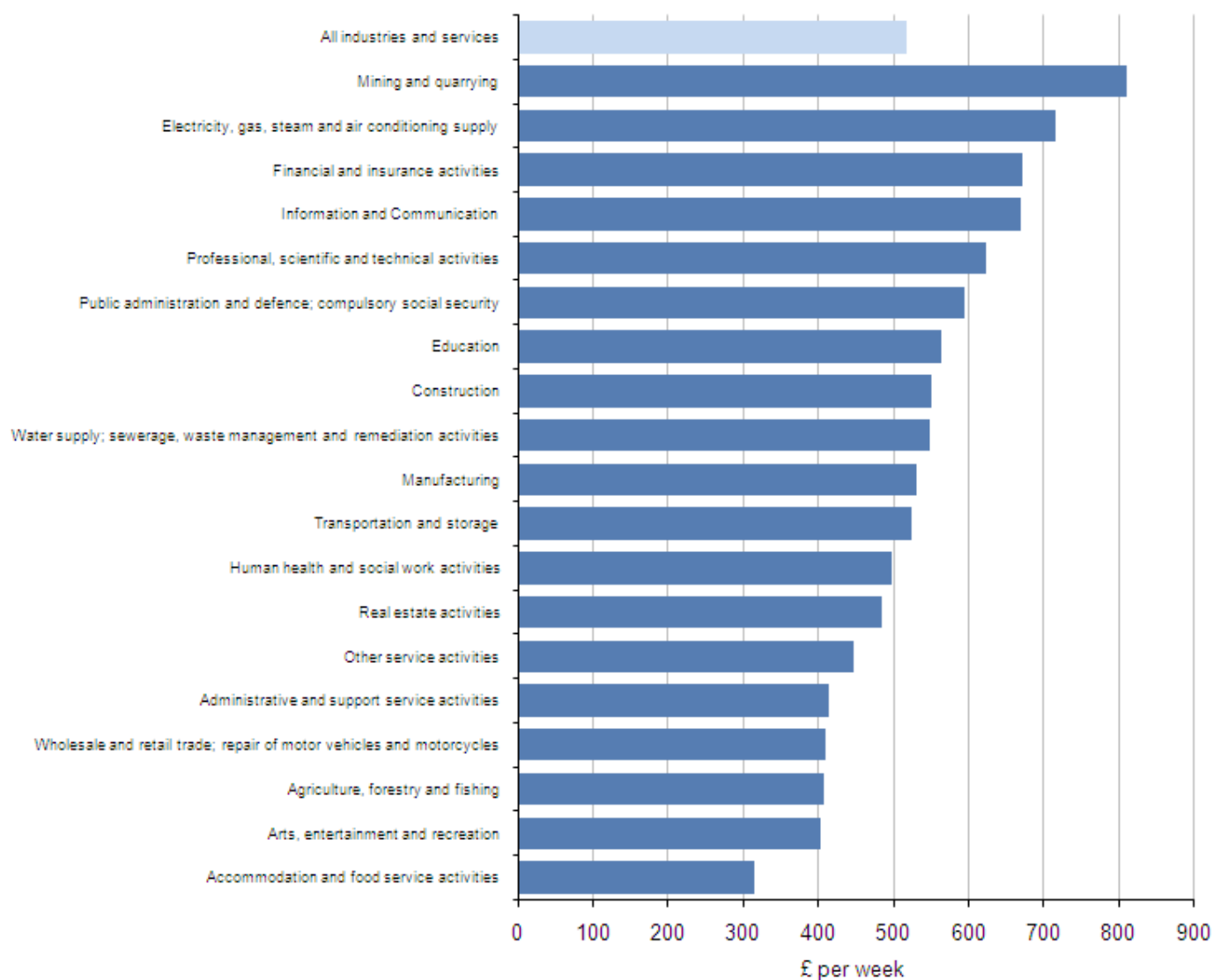
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Mining and quarrying continues to be highest-earning industrial sector

Changes in industrial classification restrict the ability to analyse trends over time. This section therefore focuses on April 2013 data only.

Median weekly earnings for full-time employees in April 2013 were highest in the mining and quarrying sector at £810 (see Figure 12). This was £95 per week more than the second highest, the electricity, gas, steam and air conditioning supply sector. Weekly earnings in the mining and quarrying sector are boosted by longer paid hours worked by employees relative to other sectors. The mining and quarrying sector is small but has a relatively high concentration of well paid jobs.

The accommodation and food service activities sector had the lowest gross weekly earnings in April 2013. At £316, full-time employees' median earnings were £88 per week lower than the second lowest paid sector, arts, entertainment and recreation.

Figure 12: Median full-time gross weekly earnings by major industry group, UK, April 2013

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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Industries as defined by the Standard Industrial Classification 2007.
4. 'Activities of households as employers; undifferentiated goods-and services-producing activities of households for own use' and 'Activities of extraterritorial organisations and bodies' are excluded.
5. 2013 data are provisional.

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The broad industrial sectors described above can hide substantial variation within the sectors. ASHE, however, allows more detailed industrial analyses which makes it possible to identify the highest and lowest paid divisions within these sectors (see reference tables for further details). For example, the second highest paid division, manufacture of tobacco products, comes from manufacturing, the tenth highest earning sector as a whole. At the other end of the distribution, manufacture of wearing apparel (i.e. clothing) - which is also in the manufacturing sector - was the sixth lowest paid division.

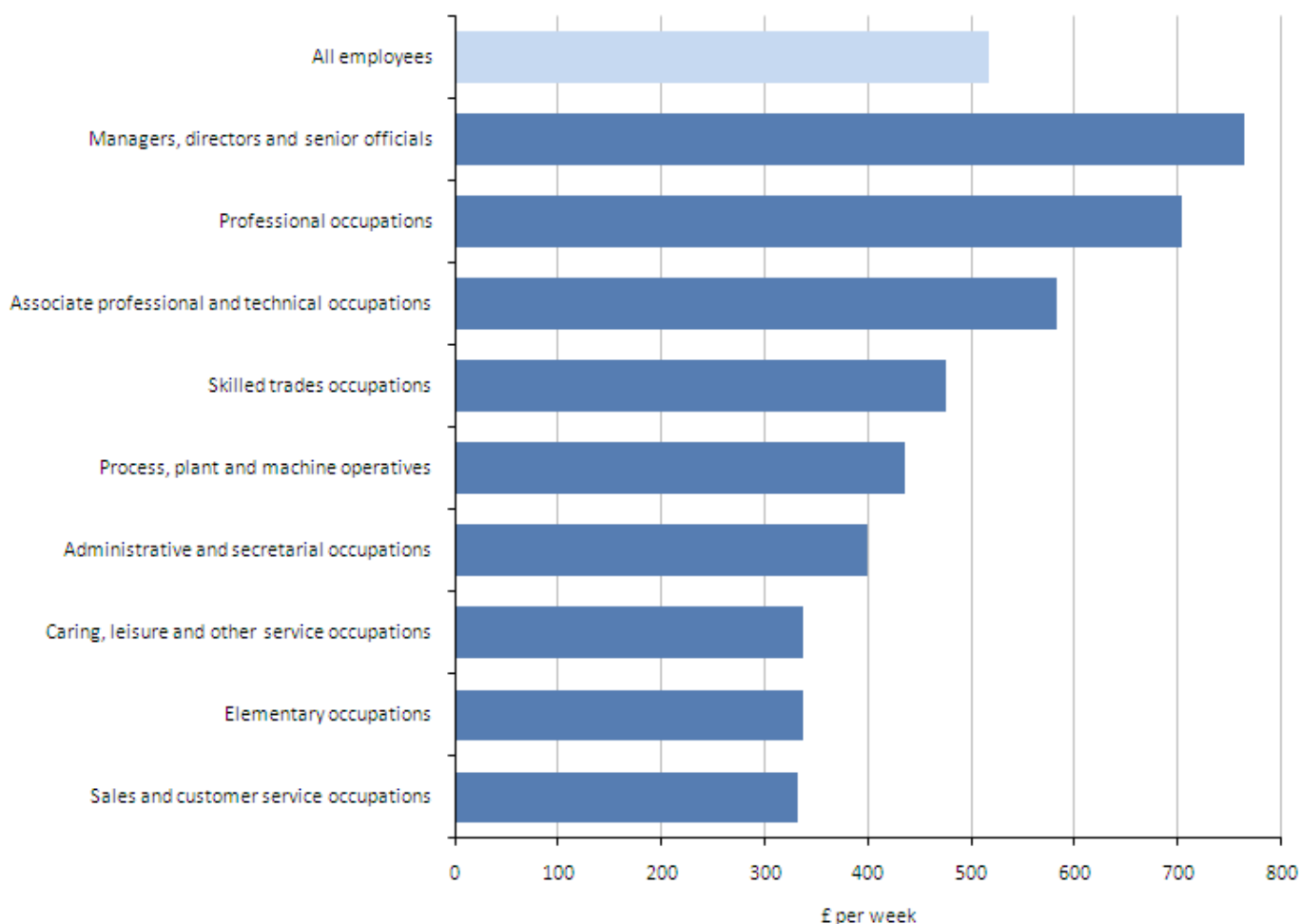
For full-time employees, the largest gender pay difference (based on median hourly earnings excluding overtime) was for the financial and insurance activities sector at 37.8%. For part-time employees the gender pay difference varies considerably between the sectors. For example, even though the overall gender pay difference is 'negative' (i.e. women earn more than men), many of the broad industrial sectors have 'positive' gender pay differences, the largest of which in April 2013 was in the education sector, at 38.1%.

Sales and customer service continues to be lowest-earning occupation group

Changes in occupation classifications also restrict the ability to analyse trends over time so, again, April 2013 data are the focus here.

In 2013 the occupation group with the highest median weekly earnings for full-time employees was managers, directors and senior officials, at £765 (see Figure 13). Sales and customer service occupations were the lowest paid group, at £331 per week.

There were some differences in the distribution of earnings for men and women. The highest and lowest earnings by occupation group for men mirrored that of the overall distribution. However, for women, weekly earnings were highest in professional occupations, at £655, and lowest in elementary occupations, at £284. Note that the elementary occupations group is comprised of jobs such as farm workers, postal workers, window cleaners, hospital porters, etc.

Figure 13: Median full-time gross weekly earnings by major occupation group, UK, April 2013

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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Occupations as defined by the Standard Occupational Classification 2010.
4. 2013 data are provisional.

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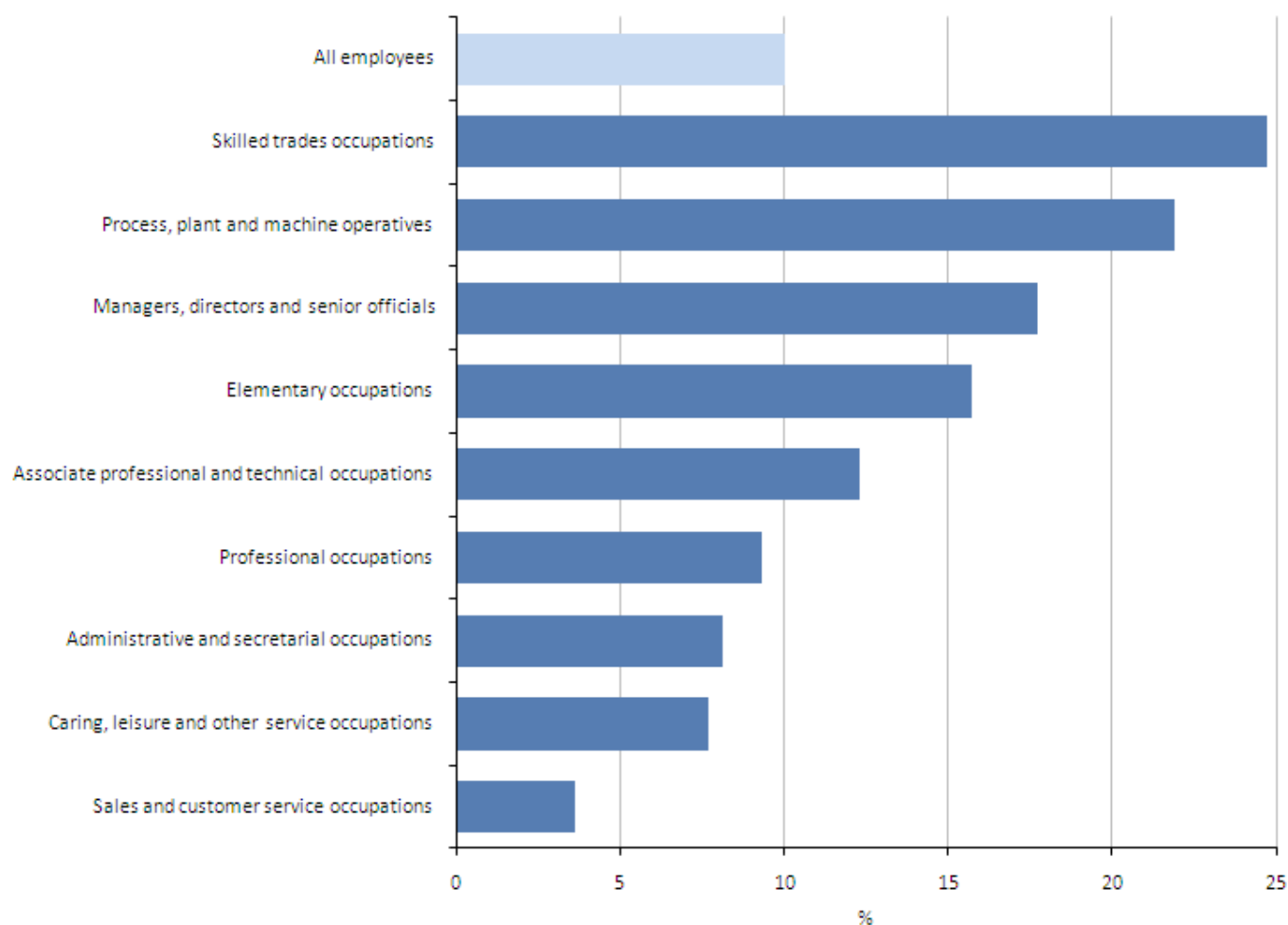
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ASHE allows the analysis of more specific occupations within these wider groups (although it should be noted that at this level the sample sizes are low for some occupations so the figures can be quite volatile). In April 2013 the highest paid occupation for full-time employees at this level was chief executives and senior officials, with median weekly earnings of £1,594. The next highest paid occupation was aircraft pilots and flight engineers, with median weekly earnings of £1,528 per week. At £257 per week, hairdressers and barbers were the lowest paid, followed by waiters and

waitresses, also at £257. A list of the top and bottom 10 highest and lowest earning occupations can be found in the accompanying reference tables.

Figure 14 shows the median gender pay differences for 2013 broken down by occupation group for full-time employees. In April 2013 the median gender pay gap was narrowest for sales and customer service occupations (3.6%) and widest for skilled trades occupations (24.7%).

Figure 14: Gender pay gap for median full-time hourly earnings (excluding overtime) by major occupation group, UK, April 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Occupations as defined by the Standard Occupational Classification 2010.
4. Gender pay gap is defined as the difference between men's and women's hourly earnings as a percentage of men's earnings.
5. 2013 data are provisional.

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For part-time employees there are large variations in the gender pay gap. In April 2013 the median gender pay gap was widest for managers, directors and senior officials (14.7%). The gender pay differences for administrative and secretarial occupations (-5.7%), caring, leisure and other service occupations (-0.9%) and elementary occupations (-0.8%) were 'negative', meaning that, in general, part-time female employees earned more than part-time male employees in these occupations.

London continues to top the regional earnings list

In April 2013 London topped the regional list for median earnings for full-time employees, at £658 per week. Employees here earned £121 more per week than the next highest, the South East (£537) and £140 more than the median for the whole of the UK (£517). London's high levels of pay are largely due to the fact that a high proportion of its labour force is employed in high-paying industries and occupations, and also because many employees are entitled to allowances for working in the capital. Northern Ireland (£460) was at the bottom of the regional list, with the North East (£470) and Wales (£472) completing the bottom three. This pattern has remained fairly constant over the last 16 years, with London and the South East consistently topping the list, and the North East, Wales and Northern Ireland generally having the lowest pay levels across the regions. The largest percentage increase in median weekly earnings between 1997 and 2013 was seen in Scotland, with an overall rise of 69%.

The regional earnings distribution differs by sex. While weekly earnings were highest in London for both sexes in 2013, earnings for men were lowest in Northern Ireland, at £477, and for women they were lowest in the East Midlands, at £409.

At the local authority level earnings vary significantly across Great Britain. In April 2013 full-time employees working in City of London had the highest median weekly earnings (£950) and those working in Rother had the lowest (£366). To explore these geographic differences further [an interactive map showing earnings by local authority](#) and [an animated chart showing changes in weekly earnings by region over time](#) are available.

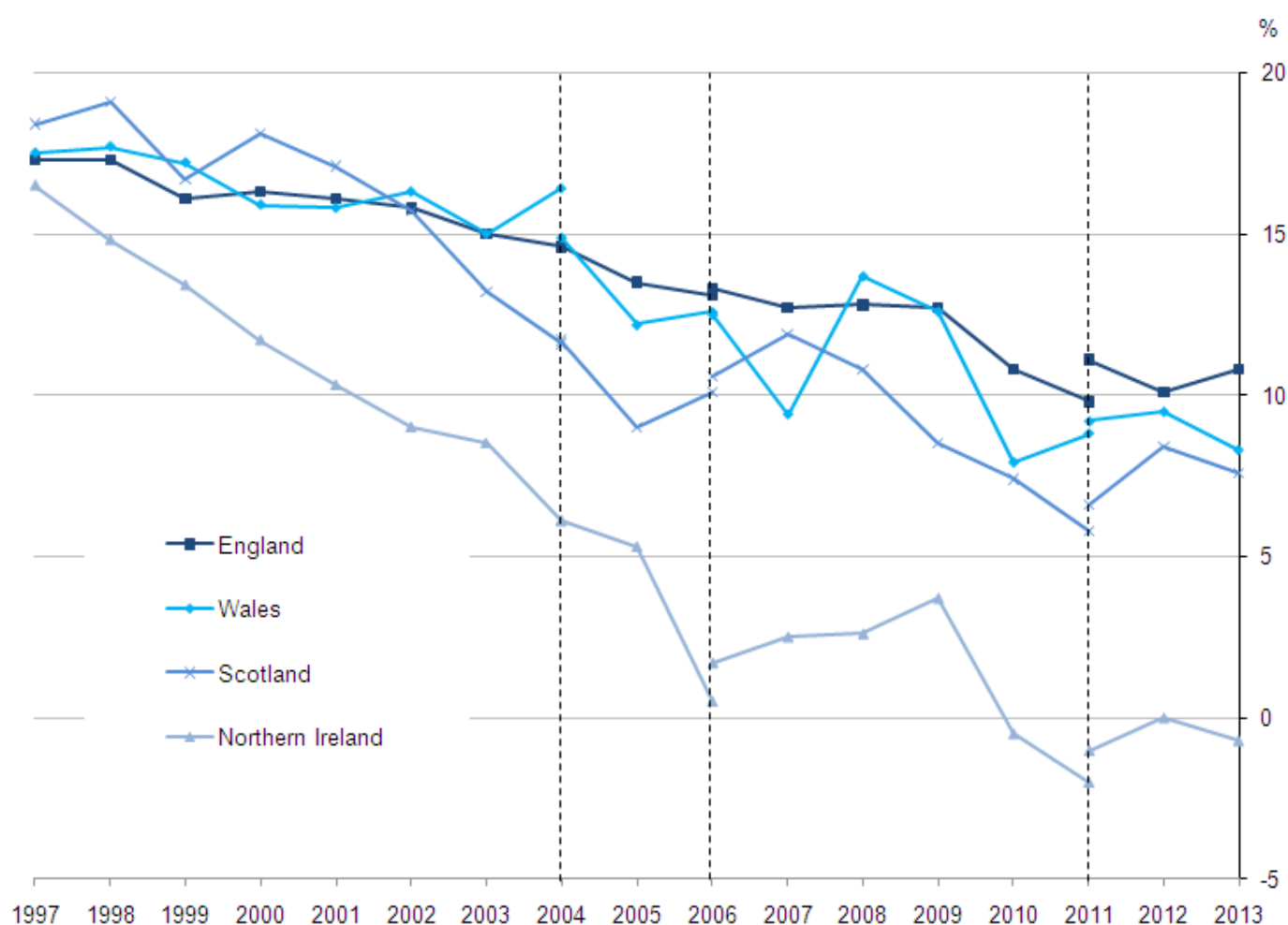
It should be noted that earnings comparisons take no account of variations in prices for goods and services between regions and therefore do not necessarily indicate differences in the standard of living. Neither do they take account of differences in the regional composition of the workforce, meaning that like-for-like comparisons may not be appropriate. For example, a region might have a lower level of median earnings than another if it has a higher proportion of employees in industries or occupations with relatively low earnings.

For the UK as a whole, the gender pay gap for median full-time hourly earnings (excluding overtime) was 10.0% in April 2013. However, there were variations in the pay gap between the different regions. The largest gender pay gap was 14.8% in the South East region, while the smallest was in Northern Ireland, at -0.7%. All other regions had a gender pay gap of over 7%. The small 'negative'

gender pay gap in Northern Ireland is, in part, due to a higher proportion of public sector jobs here than in the rest of the UK. There are more women employed in this sector than men and these jobs tend to be higher paid, in general, than in the private sector.

Over the period 1997 to 2013 the gender pay gap narrowed in every region. The largest fall was in Northern Ireland (from 16.5% to -0.7%) and the smallest was in London (15.1% to 13.2%). Figure 15 illustrates changes in the gender pay gap for the four UK countries over time.

Figure 15: Gender pay gap for median full-time hourly earnings (excluding overtime) by country, UK, April 1997 to 2013



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

Notes:

1. Employees on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Dashed lines represent discontinuities in 2004, 2006 and 2011 ASHE estimates.
4. Gender pay gap is defined as the difference between men's and women's hourly earnings as a percentage of men's earnings.
5. 2013 data are provisional.

Download chart

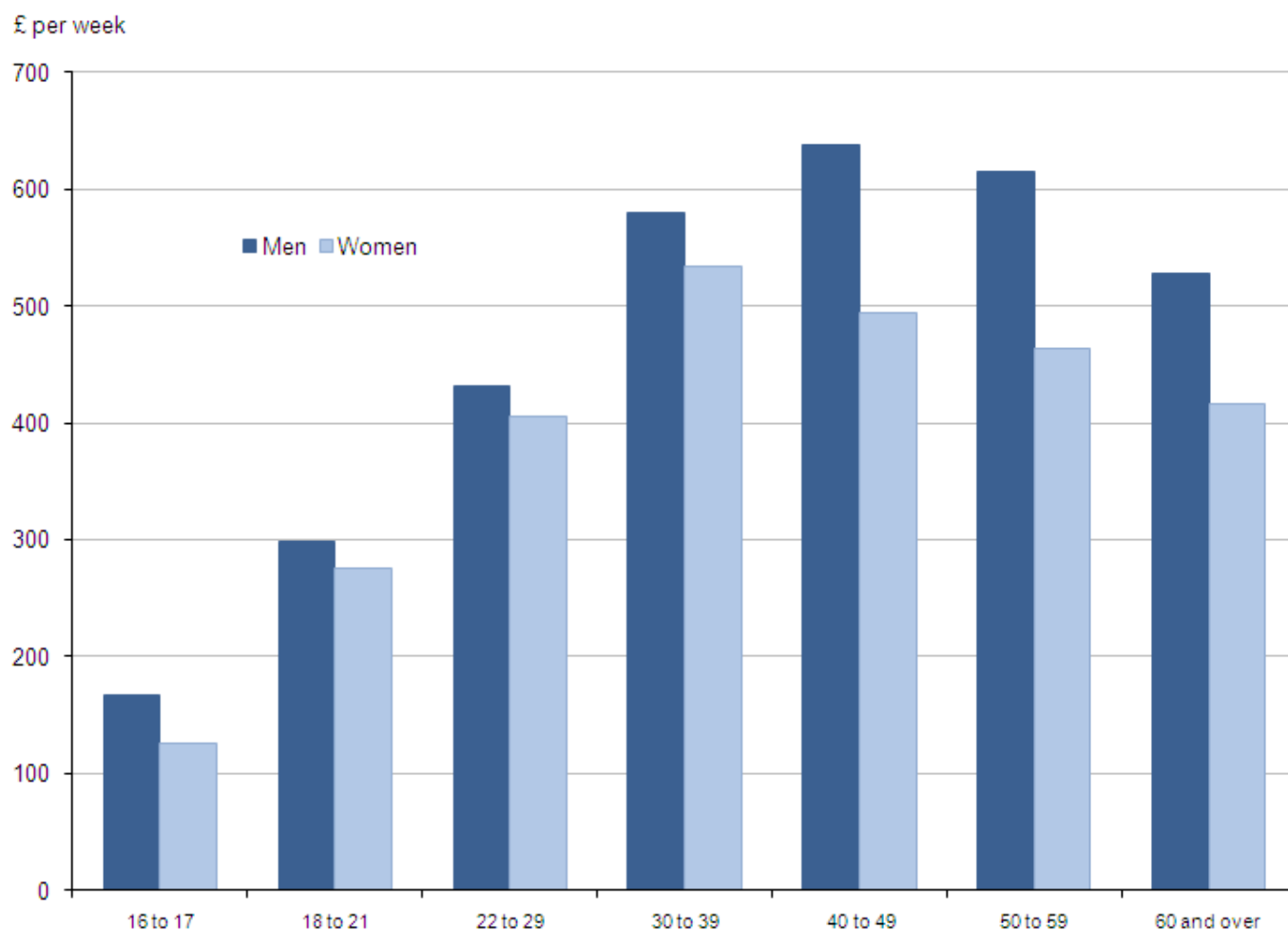
[XLS](#) [XLS format](#)

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Earnings continue to peak in the 40-49 age group

Median weekly earnings for full-time employees climb steadily with age, reaching a maximum in the 40-49 age group (£580 in April 2013), and declining thereafter (see Figure 16). Women's earnings peak earlier than those of men, reaching a high in the 30-39 age group (£533 in 2013), with men's reaching a high in the 40-49 age group (£638 in 2013). This pattern is seen every year over the period 1997 to 2013.

Figure 16: Median full-time gross weekly earnings by sex and age group, UK, April 2013



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

Notes:

1. All employees aged 16-17 and employees aged 18 and over on adult rates, pay unaffected by absence.
2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).

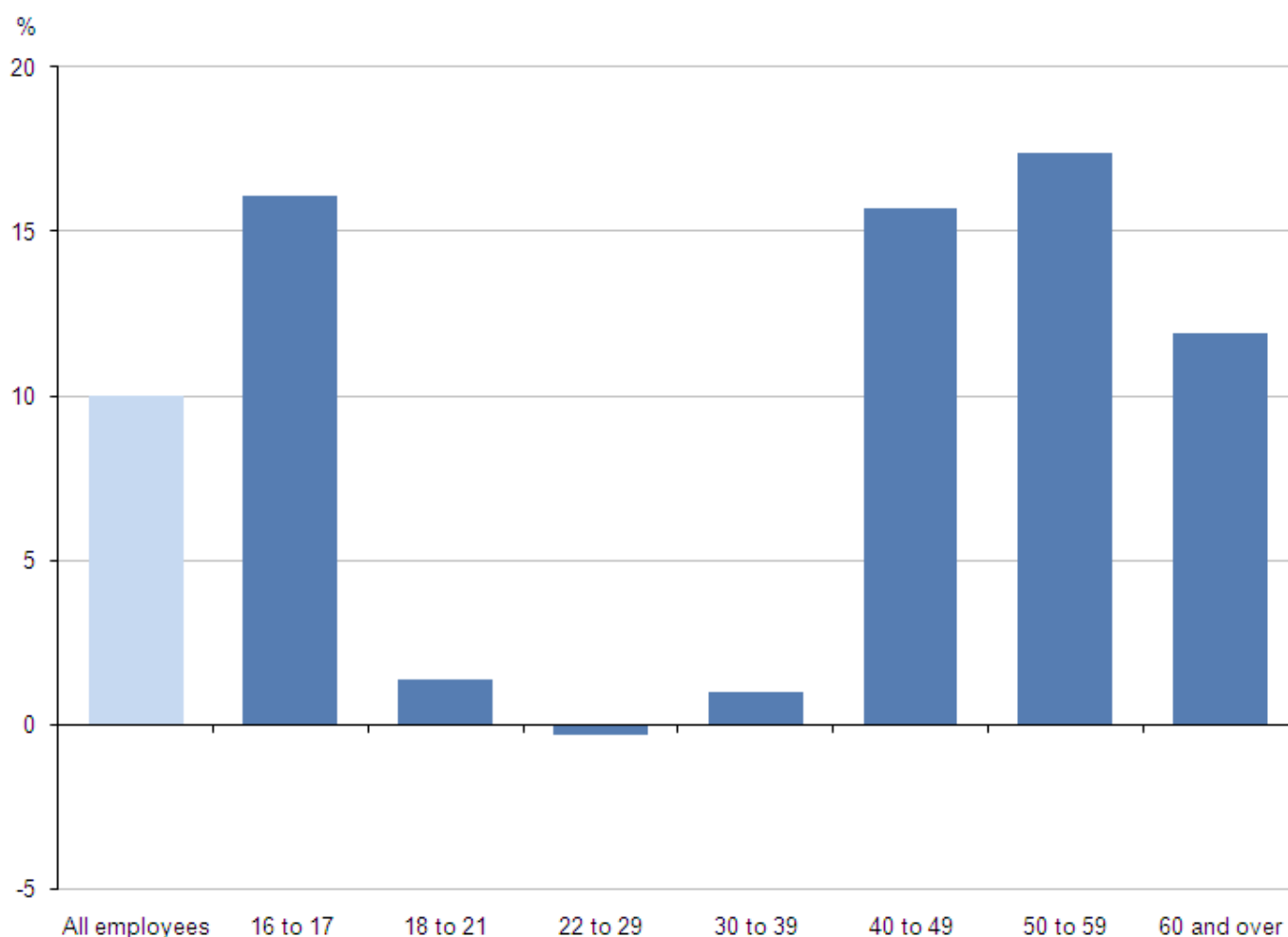
3. 2013 data are provisional.

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Figure 17 shows median gender pay differences by age group based on full-time hourly earnings (excluding overtime). The gender pay gap is relatively small in age groups up to, and including, the 30-39 age group (with the exception of the 16-17 age group), but is relatively large thereafter. This is likely to be connected with the fact that many women have children and the time taken out of the labour market, combined with career choices they make subsequent to this, may impact on their earnings thereafter.

Figure 17: Gender pay gap for median full-time hourly earnings (excluding overtime) by age group, UK, April 2013



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

Notes:

1. All employees aged 16-17 and employees aged 18 and over on adult rates, pay unaffected by absence.

2. Full-time defined as employees working more than 30 paid hours per week (or 25 or more for the teaching professions).
3. Gender pay gap is defined as the difference between men's and women's hourly earnings as a percentage of men's earnings.
4. 2013 data are provisional.

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(66.5 Kb)

Proportion of jobs paid below the national minimum wage remains stable

ASHE data can also be used to examine the number of low paid jobs in the UK workforce.

In April 2013 the number of UK jobs paid below the national minimum wage was 279,000, accounting for 1.1% of all jobs in the labour market. This proportion has remained fairly constant over recent years.

There were three rates for the national minimum wage in April 2013: one for those aged between 16 and 17 (£3.68 per hour), one for those aged between 18 and 20 (£4.98 per hour) and one for those aged 21 and over (£6.19 per hour).

The number of jobs paid below the national minimum wage (and the proportion within each age group) was:

- 19,000 jobs (7.3%) held by those aged 16 to 17;
- 57,000 jobs (5.5%) held by those aged 18 to 20; and
- 203,000 jobs (0.8%) held by those aged 21 and over.

In 2013 people in part-time work were more likely than people in full-time work to be paid less than the minimum wage, with 1.4% of part-time jobs and 0.9% of full-time jobs falling below the minimum wage. Jobs held by women were slightly more likely to fall below the minimum wage than jobs held by men (1.1% compared with 1.0%). This is primarily 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. [Further information](#) can be found in the 2013 low pay bulletin.

Background notes

1. Survey details

ASHE is based on a 1% sample of employee jobs taken from HM Revenue and Customs (HMRC) Pay As You Earn (PAYE) records. Information on earnings and paid hours is obtained in confidence from employers. ASHE does not cover the self-employed nor does it cover employees not paid during the reference period. In 2013 the information related to the pay period which included 17 April. The 2013 ASHE is based on approximately 184 thousand returns. [More detailed information about the survey](#) is available on the ONS website.

2. Survey history

ASHE replaced the New Earnings Survey (NES) as ONS's main source of information on the distribution of earnings in 2004. [Articles describing the ASHE methodology and the impact of its introduction on 1997 to 2003 data](#) can be found on the ONS website. 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.
- For ASHE the median replaces the mean as the headline statistic.

There have been a number of changes to the ASHE methodology over the years, which has resulted in three breaks in series (in 2004, 2006 and 2011). These changes are described below.

Changes in 2004

Since 2004, supplementary survey 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 HMRC records and the survey reference period in April. 2004 results are also available excluding the supplementary information so as to be comparable with the back series for 1997 to 2003, which was generated by imputing and weighting data from NES.

Changes in 2005

A new questionnaire was introduced for the 2005 survey. The changes on the questionnaire were:

- the exclusion of incentive payments paid outside the pay period; and
- the inclusion of pay for other reasons.

[Details on the impact of introducing the new questionnaire](#) can be found on the ONS website.

Changes to the wording and definitions meant that some of the information requested from respondents differed from that supplied in previous surveys. The introduction of the pay 'for other reasons' question resulted in the inclusion of earnings information which may not have been collected in the past. Results for 2004 including supplementary information were reworked

to allow for this missing pay. [More details on the methodology involved in estimating pay for other reasons](#) can be found on the ONS website.

In addition, the definition of incentive/bonus pay changed in 2005 to only include payments that were paid and earned in April. This brought the definition more in line with that used in the Average Earnings Index (and subsequently Average Weekly Earnings) and has resulted in greater consistency of ASHE results due to the fact that the data reported do not depend on the reference date of the questionnaire or when annual bonuses are paid, as in previous years. Results for 2004 including supplementary information were reworked to exclude irregular bonus/incentive payments to make them consistent with results from 2005 onwards. Therefore ASHE results for 2004 onwards include incentive payments 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, estimates for payments by results in the pay period are understated from 2004 onwards as incentive payments made in a later pay period than the pay period in which the work is carried out are not captured. However, the estimates are improved relative to previous years, when estimates were overstated due to the capture of some annual incentive payments in monthly or weekly pay periods.

The adjustments made to the 2004 data in order to produce estimates comparable with the 2005 data also had an 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 more than the public 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. Therefore, public sector estimates increased more than the private sector estimates when other pay was included.

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 that from 2006:

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

In addition, from 2006 the LFS 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 2 (April-June).

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 introduced a discontinuity into results from 2004. Therefore a consistent series which takes into account all of these changes has been produced going back to 2004. For 2004, results are also available that exclude supplementary information so as to allow comparisons 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 the ASHE was to be reduced by 20%. ASHE results for 2007 and 2008 are based on approximately 145 thousand returns, down from 175 thousand in 2006. The impact of this change was 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 did not affect Northern Ireland; neither did it affect a number of organisations with an agreement to provide information electronically.

ONS also introduced a small number of methodological changes, which improved the quality of the results. These included 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 have been:

- An improvement in the quality and consistency of ASHE results.
- Out-of-date codes are updated annually.
- ACTR provides ASHE and ONS with a standard tool for coding occupation.

The methodological changes made in 2007 have been applied to the 2006 ASHE so that from 2006 to 2011 results are available on the same basis. For 2006, results are also available on a continuous basis with 2004 and 2005.

[Further information](#) can be found on the ONS website.

Changes in 2008

In May 2008 the LFS was re-weighted to the latest (2007/08) population estimates. Previously LFS results were based on population totals published in 2003. The revised LFS figures were used for the 2007 (revised) and 2008 ASHE results. The impact of the new weights on the ASHE estimates for 2007 was small.

Changes in 2009

In 2009 the 1% sample of employees whose employers had registered PAYE schemes was restored, following the two years in which the sample size was reduced by 20%. ASHE results for 2009 were based on approximately 179 thousand returns, up from 146 thousand returns in 2008.

Standard Industrial Classification (SIC) 2007 replaced SIC 2003 as the classification used to present earnings statistics for ASHE. The first year available on the new basis is 2008. From 2009 onwards the figures are presented on the SIC 2007 basis only.

It is also important to note that ASHE includes breakdowns by public and private sector according to the legal status of the employers. Between 2008 and 2009 Lloyds Banking Group, the Royal Bank of Scotland Group and Northern Rock were reclassified from the private sector

to the public sector. Interpretation of public / private sector movements is therefore more difficult between 2008 and 2009 than in previous years.

Changes in 2010

In 2010 the system underpinning the ASHE sample, HMRC's PAYE system, was replaced. Where the previous system represented employers' accounts, the new system reflects the PAYE pay and tax details of individuals. The introduction of this new PAYE system resulted in a discontinuity in the way that employments are created and recorded. The change had a minimal impact on the ASHE sample and the results for 2010.

The change in the survey's sampling frame has extended the coverage of ASHE to all levels of earnings, and this extension has improved the quality of the estimates going forward.

Changes in 2011/12

In March 2012 the 2011 ASHE estimates were published on a Standard Occupational Classification (SOC) 2010 basis (they had previously been published on a SOC 2000 basis). Since the SOC forms part of the methodology by which ASHE data are weighted to produce estimates for the UK, this release marked the start of a new time series and therefore care should be taken when making comparisons with earlier years.

3. Definitions

The headline statistics for ASHE are based on the median rather than the mean. The median is the value below which 50% of employees fall. It is ONS's preferred measure of average earnings as it is less affected by a relatively small number of very high earners and the skewed distribution of earnings. It therefore gives a better indication of typical pay than the mean.

The earnings information collected relates to gross pay before tax. Gross pay includes pay before deductions for PAYE, National Insurance, pension schemes, student loan repayments and voluntary deductions. It includes basic, overtime, shift premium, bonus or incentive pay (relating to work carried out in the pay period) and any other pay but excludes expenses, the value of salary sacrifice schemes and payments in kind.

Weekly and hourly figures in this article and accompanying reference tables relate to 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, etc. Also, they do not include the earnings of employees not on adult rates of pay, most of whom will be young people. Annual figures relate to employees on adult rates who had been in the same job for at least 12 months, including those whose pay was affected by absence.

With the exception of annual earnings, the estimates are restricted to earnings relating to the survey pay period and so exclude payments of arrears from another period made during the survey period. Payments due as a result of a pay settlement but not yet paid at the time of the survey are also 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.

Full-time employees are defined as those who work more than 30 paid hours per week or, for teaching professions, those who work 25 or more paid hours per week.

ASHE breakdowns by public and private sector are produced according to the legal status of the employers. The private sector is comprised of businesses whose legal status is defined as 'Company', 'Sole Proprietor' or 'Partnership' and the public sector is comprised of those defined as 'Public Corporation', 'Central Government' or 'Local Authority'.

[More details on the methodology for the survey](#) can be found on the ONS website.

4. 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.
- The structural effects of changes in the composition of the ASHE sample and the employed labour force.

5. Quality information

ASHE aims to provide high quality statistics on the structure of earnings for various industrial, geographical, occupational and age-related breakdowns. However, the quality of these statistics varies depending on various sources of error.

Sampling error results from differences between a target population and a sample of that population. Sampling error varies partly according to the sample size for any particular breakdown or 'domain'. Indications of the quality of ASHE estimates are provided in the form of coefficients of variation (CV). The coefficient of variation is the ratio of the standard error (SE) of an estimate to the estimate, expressed as a percentage. Generally, if all other factors are constant, the smaller the CV the higher the quality of the estimate. Tables of CVs corresponding to estimates are published alongside the estimates themselves.

It should be noted that at low levels of disaggregation high coefficients of variation imply estimates of low quality. For example, for an estimate of £400 with a CV of 10%, the true value is likely to lie between £321.60 and £478.40. This range is given by the estimate $\pm 1.96 \cdot SE$. Where these ranges for different estimates overlap, interpretation of differences between the relevant domains becomes more difficult.

ASHE statistics are also subject to non-sampling errors. For example, there are known differences between the coverage of the ASHE sample and the target population (i.e. all employee jobs). Jobs that are not registered on PAYE schemes are not surveyed. These jobs are known to be different to the PAYE population in the sense that they typically have low levels of pay. Consequently, ASHE estimates of average pay are likely to be biased upwards with respect to the actual average pay of the employee population. Non-response bias may also

affect ASHE estimates. This may happen if the jobs for which respondents do not provide information are different to the jobs for which respondents do provide information. For ASHE, this is likely to be a downward bias on earnings estimates since non-response is known to affect high-paying occupations more than low-paying occupations.

Finally, ASHE results tables do not account for differences in the composition of different 'slices' of the employee workforce. For example, figures for the public and private sectors include all jobs in those sectors and are not adjusted to account for differences in the age, qualifications or seniority of the employees or the nature of their jobs, all factors which may affect how much employees earn.

[Further information about the quality of ASHE \(57.5 Kb Pdf\)](#), including a more detailed discussion of coverage and non-response errors, is available on the ONS website. In addition, [a Summary Quality Report for ASHE \(189.4 Kb Pdf\)](#) can be found on the ONS website. This report describes, in detail, the intended uses of the statistics presented in this publication, their general quality and the methods used to produce them. [More information about the uses of ASHE statistics \(81 Kb Pdf\)](#) can also be found on the ONS website.

6. Revisions

In line with normal practice this article and accompanying reference tables contain revised estimates from the previous year's survey, in this case the 2012 results (which were first published on 22 November 2012). These take account of some corrections to the original 2012 data which were identified during the validation of the results for 2013, as well as late returns. Both the provisional 2013 ASHE estimates and the revised estimates for 2012 were published on 12 December 2013.

7. Other earnings information

Each month ONS also collects information on earnings from the Monthly Wages and Salaries Survey, used to construct the Average Weekly Earnings (AWE) indicator. This survey asks 9,000 employers to provide information about total pay and numbers of employees and allows statistics to be produced on changes in mean earnings for broad industrial breakdowns and public/private sector splits. No information is available on demographic characteristics, occupation, paid hours worked, and other characteristics of the workforce. The AWE is ONS's lead measure of short-term changes in average earnings in Great Britain.

The AWE and ASHE are not directly comparable on all measures of earnings (for example, despite ASHE providing a more accurate estimate of levels of gross pay, AWE captures bonus payments better). The closest measure that can be derived and compared for these surveys is for mean gross weekly pay (excluding bonuses) for Great Britain. These figures tend to be higher for ASHE than the equivalent AWE figures. In April 2013 the ASHE estimate of mean gross weekly pay (excluding bonuses) for all employees (regardless of whether they were full-time or part-time) was £498, up 2.2% on the previous year. The comparable estimate from the AWE, regular pay (which excludes bonuses and arrears of pay), was £446, up 1.3% from April 2012.

Another source of earnings information is the LFS. This 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 ethnic 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.

[Further information on both of these data sources](#) can be found on the ONS website.

8. Published tables

National averages of earnings hide wide variations between different collective agreements, industries, occupations, regions and age groups. [The published tables containing the detailed annual ASHE results for the UK](#) include analyses of each of these and can be found on the ONS website.

Low pay estimates show the number of jobs paid below the national minimum wage in the UK. The estimates are produced using a methodology based solely on ASHE data. [Further information on the low pay methodology](#) and [detailed results](#) can be found on the ONS website.

9. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods; and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

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