Office for National Statistics

Compendium

Distribution of earnings by employee characteristics in the UK: 2017

Analysis of the distribution of earnings by employee characteristics including sex, age and working pattern level using Annual Survey of Hours and Earnings (ASHE) provisional 2017 data and previous ASHE datasets. Focuses on earnings growth for those in employment between two consecutive years.

Contact:
Ellys Monahan
economic.advice@ons.gov.uk
+44 (0)1633 455783

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1 . Main points

- A greater proportion of women earned the National Living Wage (NLW) in 2017 than men, as shown by the modal peak (11.9% and 7.2% respectively).
- Wage stickiness was experienced more by men than by women in 2017.
- In 2017, nearly 1 in 5 part-time employees earned close to the NLW, while around 1 in 20 of full-time employees earned this wage.
- In 2017, the median real growth rate was 0.5 percentage points higher for part-time employees at 0.6%, compared with that for full-time employees (0.1%).
- A greater share of the employees in older age groups tended to dominate the higher end of the hourly earnings distribution when compared with younger age groups in 2017.
- A greater share of the employees in the older age groups faced stagnating wages, with less than a percentage point growth in 2017 when compared with the other age groups.

2 . Introduction

Chapter 1 of the compendium presented the headline earnings distribution analysis of the experience of the UK. Further analysis of earnings disaggregated by employees characteristics using the Annual Survey of Hours and Earnings (ASHE) is undertaken. Earnings levels, distributional outcomes and growth are analysed by working pattern, age and sex.

3 . Earnings by sex

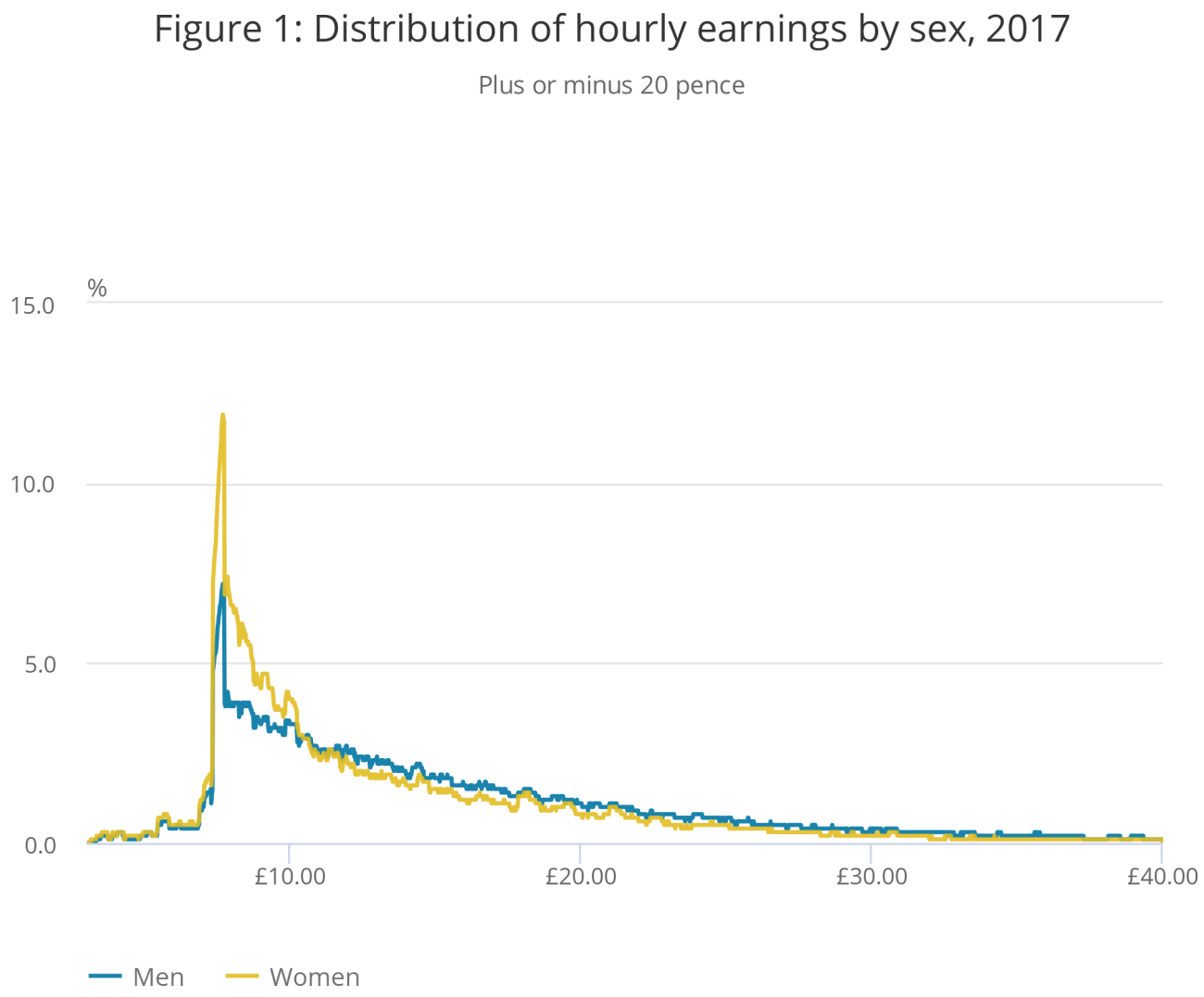
Distribution

Men and women tend to have different earnings profiles. The share of women earning close to the National Living Wage (NLW) is often higher than that of men, who are usually in higher hourly earnings pay brackets. Further analysis of the distribution of earnings by gender is covered in the article Understanding the gender pay gap in the UK.

Gender pay gap in the UK: 2018 contains the latest data on the percentage difference between men's and women’s median hourly earnings, across all jobs in the UK. This analysis helps to monitor progress towards global indicators 8.5.1 of the UN's Sustainable Development Goals.

Figure 1: Distribution of hourly earnings by sex, 2017

Plus or minus 20 pence



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

Notes:

1. 2017 data are provisional.

2. Each point on the x-axis represents a rolling sum of the density of jobs receiving greater than or equal to 20 pence below, and strictly less than 20 pence above, the stated hourly earnings.

3. As the density records the rolling sum of jobs paid within 20 pence of the stated amount at each point on the x-axis, jobs paid the April 2017 adult National Living Wage (£7.50) will appear between the x-axis values of £7.30 and £7.70.

4. The 2017 NLW refers to the April 2017 Adult National Living Wage of £7.50.

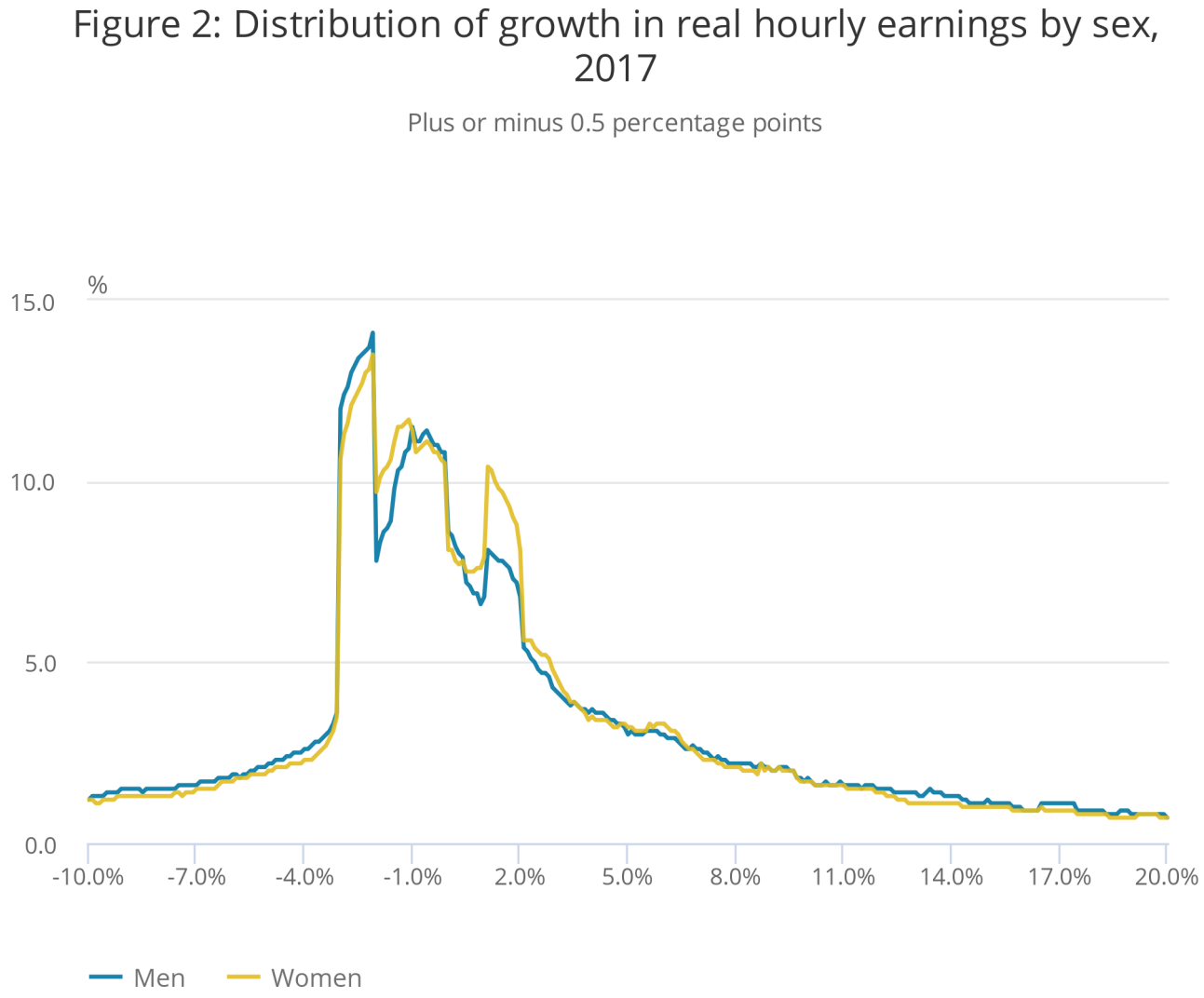
Figure 1 shows that for both men and women, the earnings distributions followed the characteristic trend introduced in Chapter 1 of the compendium: positively skewed and centred around the 2017 NLW rate of £7.50 an hour. A greater proportion of women earned the NLW in 2017, as shown by the modal peak experienced by 11.9% of women and 7.2% of men. Each distribution shows a long thinning right-hand tail representing the steadily falling share of employees earning higher wages. The left-hand tail suggests that relatively few jobs were paid less than the NLW (including employees under the age of 25 years earning alternative minimum wages). A greater share of men than women received hourly earnings of more than £12, although previous analysis suggested that the gap between the earnings profiles of men and women has declined substantially since 1997 .

Growth

Analysis of the growth of earnings by sex provides further understanding of the distributional outcomes for employees. Figure 2 presents the distributions of growth in real hourly earnings by sex in 2017.

Figure 2: Distribution of growth in real hourly earnings by sex, 2017

Plus or minus 0.5 percentage points



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

Notes:

1. 2017 data are provisional.

2. For each growth rate on the horizontal axis, the area under the curve indicates a portion of employees who experienced earnings growth within 0.5 percentage points of that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

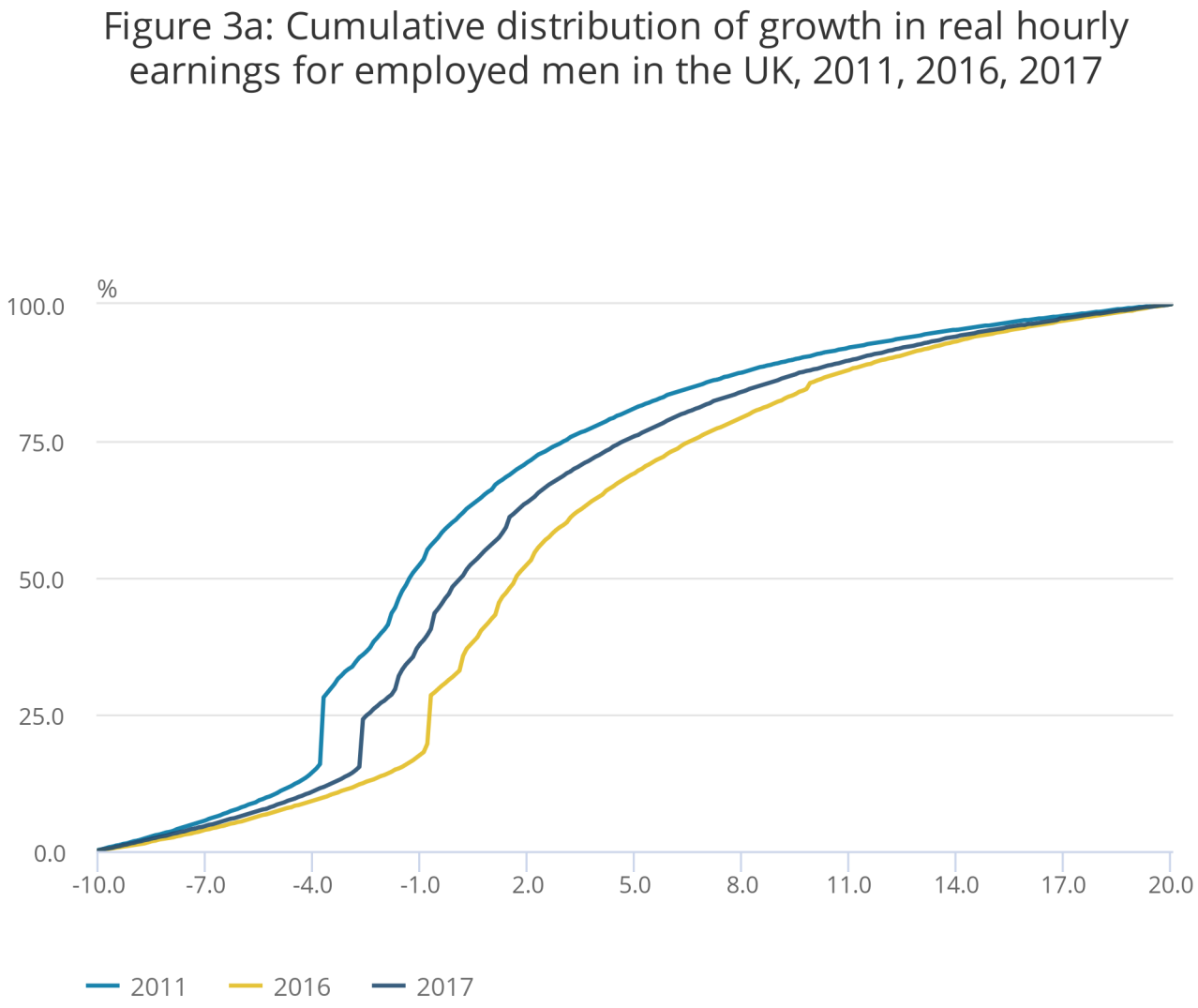
4. Note that the proportion of employees experiencing a pay growth of 4.2% may not reflect the proportion of employees on the National Living Wage in the earnings distribution in April 2017. This is because the growth analysis is focusing on employed employees in two consecutive periods and not just in April 2017.

Figure 2 highlights wage stickiness, where employees received a pay growth of 0.0% in nominal terms, and around negative 2.5% in real terms, as earnings failed to respond to macroeconomic conditions. Wage stickiness was experienced by a greater proportion of men than that of women.

The NLW increased by 1.5% in real terms in 2017, as shown by the peaks on the figure for both men and women. A higher proportion of women experienced this wage growth, which is expected, given that Figure 1 showed a higher proportion of women earning the NLW compared with men.

An alternative visualisation of the distribution of real earnings growth by sex can be shown using cumulative percentage frequency charts. Figures 3a and 3b show the cumulative distribution of growth in real hourly earnings for men and women.

Figure 3a: Cumulative distribution of growth in real hourly earnings for employed men in the UK, 2011, 2016, 2017



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

Notes:

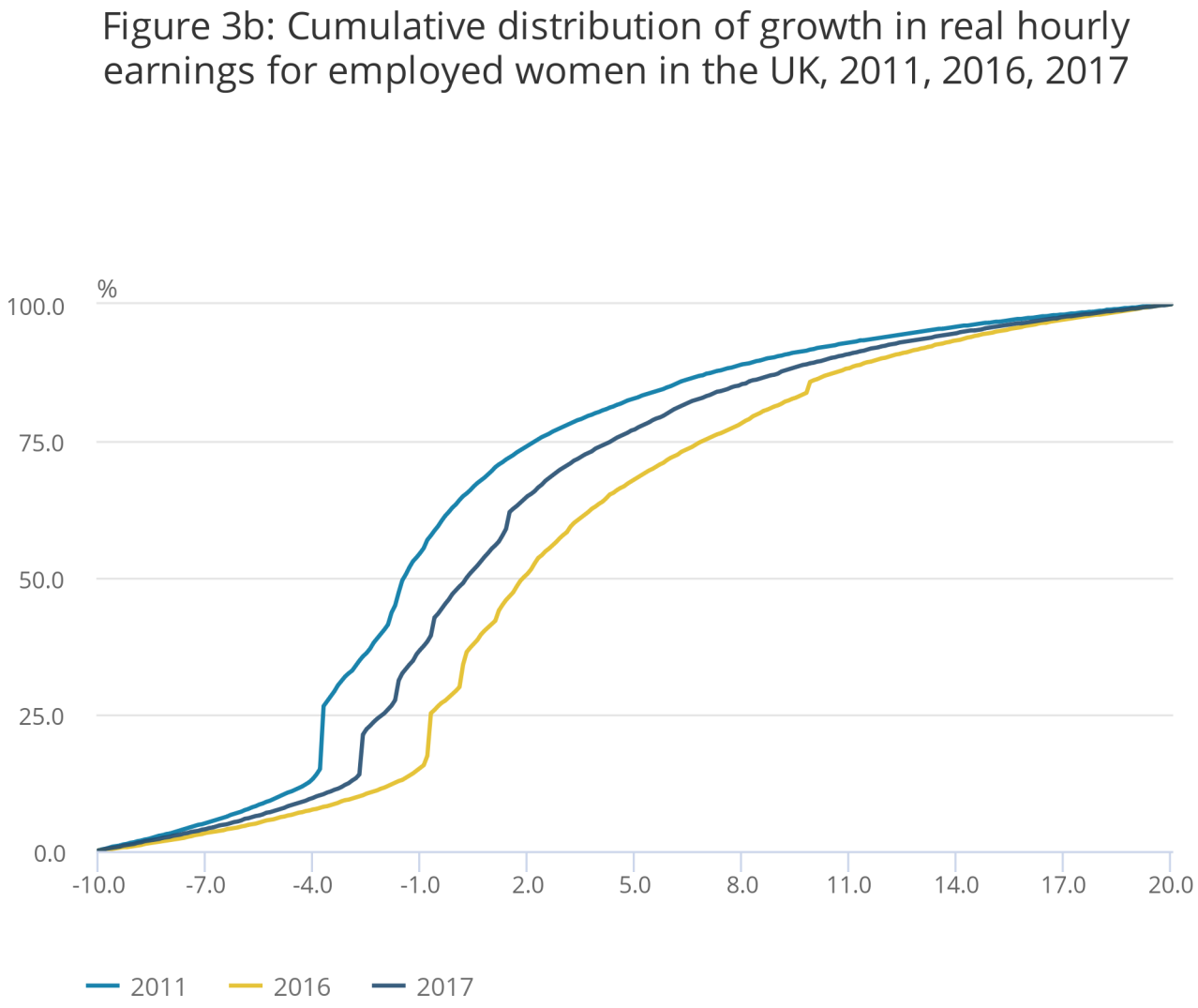
1. 2017 data are provisional.

2. For each growth rate on the horizontal axis, the curve indicates the proportion of employees who experienced earnings growth at that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2010 and 2011, 2015 and 2016, and 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

4. This figure only looks at employees whose pay growth between 2016 and 2017 fell between negative 10% and positive 20%. As such, the proportion of employees on the y-axis should not be interpreted as the entire population of employees.

Figure 3b: Cumulative distribution of growth in real hourly earnings for employed women in the UK, 2011, 2016, 2017



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

Notes:

1. 2017 data are provisional.

2. For each growth rate on the horizontal axis, the curve indicates the proportion of employees who experienced earnings growth at that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2010 and 2011, 2015 and 2016, and 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

4. This figure only looks at employees whose pay growth between 2016 and 2017 fell between negative 10% and positive 20%. As such, the proportion of employees on the y-axis should not be interpreted as the entire population of employees.

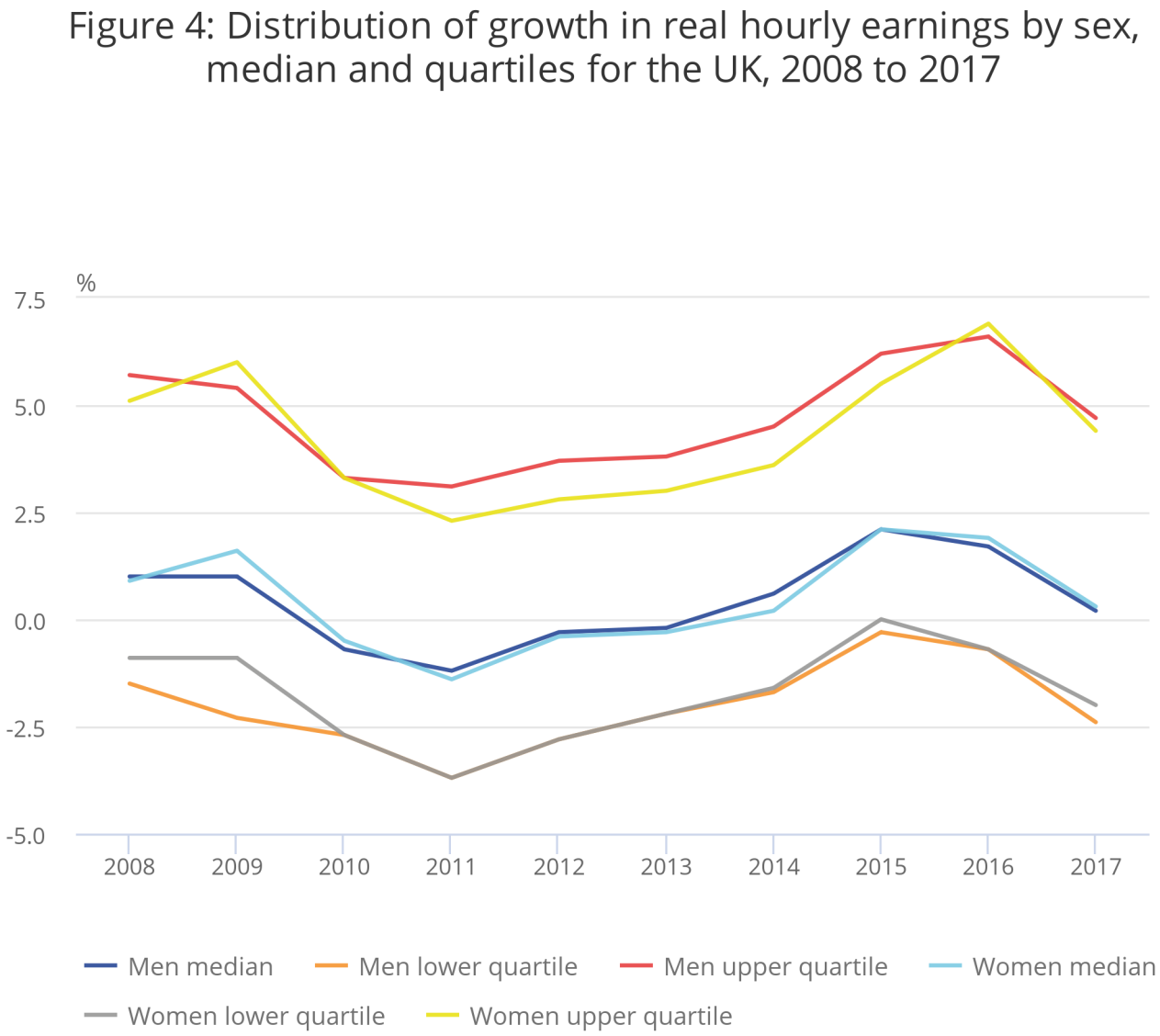
Figures 3a and 3b show the characteristic trend introduced in Chapter 1 of the compendium, with fewer men and women experiencing a pay decrease or freeze in real terms in the year to April 2016 compared with the years 2011 and 2017. The year 2011 saw the fewest number of men and women who experienced positive pay growth in real terms. Figures 3a and 3b show the growth in earnings improved to 2016, represented by the curves shifting rightwards, and in 2017 worsened with the curves shifting leftwards.

Wage stickiness (0.0% nominal growth) is shown by spikes in the proportions of those experiencing real wage growth of around negative 3.7% in 2011, negative 0.7% in 2016 and negative 2.5% in 2017 in Figures 3a and 3b. The spikes are more prominent for men than for women across all years. Wage stickiness in 2011 may be partially attributed to the pay freeze for public sector employees announced in the 2010 Budget.

In 2011, the median real wage growth rate (note that this is a different concept to the growth in the median) was 0.2% higher, at negative 1.3%, for men compared with that for women. This trend was reversed when the median real wage growth rate was 0.2% higher in both 2016 and 2017 for women, at 1.9% and 0.3% respectively.

Further analysis of the median, upper quartile and lower quartile real wage growth rates over time is shown in Figure 4

Figure 4: Distribution of growth in real hourly earnings by sex, median and quartiles for the UK, 2008 to 2017



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

Notes:

1. 2017 data are provisional.

2. Each line on the figure indicates the lower quartile, median and upper quartile growth rates over time.

3. This figure uses individual level data from ASHE to calculate the growth of nominal weekly earnings for employees observed in pairs of years. For example, in 2010 and 2011, 2011 and 2012, 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

Figure 4 shows that the lower quartile and upper quartile real wage growth rates follow a similar trend to the median real growth rate for both men and women. As shown in Chapter 1 of the compendium, throughout the economic downturn and until 2011, real wage growth rates followed a decreasing trend, before increasing until 2015 or 2016. More recently, the real wage growth rates have been on a decreasing trend.

The lower quartile real growth rate for all years (excluding women in 2015) was negative as each year wages have been decreasing on the year prior. Growth rates for men and women were most similar compared with the median and lower quartile growth rate. For both sexes, real wage growth for the median and lower quartile was highest in 2015, while 2016 saw the highest growth for the upper quartile.

The median real wage growth rate tracks the lower quartile real wage growth rate closely from 2010 onwards, with little difference in the growth rates.

The upper quartile real wage growth rate shows the most difference between sexes. From 2011, women experienced a lower growth rate than men, excluding 2016, when women experienced a higher growth rate. The difference between the two series was greatest in 2012, with a difference of 0.9 percentage points.

4 . Earnings by working pattern

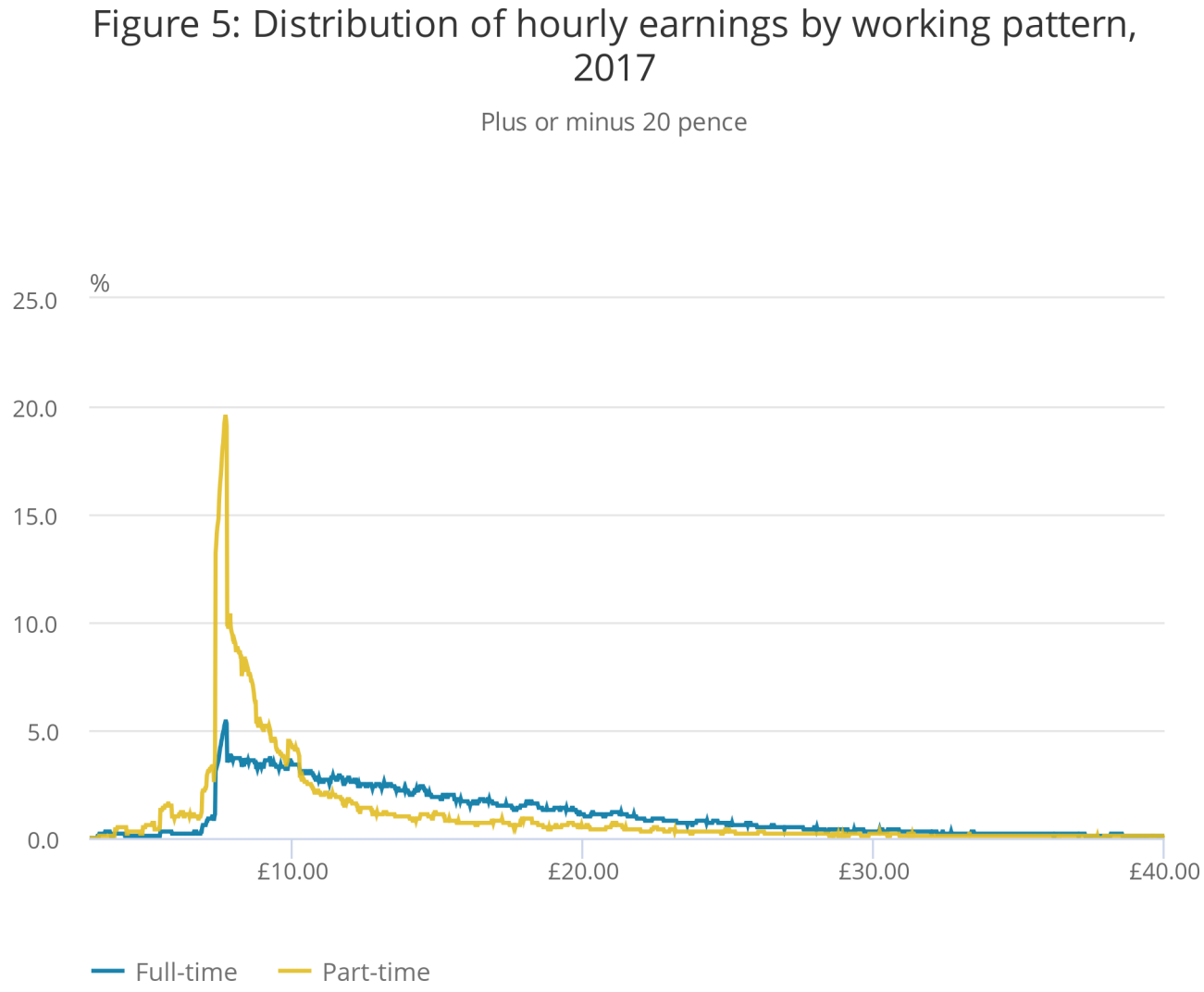
Distribution

The composition of working patterns can be an important factor in the analysis of the distribution of earnings.

Figure 5 shows the differences between full- and part-time employees’ hourly earnings distributions in 2017.

Figure 5: Distribution of hourly earnings by working pattern, 2017

Plus or minus 20 pence



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

Notes:

1. 2017 data are provisional.
2. Each point on the x-axis represents a rolling sum of the density of jobs receiving greater than or equal to 20 pence below, and strictly less than 20 pence above, the stated hourly earnings.
3. As the density records the rolling sum of jobs paid within 20 pence of the stated amount at each point on the x-axis, jobs paid the April 2017 adult National Living Wage (£7.50) will appear between the x-axis values of £7.30 and £7.70.
4. The 2017 NLW refers to the April 2017 Adult National Living Wage of £7.50.
5. Full-time employees are defined as those working more than 30 paid hours per week (or 25 hours or more for the teaching professions).

The earnings distributions of both full-time and part-time employees followed the characteristic trend introduced in Chapter 1 of the compendium: positively skewed and centred around the 2017 National Living Wage (NLW) rate of £7.50 an hour. More part-time employees (19.6%) earned an hourly wage close to the NLW than full-time employees (5.4%) in 2017. The long thinning right-hand tail of each distribution indicates the falling share of employees earning higher wages. Full-time employees are characterised by a more varied earnings distribution with a greater proportion of full-time employees earning more than £10.24 an hour compared with part-time employees. The left-hand tail suggests that relatively few jobs were paid less than the NLW (including employees under the age of 25 years earning alternative minimum wages).

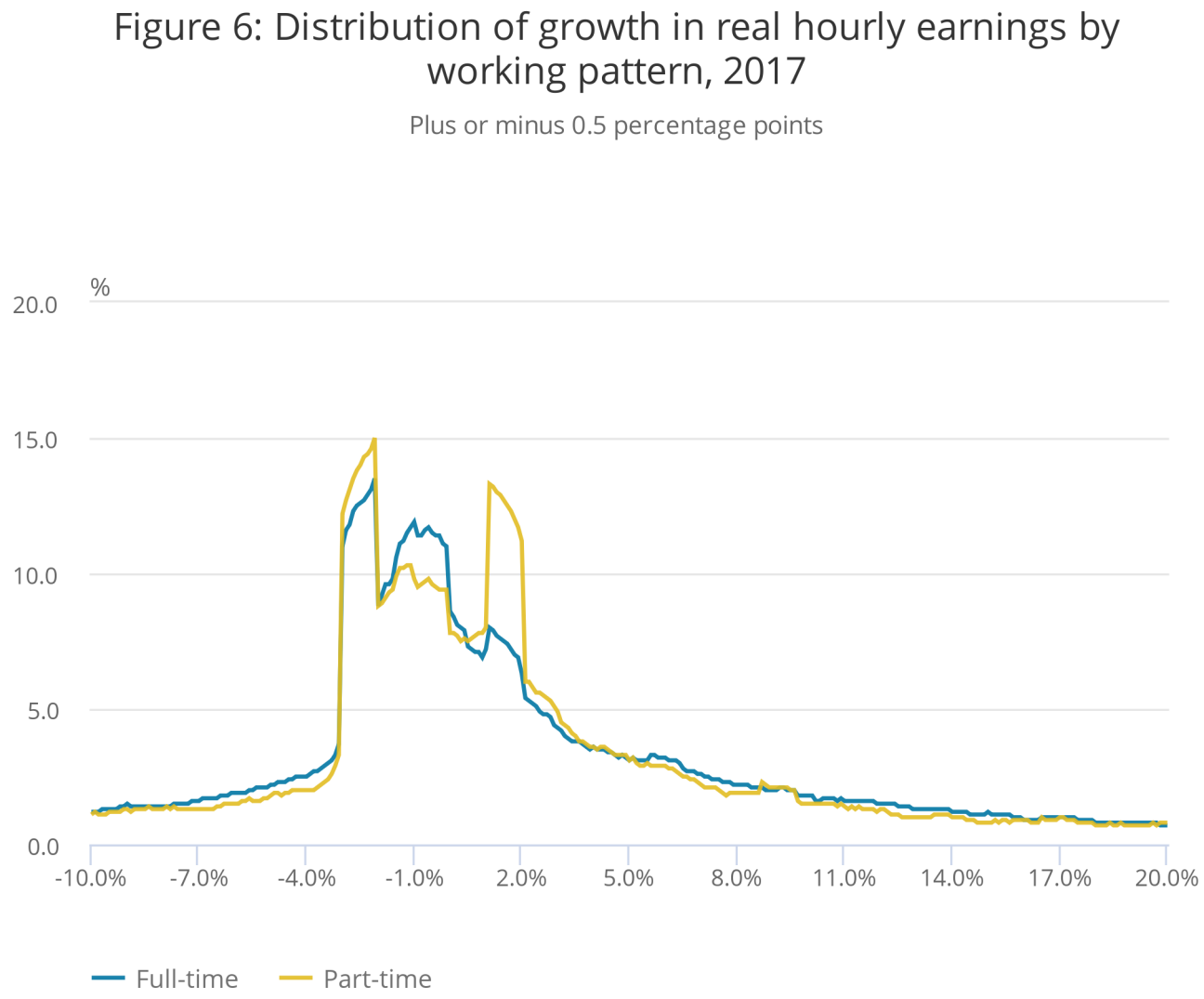
Given that more women and more part-time employees earned wages close to the NLW, it is interesting to explore the sex make-up of part-time and full-time employees. A greater proportion of part-time employees are women compared with men. A greater proportion of women work part-time compared with full-time.

Growth

Insight into the distributional outcomes for employees can be obtained by further analysis on the growth of earnings. Figure 6 presents the distributions of real hourly earnings growth in 2017 by working pattern.

Figure 6: Distribution of growth in real hourly earnings by working pattern, 2017

Plus or minus 0.5 percentage points



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

Notes:

1. 2017 data are provisional.

2. For each growth rate on the horizontal axis, the area under the curve indicates a portion of employees who experienced earnings growth within 0.5 percentage points of that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

4. Note that the proportion of employees experiencing a pay growth of 4.2% may not reflect the proportion of employees on the National Living Wage in the earnings distribution in April 2017. This is because the growth analysis is focusing on employed employees in two consecutive periods and not just in April 2017.

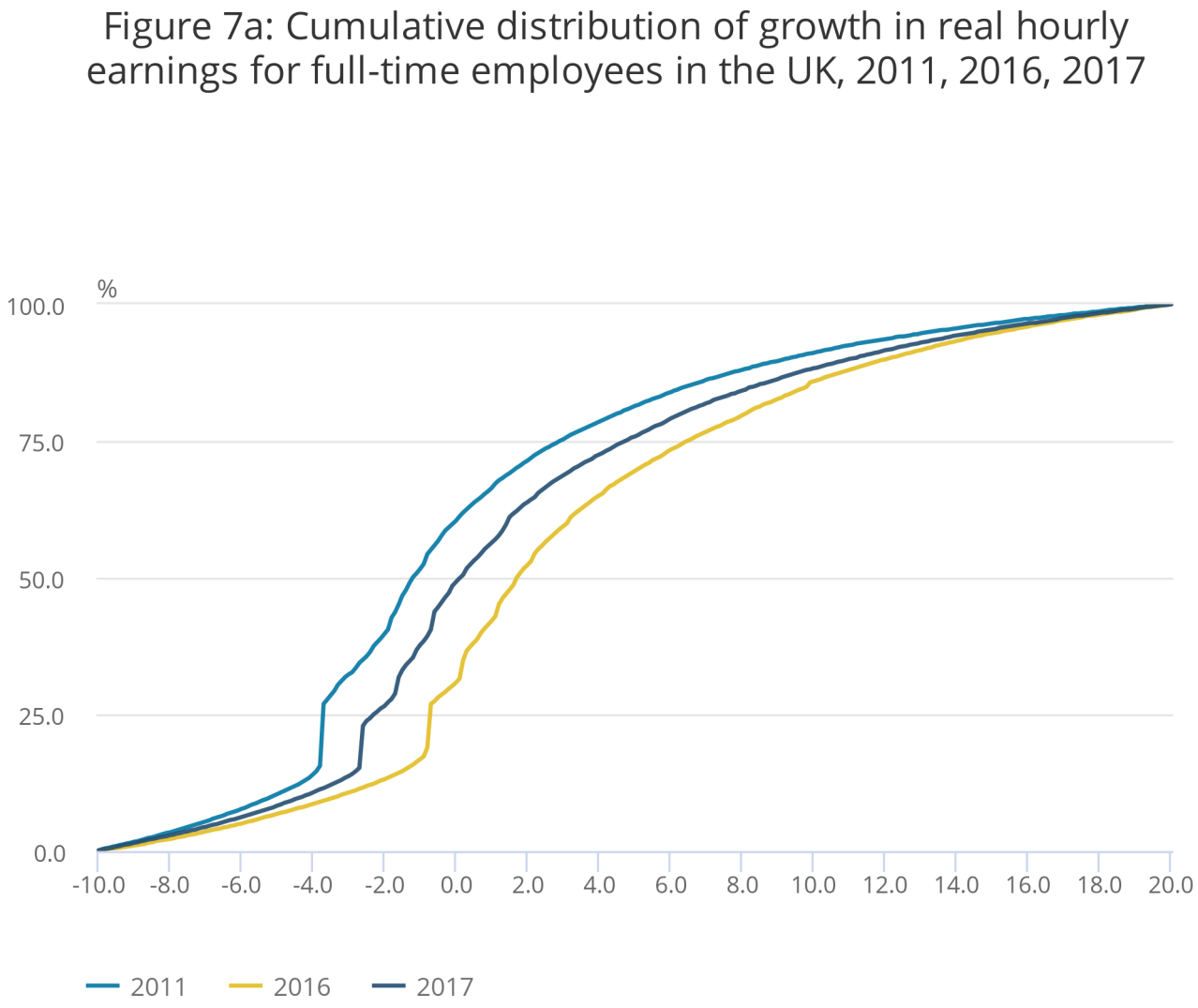
5. Full-time employees are defined as those working more than 30 paid hours per week (or 25 hours or more for the teaching professions).

Figure 6 highlights wage stickiness, where earnings are delayed in responding to changing macroeconomic conditions and employees received a zero-pay growth, a decline of around negative 2.5% in real terms. A greater proportion of part-time employees were shown to have experienced wage stickiness compared with full-time employees.

Figure 6 shows peaks in the proportions of those experiencing earnings growth in line with the 2017 NLW increase of 1.5%. A higher proportion of part-time employees compared with that of full-time employees experienced this wage growth as expected, given that Figure 6 showed a higher proportion of part-time employees earning the NLW when compared with full-time employees.

An alternative visualisation of the distribution of real earnings growth by working pattern can be presented using cumulative percentage frequency charts. Figures 7a and 7b show the cumulative distributions of growth in real hourly earnings for full-time and part-time employees.

Figure 7a: Cumulative distribution of growth in real hourly earnings for full-time employees in the UK, 2011, 2016, 2017



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

Notes:

1. 2017 data are provisional.

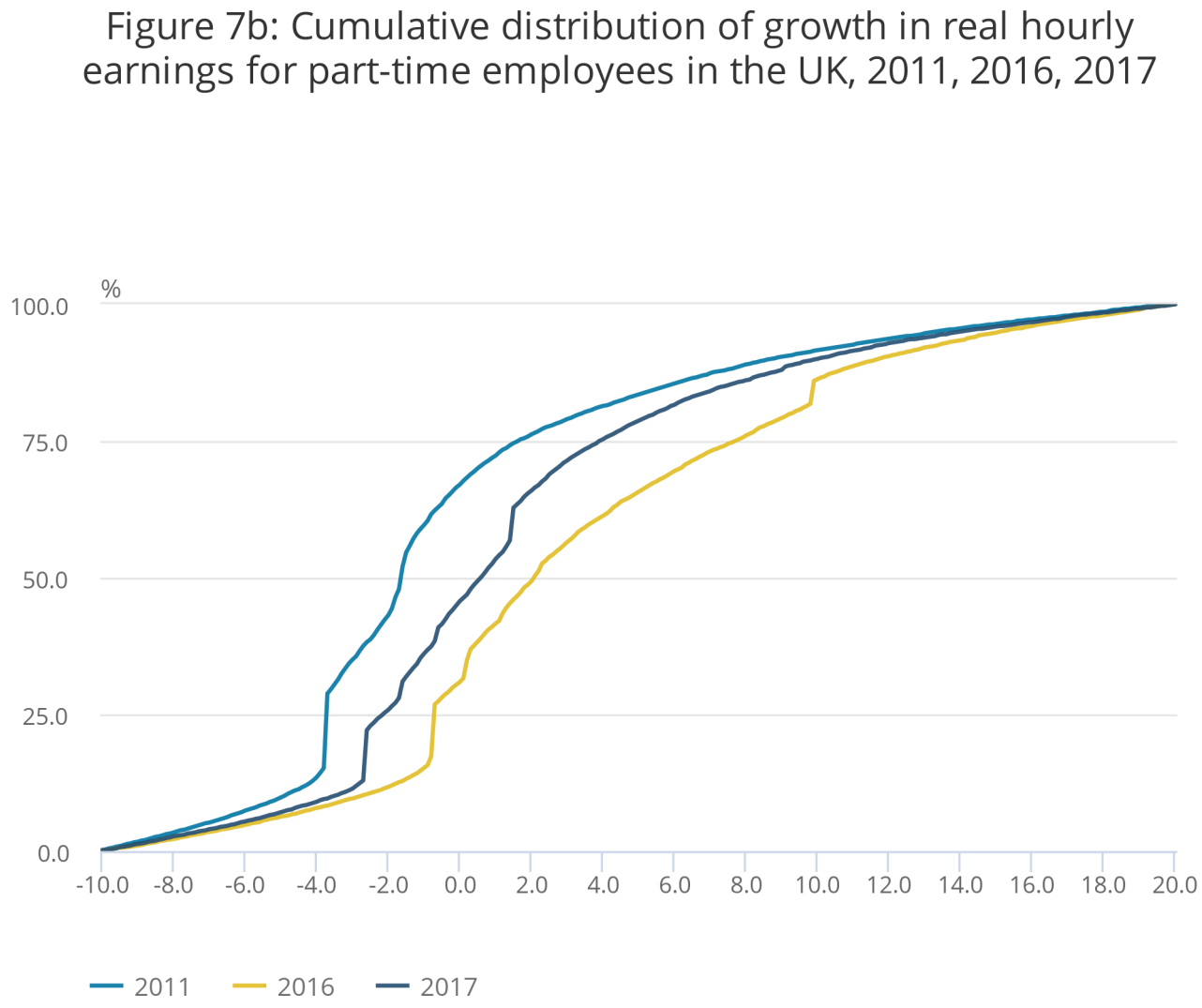
2. For each growth rate on the horizontal axis, the curve indicates the proportion of employees who experienced earnings growth at that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2010 and 2011, 2015 and 2016, and 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

4. This figure only looks at employees whose pay growth between 2016 and 2017 fell between negative 10% and positive 20%. As such, the proportion of employees on the y-axis should not be interpreted as the entire population of employees.

5. Full-time employees are defined as those working more than 30 paid hours per week (or 25 hours or more for the teaching professions).

Figure 7b: Cumulative distribution of growth in real hourly earnings for part-time employees in the UK, 2011, 2016, 2017



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

Notes:

1. 2017 data are provisional.

2. For each growth rate on the horizontal axis, the curve indicates the proportion of employees who experienced earnings growth at that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2010 and 2011, 2015 and 2016, and 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

4. This figure only looks at employees whose pay growth between 2016 and 2017 fell between negative 10% and positive 20%. As such, the proportion of employees on the y-axis should not be interpreted as the entire population of employees.

5. Full-time employees are defined as those working more than 30 paid hours per week (or 25 hours or more for the teaching professions).

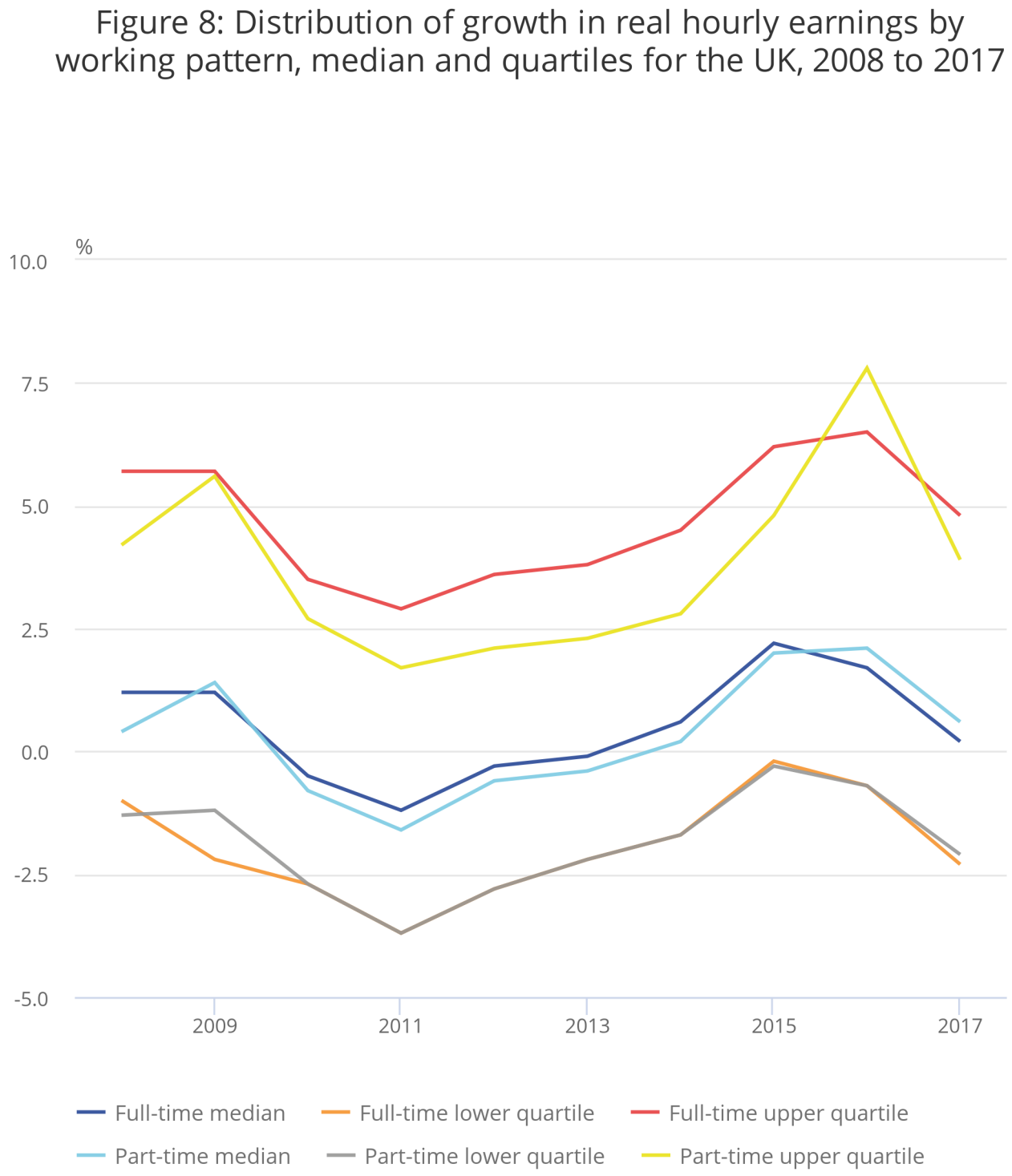
Figures 7a and 7b show similar earnings distributions for both working patterns. They show the characteristic trend introduced in Chapter 1 of the compendium with fewer full-time and part-time employees experiencing a pay decrease or freeze in real terms in the year to April 2016 compared with the years 2011 and 2017. The year 2011 saw the fewest number of employees who experienced positive pay growth in real terms. The figures show that earnings growth improved to 2016, represented by the curves shifting rightwards, and in 2017, the earnings growth worsened, with the curves shifting leftwards.

The figures highlight wage stickiness shown by spikes in the proportions of those experiencing real wage growth of around negative 3.7% in 2011, negative 0.7% in 2016 and negative 2.5% in 2017. Wage stickiness in 2011 may be partially attributed to the pay freeze for public sector employees announced in the 2010 Budget.

In 2011, the median real wage growth rate (note that this is a different concept to the growth in the median) for full-time employees was negative 1.2% and this was 0.4 percentage points higher than the median real wage growth rate for part-time employees. This trend was reversed in 2016 when the median real wage growth rate was 0.4 percentage points higher for part-time employees at 2.1%. In 2017, the median real wage growth rate was 0.5 percentage points higher for part-time employees at 0.6%.

Further analysis of the median, upper quartile and lower quartile real wage growth rates over time is shown in Figure 8.

Figure 8: Distribution of growth in real hourly earnings by working pattern, median and quartiles for the UK, 2008 to 2017



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

Notes:

1. 2017 data are provisional.

2. Each line on the figure indicates the lower quartile, median and upper quartile growth rates over time.

3. This figure uses individual level data from ASHE to calculate the growth of nominal weekly earnings for employees observed in pairs of years. For example, in 2010 and 2011, 2011 and 2012, 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

4. Full-time employees are defined as those working more than 30 paid hours per week (or 25 hours or more for the teaching professions).

Figure 8 shows that the real wage growth rates tended to follow a similar trend for both working patterns. As shown in Chapter 1 of the compendium, throughout the economic downturn and until 2011, real wage growth rates followed a decreasing trend, before increasing until 2015 or 2016. More recently, the real wage growth rates have followed a decreasing trend again.

The lower quartile real wage growth rate for all years was negative where each year's wages had been decreasing on the year prior. Growth rates for full-time and part-time employees were most similar compared with the median and upper quartile growth rate. For both working patterns, real wage growth for the 25th percentile was highest in 2015.

The median real wage growth rate tracks the lower quartile real wage growth rate closely from 2010 onwards, with little difference in the growth rates.

The upper quartile real wage growth rate shows the most difference between full-time and part-time employees. For all years other than 2016, part-time employees experienced a lower growth rate than full-time employees. The difference between the two series was greatest in 2014, with a difference of 1.7 percentage points.

5 . Earnings by age group

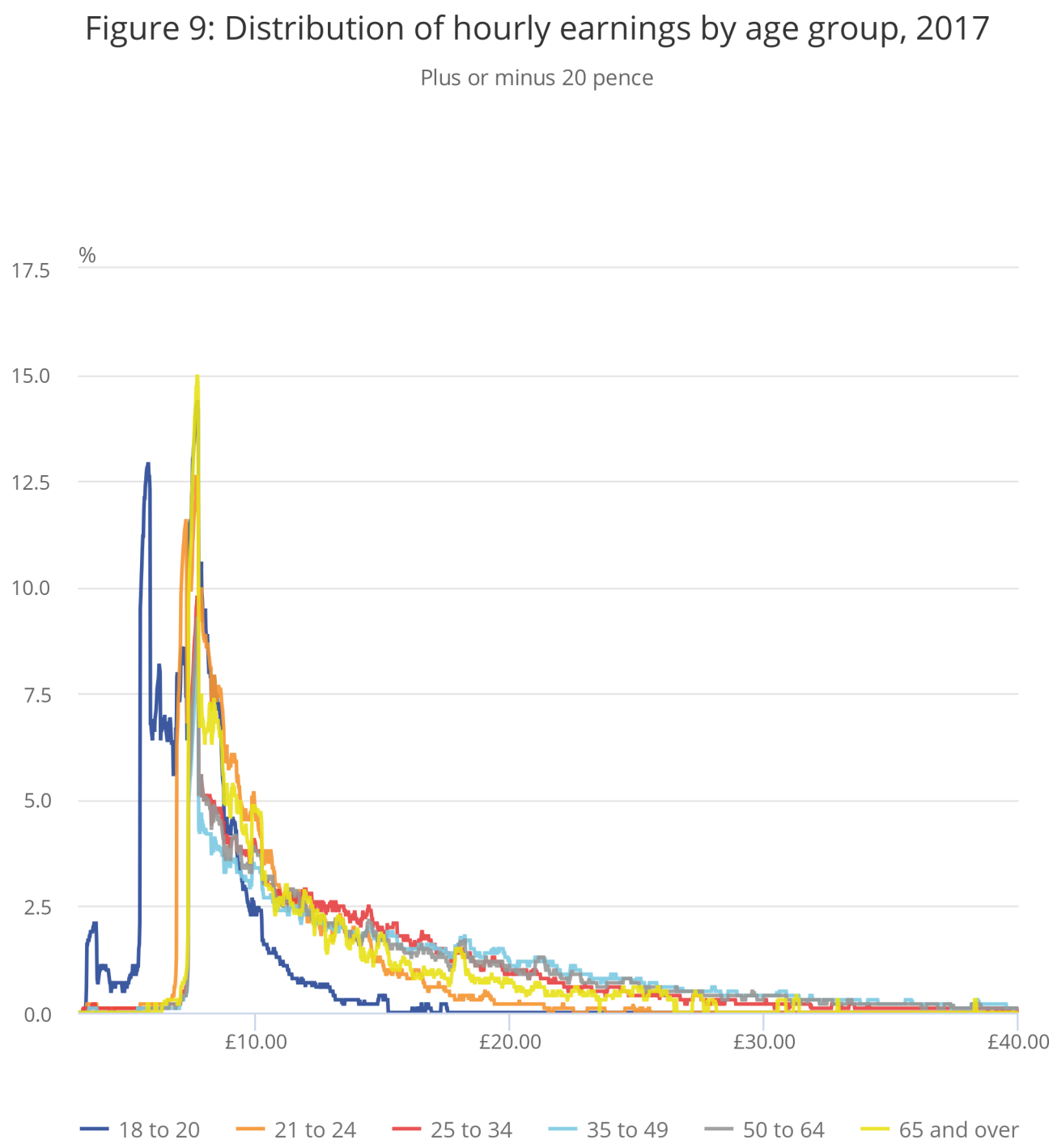
Distribution

Analysis by age groups offers insight into variations of the earnings distributions.

Figure 9 presents the hourly earnings distributions for those aged 18 to 20 years, aged 21 to 24 years, aged 25 to 34 years, aged 35 to 49 years, aged 50 to 64 years, and aged 65 years and above in 2017.

Figure 9: Distribution of hourly earnings by age group, 2017

Plus or minus 20 pence



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

Notes:

1. 2017 data are provisional.

2. Each point on the x-axis represents a rolling sum of the density of jobs receiving greater than or equal to 20 pence below, and strictly less than 20 pence above, the stated hourly earnings.

3. As the density records the rolling sum of jobs paid within 20 pence of the stated amount at each point on the x-axis, jobs paid the April 2017 adult National Living Wage (£7.50) will appear between the x-axis values of £7.30 and £7.70.

4. The 2017 NLW refers to the April 2017 Adult National Living Wage of £7.50.

Figure 9 shows that the earnings distributions for each age group tended to follow the characteristic trend introduced in Chapter 1 of the compendium: positively skewed and centred around the 2017 National Living Wage (NLW) rate of £7.50 an hour.

The proportion of those experiencing the NLW is highest for the age group 65 years and above, where it covered 15% of employees, whereas around 9.8% of those aged 25 to 34 years, 8.2% of those aged 35 to 49 years and 9.3% of employees aged 50 to 64 years experienced the NLW. The age group 18 to 20 years was centred around the National Minimum Wage (NMW) (for those aged 18 to 20 years) of £5.60. The NMW for those aged 21 to 24 years in 2017 was £7.05 and is represented by the spike at £7.24 (within the plus or minus 20 pence band of the minimum wage).

Interestingly, a greater proportion (12.6%) of employees within the age group 21 to 24 years are paid the NLW (only legally required to be paid to employees aged over 25 years), suggesting firms have adopted the NLW for younger employees. Relatively few jobs were paid less than the NLW, with the spike in the distribution of wages for those in the age group 18 to 20 years at £3.70, possibly reflecting the minimum wage for apprentices of £3.50 (within plus or minus 20 pence).

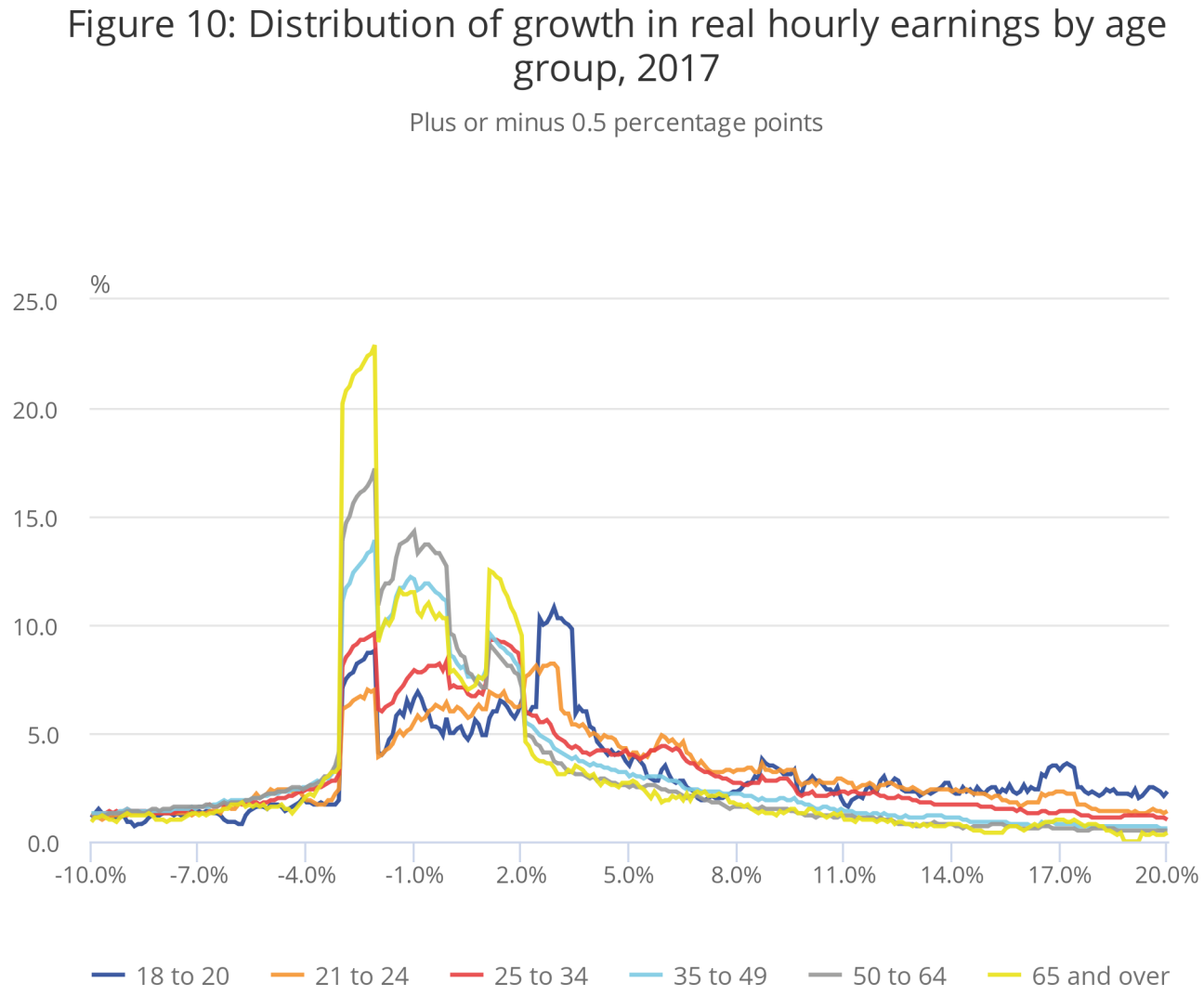
The steadily falling share of employees earning higher wages is indicated by the long, thinning right-hand tail of each distribution. A lower share of the employees aged 18 to 20 years earned a wage of £9.00 compared with every other age group. In the 21 to 24 years age group, the share of employees earning higher wages was substantially higher than in the 18 to 20 years age group, shown by the rightwards shift of the curve. There was a negligible difference between the earning distributions of the age groups 35 to 49 years and 50 to 64 years higher up the wage distribution and towards the right-hand tail.

Growth

Analysis of the growth of earnings by age provides greater insight into the distributional outcomes for employees. Figure 10 presents the distributions of growth in real hourly earnings in 2017 by age groups.

Figure 10: Distribution of growth in real hourly earnings by age group, 2017

Plus or minus 0.5 percentage points



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

Notes:

1. 2017 data are provisional.

2. For each growth rate on the horizontal axis, the area under the curve indicates a portion of employees who experienced earnings growth within 0.5 percentage points of that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

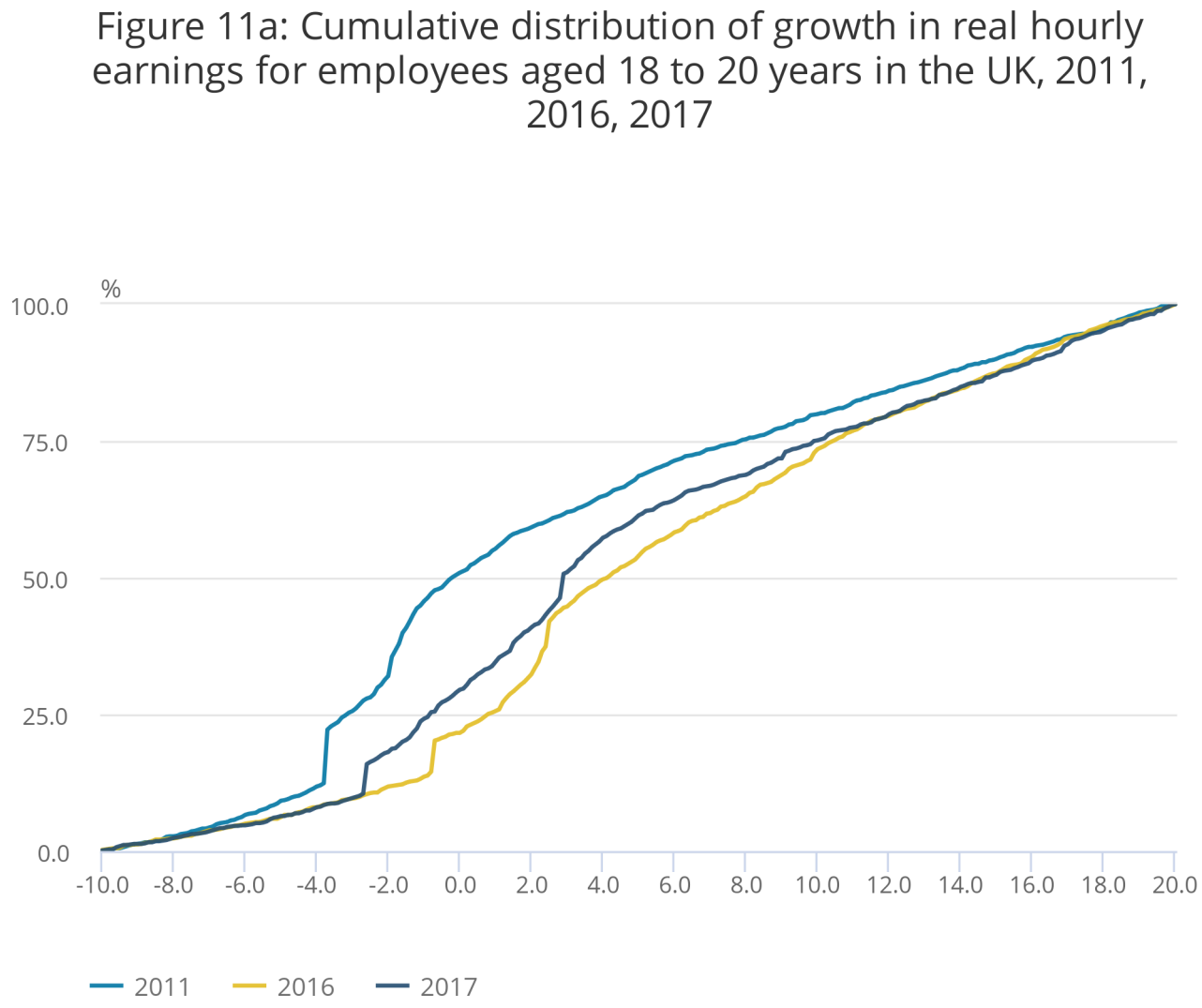
4. Note that the proportion of employees experiencing a pay growth of 4.2% may not reflect the proportion of employees on the National Living Wage in the earnings distribution in April 2017. This is because the growth analysis is focusing on employed employees in two consecutive periods and not just in April 2017.

Figure 10 shows the earnings growth experience to be varied across age groups. Wage stickiness (characterised by 0% nominal growth and negative 2.5% real earnings growth as wages fail to respond to macroeconomic changes) was experienced (within plus or minus 0.5%) by a higher proportion of the employees in the eldest age groups (22.9% of those aged 65 years and above), compared with a lower proportion of the employees in the youngest age groups (3.9% for those aged 21 to 24 years).

The figure shows the proportion of employees receiving wage increases in line with the 2017 NLW change of 1.5% in real terms. The four eldest age groups show peaks in line with the NLW growth, with the 65 years and above age group having the highest proportion of employees (11.6%) that experienced this growth. Similarly, peaks in the younger age groups corresponded to increases in the NMW for those aged 21 to 24 years, aged 18 to 20 years, and for apprentices.

Cumulative percentage frequency charts offer an alternative visualisation of the distribution of real earnings growth by age group. Figures 11a and 11b show the cumulative distribution of growth in real hourly earnings for employees aged 18 to 20 years and aged 35 to 49 years respectively. These age groups have been selected for comparison.

Figure 11a: Cumulative distribution of growth in real hourly earnings for employees aged 18 to 20 years in the UK, 2011, 2016, 2017



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

Notes:

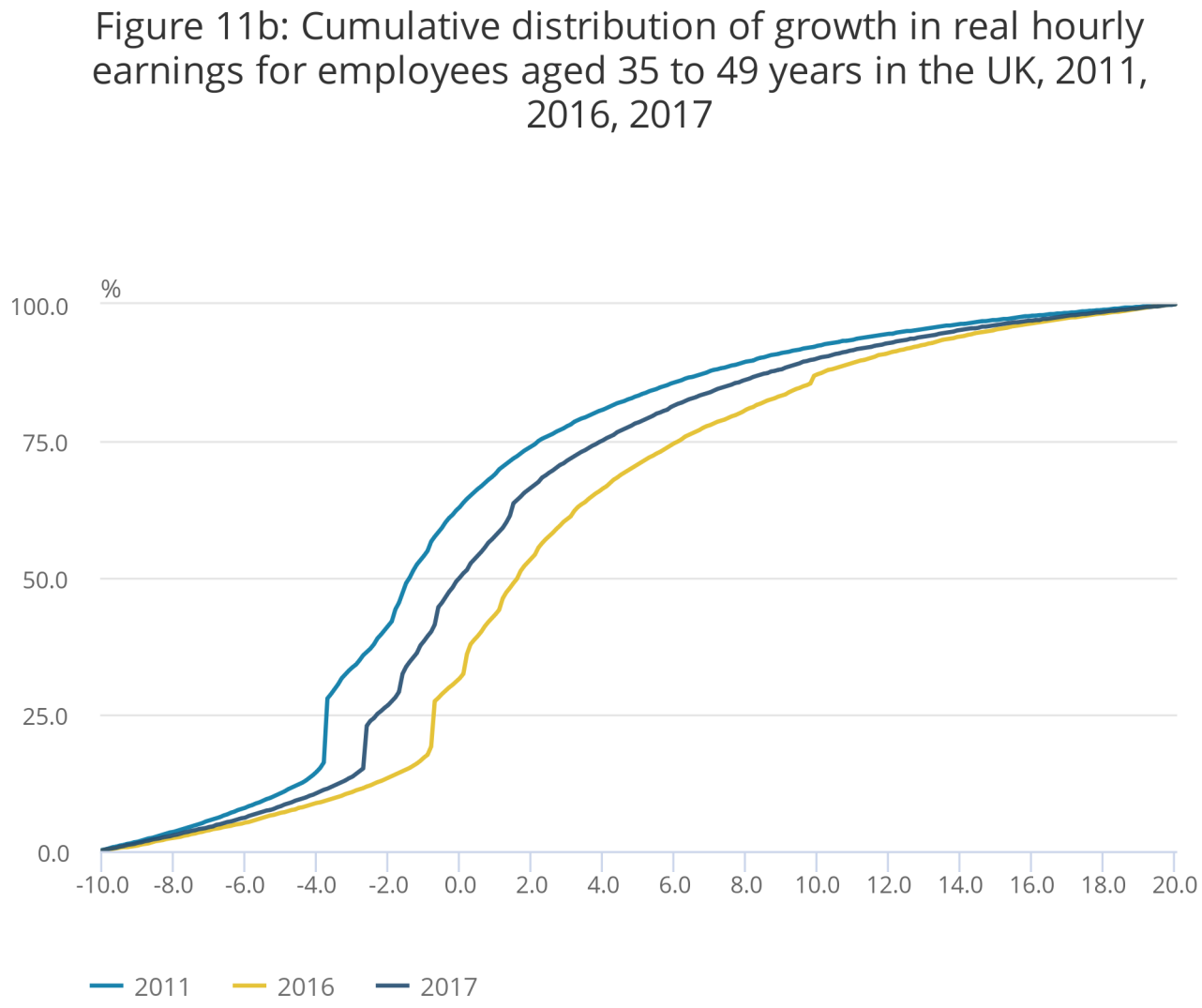
1. 2017 data are provisional.

2. For each growth rate on the horizontal axis, the curve indicates the proportion of employees who experienced earnings growth at that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2010 and 2011, 2015 and 2016, and 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

4. This figure only looks at employees whose pay growth between 2016 and 2017 fell between negative 10% and positive 20%. As such, the proportion of employees on the y-axis should not be interpreted as the entire population of employees.

Figure 11b: Cumulative distribution of growth in real hourly earnings for employees aged 35 to 49 years in the UK, 2011, 2016, 2017



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

Notes:

1. 2017 data are provisional.

2. For each growth rate on the horizontal axis, the curve indicates the proportion of employees who experienced earnings growth at that rate.

3. This figure uses individual level data from the Annual Survey of Hours and Earnings (ASHE) to calculate the growth of nominal weekly earnings for employees observed in pairs of years in 2010 and 2011, 2015 and 2016, and 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

4. This figure only looks at employees whose pay growth between 2016 and 2017 fell between negative 10% and positive 20%. As such, the proportion of employees on the y-axis should not be interpreted as the entire population of employees.

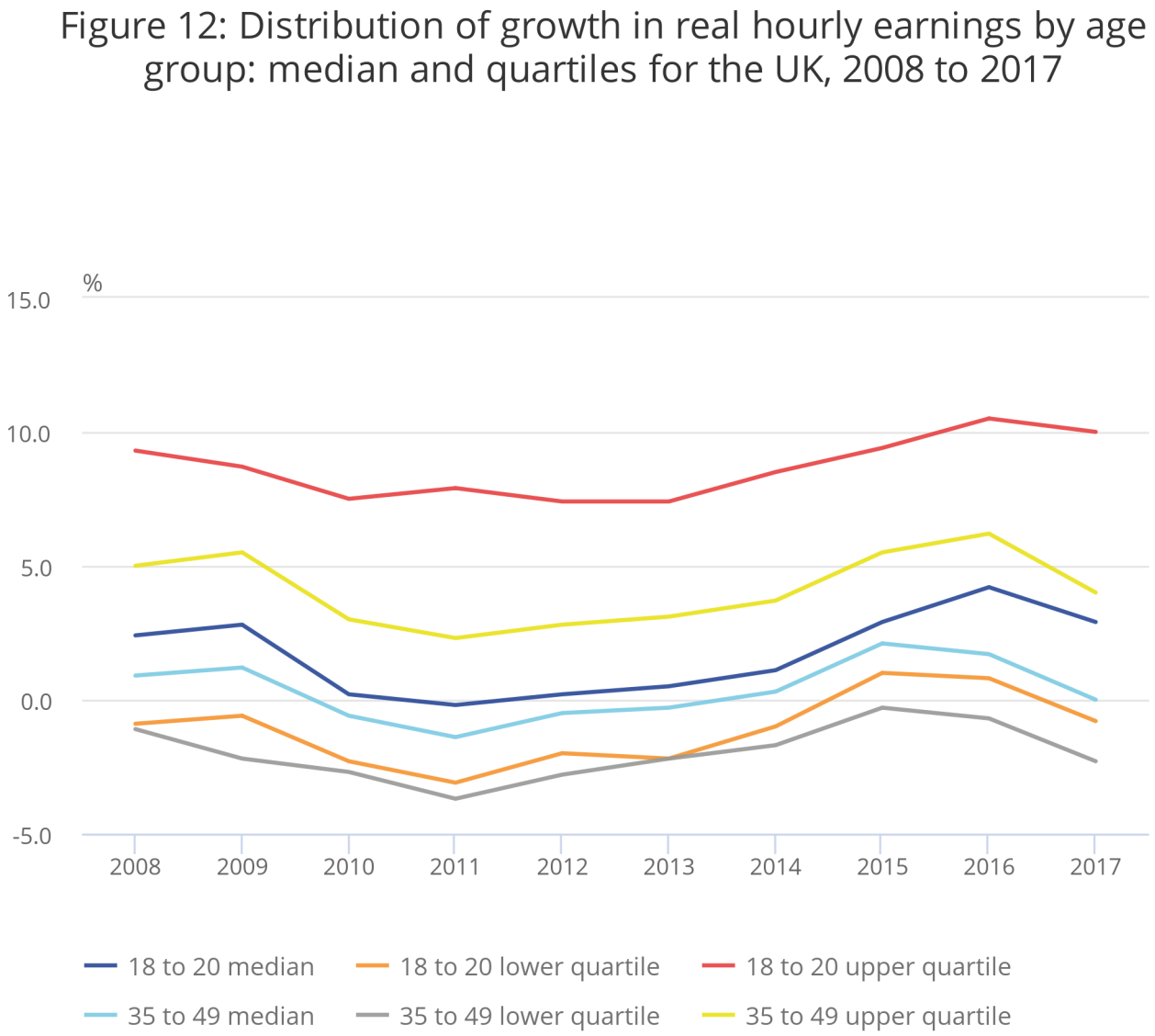
Figures 11a and 11b show the characteristic trend introduced in Chapter 1 of the compendium, with fewer employees in both age groups experiencing a pay decrease or freeze in real terms in the year to April 2016 compared with the years 2011 and 2017. The year 2011 saw the fewest number of the employees in either age group experience positive pay growth in real terms. Figures 11a and 11b showed the growth in earnings improved to 2016, represented by the curve shifting rightwards, and in 2017, this worsened as shown by the curve shifting leftwards.

The slight difference in Figure 11a compared with the other cumulative percentage frequency charts is likely to be due to the exclusion of those aged 18 to 20 years from the NLW. Instead, these employees are entitled to alternative (lower) NMWs. This age group is also likely to have many employees receiving the minimum wage for apprentices, further distorting the trend.

Wage stickiness (0.0% nominal growth) is shown by spikes in the proportions of those experiencing real wage growth of around negative 3.7% in 2011, negative 0.7% in 2016 and negative 2.5% in 2017. Across all selected years, the proportion of those experiencing wage stickiness was greater for those aged 35 to 49 years compared with those aged 18 to 20 years. Wage stickiness in 2011 may be partially attributed to the pay freeze for public sector employees announced in the 2010 Budget. In 2011, the median real wage growth rate (note that this is a different concept to the growth in the median) for employees aged 18 to 20 years was negative 0.2%; that is, 1.2 percentage points higher than the median real wage growth rate for employees aged 35 to 49 years. This trend continued with the median real wage growth rate being 2.5 percentage points higher in 2016 at 4.1%, and 2.9 percentage points higher in 2017 at 2.9% for those aged 18 to 20 years.

Further analysis of the median, upper quartile and lower quartile real wage growth rates over time is shown in Figure 12.

Figure 12: Distribution of growth in real hourly earnings by age group: median and quartiles for the UK, 2008 to 2017



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

Notes:

1. 2017 data are provisional.

2. Each line on the figure indicates the lower quartile, median and upper quartile growth rates over time.

3. This figure uses individual level data from ASHE to calculate the growth of nominal weekly earnings for employees observed in pairs of years. For example, in 2010 and 2011, 2011 and 2012, 2016 and 2017. Note that the ASHE methodology is not specifically designed to model earnings growth for employees over time.

Figure 12 shows that all real wage growth rates tended to follow similar trends across the age groups. As shown in Chapter 1 of the compendium, throughout the economic downturn and until 2011, real wage growth rates followed a decreasing trend, before increasing until 2015 for the lower quartile and median real wage growth rates, and until 2016 for the upper quartile real wage growth rate. More recently, the real wage growth rates have followed a decreasing trend again.

The lower quartile real wage growth rate appears to show the most similarity between age groups; being negative for all years and for both age groups (excluding 2015 and 2016 when the 18 to 20 years lower quartile real wage growth rate experienced positive growth, likely reflecting larger nominal percentage growth in the NMW compared with the years prior). The lower quartile and median real wage growth rate were lowest in 2011 during wage stagnation in the economic downturn.

The median real wage growth rate shows a similar trend for both age groups. The median real wage growth rate was highest for both age groups in 2016 and similarly lowest in 2011.

The upper quartile real wage growth rate shows the most divergence across the two age groups presented. The divergence may be partially attributed to the difference in minimum wages across the groups, and the characteristics of jobs that younger employees have.

6 . Background information

Further analysis on the distribution of earnings by employment and employee characteristics using Annual Survey of Hours and Earnings (ASHE) data is contained in the compendium.

Survey details and basic quality information can be found in Chapter 1 of the compendium.