

Statistical bulletin

Earnings and employment from Pay As You Earn Real Time Information, UK: May 2020

Experimental monthly estimates of paid employees and their pay from HM Revenue and Customs' (HMRC's) Pay As You Earn (PAYE) Real Time Information (RTI) data. This is a joint release between HMRC and the Office for National Statistics (ONS).

Contact:
Debra Leaker, Ciaren Taylor
labour.market@ons.gov.uk;
rtistatistics.enquiries@hmrc.gov.
uk
+44 (0)1633 455400; +44 (0)
3000 593779

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Next release:
16 June 2020

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1 . Main points

- The number of paid employees in the UK in March 2020 grew by 0.4%, compared with the same period of the previous year.
- Early estimates for April 2020 indicate that the number of paid employees fell by 1.2% compared with April 2019 and fell by 1.6% when compared with March 2020.
- Median monthly pay grew by 2.7% in March 2020, compared with the same period of the previous year.
- Early estimates for April 2020 indicate that median monthly pay fell by 0.9% compared with the same period of the previous year.
- Growth in median pay for employees in the three months to March 2020 was highest in the East of England (3.5%) and lowest in the West Midlands (3.0%).
- Pay growth in the UK for employees was highest at the 25th percentile (4.2%) and lowest at the 99th percentile (2.2%) in the three months to March 2020, for the percentiles we have analysed.

About the data in this release

Early estimates for April 2020 are provided to give an indication of the likely level of employees as well as median pay in the latest period. The figures for April 2020 are based on around 90% of information being available and are considered of lower quality and may be subject to revision in next month's release when between 98% to 99% of data will be available. This work has been brought forward in response to the coronavirus (COVID-19) and methods will continue to be developed.

This release covers people paid through the Pay As You Earn system where their pay is reported through the Real Time Information system. As employees who are "furloughed" as part of the Job Retention Scheme program should still have their payments reported through this system, they should feature in this data and contribute toward the employment and pay statistics for the relevant periods.

2 . Individuals receiving pay

In March 2020, 29.0 million people were paid employees (Figure 1). This represents a 0.4% rise in paid employees when compared with the same period of the previous year. When comparing the number of paid employees in March 2020 with the previous month, the number fell by 0.05% – little changed from the 0.06% fall estimated by the previous bulletin's early estimate for March 2020.

Early estimates for April 2020 indicate that there were 28.6 million paid employees, a fall of 1.2% on the same time in the previous year, a decline of 348,000 people. Compared with the previous month, the number of paid employees fell by 1.6% in April 2020.

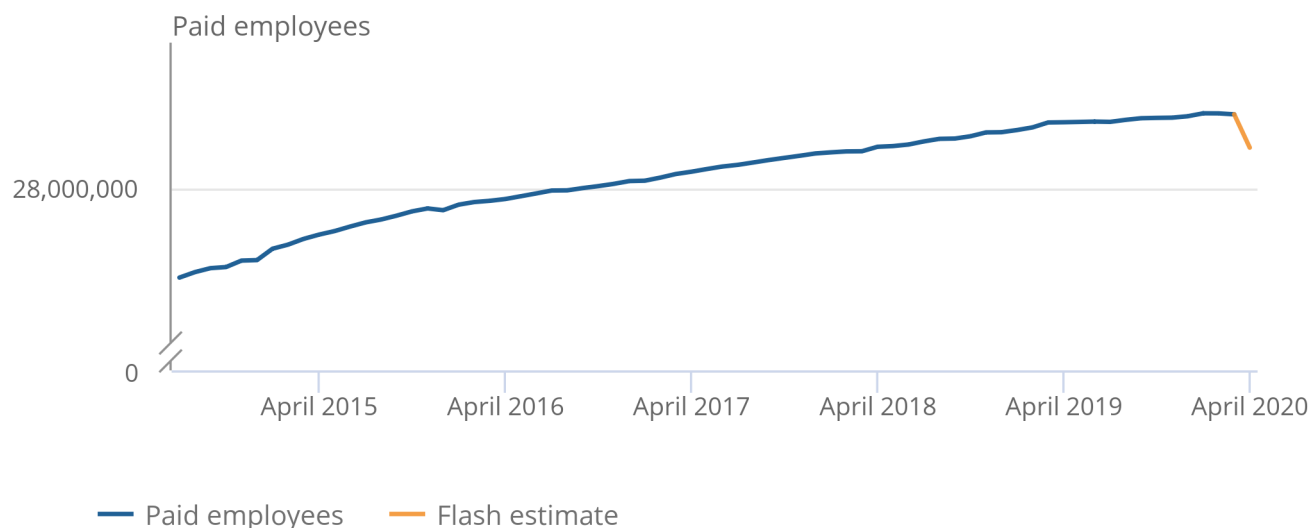
The period from April 2019 onward have been revised slightly, generally downward, since the last release. This is primarily due to payment submissions for the financial year ending March 2020 no longer being added to the data – and so non-reported payments for this financial year are no longer imputed.

Figure 1: The number of employees has generally grown over the past five years but early estimates indicate it fell in April 2020

Paid employees, UK, July 2014 to April 2020, seasonally adjusted

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Paid employees, UK, July 2014 to April 2020, seasonally adjusted



Source: HM Revenue and Customs Pay As You Earn Real Time Information

Notes:

1. The latest period, highlighted in orange, is based on early data and therefore could be subject to revisions.
2. Data for March 2020 are not a flash estimate of paid employees, this is included purely for graphing purposes.

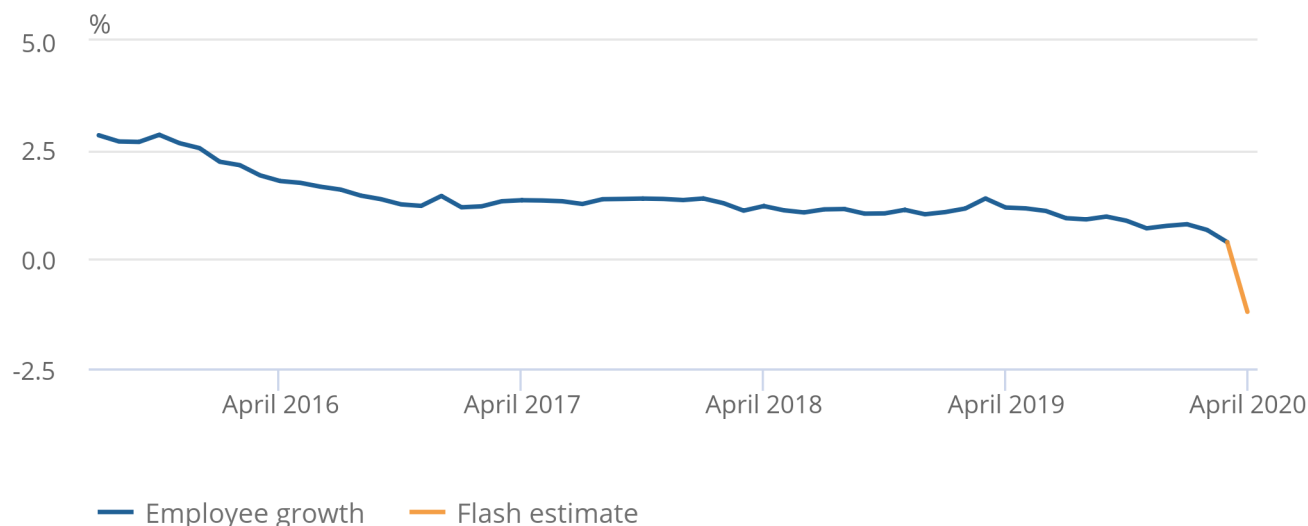
Annual growth in the number of employees remained broadly within a range of 1.0% to 1.5% until 2019, following higher rates of growth prior to mid-2016 (Figure 2). Starting around early 2019, employee growth began a slight downward trend. However, estimates for March and April 2020 indicate that employee growth slowed more substantially recently (becoming negative in April according to early estimates) coinciding with the coronavirus (COVID-19) pandemic, as well as related economic and policy responses.

Figure 2: Growth in the number of paid employees fell recently, becoming negative in April 2020 according to early estimates

Annual percentage change, UK, July 2015 to April 2020, seasonally adjusted

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Annual percentage change, UK, July 2015 to April 2020, seasonally adjusted



Source: HM Revenue and Customs Pay As You Earn Real Time Information

Notes:

1. Percentage change has been calculated using unrounded figures.
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3 . Median monthly pay

Median monthly pay for employees in March 2020 was £1,844 (Figure 3). This represents a 2.7% rise when compared with the same period of the previous year.

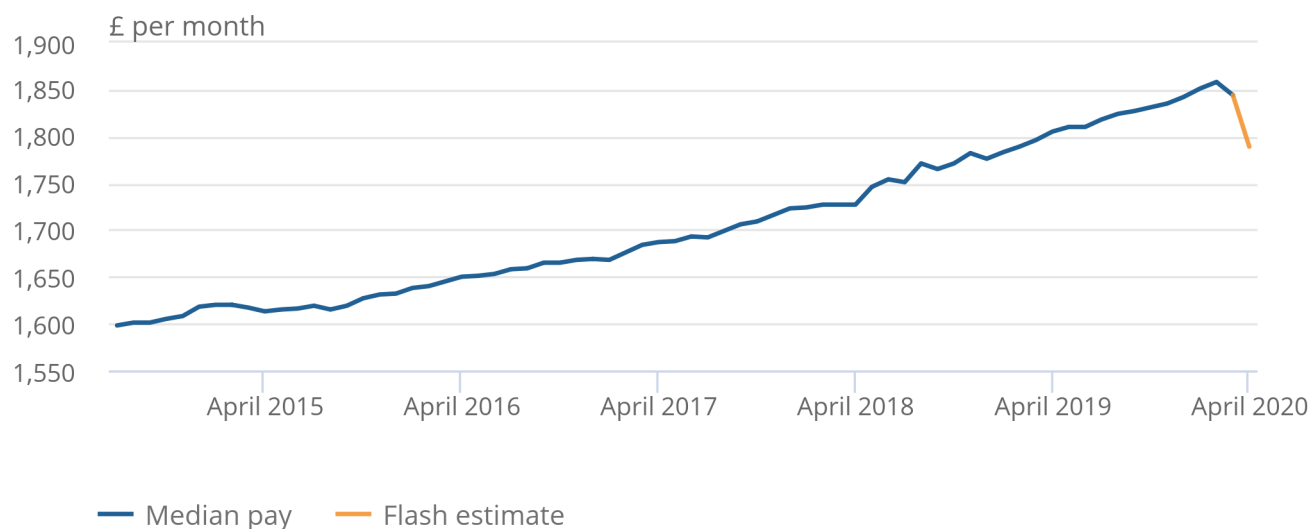
Early estimates for April indicate that median monthly pay fell to £1,789, a fall of 0.9% when compared with the same period of the previous year.

Figure 3: Median pay has grown over the past five years but has fallen in recent months

Median pay per month, UK, July 2014 to April 2020, seasonally adjusted

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Median pay per month, UK, July 2014 to April 2020, seasonally adjusted



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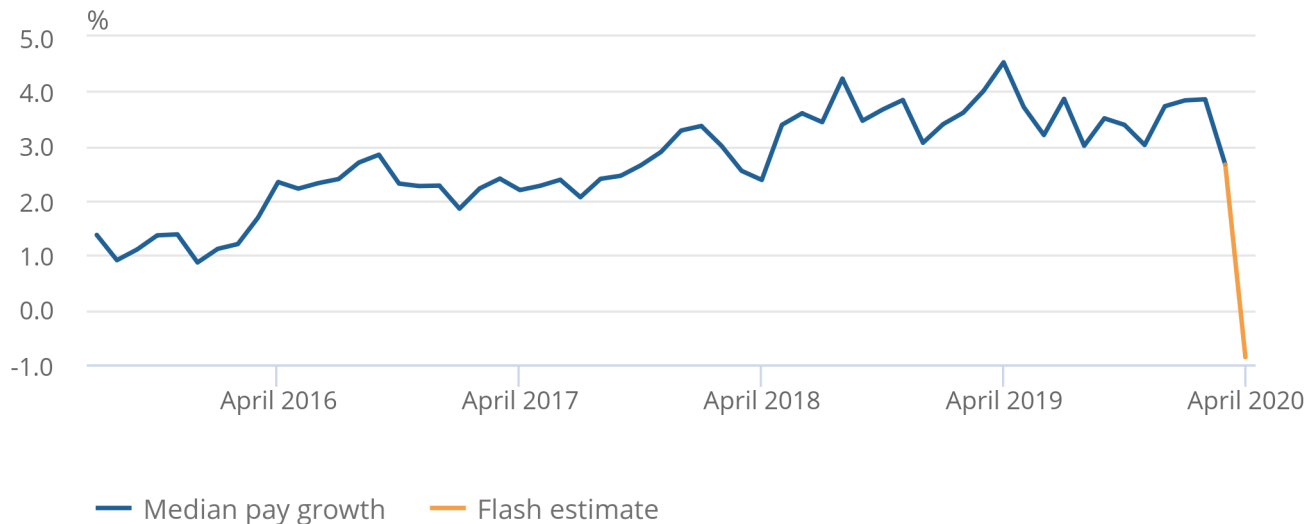
Following a general trend of increasing pay growth between mid-2015 and mid-2018, pay growth tended to fluctuate around 3.6% (Figure 4). Estimates for March and April 2020 indicate that pay growth may have slowed more substantially recently (becoming negative in April according to early estimates) coinciding with the coronavirus (COVID-19) pandemic, as well as related economic and policy responses.

Figure 4: The rate of growth in median pay has fallen recently, becoming negative in April 2020 according to early estimates

Percentage change on same month in previous year, UK, July 2015 to April 2020, seasonally adjusted

Figure 4: The rate of growth in median pay has fallen recently, becoming negative in April 2020 according to early estimates

Percentage change on same month in previous year, UK, July 2015 to April 2020, seasonally adjusted



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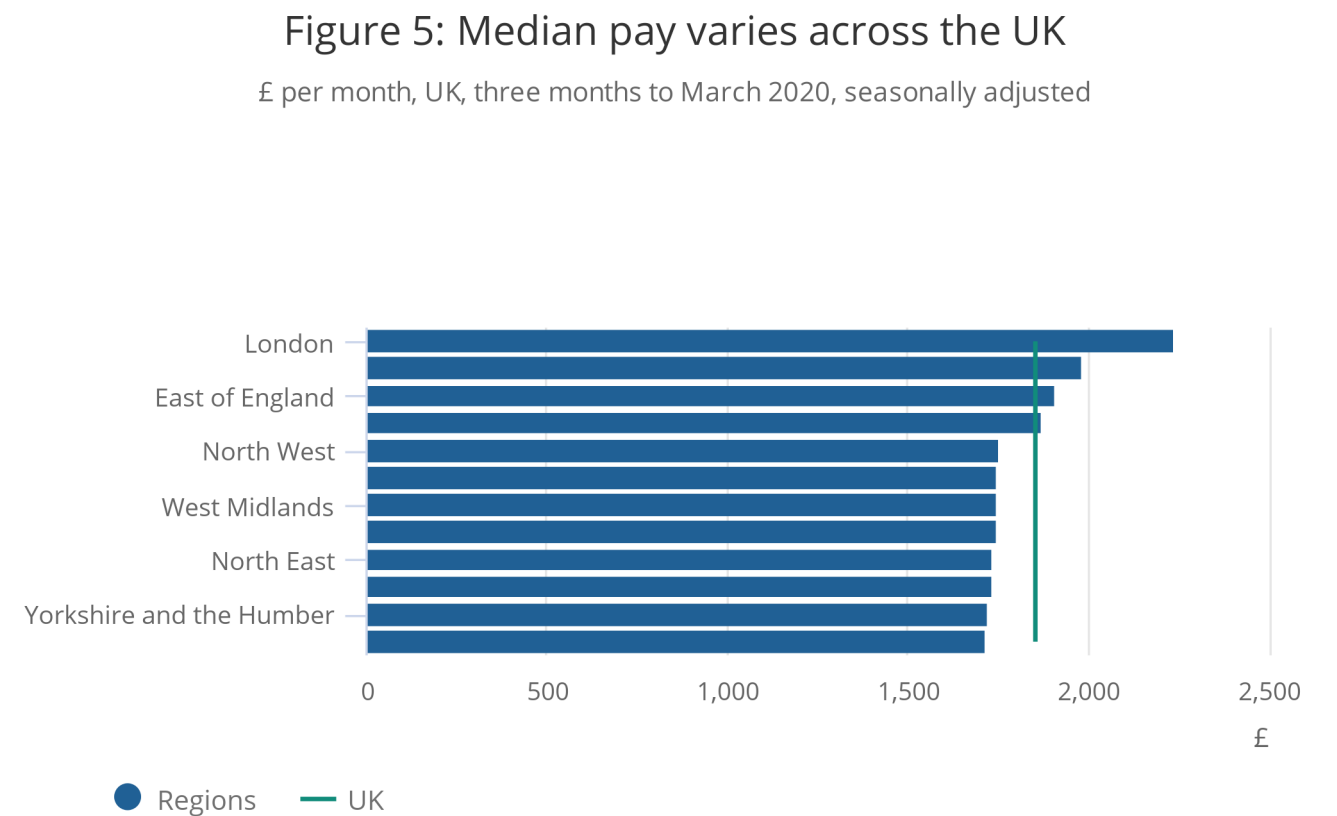
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The regional figures in this bulletin are based on where employees live and not the location of their place of work. They are also based on three-month moving averages. Median pay across regions and nations of the UK in the three months to March 2020 ranged from £1,715 in Northern Ireland to £2,239 in London (Figure 5).

Figure 5: Median pay varies across the UK

£ per month, UK, three months to March 2020, seasonally adjusted



Source: HM Revenue and Customs Pay As You Earn Real Time Information

Notes:

1. Data for the UK in this chart are based on an average of the three months to March. For this reason, they are not directly comparable with Figures 3 or 4 (which use data for a single month).

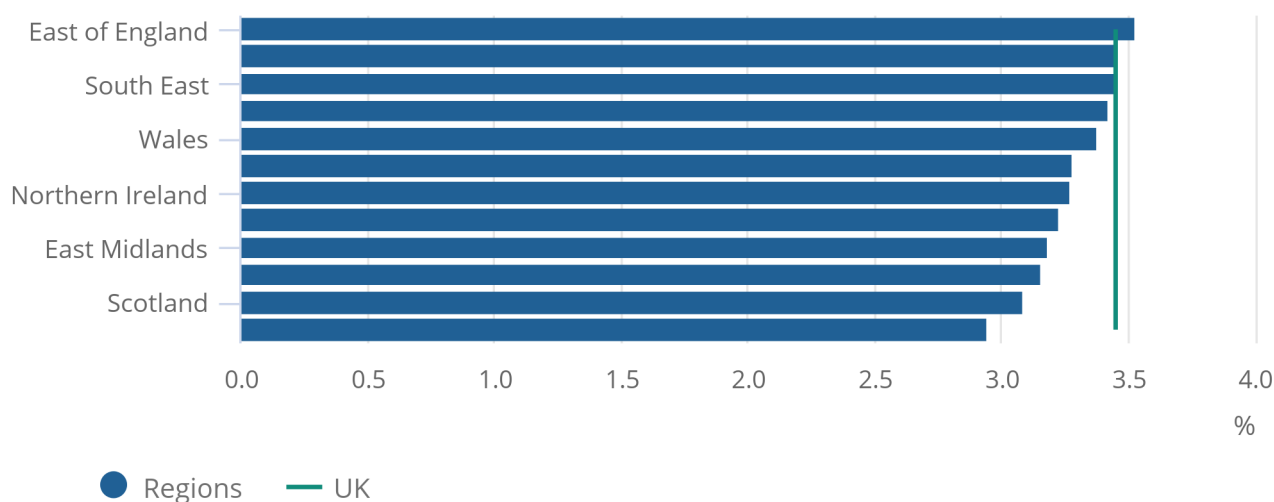
Compared with the same time last year, pay grew fastest in the East of England (3.5%) and slowest in the West Midlands (3.0%) (Figure 6). Over the longer-term, on average over the past five years, pay growth was highest in the East of England (at an annualised rate of 2.9%) and slowest in the North East (2.4%).

Figure 6: Median pay increased most in the East of England and least in the West Midlands

Percentage change on same three months last year, UK, three months to March 2020, seasonally adjusted

Figure 6: Median pay increased most in the East of England and least in the West Midlands

Percentage change on same three months last year, UK, three months to March 2020, seasonally adjusted



Source: HM Revenue and Customs Pay As You Earn Real Time Information

Notes:

1. Percentage change has been calculated using unrounded figures.
2. The UK median is shown here for comparative purposes, but it does not represent an "average" of median pay growth across the regions. It is statistically possible, for example, for median pay growth for the UK as a whole to be higher or lower than pay growth in all consistent parts of the UK.
3. Data for the UK in this chart are based on an average of the three months to March. For this reason, they are not directly comparable with Figures 3 or 4 (which use data for a single month).

4 . Pay distribution

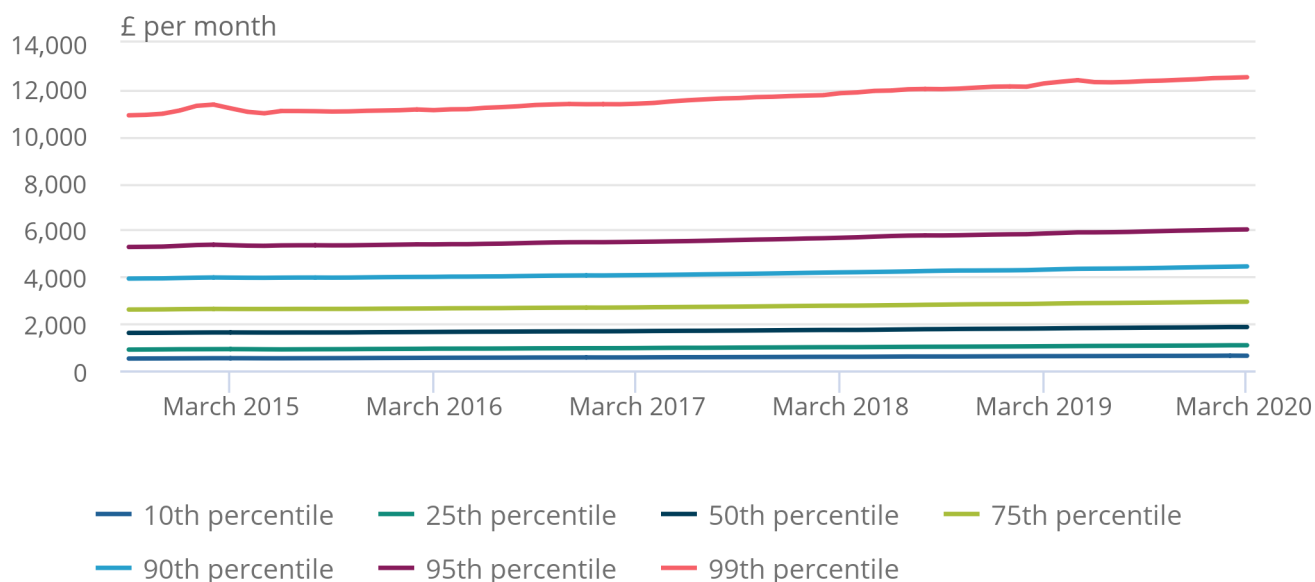
In the three months to March 2020, the 10th percentile of the monthly pay distribution was £624, the 90th percentile was £4,441 and the 99th percentile was £12,524 (Figure 7). This means that 10% of paid employees earned equal to or less than £624 per month, 90% earned equal to or less than £4,441, and 99% earned equal to or less than £12,524.

Figure 7: 10% of employees earn less than £624 per month and 90% earn less than £4,441 per month

£ per month, UK, three months to September 2014 to three months to March 2020, seasonally adjusted

Figure 7: 10% of employees earn less than £624 per month and 90% earn less than £4,441 per month

£ per month, UK, three months to September 2014 to three months to March 2020, seasonally adjusted



Source: HM Revenue and Customs Pay As You Earn Real Time Information

Notes:

1. Data for the 50th percentile (that is, the median) in this chart are based on three month moving averages. For this reason, they are not directly comparable with Figures 3 or 4 (which use data for a single month).

Compared with the same time a year ago, of the percentiles we have analysed, pay growth was highest at the 25th percentile (4.2%) and lowest at the 99th percentile (2.2%).

When interpreting changes in the distribution over time, it can be useful to compare the level of percentiles relative to the median (that is, the amount of earnings in the middle of the distribution so that half of employees earn more and half earn less).

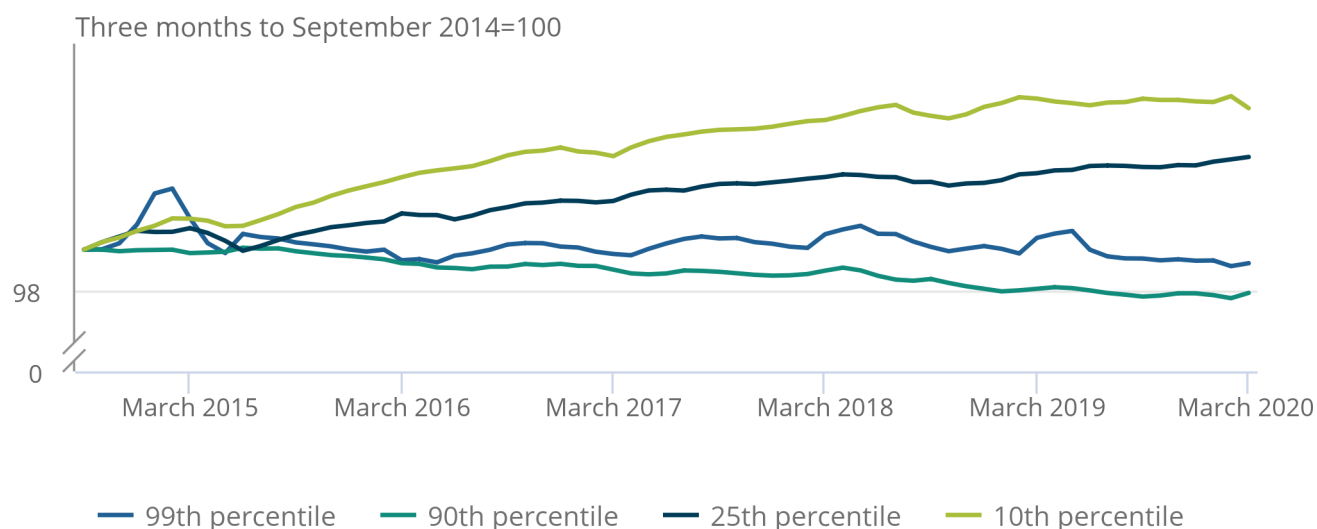
Figure 8 divides each percentile by the median, and then indexes these to 100 at the start of the series to better focus on their movements over time. Growth in these series reflects a percentile growing faster than median pay, while a fall in these series reflects a percentile growing slower than median pay.

Figure 8: Since 2014, employees' pay has generally grown fastest toward the low end of the pay distribution

Ratio of selected percentiles relative to the median, rolling three-month average, UK, three months to September 2014 to three months to March 2020, seasonally adjusted

Figure 8: Since 2014, employees' pay has generally grown fastest toward the low end of the pay distribution

Ratio of selected percentiles relative to the median, rolling three-month average, UK, three months to September 2014 to three months to March 2020, seasonally adjusted



Source: HM Revenue and Customs Pay As You Earn Real Time Information

The 10th and 25th percentiles of employees' pay have generally grown faster than median pay over the past five years, coinciding with the introduction of, and increases to, the [National Living Wage \(NLW\)](#). However, since mid-2018, the 10th percentile and the median have grown at broadly the same pace, so their ratio has remained broadly constant. In line with the rest of this bulletin, Figure 8 includes only employees' pay and not other income such as from self-employment.

The ratio of the 90th percentile to the median has generally fallen, reflecting pay towards this high end of the distribution growing slightly slower than median pay. When focusing even further towards the high end of the distribution, pay at the 99th percentile has grown at a broadly similar pace to median pay.

5 . Earnings and employment data

[Real Time Information statistics reference table, seasonally adjusted](#)

Dataset | Released 19 May 2020

Employee counts and earnings data, including geographic and distributional breakdowns, from Pay As You Earn (PAYE) Real Time Information (RTI), seasonally adjusted.

[Real Time Information statistics reference table, non-seasonally adjusted](#)

Dataset | Released 19 May 2020

Employee counts and earnings data, including geographic and distributional breakdowns, from PAYE RTI, non-seasonally adjusted.

6 . Glossary

Median monthly pay

Median monthly pay shows what a person in the middle of all employees would earn each month. The median pay is generally considered to be a more accurate reflection of the "average wage" because it discounts the extremes at either end of the scale.

National Minimum Wage and National Living Wage

The National Minimum Wage (NMW) is a minimum amount per hour that most workers in the UK are entitled to be paid. There are different rates of minimum wage depending on a worker's age and whether they are an apprentice. The NMW applies to employees aged between 16 and 24 years. The government's National Living Wage (NLW) was introduced on 1 May 2016 and applies to employees aged 25 years and over.

On the Annual Survey of Hours and Earnings (ASHE) reference date in April 2019, the NMW and NLW rates were:

- £8.21 for employees aged 25 years and over
- £7.70 for employees aged 21 to 24 years
- £6.15 for employees aged 18 to 20 years
- £4.35 for employees aged 16 to 17 years
- £3.90 for apprentices aged 16 to 18 years and those aged 19 years or over who are in the first year of their apprenticeship

Pay As You Earn (PAYE)

PAYE is the system employers and pension providers use to take Income Tax and National Insurance contributions before they pay wages or pensions to employees and pensioners. This publication relates to employees only and not pensioners. It was introduced in 1944 and is now the way most employees pay Income Tax in the UK.

7 . Measuring the data

Data source and collection

The data for this release come from HM Revenue and Customs' (HMRC's) Pay As You Earn (PAYE) Real Time Information (RTI) system. It covers the whole population rather than a sample of people or companies, and it will allow for more detailed estimates of the population. The release is classed as [Experimental Statistics](#) as the methodologies used to produce the statistics are still in their development phase. As a result, the series are subject to revisions.

Coverage

This publication covers employees paid by employers only. It does not cover self-employment income or income from other sources such as pensions, property rental and investments. Where individuals have multiple sources of income, only income from employers is included.

The figures in this release are for the period July 2014 to April 2020 and are seasonally adjusted.

Upcoming changes

Future bulletins are planned to include additional statistics, such as more detailed geographic breakdowns. The focus and timing of these will be informed by user feedback. Please email rtistatistics.enquiries@hmrc.gov.uk if you would like to offer feedback on how the contents can be improved in the future.

Methodology

An accompanying article contains more information on the [calendarisation and imputation methodologies](#) used in this bulletin, alongside comparisons with other earnings and employment statistics and possible quality improvements in the future.

8 . Strengths and limitations

HM Revenue and Customs (HMRC) grants pre-release access to [official statistics](#) publications. As this is a joint release, and in accordance with the HMRC policy, pre-release access has been granted to a number of people to enable the preparation of a ministerial briefing. Further details, including [a list of those granted access](#) can be found on [HMRC's website](#).

Experimental Statistics status

This is a joint experimental release between HMRC and the Office for National Statistics (ONS). The existing monthly publications produced by the ONS remain the primary [National Statistics](#) for the labour market. The intention is that these new statistics will also be updated on a monthly basis.

The release is classed as [Experimental Statistics](#) as the methodologies used to produce the statistics are still in their development phase. This does not mean that the statistics are of low quality, but it does signify that the statistics are new and still being developed. As the methodologies are refined and improved, there may be revisions to these statistics.

Rather than waiting until the development work has been completed, the statistics are being published now to involve potential users in developing the statistics. We hope that this encourages users to provide us with their thoughts and suggestions of how useful the statistics are and what can be done to improve them. Comments can be sent by email to rtistatistics.enquiries@hmrc.gov.uk.

More information about [Experimental Statistics](#), including when they should be used and the differences between them and [National Statistics](#), is available.

Strengths of the data

As Pay As You Earn (PAYE) Real Time Information (RTI) data cover the whole population, rather than a sample of people or companies, we will be able to use this to produce estimates for geographic areas and other more detailed breakdowns of the population. At the moment, the methods for producing such breakdowns are under development and we expect to include further statistics in a future release. These statistics can help inform decision-making across the country. They also have the potential to provide more timely estimates than existing measures.

These statistics also have the potential to replace some of those based on surveys, which could reduce the burden on businesses needing to fill in statistical surveys.

Imputation and revisions

A disadvantage of the calendarisation used is that the figures for pay and numbers of employees in month t depend on payments made in month $t + 1$. This means only around 80% of the data used in the calculation on month t statistics are available at the end of each month.

Rather than wait until all those remaining payment returns have been received, we have decided to produce a more timely measure of numbers of employees and median pay by imputing the values for missing returns. The data on which the statistics are based were extracted at the beginning of April, which means around 1% to 2% of the data for March 2020 are imputed, while 10% of the data for the "flash" April 2020 data are imputed. As a result, the figures in future releases will be updated as new payment returns are received, and the imputation payments can be replaced with actual data.

Differences compared with the Labour Force Survey and Average Weekly Earnings statistics

Further information about the [methodology used and comparisons](#) with the ONS's [Labour Force Survey](#) and [average weekly earnings](#) can be found in an [accompanying article](#).

9 . Related links

[Labour market overview: May 2020](#)

Bulletin | Released 19 May 2020

Estimates of employment, unemployment, economic inactivity and other employment-related statistics for the UK.

[Employment in the UK: May 2020](#)

Bulletin | Released 19 May 2020

Estimates of employment, unemployment and economic inactivity for the UK.

[Labour market in the regions of the UK: May 2020](#)

Bulletin | Released 19 May 2020

Regional breakdowns of changes in UK employment, unemployment and economic inactivity.

[Earnings and Employment Statistics from Pay As You Earn Real Time Information: Experimental Statistics](#)

Bulletin | Updated 19 May 2020

Previously published employee and earnings statistics from PAYE RTI, based on a different methodology.

[Average weekly earnings in Great Britain: May 2020](#)

Bulletin | Released 19 May 2020

Estimates of growth in earnings for employees before tax and other deductions from pay.

PAID EMPLOYEES

1 Paid Employee counts from PAYE RTI

UK, All industries, Seasonally adjusted	
Period	Paid employees
March 2015	27,302,075
March 2016	27,825,713
March 2017	28,194,263
March 2018	28,507,049
March 2019	28,902,698
April 2019	28,905,799
May 2019	28,910,194
June 2019	28,914,819
July 2019	28,911,112
August 2019	28,938,804
September 2019	28,961,250
October 2019	28,965,914
November 2019	28,969,018
December 2019	28,988,281
January 2020	29,028,673
February 2020	29,027,764
March 2020	29,014,667
Change on year	111,968
Change %	0.4
Flash estimate for April 2020	28,557,556

Source: PAYE RTI

1. The number of paid employees here is defined as the number of people receiving paid remuneration included in PAYE RTI for work done in the reference period. It also includes people receiving remuneration for the reference period who have not done work but are an employee - such as those on paid leave. Values for the month are an average of employee counts in each day of the month. It is a measure of people who are paid employees, as opposed to a measure of employee jobs.
2. These statistics include only individuals paid through PAYE and do not cover other sources of income such as from pensions, self-employment or investments.
3. PAYE covers occupational pension income as well as employment. In these tables pension income is excluded.
4. Incomes are allocated to regions and countries according to the residence of the recipient.
5. These data include imputation for payments not yet received by HMRC which would relate to the respective work periods
6. Figures have been rounded to the nearest unit. Change and growth calculations have been made on unrounded data, and then rounded.
7. These are experimental Statistics

MEDIAN PAY

2 Median monthly Pay from PAYE RTI

UK, All industries, Seasonally adjusted		£ per month
Period		Median Pay
March 2015		1,617
March 2016		1,645
March 2017		1,684
March 2018		1,727
March 2019		1,796
April 2019		1,805
May 2019		1,810
June 2019		1,810
July 2019		1,818
August 2019		1,824
September 2019		1,827
October 2019		1,831
November 2019		1,835
December 2019		1,842
January 2020		1,851
February 2020		1,858
March 2020		1,844
Change on year		48
Change %		2.7
Flash estimate for April 2020		1,789

Source: PAYE RTI

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REGIONAL PAY

3 Regional median monthly Pay from PAYE RTI

£ per month, 3 month moving average UK, All industries, Seasonally adjusted			
Area name	Three months to March 2020	Change on Year	Change %
North East	1,736	54	3.2
North West	1,752	58	3.4
Yorkshire and the Humber	1,720	53	3.2
East Midlands	1,745	54	3.2
West Midlands	1,746	50	3
East of England	1,909	65	3.5
London	2,239	71	3.3
South East	1,985	66	3.5
South West	1,749	58	3.5
Wales	1,732	57	3.4
Scotland	1,871	56	3.1
Northern Ireland	1,715	54	3.3

Source: PAYE RTI

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PAY DISTRIBUTION

4 Monthly Pay by Percentile from PAYE RTI

£ per month, 3 month moving average UK, All industries, Seasonally adjusted							
Three months to:	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile	99th Percentile
March 2015	518	907	1,619	2,622	3,961	5,348	11,196
March 2016	536	926	1,641	2,645	3,994	5,381	11,117
March 2017	553	951	1,676	2,689	4,068	5,491	11,392
March 2018	579	991	1,726	2,763	4,186	5,664	11,843
March 2019	606	1,029	1,789	2,846	4,302	5,846	12,256
April 2019	607	1,034	1,797	2,859	4,322	5,868	12,331
May 2019	609	1,039	1,804	2,869	4,338	5,895	12,396
June 2019	610	1,043	1,808	2,874	4,344	5,896	12,315
July 2019	612	1,046	1,813	2,878	4,349	5,903	12,306
August 2019	614	1,048	1,817	2,884	4,356	5,914	12,324
September 2019	617	1,051	1,823	2,890	4,365	5,933	12,360
October 2019	618	1,053	1,827	2,897	4,377	5,950	12,379
November 2019	619	1,057	1,831	2,904	4,392	5,967	12,411
December 2019	621	1,060	1,836	2,912	4,404	5,980	12,438
January 2020	623	1,065	1,843	2,921	4,416	5,996	12,485
February 2020	627	1,071	1,851	2,928	4,428	6,011	12,501
March 2020	624	1,072	1,851	2,932	4,441	6,020	12,524
Change on year	18	44	62	86	139	174	267
Change %	3	4.2	3.4	3	3.2	3	2.2

Source: PAYE RTI

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