

Statistical bulletin

Earnings and employment from Pay As You Earn Real Time Information, UK: June 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).

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Release date:
16 June 2020

Next release:
16 July 2020

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1 . Main points

- The number of paid employees in the UK in April 2020 fell by 1.2%, compared with the same period of the previous year; between March and April 2020, the number of paid employees fell by 449,000.
- Early estimates for May 2020 indicate that the number of paid employees fell by 1.7% compared with May 2019 and fell by 0.6% when compared with April 2020; the fall in the number of employees in May 2020 compared with April was 163,000.
- Median monthly pay fell by 0.8% in April 2020, compared with the same period of the previous year.
- Early estimates for May 2020 indicate that median monthly pay fell by 1.8% compared with the same period of the previous year.
- Growth in median pay for employees in the three months to April 2020 was highest in the East of England (2.2%) and lowest in the West Midlands (1.4%).
- Pay growth in the UK for employees was highest at the 25th percentile (2.3%) and lowest at the 99th percentile (0.8%) in the three months to April 2020, for the percentiles we have analysed.

About the data in this release

Early estimates for May 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 May 2020 are based on around 85% 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 (PAYE) system where their pay is reported through the Real Time Information (RTI) system. As employees who are "furloughed" as part of the Coronavirus Job Retention Scheme (CJRS) programme 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 April 2020, 28.6 million people were paid employees (Figure 1). This represents a 1.2% fall in paid employees when compared with the same period of the previous year. When comparing the number of paid employees in April 2020 with the previous month, the number fell by 1.5% – a minor revision from the 1.6% fall estimated by the previous bulletin's early estimate for April 2020.

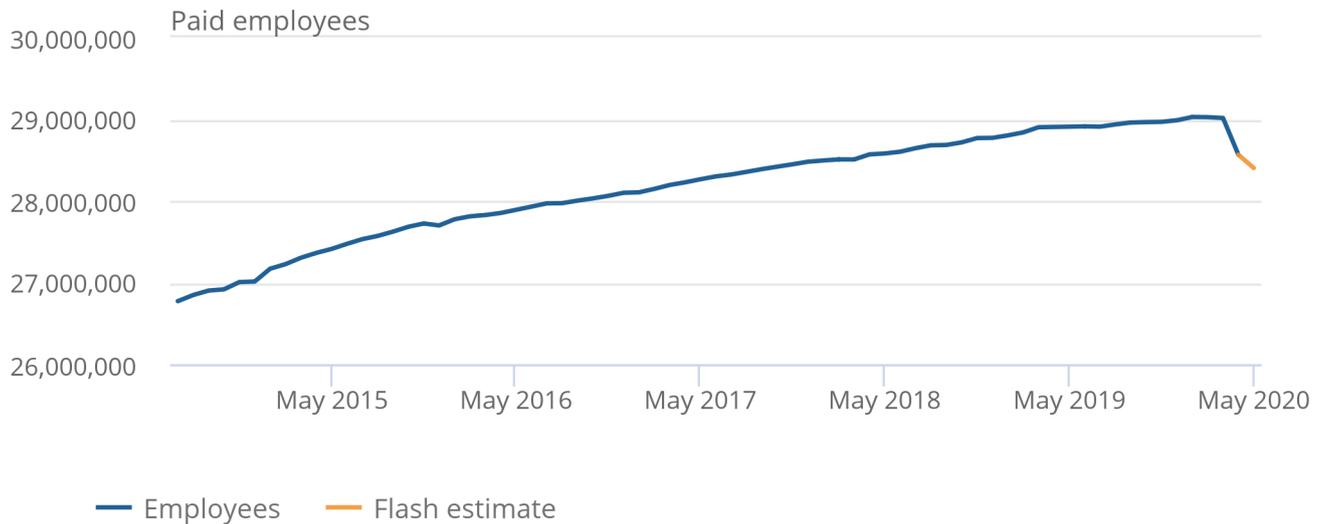
Early estimates for May 2020 indicate that there were 28.4 million paid employees, a fall of 1.7% on the same time in the previous year, a decline of 506,000 people. Compared with the previous month, the number of paid employees fell by 0.6% in May 2020.

Figure 1: After rising for several years, the number of employees has fallen in recent months

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

Figure 1: After rising for several years, the number of employees has fallen in recent months

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



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 April 2020 are not a flash estimate of paid employees; these are 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, employee growth slowed more substantially recently (becoming negative in April 2020) 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

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

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

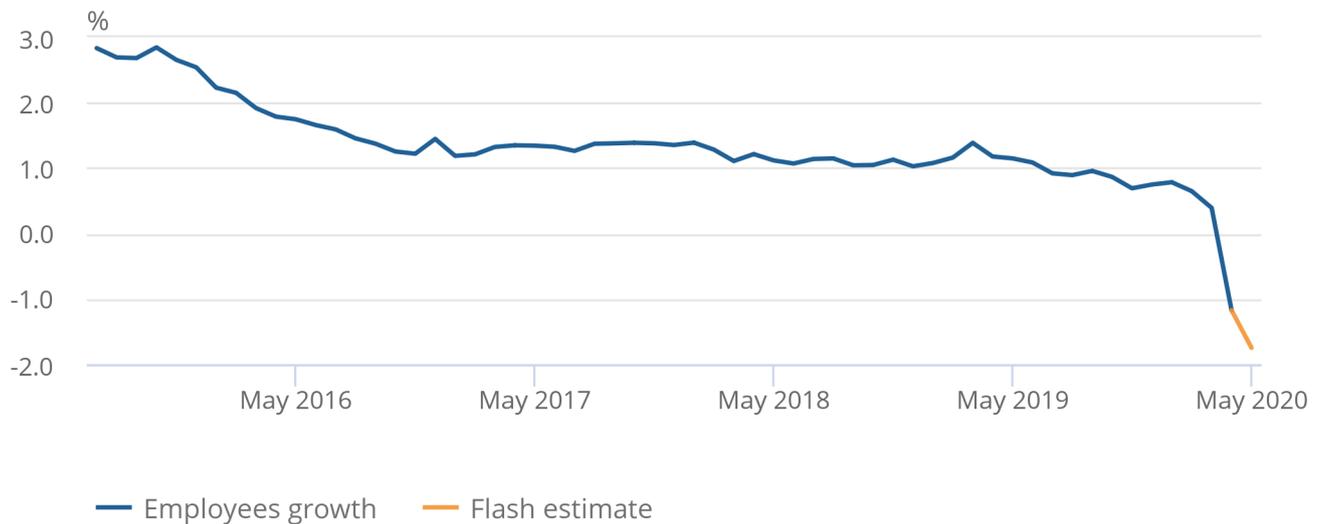
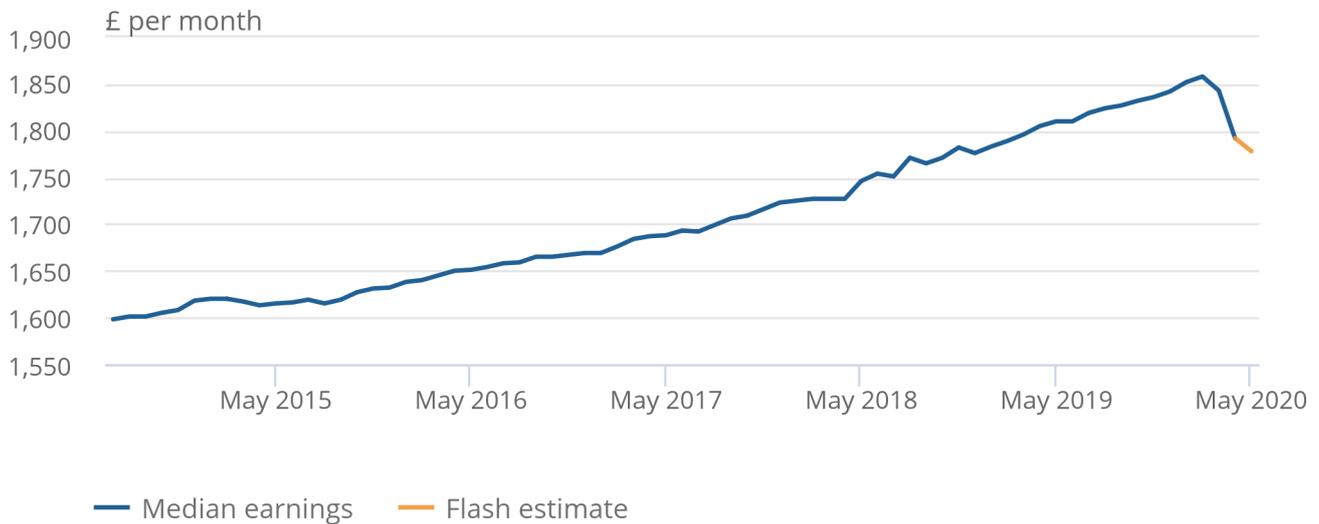


Figure 3: Median pay has grown over the past five years but has fallen in recent months

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

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

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



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

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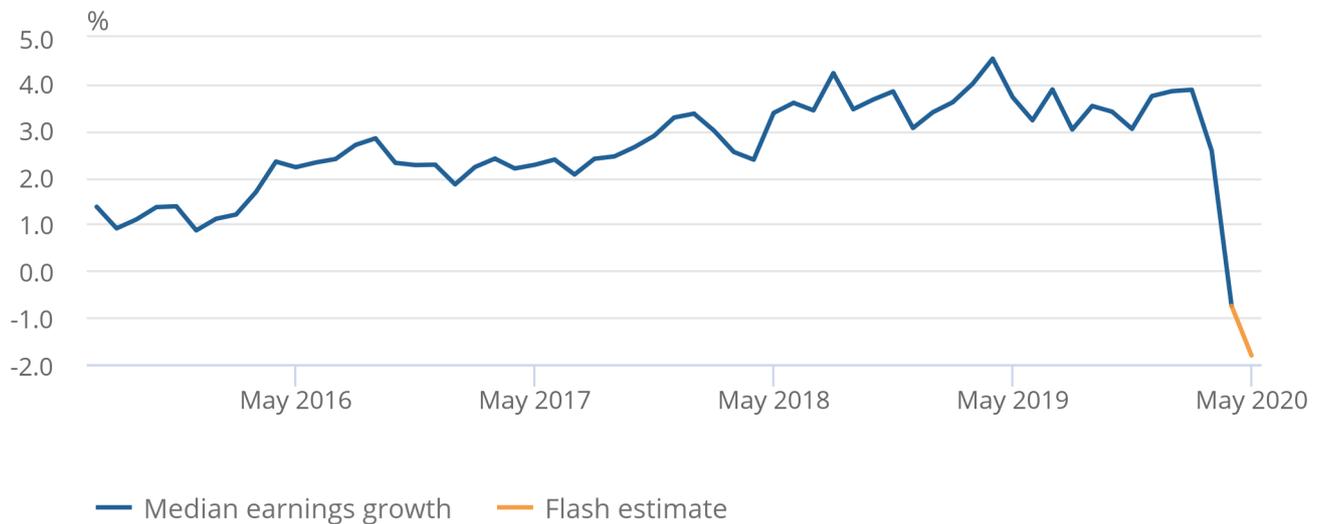
Following a general trend of increasing pay growth between mid-2015 and mid-2018, pay growth tended to fluctuate around 3.6% (Figure 4). Estimates for April 2020 onward indicate that pay growth may have slowed more substantially recently (becoming negative in April) coinciding with the coronavirus (COVID-19) 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

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

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

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



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

Notes:

1. Percentage change has been calculated using unrounded figures.
2. The latest period, highlighted in orange, is based on early data and therefore could be subject to revisions.
3. Data for April 2020 are not a flash estimate of median pay; these are included purely for graphing purposes.

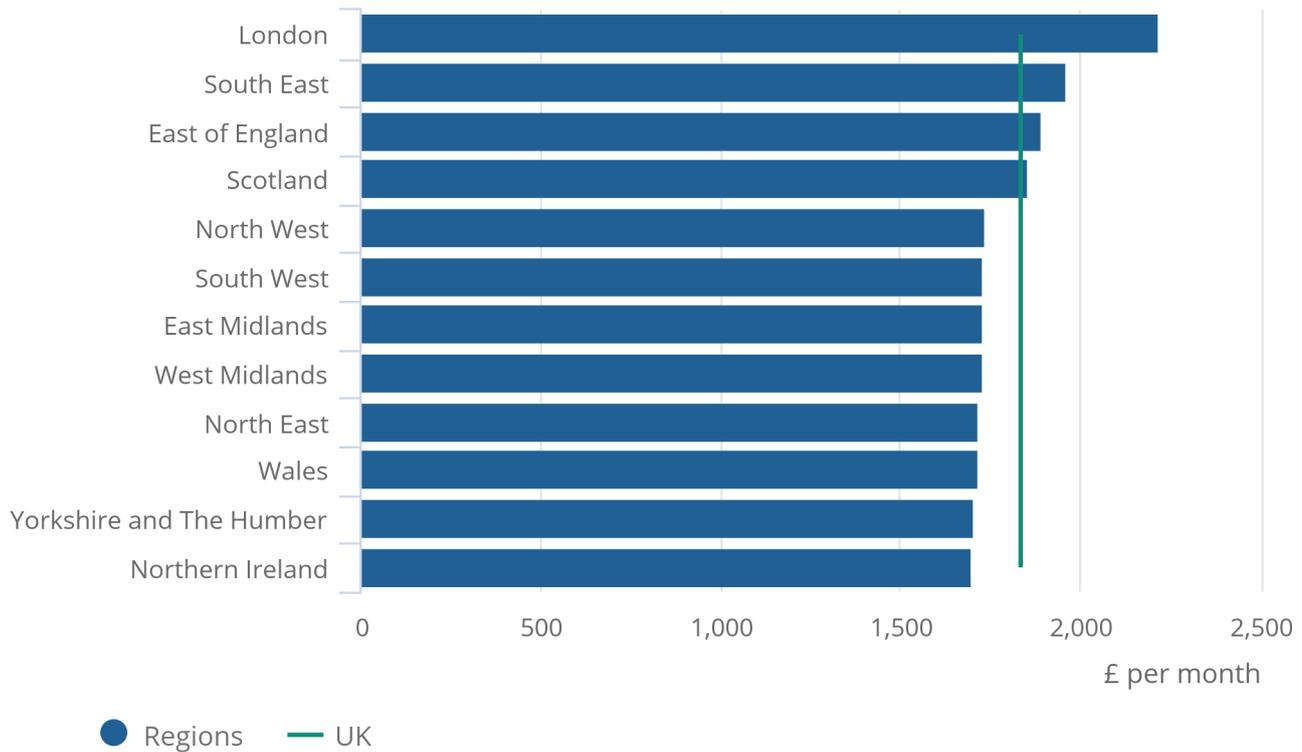
The regional figures in this bulletin are based on where employees live and not the location of their place of work. They are also based on three-month moving averages. Median pay across regions and nations of the UK in the three months to April 2020 ranged from £1,701 in Northern Ireland to £2,215 in London (Figure 5).

Figure 5: Median pay varies across the UK

Median pay, seasonally adjusted, UK, three months to April 2020

Figure 5: Median pay varies across the UK

Median pay, seasonally adjusted, UK, three months to April 2020



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 April. For this reason, they are not directly comparable with Figures 3 or 4 (which use data for a single month).

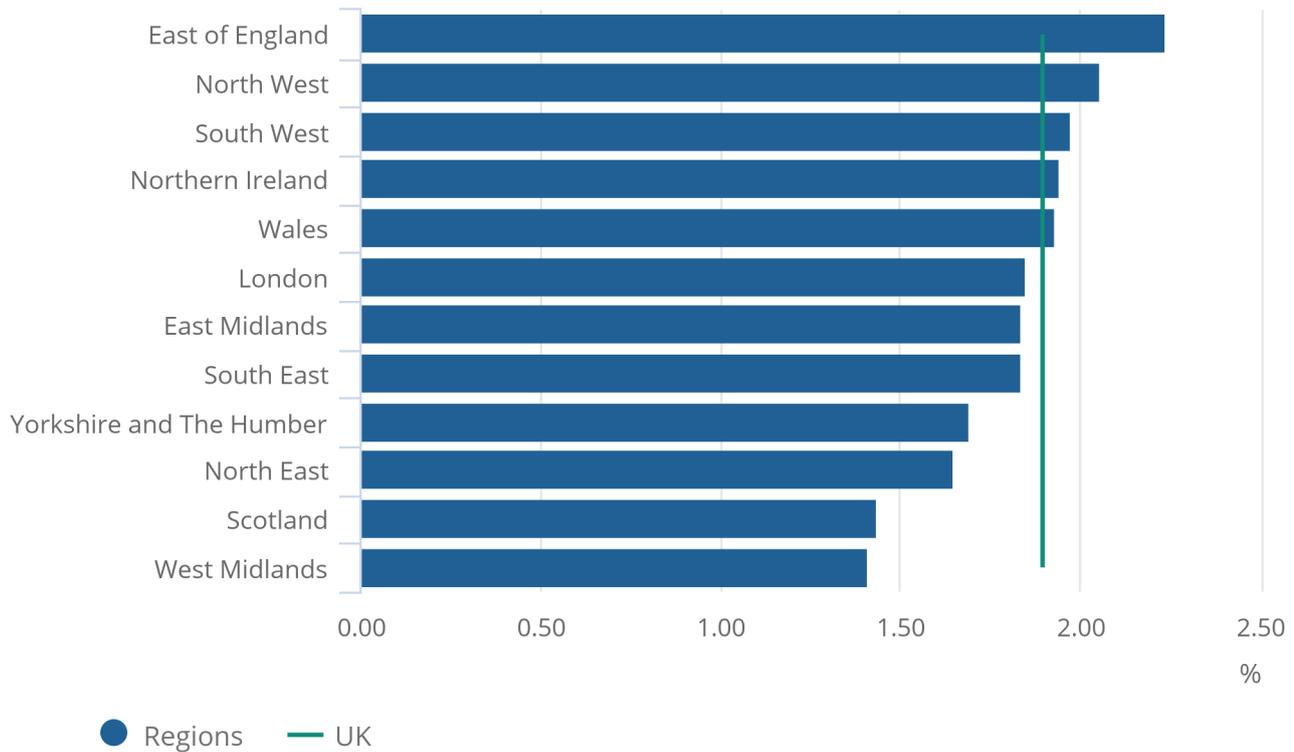
Compared with the same time last year, pay grew fastest in the East of England (2.2%) and slowest in the West Midlands (1.4%) (Figure 6). Over the longer term, on average over the past five years, pay growth was highest in the East of England (at an annualised rate of 2.7%) and slowest in the North East (2.3%).

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, seasonally adjusted, UK, three months to April 2020

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, seasonally adjusted, UK, three months to April 2020



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

Notes:

1. Percentage change has been calculated using unrounded figures.
2. Data for the UK in this chart are based on an average of the three months to April. For this reason, they are not directly comparable with Figures 3 or 4 (which use data for a single month).
3. 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 constituent parts of the UK.

4 . Pay distribution

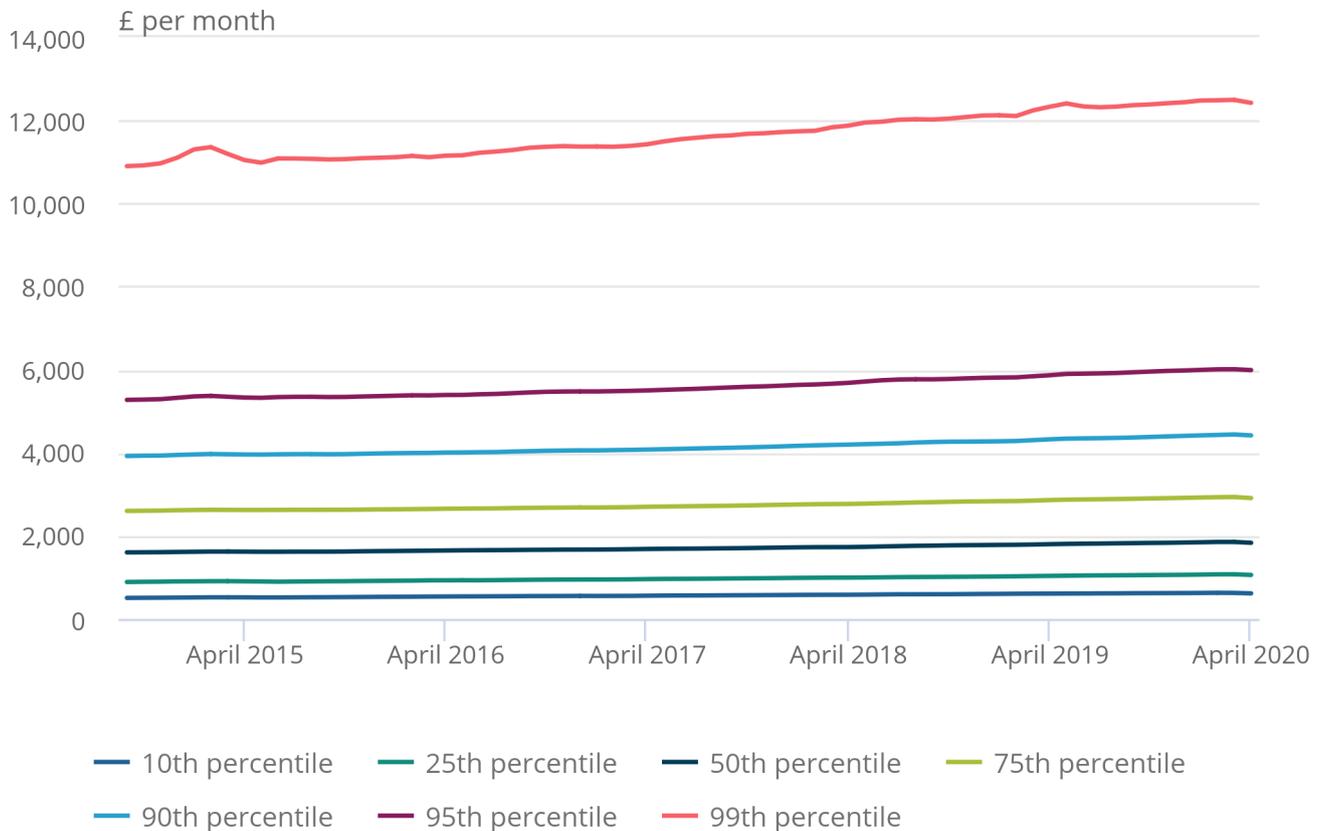
In the three months to April 2020, the 10th percentile of the monthly pay distribution was £613, the 90th percentile was £4,416 and the 99th percentile was £12,421 (Figure 7). This means that 10% of paid employees earned equal to or less than £613 per month, 90% earned equal to or less than £4,416, and 99% earned equal to or less than £12,421.

Figure 7: 10% of employees earn less than £613 per month and 90% earn less than £4,416 per month

Pay per month, seasonally adjusted, UK, three months to September 2014 to three months to April 2020

Figure 7: 10% of employees earn less than £613 per month and 90% earn less than £4,416 per month

Pay per month, seasonally adjusted, UK, three months to September 2014 to three months to April 2020



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 (2.3%) and lowest at the 99th percentile (0.8%).

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).

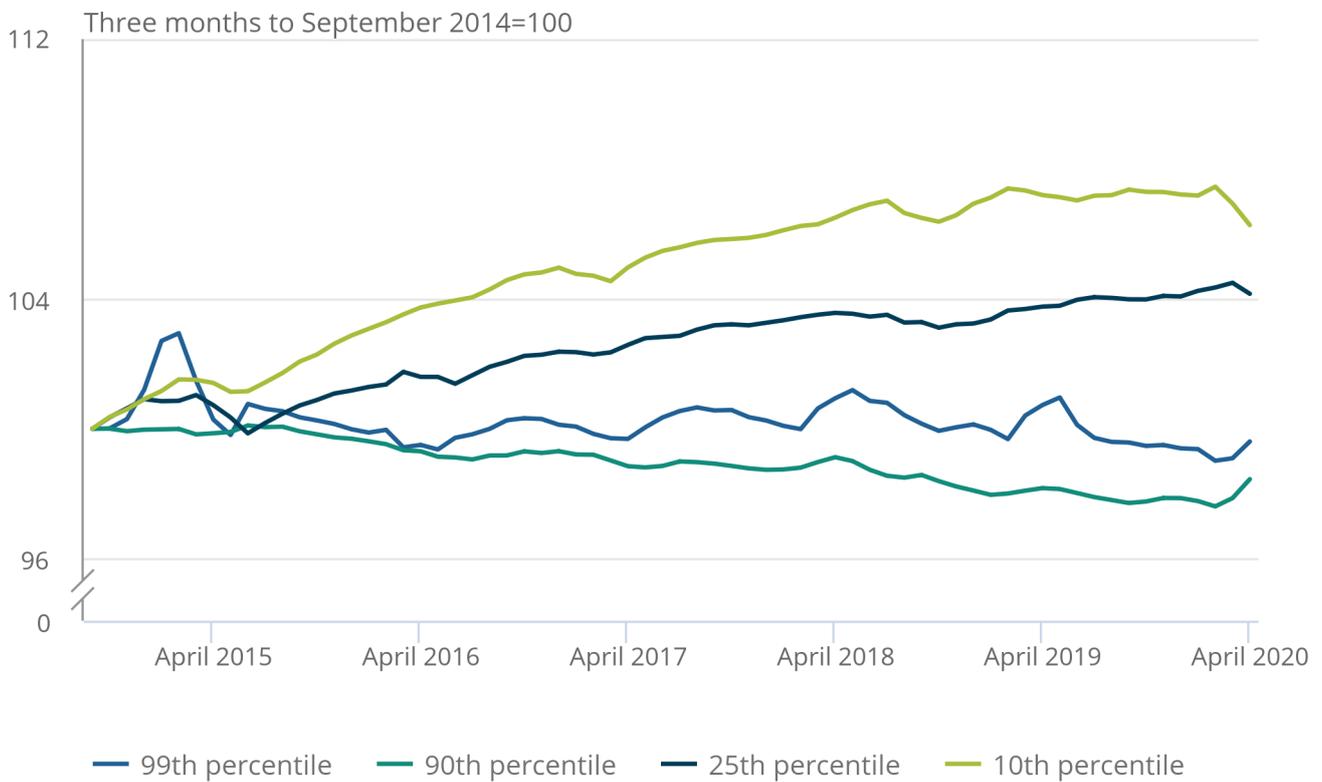
Figure 8 divides each percentile by the median and then indexes these to 100 at the start of the series to better focus on their movements over time. Growth in these series reflects a percentile growing faster than median pay, while a fall in these series reflects a percentile growing slower than median 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, seasonally adjusted, UK, three months to September 2014 to three months to April 2020

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, seasonally adjusted, UK, three months to September 2014 to three months to April 2020



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 the most recent months, pay growth has been weaker than the median at the low end of the distribution and stronger than the median at the high end of the distribution. It is not yet clear whether this represents standard volatility around previous trends or reflects a break with those trends. 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 16 June 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, not seasonally adjusted](#)

Dataset | Released 16 June 2020

Employee counts and earnings data, including geographic and distributional breakdowns, from PAYE RTI, not 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 April 2016 and applies to employees aged 25 years and over.

On the Annual Survey of Hours and Earnings (ASHE) reference date in April 2020, the NMW and NLW rates were:

- £8.72 for employees aged 25 years and over
- £8.20 for employees aged 21 to 24 years
- £6.45 for employees aged 18 to 20 years
- £4.55 for employees aged 16 to 17 years
- £4.15 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

Pay As You Earn (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

Coronavirus (COVID-19)

The coronavirus illness (COVID-19) pandemic is a significant challenge for the UK, and we are working to ensure that the UK has the vital information needed to respond to the impact of this pandemic on our economy and society.

As the demand increases for statistics and data to measure the impact of the coronavirus pandemic, we have had to change data gathering and release practices, focusing efforts on priority analysis and statistics. As such we have re-scheduled this release to be published at 7am.

A further [article](#) published on 6 May 2020, detailed some of the challenges that we have faced in producing estimates at this time.

The latest Office for National Statistics (ONS) data and analysis on the impact of the coronavirus on the UK economy and population is available on our dedicated [coronavirus web page](#). This is the hub for all special coronavirus-related publications, drawing on all available 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. They cover the whole population rather than a sample of people or companies, and they 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 May 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.

Pre-release data

The Bank of England was granted exceptional pre-release access to the Earnings and employment from Pay As You Earn Real Time Information, UK: June 2020 bulletin and accompanying tables at 9:00am on Monday 15 June 2020 so that the data were available for the Monetary Policy Committee (MPC) meeting held on that day. The [exchange of letters](#) requesting exceptional pre-release access so that the data were available for discussion at the MPC is available.

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 on 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 these 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 May, which means around 1% to 2% of the data for April 2020 are imputed, while around 15% of the data for the "flash" May 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 \(LFS\)](#) and [Average Weekly Earnings](#) can be found in an [accompanying article](#).

9 . Related links

[Labour market overview: June 2020](#)

Bulletin | Released 16 June 2020

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

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

Bulletin | Released 16 June 2020

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

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

Bulletin | Released 16 June 2020

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

[Earnings and employment statistics from Pay As You Earn \(PAYE\) Real Time Information \(Experimental Statistics\)](#)

Bulletin | Updated 19 May 2020

Previously published employee and earnings statistics from PAYE Real Time Information (RTI), based on a different methodology.

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

Bulletin | Released 16 June 2020

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

PAID EMPLOYEES

1 Paid Employee counts from PAYE RTI

Period	UK, All industries, Seasonally adjusted Paid employees
April 2015	27,360,668
April 2016	27,849,514
April 2017	28,224,757
April 2018	28,567,133
April 2019	28,903,067
May 2019	28,906,200
June 2019	28,910,182
July 2019	28,906,157
August 2019	28,933,910
September 2019	28,956,603
October 2019	28,962,079
November 2019	28,965,382
December 2019	28,984,486
January 2020	29,024,748
February 2020	29,022,386
March 2020	29,012,358
April 2020	28,562,982
Change on year	-340,086
Change %	-1.2
Flash estimate for May 2020	28,400,480

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

Period	£ per month UK, All industries, Seasonally adjusted Median Pay
April 2015	1,613
April 2016	1,650
April 2017	1,687
April 2018	1,727
April 2019	1,805
May 2019	1,810
June 2019	1,810
July 2019	1,819
August 2019	1,824
September 2019	1,827
October 2019	1,832
November 2019	1,836
December 2019	1,842
January 2020	1,852
February 2020	1,858
March 2020	1,843
April 2020	1,792
Change on year	-14
Change %	-0.8
Flash estimate for May 2020	1,778

Source: PAYE RTI

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REGIONAL PAY

3 Regional median monthly Pay from PAYE RTI

Area name	£ per month, 3 month moving average UK, All industries, Seasonally adjusted		
	Three months to April 2020	Change on Year	Change %
North East	1,718	28	1.6
North West	1,736	35	2.1
Yorkshire and the Humber	1,706	28	1.7
East Midlands	1,729	31	1.8
West Midlands	1,727	24	1.4
East of England	1,892	41	2.2
London	2,215	40	1.8
South East	1,963	35	1.8
South West	1,731	34	2
Wales	1,716	33	1.9
Scotland	1,853	26	1.4
Northern Ireland	1,701	32	1.9

Source: PAYE RTI

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PAY DISTRIBUTION

4 Monthly Pay by Percentile from PAYE RTI

Three months to:	£ per month, 3 month moving average UK, All industries, Seasonally adjusted						
	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile	99th Percentile
April 2015	517	903	1,617	2,621	3,956	5,327	11,044
April 2016	538	927	1,645	2,651	4,003	5,389	11,149
April 2017	557	957	1,682	2,698	4,075	5,498	11,424
April 2018	580	992	1,727	2,766	4,194	5,681	11,873
April 2019	607	1,034	1,797	2,859	4,322	5,864	12,328
May 2019	609	1,038	1,804	2,869	4,338	5,896	12,406
June 2019	610	1,043	1,809	2,874	4,344	5,902	12,335
July 2019	613	1,046	1,813	2,878	4,349	5,909	12,315
August 2019	614	1,048	1,818	2,884	4,356	5,918	12,331
September 2019	617	1,051	1,823	2,890	4,365	5,936	12,366
October 2019	618	1,054	1,828	2,898	4,378	5,952	12,383
November 2019	620	1,057	1,831	2,905	4,392	5,968	12,412
December 2019	621	1,060	1,837	2,913	4,404	5,978	12,435
January 2020	623	1,065	1,843	2,921	4,416	5,993	12,477
February 2020	627	1,071	1,851	2,928	4,427	6,006	12,483
March 2020	624	1,072	1,851	2,933	4,438	6,008	12,493
April 2020	613	1,057	1,831	2,907	4,416	5,988	12,421
Change on year	6	24	34	48	94	124	93
Change %	1	2.3	1.9	1.7	2.2	2.1	0.8

Source: PAYE RTI

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