

Statistical bulletin

# Earnings and employment from Pay As You Earn Real Time Information, UK: July 2014 to January 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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# 1 . Main points

- The number of paid employees in the UK in January 2020 grew by 1.4%, compared with the same period of the previous year.
- Median monthly pay grew by 3.7% in January 2020, compared with the same period of the previous year.
- Growth in median pay for employees in the three months to January 2020 was highest in Scotland (3.9%) and lowest in Wales (2.9%).
- Pay growth in the UK for employees was highest at the 25th percentile (4.3%) and lowest at the 10th percentile (2.5%) in the three months to January 2020, for the percentiles we have analysed.

# 2 . Individuals receiving pay

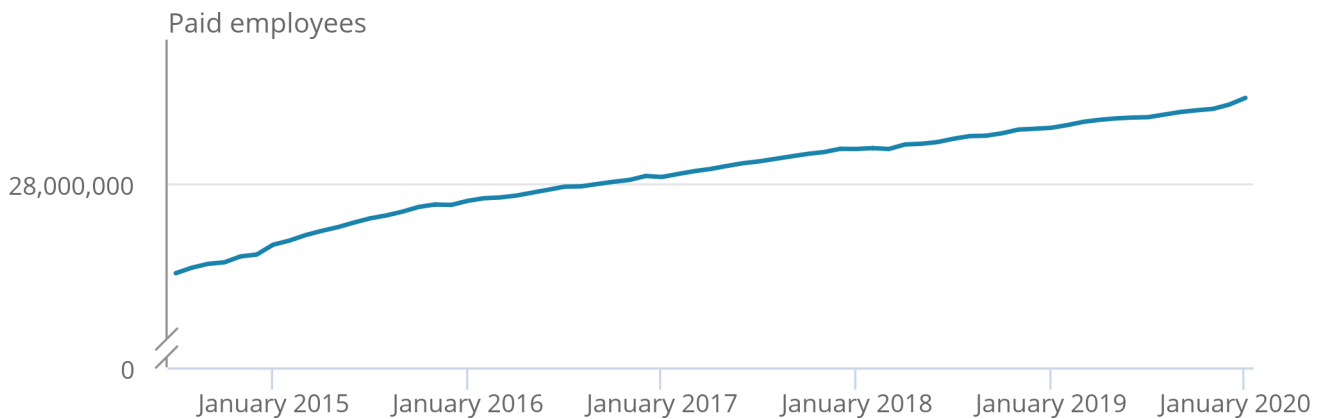
In January 2020, 29.2 million people were paid employees (Figure 1). This represents a 1.4% rise in paid employees when compared with the same period of the previous year.

**Figure 1: The number of employees has been growing over the past five years**

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

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



Source: HM Revenue and Customs –PAYE RTI

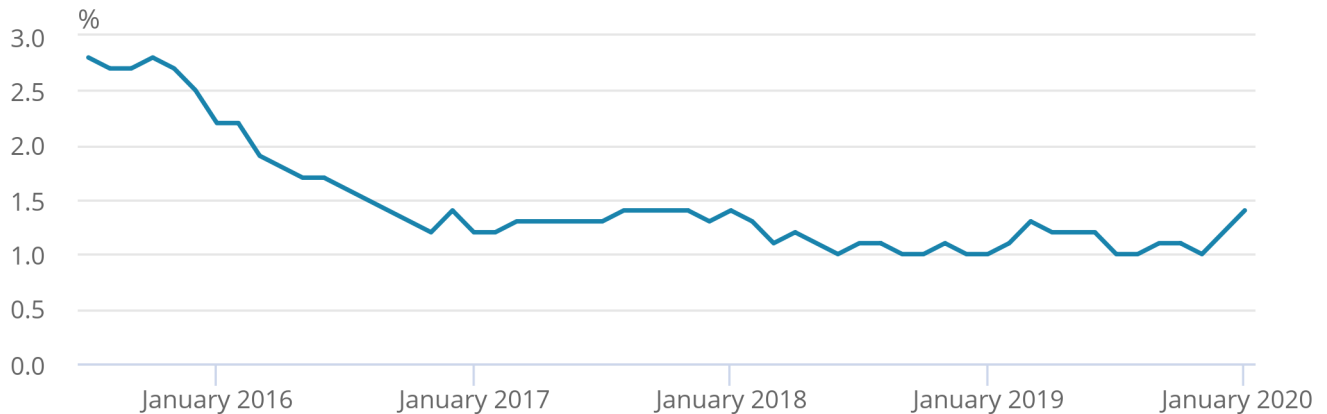
Annual growth in the number of employees has remained broadly within a range of 1.0% to 1.4% over the past three years, following higher rates of growth prior to mid-2016 (Figure 2).

**Figure 2: Growth in the number of paid employees has been fairly steady over the past three years**

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

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



Source: HM Revenue and Customs –PAYE RTI

Notes:

1. Percentage change has been calculated using unrounded figures.

### 3 . Median monthly pay

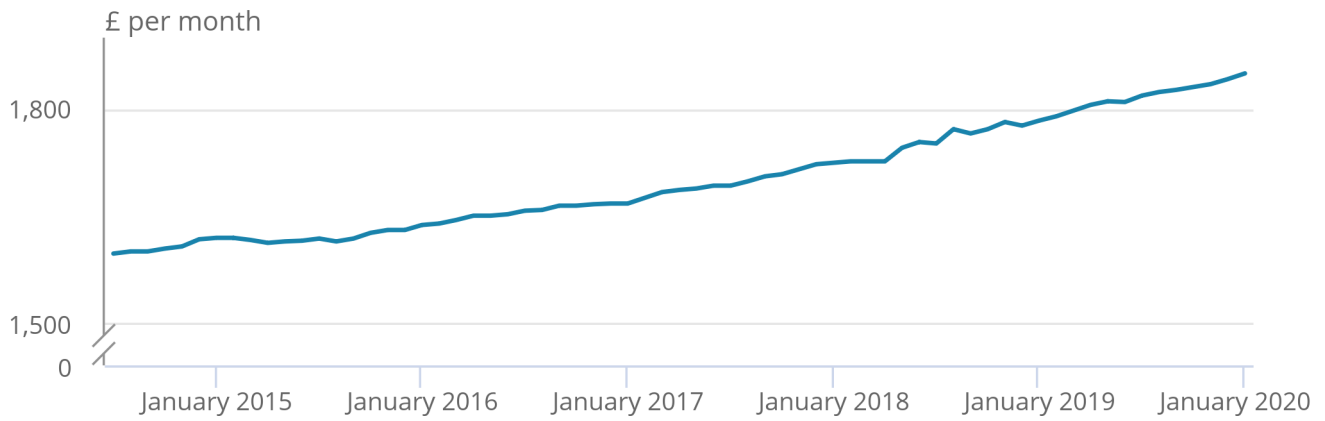
Median monthly pay for employees in January 2020 was £1,850 (Figure 3). This represents a 3.7% rise when compared with the same period of the previous year.

### Figure 3: Median pay has grown over the past five years

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

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



Source: HM Revenue and Customs –PAYE RTI

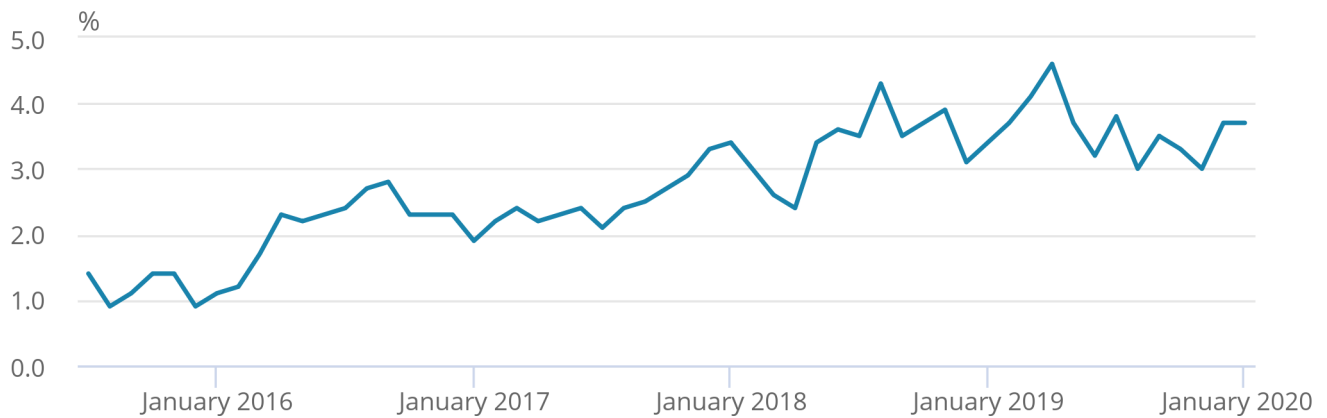
Following a general trend of increasing pay growth between mid-2015 and mid-2018, pay growth has since tended to fluctuate around 3.6% (Figure 4).

**Figure 4: The rate of growth in median pay has fluctuated around 3.6% since mid-2018**

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

**Figure 4: The rate of growth in median pay has fluctuated around 3.6% since mid-2018**

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



Source: HM Revenue and Customs –PAYE RTI

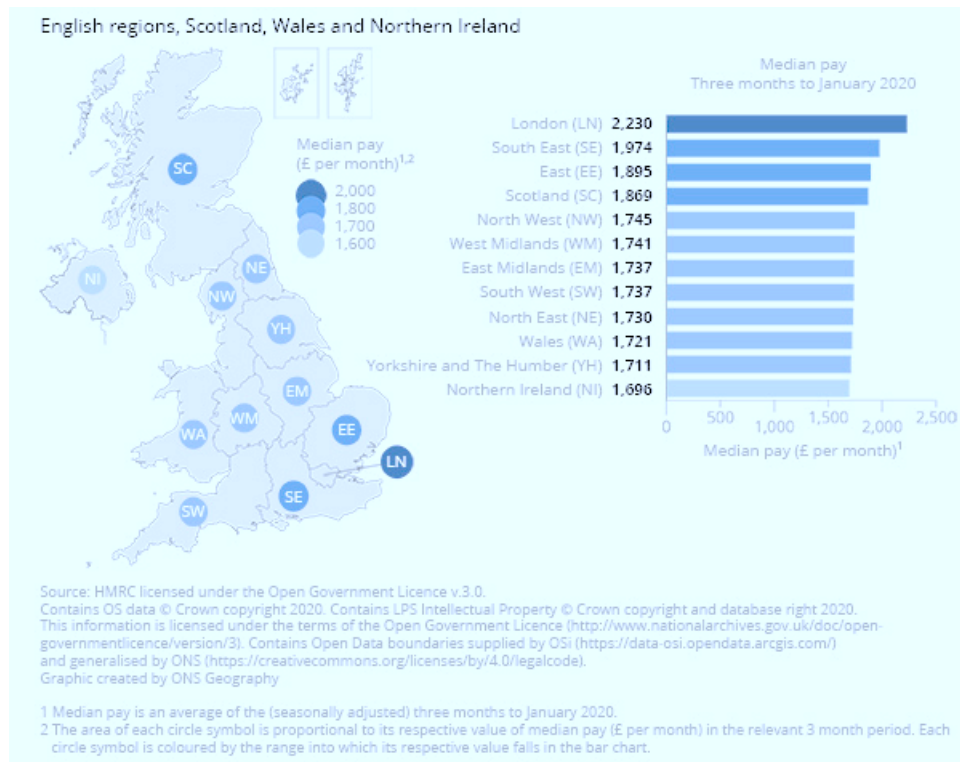
Notes:

1. Percentage change has been calculated using unrounded figures.

The regional figures in this bulletin are based on where employees live, 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 January ranged from £1,696 in Northern Ireland to £2,230 in London (Figure 5).

## Figure 5: Median pay varies across the UK

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

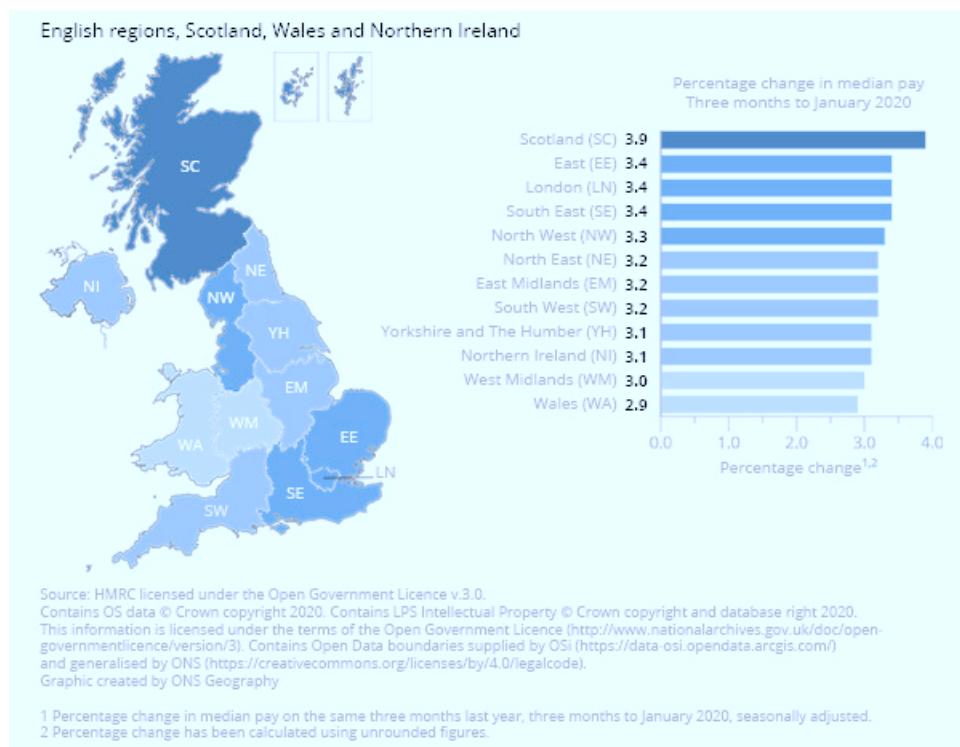


Source: HM Revenue and Customs –PAYE RTI

Compared with the same time last year, pay grew fastest in Scotland (3.9%) and slowest in Wales (2.9%) (Figure 6). Over the longer term, on average over the past five years, pay growth was highest in London (at an annualised rate of 2.8%) and slowest in the North East (2.3%).

**Figure 6: Median pay increased most in Scotland and least in Wales**

Percentage change in median pay on same three months last year, seasonally adjusted, UK, November 2019 to January 2020



Source: HM Revenue and Customs –PAYE RTI

Notes:

1. Percentage change has been calculated using unrounded figures.

## 4 . Pay distribution

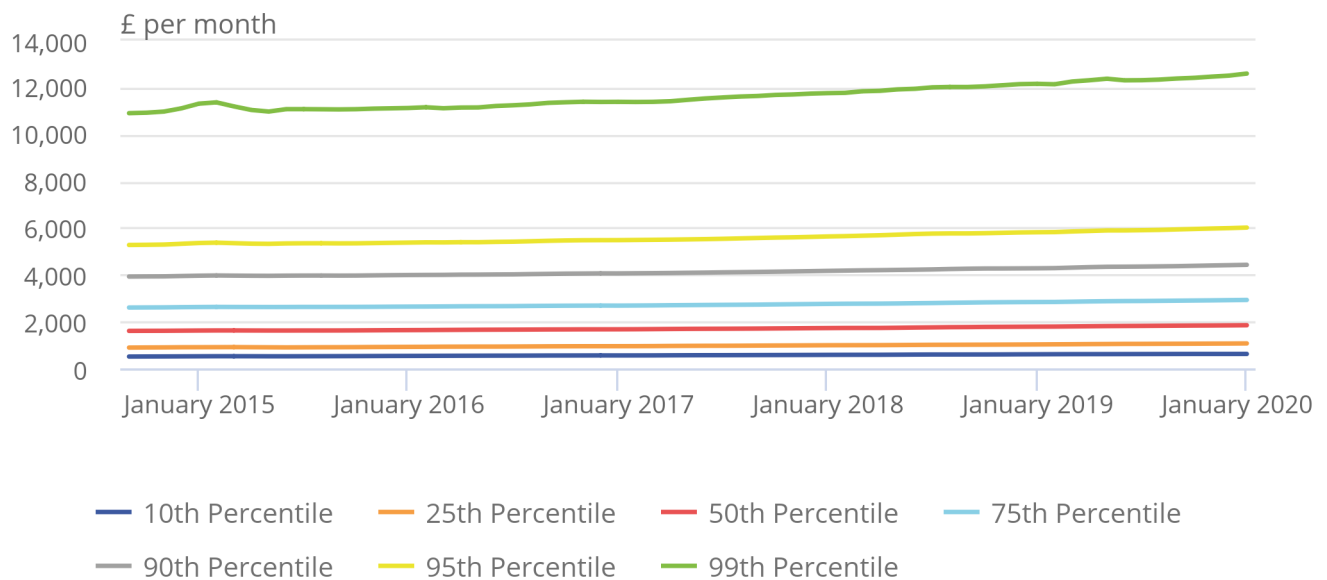
In the three months to January 2020, the 10th percentile of the monthly pay distribution was £616, the 90th percentile was £4,423, and the 99th percentile was £12,594 (Figure 7). This means that 10% of paid employees earned equal to or less than £616 per month, 90% earned equal to or less than £4,423, and 99% earned equal to or less than £12,594.

**Figure 7: 10% of employees earned less than £616 per month and 90% earned less than £4,423 per month**

Monthly pay, seasonally adjusted, UK, three months to September 2014 to three months to January 2020

**Figure 7: 10% of employees earned less than £616 per month and 90% earned less than £4,423 per month**

Monthly pay, seasonally adjusted, UK, three months to September 2014 to three months to January 2020



Source: HM Revenue and Customs –PAYE RTI

Compared with the same time a year ago, of the percentiles we have analysed, pay growth was highest at the 25th percentile (4.3%) and lowest at the 10th percentile (2.5%).

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.

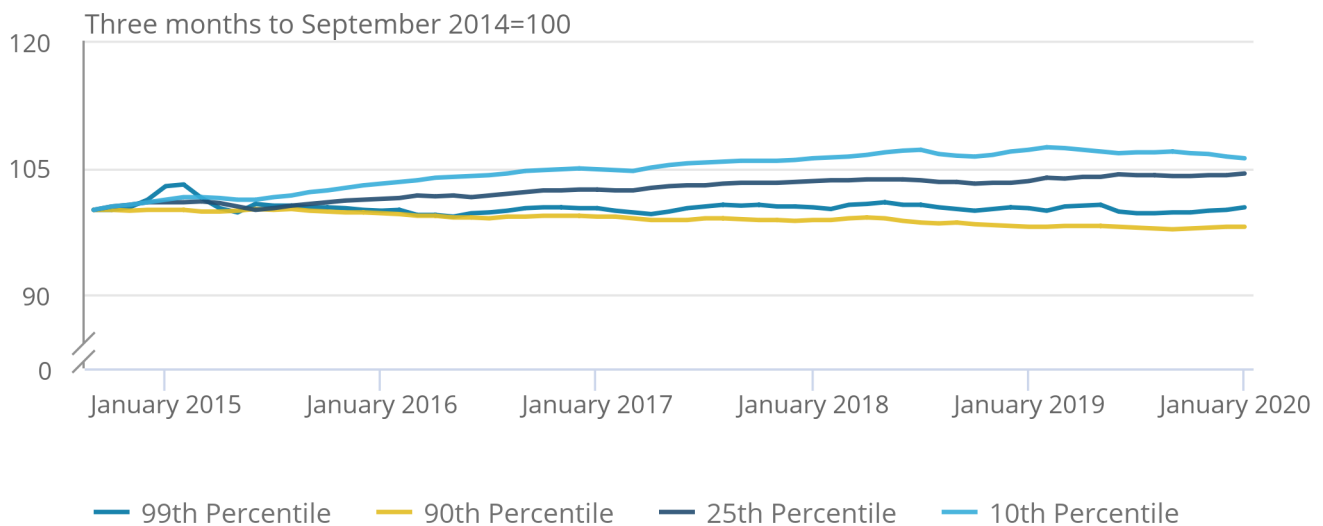


## Figure 8: Since 2014, employees' pay has generally grown fastest towards the low end of the pay distribution

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

### Figure 8: Since 2014, employees' pay has generally grown fastest towards 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 January 2020



Source: HM Revenue and Customs –PAYE RTI

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, 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 17 March 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 17 March 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 (NMW) and National Living Wage (NLW)

The 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 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 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, 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 January 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](mailto: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 concerning how useful the statistics are and suggestions about what can be done to improve them. Comments can be sent by email to [rtistatistics.enquiries@hmrc.gov.uk](mailto: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 more timely measures of pay and numbers of employees by imputing the values for missing returns. The data on which the statistics are based were extracted at the end of February, which means around 1% to 2% of the pay in the latest month of these statistics is 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: March 2020](#)

Bulletin | Released 17 March 2020

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

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

Bulletin | Released 17 March 2020

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

### [Labour market economic commentary: March 2020](#)

Article | Released 17 March 2020

Additional economic analysis of the latest UK labour market headline statistics and long-term trends for March 2020.

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

Bulletin | Released 17 March 2020

Regional, local authority and Parliamentary constituency breakdowns of changes in UK employment, unemployment, economic inactivity and other related statistics.

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

Bulletin | Updated 17 March 2020

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

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

Bulletin | Released 17 March 2020

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

### [Employee earnings in the UK: 2019](#)

Bulletin | Released 29 October 2019

Measures of employee earnings, using data from the Annual Survey for Hours and Earnings (ASHE).

# PAID EMPLOYEES

## 1 Paid Employee counts from PAYE RTI

UK, All industries, Seasonally adjusted	
Period	Paid employees
January 2015	27,163,371
January 2016	27,770,089
January 2017	28,100,879
January 2018	28,488,197
January 2019	28,780,460
February 2019	28,817,538
March 2019	28,863,399
April 2019	28,891,440
May 2019	28,910,938
June 2019	28,922,623
July 2019	28,927,569
August 2019	28,964,022
September 2019	28,999,637
October 2019	29,023,353
November 2019	29,042,630
December 2019	29,102,012
<b>January 2020</b>	<b>29,194,277</b>
Change on year	413,817
Change %	1.4

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

	£ per month
	UK, All industries, Seasonally adjusted
Period	Median Pay
January 2015	1,620
January 2016	1,638
January 2017	1,668
January 2018	1,725
January 2019	1,784
February 2019	1,790
March 2019	1,798
April 2019	1,806
May 2019	1,811
June 2019	1,810
July 2019	1,819
August 2019	1,824
September 2019	1,827
October 2019	1,831
November 2019	1,835
December 2019	1,842
<b>January 2020</b>	<b>1,850</b>
Change on year	66
Change %	3.7

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 January 2020	Change on Year	Change %
North East	1,730	54	3.2
North West	1,745	56	3.3
Yorkshire and the Humber	1,711	51	3.1
East Midlands	1,737	54	3.2
West Midlands	1,741	51	3
East of England	1,895	62	3.4
London	2,230	72	3.4
South East	1,974	65	3.4
South West	1,737	53	3.2
Wales	1,721	49	2.9
Scotland	1,869	70	3.9
Northern Ireland	1,696	52	3.1

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
January 2015	515	903	1,615	2,620	3,958	5,355	11,309
January 2016	531	917	1,633	2,638	3,987	5,372	11,123
January 2017	551	947	1,668	2,680	4,056	5,477	11,386
January 2018	576	987	1,721	2,754	4,165	5,635	11,758
January 2019	601	1,021	1,781	2,833	4,275	5,815	12,156
February 2019	604	1,026	1,784	2,836	4,282	5,821	12,137
March 2019	606	1,030	1,791	2,847	4,303	5,848	12,254
April 2019	607	1,036	1,798	2,859	4,324	5,868	12,309
May 2019	608	1,040	1,805	2,868	4,339	5,892	12,373
June 2019	609	1,045	1,809	2,874	4,343	5,893	12,306
July 2019	611	1,046	1,813	2,877	4,349	5,903	12,311
August 2019	612	1,049	1,818	2,884	4,357	5,915	12,337
September 2019	614	1,051	1,823	2,891	4,366	5,935	12,382
October 2019	615	1,053	1,828	2,898	4,380	5,954	12,413
November 2019	615	1,057	1,831	2,905	4,395	5,974	12,463
December 2019	615	1,060	1,836	2,914	4,408	5,991	12,508
<b>January 2020</b>	<b>616</b>	<b>1,065</b>	<b>1,842</b>	<b>2,922</b>	<b>4,423</b>	<b>6,014</b>	<b>12,594</b>
Change on year	15	44	61	89	148	199	439
Change %	2.5	4.3	3.4	3.1	3.5	3.4	3.6

Source: PAYE RTI

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