

Statistical bulletin

Earnings and employment from Pay As You Earn Real Time Information, UK: April 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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1 . Main points

- The number of paid employees in the UK in February 2020 grew by 1.1%, compared with the same period of the previous year.
- Early estimates for March 2020 indicate that the number of paid employees grew by 0.8%, compared with the same period of the previous year.
- Based on early estimates for March, the number of paid employees fell by 0.06% compared with February 2020.
- Median monthly pay grew by 3.6% in February 2020, compared with the same period of the previous year.
- Growth in median pay for employees in the three months to February 2020 was highest in Scotland (4.1%) and lowest in Northern Ireland (2.4%).
- Pay growth in the UK for employees was highest at the 25th percentile (4.5%) and lowest at the 75th percentile (3.3%) in the three months to February 2020, for the percentiles we have analysed.

About the data in this release

Early estimates for March 2020 are provided to give an indication of the likely level of employees in the latest period. The figures for March 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 98-99% of data will be available. This work has been brought forward in response to COVID-19 and methods will continue to be developed.

2 . Individuals receiving pay

In February 2020, 29.1 million people were paid employees (Figure 1). This represents a 1.1% rise in paid employees when compared with the same period of the previous year. Early estimates for March 2020 indicate that the number of paid employees remained at 29.1 million people, an increase of 0.8% on the previous year. Based on early estimates for March, the number of paid employees fell by 0.06% compared with February 2020.

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

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

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

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



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

Notes:

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

Annual growth in the number of employees has remained broadly within a range of 0.8% 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, UK, July 2015 to March 2020, seasonally adjusted

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Annual percentage change, UK, July 2015 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 latest period, highlighted in yellow, is based on early data and therefore could be subject to revisions.
3. Data for February 2020 are not a flash estimate of paid employees, this is included purely for graphing purposes.

3 . Median monthly pay

Median monthly pay for employees in February 2020 was £1,855 (Figure 3). This represents a 3.6% 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, UK, July 2014 to February 2020, seasonally adjusted

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

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



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

Following a general trend of increasing pay growth between mid-2015 and mid-2018, since then pay growth has 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, UK, July 2015 to February 2020, seasonally adjusted

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, UK, July 2015 to February 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.

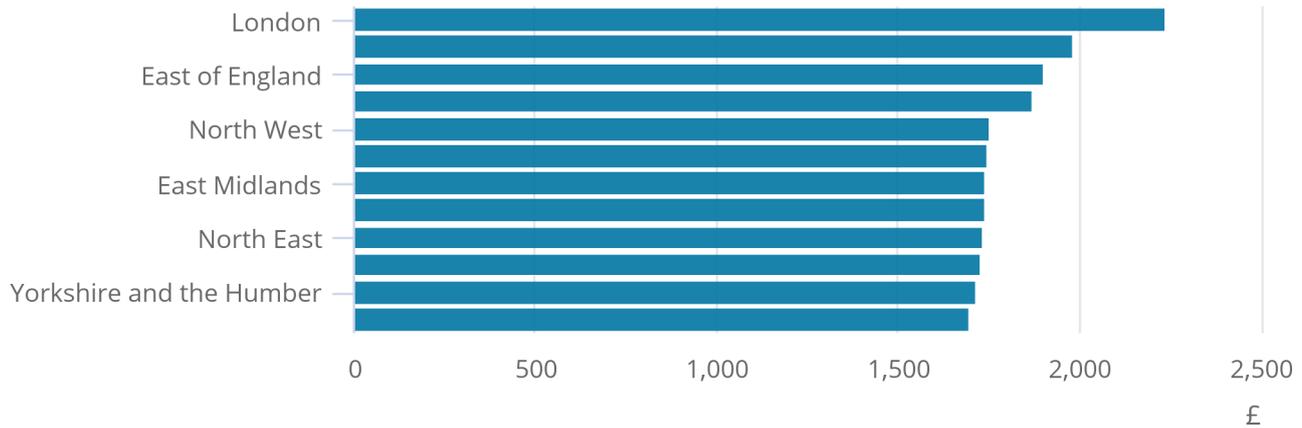
The regional figures in this bulletin are based on where employees live and not the location of their place of work. They are also based on three-month moving averages. Median pay across regions and nations of the UK in the three months to February 2020 ranged from £1,696 in Northern Ireland to £2,240 in London (Figure 5).

Figure 5: Median pay varies across the UK

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

Figure 5: Median pay varies across the UK

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



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

Compared with the same time last year, pay grew fastest in Scotland (4.1%) and slowest in Northern Ireland (2.4%) (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 (2.4%).

Figure 6: Median pay increased most in Scotland and least in Northern Ireland

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

Figure 6: Median pay increased most in Scotland and least in Northern Ireland

Percentage change on same three months last year, UK, three months to February 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.

4 . Pay distribution

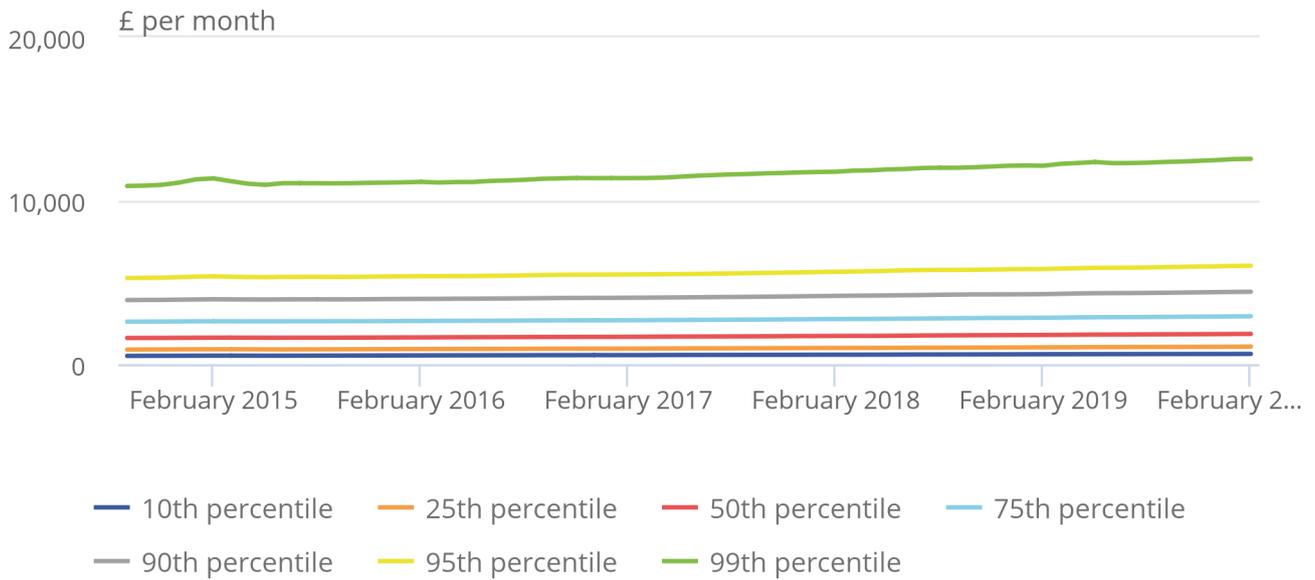
In the three months to February 2020, the 10th percentile of the monthly pay distribution was £625, the 90th percentile was £4,429 and the 99th percentile was £12,562 (Figure 7). This means that 10% of paid employees earned equal to or less than £625 per month, 90% earned equal to or less than £4,429, and 99% earned equal to or less than £12,562.

Figure 7; 10% of employees earn less than £625 per month and 90% earn less than £4,429 per month

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

Figure 7; 10% of employees earn less than £625 per month and 90% earn less than £4,429 per month

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



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

Compared with the same time a year ago, of the percentiles we have analysed, pay growth was highest at the 25th percentile (4.5%) and lowest at the 75th percentile (3.3%).

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).

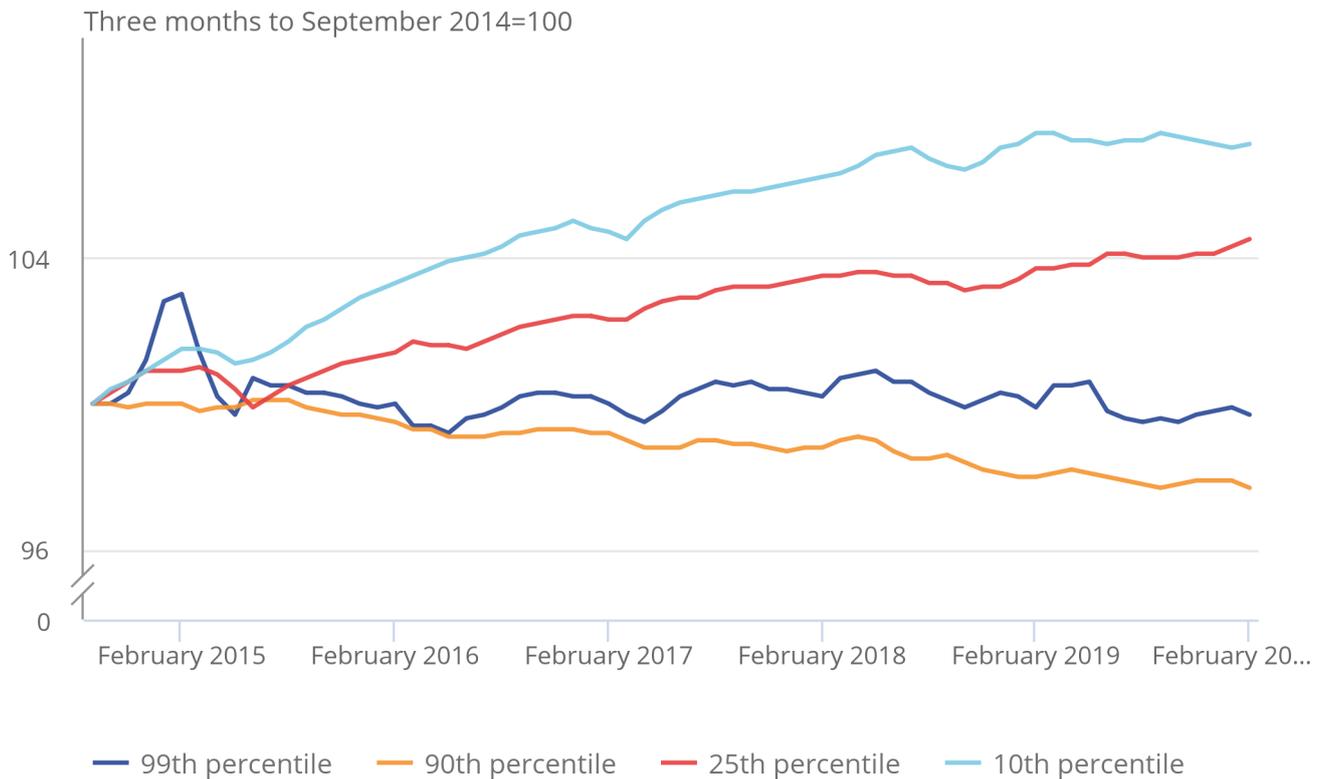
Figure 8 divides each percentile by the median, and then indexes these to 100 at the start of the series to better focus on their movements over time. Growth in these series reflects a percentile growing faster than median pay, while a fall in these series reflects a percentile growing slower than median 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 February 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 February 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 21 April 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 21 April 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 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 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 March 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 by imputing the values for missing returns. The data on which the statistics are based were extracted at the end of March, which means around 1% to 2% of the data for February 2020 are imputed, while 10% of the data for the “flash” March 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: April 2020](#)

Bulletin | Released 21 April 2020

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

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

Bulletin | Released 21 April 2020

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

[Labour market economic commentary](#)

Article | Released 21 April 2020

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

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

Bulletin | Released 21 April 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 21 April 2020

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

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

Bulletin | Released 21 April 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
February 2015	27,222,928
February 2016	27,807,652
February 2017	28,142,507
February 2018	28,500,698
February 2019	28,823,662
March 2019	28,894,640
April 2019	28,893,624
May 2019	28,902,689
June 2019	28,910,164
July 2019	28,910,709
August 2019	28,943,448
September 2019	28,972,338
October 2019	28,986,301
November 2019	29,000,029
December 2019	29,035,876
January 2020	29,103,860
February 2020	29,140,695
Change on year	317,033
Change %	1.1
March 2020*	29,122,699

Source: PAYE RTI

* Denotes a flash estimate. Flash estimates are based on a smaller amount of the data being available and are therefore likely to be subject to more significant revisions in the future

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
February 2015	1,620
February 2016	1,640
February 2017	1,676
February 2018	1,727
February 2019	1,790
March 2019	1,797
April 2019	1,806
May 2019	1,811
June 2019	1,811
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	1,851
February 2020	1,855
Change on year	65
Change %	3.6

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 February 2020	Change on Year	Change %
North East	1,736	58	3.5
North West	1,752	60	3.6
Yorkshire and the Humber	1,718	56	3.4
East Midlands	1,744	58	3.5
West Midlands	1,746	54	3.2
East of England	1,903	66	3.6
London	2,240	78	3.6
South East	1,981	69	3.6
South West	1,744	58	3.4
Wales	1,730	60	3.6
Scotland	1,874	74	4.1
Northern Ireland	1,696	39	2.4

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	
February 2015	518	905	1,619	2,624	3,968	5,369	11,365	
February 2016	533	920	1,636	2,641	3,991	5,384	11,155	
February 2017	552	948	1,671	2,685	4,062	5,484	11,383	
February 2018	578	989	1,725	2,760	4,176	5,649	11,773	
February 2019	604	1,025	1,783	2,836	4,282	5,821	12,140	
March 2019	606	1,029	1,790	2,847	4,303	5,850	12,255	
April 2019	608	1,034	1,798	2,860	4,324	5,868	12,309	
May 2019	610	1,039	1,805	2,868	4,339	5,892	12,368	
June 2019	611	1,044	1,809	2,874	4,344	5,893	12,301	
July 2019	613	1,046	1,813	2,878	4,349	5,902	12,304	
August 2019	615	1,049	1,818	2,884	4,357	5,914	12,328	
September 2019	617	1,051	1,823	2,891	4,366	5,933	12,369	
October 2019	618	1,053	1,828	2,898	4,379	5,952	12,397	
November 2019	619	1,057	1,831	2,905	4,393	5,971	12,442	
December 2019	620	1,060	1,836	2,913	4,406	5,986	12,484	
January 2020	622	1,065	1,843	2,921	4,418	6,004	12,546	
February 2020	625	1,071	1,849	2,928	4,429	6,022	12,562	
Change on year	21	46	66	92	147	201	422	
Change %	3.4	4.5	3.7	3.3	3.4	3.4	3.5	

Source: PAYE RTI

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