

Statistical bulletin

# Housing affordability in England and Wales: 2018

Brings together data on house prices and annual earnings to calculate affordability ratios for national and subnational geographies in England and Wales, on an annual basis.

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# 1 . Main points

- On average, full-time workers could expect to pay an estimated 7.8 times their annual workplace-based earnings on purchasing a home in England and Wales in 2018.
- Housing affordability in England and Wales stayed at similar levels in 2018, following five years of decreasing affordability.
- At the local level, London boroughs had the widest range of estimated housing affordability; more than three times the range of any other region.
- Copeland, in the North West of England, remained the most affordable local authority in England and Wales in 2018; with average house prices being 2.5 times average workplace-based annual earnings.
- Kensington and Chelsea remained the least affordable local authority in 2018, with average house prices being 44.5 times workplace-based average annual earnings.
- There are 77 local authorities that became less affordable over the last five years (most were in London, the South East and the East of England); there were no local authorities in which affordability improved.
- In 2018, newly-built dwellings were estimated to be significantly less affordable than existing dwellings.

## 2 . Things you need to know about this release

### Important points for interpreting figures in this bulletin

- Because we divide house prices by earnings, a larger housing affordability ratio means that an area is less affordable, whereas a smaller ratio means that an area is more affordable.
- The analysis in this statistical bulletin uses earnings data based on the place of work rather than the place of residence, unless otherwise stated. This measure of affordability indicates the extent to which employees can afford to live where they work, which is not necessarily where they already live. Workplace-based measures of housing affordability are used in local authorities' [housing needs assessments](#).
- Housing affordability ratios produced by the Office for National Statistics (ONS) are partly based on a survey. This means these statistics are estimates based on a sample of earnings data and are therefore less precise than if the survey covered everyone. It is best to interpret these statistics over a longer time series to assess changes in housing affordability trends.

### Definitions and input data

Housing affordability estimates are calculated by dividing house prices by annual earnings to create a ratio. House prices are taken from the [House Price Statistics for Small Areas \(HPSSAs\)](#) produced by the ONS and refer to the median and lower quartile price paid for residential properties in England and Wales. They are calculated using open data from the Land Registry, a source of comprehensive record-level administrative data on residential property transactions.

Earnings data are from the [Annual Survey of Hours and Earnings \(ASHE\)](#) and refer to median and lower quartile gross annual earnings for full-time employees for a given geographical area. ASHE is a sample survey of employees and so the housing affordability ratios presented in this statistical bulletin are estimates that are less precise than if all employees were included.

Official statistics about overall household income are not available for all geographical areas presented in these statistics, so earnings data for individuals are used. This estimate of affordability does not account for all income as it uses gross earnings of full-time employees, drawn from a sample of HM Revenue and Customs Pay as You Earn (PAYE) records. Income recorded through Self Assessment (including income received from self-employment, property rental and investments) and earnings from part-time workers are not included in our measures.

In addition to the analysis in this statistical bulletin, there are six housing affordability datasets available. These contain housing affordability data for new dwellings, existing dwellings and all dwellings combined, which are available on a workplace basis and on a place of residence basis. We produce these statistics on countries, regions, counties and local authority districts in England and Wales.

## Workplace-based and residence-based earnings

Workplace-based earnings refer to the earnings recorded for the area in which the employee works, whereas the residence-based earnings refer to the area in which the employee lives. The analysis in this statistical bulletin uses earnings data based on the place of work rather than the place of residence, unless otherwise stated. This measure of affordability indicates the extent to which employees could afford to live where they work, which is not necessarily where they already live.

Workplace-based measures of housing affordability are used in local authorities' [housing needs assessments](#). For a discussion on the effect of both workplace-based and residence-based earnings on housing affordability, see our [Housing affordability in England and Wales: 2016](#) publication.

## Newly-built dwellings and existing dwellings

The house price data used to create the affordability ratio estimates are based on the price paid for residential property only, so are not fully comprehensive for all housing in England and Wales as they only include those that have transacted. The breakdown of price paid for newly-built and existing dwellings is available in the HPSSAs, therefore we have provided affordability ratios for each of these, as well as "all dwellings", which includes both.

Affordability estimates for new dwellings and existing dwellings are calculated from the same earnings data. This is because statistics are not available for average earnings of people who buy new dwellings and people who buy existing dwellings. Average earnings of these two groups may differ and so these affordability estimates provide an indication of the affordability of new and existing dwellings rather than a precise figure.

## 3 . No significant changes in housing affordability between 2017 and 2018

In 2018, we estimate that full-time employees could typically expect to spend around 7.8 times their workplace-based annual earnings on purchasing a home in England and Wales. This affordability ratio <sup>1</sup> has increased by 0.8% since 2017, but this change is not statistically significant<sup>2</sup>.

This was the first time in five years that housing affordability remained at a similar level, following five years of decreasing affordability. While the 2017 to 2018 change is not statistically significant, it is interesting to note that this is driven by the fact that median house prices increased faster than median gross annual full-time earnings (the price paid for properties rose by 3.3% while earnings rose 2.6%).

There were no significant changes in the ratio of median house prices to median annual earnings in either England or Wales between 2017 and 2018. Housing remained significantly more affordable in Wales than in England in 2018. However, the two countries had different changes in their house prices and estimated earnings over this year. Figure 1 compares the changes in house prices and earnings between England and Wales, over this one-year period.

**Figure 1: House prices increased more relative to earnings in Wales than in England**

Annual change in house prices<sup>1</sup> and earnings<sup>2</sup> England and Wales, 2017 to 2018

Figure 1: House prices increased more relative to earnings in Wales than in England

Annual change in house prices<sup>1</sup> and earnings<sup>2</sup> England and Wales, 2017 to 2018



Source: Office for National Statistics - House Price Statistics for Small Areas, Annual Survey of Hours and Earnings

Notes:

1. House prices refer to the median price paid for residential property
2. Earnings refer to the median workplace-based gross annual earnings for full-time workers

In Wales, house prices increased more than earnings in 2018. In England, house prices and earnings increased more than in Wales, but the difference between these was larger in Wales than in England. This suggests that affordability worsened more in Wales than in England. However, it is important to note that the decreases in affordability in both England and Wales were not statistically significant.

The earnings estimates for England are based on a larger sample than the earnings estimates for Wales. This means that we have a larger degree of confidence around the earnings estimates for England than Wales. However, both the estimates are classified as precise according to the Annual Survey for Hours and Earnings (ASHE) classifications. For more information, see Section 9.

Figure 2 is an interactive map, which shows the median housing affordability ratios over time, for each local authority district in England and Wales.

## Figure 2: Housing affordability worsening in all local authorities over time

Housing affordability ratio by local authority district, England and Wales, 1997 to 2018

### Notes

1. Median housing affordability ratio refers to the ratio of median price paid for residential property to the median workplace-based gross annual earnings for full-time workers.
2. Data for annual earnings are not available before 1999 and for some local authorities in some years. For these years the earnings relate to annualised weekly earnings. Annualised weekly earnings are not produced on an identical basis to annual earnings and so care should be taken when making comparisons. Refer to the dataset accompanying this release for information on which ratios are based on annualised weekly earnings.

### [Data download](#)

Figure 2 shows that housing affordability has worsened since 1997. Housing affordability in local authority districts in the south of England has worsened quicker than those in the north of England, and Wales.

Over the last two decades, affordability has worsened the most in London, which is driven largely by increasing house prices. The map shows that over the past five years, more local authorities in London and surrounding regions have fallen into the least affordable category. In 2018, eight of the ten least affordable local authorities in England and Wales are in London, with two being in the surrounding South East region. The most affordable local authorities in 2018 were in the North West, Wales and the East Midlands.

### Notes for: No significant changes in housing affordability between 2017 and 2018

1. In this section, the housing affordability ratios and earnings discussed are based on workplace-based earnings.
2. Significant differences in the housing affordability ratio does not necessarily mean that there are significant differences in earnings, but instead the earnings in relation to house prices at a given time is significantly different. See Section 9 for more information.

## 4 . London boroughs had the widest range of estimated housing affordability

London was the only region to show some evidence of improving estimated affordability<sup>1</sup> between 2017 and 2018, with properties becoming 1.0% more affordable. While this change was not statistically significant<sup>2</sup>, these signs of improving affordability contrast with the longer-term trend of worsening affordability over the previous two decades.

Outside of London, estimates for all other English regions and Wales showed signs of worsening affordability between 2017 and 2018. However, these regional changes were not statistically significant and so could be the result of the margin of uncertainty around the earnings estimates.

Figure 3 shows the distribution of local authorities within each English region and Wales in 2018.

### **Figure 3: London had the widest range of local authorities' housing affordability**

#### **Range of median housing affordability ratio in local authorities for English regions and Wales, 2018**

##### **Notes:**

1. House prices refer to the median price paid for residential property.
2. Earnings refer to the median workplace-based gross annual earnings for full-time workers.
3. The bars in this chart are sorted by the range of affordability ratios.
4. Affordability ratios are not available for Isles of Scilly and West Somerset in 2018.

##### [Data download](#)

Figure 3 enables us to compare the affordability ratios between regions. It also enables us to look at the variation within a region by looking at the range between the highest and lowest local authorities (LAs). This means that we can compare the LAs in regions and across regions.

Figure 3 highlights that there is a large degree of overlap in the affordability of local authorities, between the majority of English regions and Wales, indicating similar affordability. In 2018, there were 301 local authorities (87.0%) that had an affordability ratio between 5 and 15, which is where the concentration of LAs are found in Figure 3.

Although there is similar affordability to some extent across regions, the ranges between the highest and lowest LAs within regions differ. London and the South East had the greatest variability in affordability within them, in 2018. London had a range (34.7) over three times larger than any other region, which was largely determined by the large affordability ratio in Kensington and Chelsea. Generally the least affordable regions have the largest variability of local authorities' ratios.

##### **Notes for: London the only English region showing signs of improving affordability since 2017**

1. In this section, the housing affordability ratios and earnings discussed are based on workplace-based earnings only.
2. Significant differences in the housing affordability ratio does not necessarily mean that there are significant differences in earnings, but instead the earnings in relation to house prices at a given time is significantly different. See Section 9 for more information

## **5 . Housing affordability gap continues to widen between the most and least affordable areas**

Copeland, in the North West of England, remained the most affordable local authority in England and Wales in 2018; with average house prices estimated at being 2.5 times average annual earnings. Kensington and Chelsea, in London, remained the least affordable local authority in England and Wales in 2018; with average house prices estimated at being 44.5 times workplace-based average annual earnings.

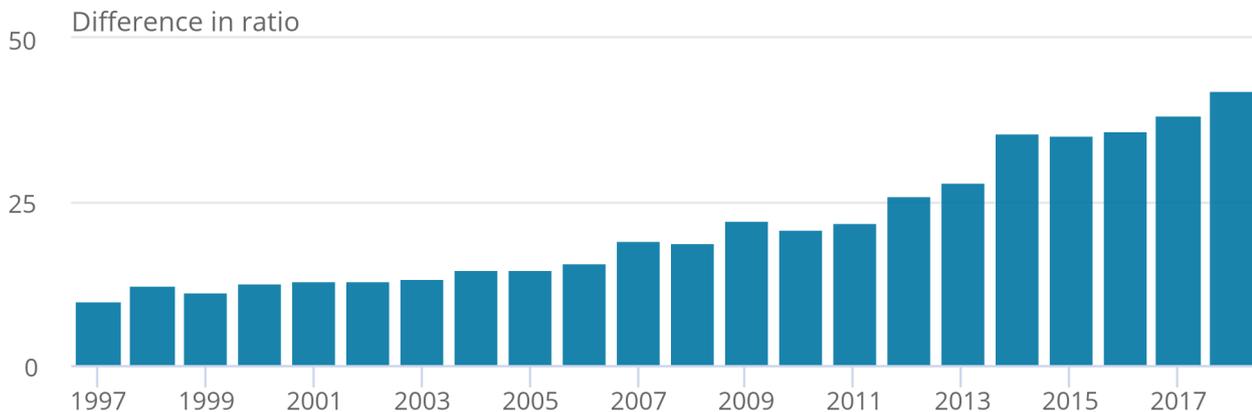
Figure 4 shows the difference in the median housing affordability ratio <sup>1</sup> between the most and least affordable local authorities in England and Wales.

#### Figure 4: The gap between the most and least affordable areas continues to widen

Difference in median housing affordability ratio<sup>1</sup>, between the most and least affordable local authority in 2018, England and Wales, 1997 to 2018

### Figure 4: The gap between the most and least affordable areas continues to widen

Difference in median housing affordability ratio<sup>1</sup>, between the most and least affordable local authority in 2018, England and Wales, 1997 to 2018



Source: Office for National Statistics - House Price Statistics for Small Areas, Annual Survey of Hours and Earnings

#### Notes:

1. Median housing affordability ratio refers to the ratio of median price paid for residential property to the median workplace-based gross annual earnings for full-time workers.
2. The affordability gap was calculated by deducting the affordability ratio of the most affordable local authority in 2018 (Copeland) from the affordability ratio of the least affordable local authority in 2018 (Kensington and Chelsea), for each year since 1997.
3. Data for annual earnings are not available before 1999. For these years the earnings relate to annualised weekly earnings. Annualised weekly earnings are not produced on an identical basis to annual earnings and so care should be taken when making comparisons.

Figure 4 shows the difference in the housing affordability ratio estimates between the most and least affordable local authorities in England and Wales was 42.0 in 2018, which is the largest difference found over the entire time series. Copeland, which was the most affordable local authority in 2018, had a decrease in housing affordability ratio, while Kensington and Chelsea (the least affordable local authority in 2018) had an increase in affordability ratio. However, these changes were not statistically significant. The last year that the estimated gap did not widen was between 2014 and 2015.

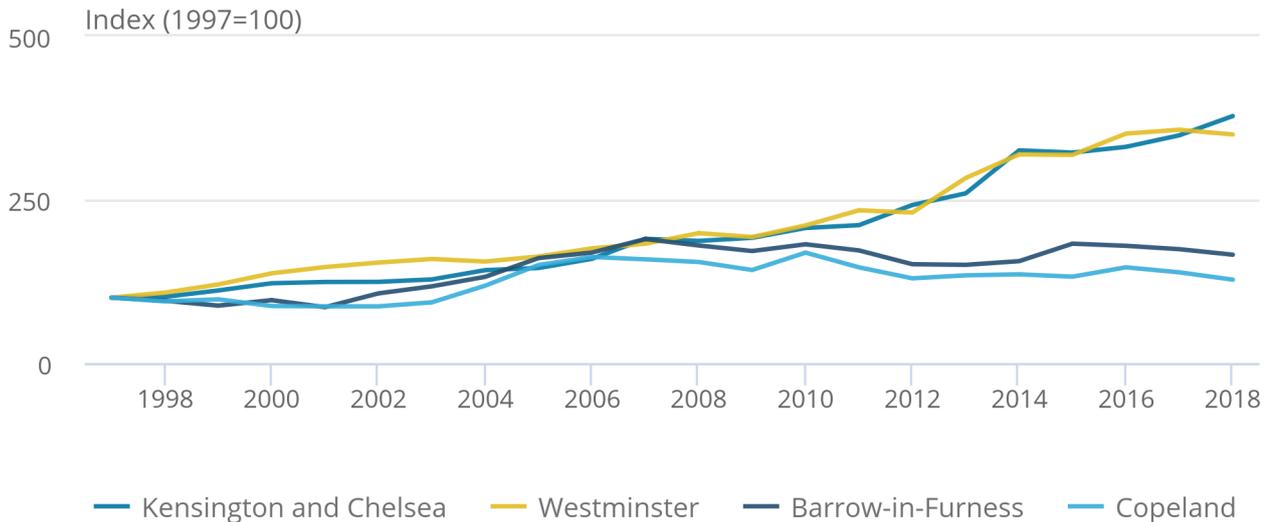
Figure 5 shows the change in the ratio of median house prices to median workplace-based annual earnings for the two local authorities that were most and least affordable in 2018.

**Figure 5: Least affordable local authorities had the largest growth in affordability ratio, especially since 2009**

Indices of median housing affordability for local authorities England and Wales, 1997 to 2018

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Indices of median housing affordability for local authorities England and Wales, 1997 to 2018



Source: Office for National Statistics - House Price Statistics for Small Areas, Annual Survey of Hours and Earnings

Notes:

1. Median housing affordability ratio refers to the ratio of median price paid for residential property to the median workplace-based gross annual earnings for full-time workers.
2. Data for annual earnings are not available before 1999 and for some local authorities in some years. For these years the earnings relate to annualised weekly earnings. Annualised weekly earnings are not produced on an identical basis to annual earnings and so care should be taken when making comparisons. Refer to the dataset accompanying this release for information on which ratios are based on annualised weekly earnings.
3. The lines represent the two local authorities that were the most and least affordable in 2018.

Figure 5 shows that the two least affordable local authorities in 2018 had the largest percentage growth in housing affordability ratio estimates in relation to 1997, when compared with the most affordable areas. The least affordable local authorities with the most growth over time, grew at a sharper rate especially since 2009, whereas the most affordable local authorities remained relatively stable after this point. This highlights that the gap between the most and least affordable areas is widening over time, with the least affordable areas having worsening affordability at a quicker rate contributing to this.

The two least affordable local authorities in 2018, Kensington and Chelsea, and Westminster, were both in London. House prices are generally more expensive in London and these two local authorities had the highest median house prices out of all local authorities.

## **6 . Over the last five years, housing in 77 local authorities became less affordable**

There were 77 local authorities in England and Wales that had a significant<sup>1</sup> change in the ratio of median house prices to median workplace-based annual earnings over five years, between 2013 and 2018. Just under three-quarters of these local authorities were in London, the South East and East of England. There were no local authorities in which affordability significantly improved over the last five years.

All but five London boroughs had significant worsening of affordability since 2013. These were Hackney, Wandsworth, Harrow, Hounslow and Richmond upon Thames. The North East and Wales were the only areas in which no local authorities had significantly worsening affordability since 2013.

Figure 6 shows the housing affordability ratio estimates for the 10 local authorities that have had the highest percentage change between 2013 and 2018, and eight of these are London boroughs.

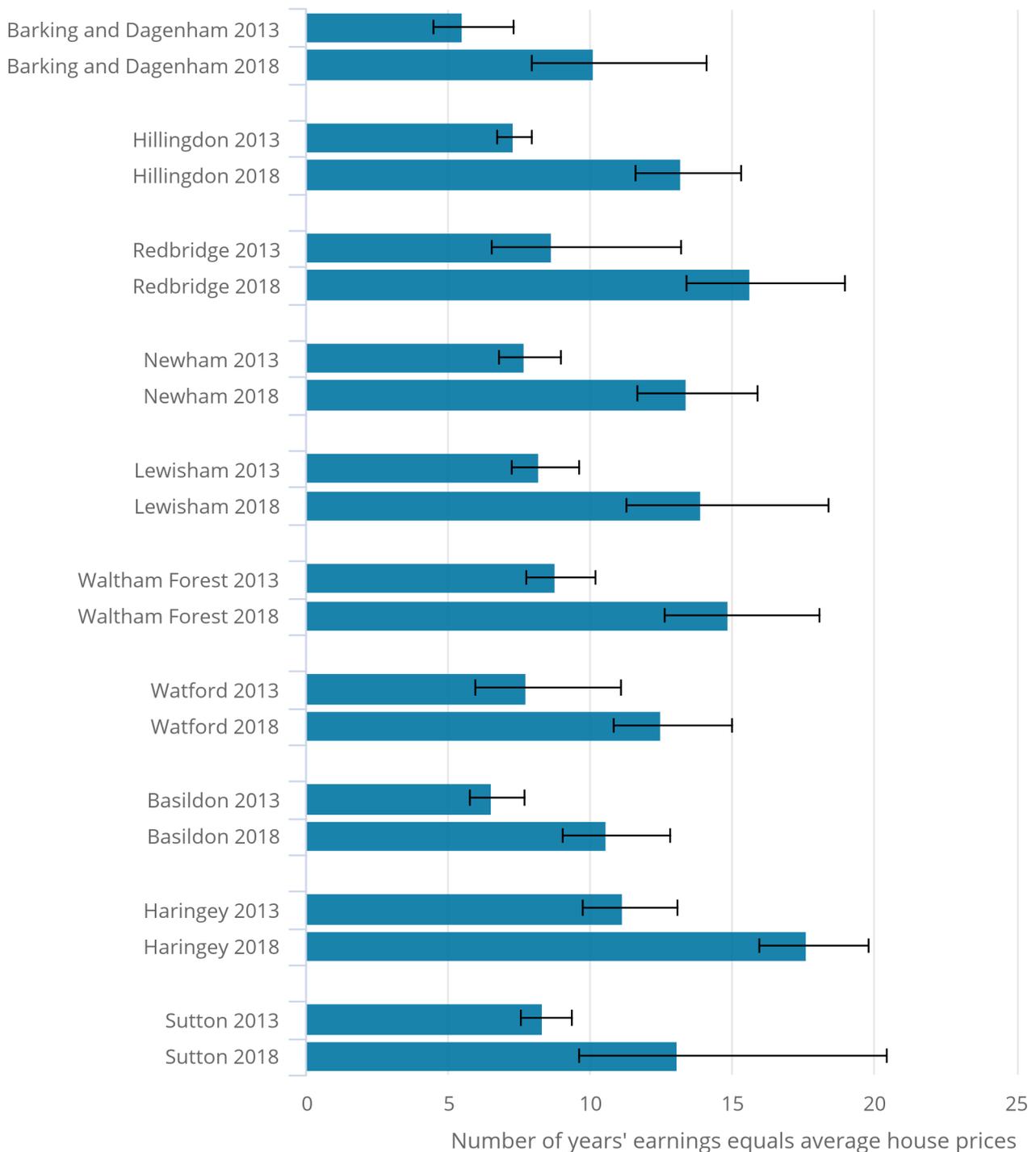


**Figure 6: Eight out of the 10 local authorities with largest percentage change in affordability, were in London**

**Median housing affordability ratio<sup>1</sup> for the ten local authorities which have seen the highest percentage change in affordability over the five-year period, England and Wales, 2013 to 2018**

## Figure 6: Eight out of the 10 local authorities with largest percentage change in affordability, were in London

Median housing affordability ratio<sup>1</sup> for the ten local authorities which have seen the highest percentage change in affordability over the five-year period, England and Wales, 2013 to 2018



Notes:

1. Median housing affordability ratio refers to the ratio of median price paid for residential property to the median workplace-based gross annual earnings for full-time workers.
2. Local authorities are ordered by the percentage difference in the ratio of median house price to median annual earnings between 2013 and 2018.
3. The lines over each bar in this chart are confidence intervals. These refer to the degree of uncertainty around the affordability estimate. See Section 9 for more information.

Out of the 10 local authorities with the largest percentage change in the median housing affordability ratio, nine had significantly changed. Barking and Dagenham in London had the largest percentage increase in the median housing affordability ratio (82.7%), meaning that this local authority has worsened in affordability the most over the last five years. In Barking and Dagenham, the worsening affordability predominantly resulted from a 70.9% increase in median house prices since 2013. There has also been an estimated decrease in median gross annual earnings by 6.6% over this five-year period.

**Notes for: Housing affordability gap continues to widen between the most and least affordable areas.**

1. Significant differences in the housing affordability ratio does not necessarily mean that there are significant differences in earnings, but instead the earnings in relation to house prices at a given time is significantly different. See Section 9 for more information.

## 7 . New housing remained less affordable than existing housing in 2018

In 2018, full-time employees in England and Wales could typically expect to spend 9.6 times their median gross annual earnings on purchasing a newly-built property and 7.6 times their annual earnings on an existing property. This means that it is generally less affordable to purchase a newly-built property than an existing dwelling.

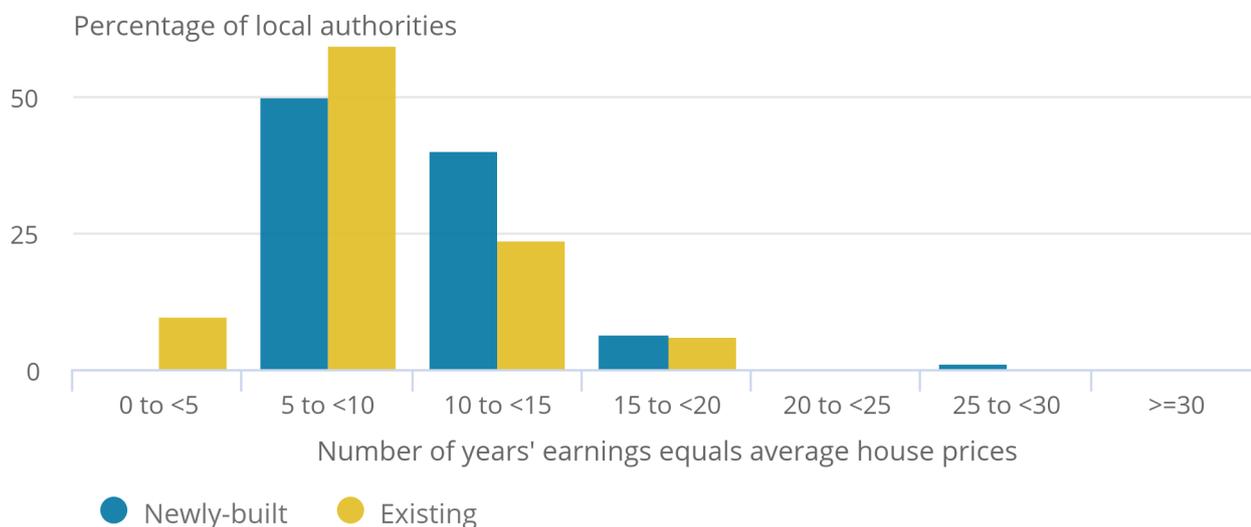
Figure 7 shows the distribution of local authorities in terms of their ratio of median house prices to median annual earnings, for newly-built and existing dwellings comparatively.

## Figure 7: More local authorities had higher affordability ratios for newly-built dwellings

Distribution of the housing affordability estimates in local authorities England and Wales, 2018

### Figure 7: More local authorities had higher affordability ratios for newly-built dwellings

Distribution of the housing affordability estimates in local authorities England and Wales, 2018



Source: Office for National Statistics - House Price Statistics for Small Areas, Annual Survey of Hours and Earnings

#### Notes:

1. Housing affordability ratio refers to the ratio of median price paid for residential property to the median workplace-based gross annual earnings for full-time workers.
2. Affordability estimates for newly-built and existing dwellings are calculated using the same earnings data, although the earnings of these two groups may differ. These affordability estimates provide an indication of affordability of new and existing dwellings, rather than a precise figure.

Figure 7 shows that for most local authorities, a full-time worker on average salary would expect to pay between 5 and 10 times their gross annual earnings on purchasing a newly-built or existing dwelling. Although the median affordability<sup>1</sup> estimate for the majority of local authorities for purchasing a newly-built and existing dwelling are in the same category, there are a higher percentage of local authorities with more affordable ratios when purchasing an existing dwelling. The opposite is found with newly-built dwellings, which can be shown by the slightly different distribution where the affordability ratios are higher. This suggests that full-time workers could generally expect to spend more times their annual salary on purchasing a newly-built dwelling than an existing dwelling.

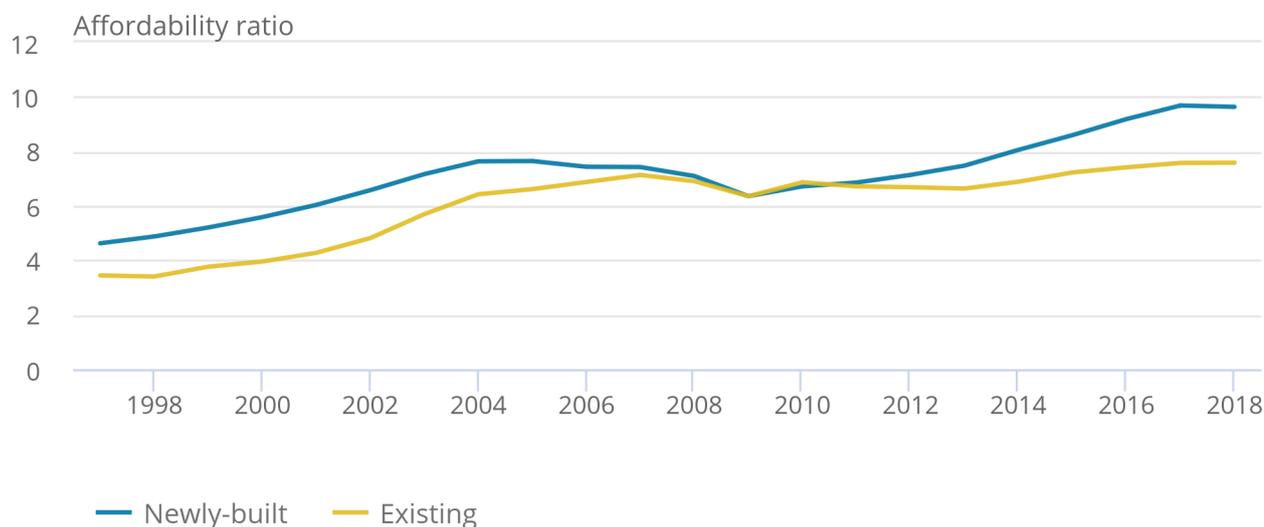
Figure 8 shows the change over time in the ratio of median house prices to median workplace-based annual earnings, for newly-built and existing dwellings.

## Figure 8: Newly-built dwellings remained less affordable than existing dwellings in 2018

Housing affordability ratio, newly-built and existing dwellings England and Wales, 1997 to 2018

### Figure 8: Newly-built dwellings remained less affordable than existing dwellings in 2018

Housing affordability ratio, newly-built and existing dwellings England and Wales, 1997 to 2018



Source: Office for National Statistics - House Price Statistics for Small Areas, Annual Survey of Hours and Earnings

#### Notes:

1. Housing affordability ratio refers to the ratio of median price paid for residential property to the median workplace-based gross annual earnings for full-time workers.
2. Affordability estimates for newly-built and existing dwellings are calculated using the same earnings data, although the earnings of these two groups may differ. These affordability estimates provide an indication of affordability of new and existing dwellings, rather than a precise figure.

Figure 8 shows that since 1997, it has been significantly<sup>2</sup> less affordable to purchase a newly-built dwelling in comparison with an existing dwelling, except in 2009 and 2010. The affordability gap between existing and newly-built dwellings narrowed up to 2009, where both had the same affordability. The affordability of newly-built dwellings has become significantly less affordable every year between 2009 and 2017, and similar was found in existing dwellings between 2013 and 2017. The affordability of newly-built dwellings has worsened by a larger rate in comparison with existing dwellings since 2013, making the affordability gap progressively widen again up to 2017. Between 2017 and 2018, the affordability has remained at a similar level for both newly-built and existing dwellings.

Notes for: Housing affordability improving in newly-built dwellings in 2018

1. In this section, the housing affordability ratios and earnings discussed are based on workplace-based earnings only.
2. Significant differences in the housing affordability ratio does not necessarily mean that there are significant differences in earnings, but instead the earnings in relation to house prices at a given time is significantly different. See Section 9 for more information.

## 8 . Links to related ONS statistics

[House Price Statistics for Small Areas \(HPSSAs\)](#): Data on the price paid and composition of residential property transactions for properties that were sold in England and Wales. The house price data in our affordability ratios are taken from the HPSSAs.

[Annual Survey of Hours and Earnings \(ASHE\)](#): Data on the levels, distribution and make-up of earnings and hours paid for employees by sex, and full-time and part-time working in England and Wales. The earnings data in our affordability ratios are taken from ASHE.

## 9 . Quality and methodology

### Data sources

Earnings data used in the calculation of housing affordability are gross full-time annual earnings where available. Annualised weekly earnings are used when annual earnings are not available from ASHE. See the [Quality and Methodology Information report](#) for more information on comparing affordability statistics based on annual earnings against those based on annualised weekly earnings.

The house price statistics from the HPSSAs report the prices paid for residential properties referring to a 12-month period with April in the middle (year-ending September). The earnings data from ASHE provide a snapshot of earnings at April in each year. The house price data used in the affordability ratios in this release are based on the [HPSSA data for October 2017 to September 2018](#), published in March 2019. These affordability ratio statistics are revised annually, to reflect revisions to the HPSSAs and ASHE data.

### Measuring uncertainty

ASHE data come from a survey and so there is a degree of uncertainty in the earnings estimates because they are based on a sample of the population rather than the entire population. The sample is designed to be as accurate as possible given practical limitations such as time and cost constraints but results from sample surveys are always estimates. This means that the housing affordability ratios presented are subject to some uncertainty. This can have an impact on how changes in the estimates should be interpreted, especially for short-term comparisons.

Sampling error is estimated through providing the coefficient of variation (CV) for each estimate, which is the ratio of standard error of an estimate to the estimate itself, expressed as a percentage. These can be accessed in the [original ASHE datasets](#) and can be used to assess the quality of each estimate. We have retained all estimates, even when the CV is between 10 to 20%, and so it is important to consider the margins of error around the earnings estimates used to derive these housing affordability statistics.

We look at statistical differences over time by looking at the range of plus or minus twice the coefficient of variation around the estimate, as indicated in the ASHE datasets. For example, for estimated earnings of £30,000 with a CV of 5%, we would expect the true population average to be within the range £27,000 to £33,000. We then divide the median house price by the lower and upper earnings limits to derive lower and upper limit affordability ratios. The true value of earnings is likely to lie within these values. We use these ranges to determine if an area's affordability estimate has changed significantly.

## More information

More details are available in the [Quality and Methodology Information report](#), which contains information on:

- the strengths and limitations of the data and how it compares with related data
- uses and users of the data
- how the output was created
- the quality of the output including the accuracy of the data

Details of the policy governing the release of new data are available [in the UK Statistics Authority's Code of Practice for Statistics](#).