Article

Research Output: Alternative measures of housing affordability: financial year ending 2018

Alternative measures of housing affordability in England, including affordability in relation to varying household income and house price distributions, upfront costs, mortgage repayments, and private rental affordability.

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Table of contents

1 . Introduction

The aim of this Research Output is to improve understanding of housing affordability by reflecting on the different circumstances that can affect whether housing is affordable or not. This article explores alternative measures of housing affordability in England. It presents estimates that consider affordability in relation to the varying household income and house price distributions, the upfront costs involved with purchasing a property, mortgage repayments, and private rental affordability.

This Research Output is published alongside the official annual Housing affordability in England and Wales bulletin, which provides ratios of house prices to individual annual earnings. The official measure provides a useful indicator at the local authority level to highlight areas where it can be considered as more or less affordable to purchase a residential property.

However, there are two main limitations of the official measure of housing affordability. The first is that individual earnings are used instead of household income. Not only is it likely that more than one individual in a household would be involved in purchasing a property, there are also other sources of income available to some people rather than just earnings. These include income recorded through Self-Assessment (including income received from self-employment, property rental, and investments) and income from benefits or pensions.

The second limitation of the official affordability measure is that it only considers averages, rather than the overall distribution of the house prices and income. Increasing house prices may have different effects on households at varying levels of the income distribution, so a measure that captures differences between households is required.

In this article, we analyse additional measures of housing affordability that help to overcome these limitations. However, they are not a replacement for the official measure, which is still required for local planning and housing policy. The new analysis is available down to the regional level in England and includes the following concepts:

- purchase affordability: ratio of house price to disposable household income deciles
- upfront costs involved with purchasing a residential property
- mortgage repayment affordability
- purchase affordability for small areas (Middle layer Super Output Areas)
- private rental affordability

Presenting these different measures of affordability introduces complexity into the range of available affordability statistics. These measures provide a more detailed picture of affordability for people in different circumstances, although the official affordability ratios provide an established headline measure. We would like your feedback on the data and methods used to produce the estimates. Please email us at better.info@ons.gov.uk.

2 . Main points

- These measures of affordability provide a more detailed picture than the headline measure of affordability by considering people's different circumstances; it is important to consider the purpose of your analysis to decide which is the most relevant measure for your needs.
- Purchase affordability: the gap in house purchase affordability in England continued to widen between households with the highest and lowest income in the financial year ending (FYE) 2018.
- Upfront purchase costs: in FYE 2018, the total savings required to afford a 10% deposit and stamp duty for a median house price ranged from £12,200 in the North East to £59,825 in London.
- Upfront purchase costs: households whose income is in the lowest 10% could expect to spend more than two years of disposable income on the upfront costs of an average house in London, the South East and the East of England.
- Mortgage repayment: households whose income is in the bottom 10% could expect to spend more than 70% of disposable household income on mortgage repayments for an average property in England.
- Mortgage repayment: the North East had the best mortgage repayment affordability, where households in the bottom 10% of income could afford the bottom 20% of houses without paying more than 30% of their income on mortgage repayments.
- Private rental affordability: renters on median income could expect to spend 30% of their income on the average price of a rented home in England.
- Private rental affordability: in FYE 2018, average rent was unaffordable for renters with lower than average income; households with an income in the lowest 25% could expect to pay more than 30% of their income on the cost of renting an average property.

3 . Disclaimer

We are publishing this Research Output to provide estimates of the affordability of different aspects of housing. Research Outputs are produced to provide information about new methods and data sources being investigated.

Official statistics on housing affordability are available by country, region, county and local authority district in England and Wales. These official statistics provide estimates of affordability through the ratio of the price paid for residential property to annual individual earnings of full-time workers.

The official statistics provide the latest data (for 2019), which should be used for the headline measure of affordability. This article explores additional methods of assessing the affordability of housing in England and is not to be considered a replacement for the existing method. These are estimates and so subject to a degree of uncertainty. They are based mainly on survey data relating to 2018 as the latest available year.

4 . Research findings

This section provides analysis of the data produced considering different aspects of affordability. There are five sections of analysis:

- purchase affordability: ratio of house price to disposable household income deciles
- upfront costs involved with purchasing a residential property
- mortgage repayment affordability
- purchase affordability for small areas (Middle layer Super Output Areas)
- private rental affordability

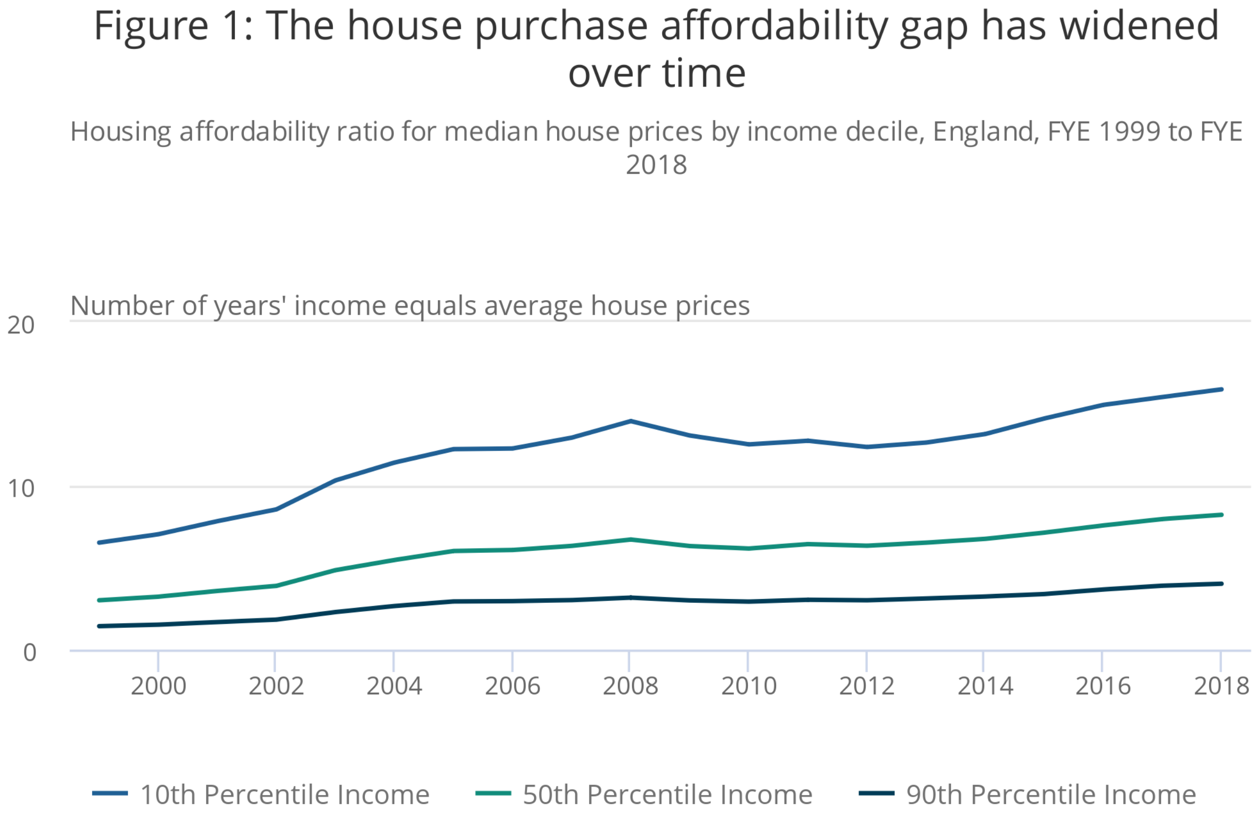
Purchase affordability: ratio of house price to disposable household income deciles

To understand how much a household is likely to be able to afford when buying a house, both house prices and income distribution should be considered. By considering the distributions of house prices and household income, we can understand the range of properties that are affordable for a potential buyer to purchase, based on their household income level.

In the financial year ending (FYE) 2018, we estimate that households in England could typically expect to spend around 8.2 times their median annual disposable household income on purchasing a home with a median house price. This affordability ratio has increased by 3.3% since FYE 2017, which means that housing has become less affordable at the median level.

Figure 1: The house purchase affordability gap has widened over time

Housing affordability ratio for median house prices by income decile, England, FYE 1999 to FYE 2018



Source: Office for National Statistics – House price statistics for small areas, Living Costs and Food Survey

Notes:

1. Median house price refers to the 50th percentile of the median house prices by Lower layer Super Output Areas within a region.

2. The affordability gap has widened in absolute terms, but in relative terms it has narrowed slightly: In 1999 the affordability ratio for the 10th percentile income was 4.6 times that of the 90th percentile income, and in 2018 this was 4.0."

Figure 1 shows that for FYE 2018, there was a difference in 11.9 years of income to afford a median house price in England, between those whose income was in the lowest and ninth decile (10th and 90th percentiles of all income). The percentage change in affordability ratio over time was greater in the higher income decile than for the lowest income decile, despite the larger absolute change for the lowest income decile.

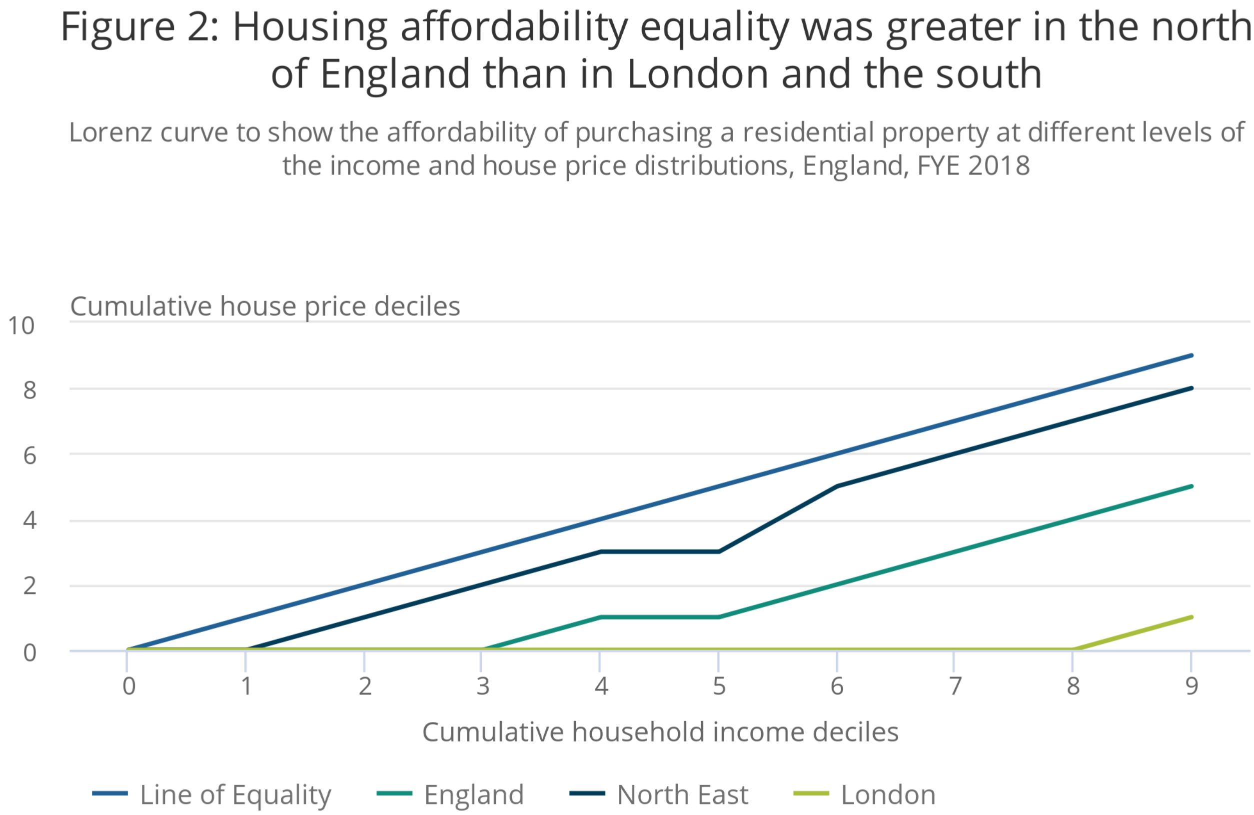
Typically, mortgage lenders offer first time buyers around 4.5 times their total household income as a total mortgage amount, but this can vary with circumstances. Although we are looking at disposable household income, and deposit amounts are deducted from house prices to lower the total mortgage amount, we can use 4.5 times household income as an indicator of an affordable property price.

To illustrate the proportion of the house price distribution a potential buyer in each income decile could purchase without having to spend more than 4.5 times their household income, we can use a Lorenz Curve (Figure 2) and Gini Coefficients. A Lorenz curve shows the graphical distribution of the equality of affordability, whereas a Gini Coefficient provides a number which shows the degree of inequality between zero and one, where a higher number reflects higher inequality.

The line of equality in Figure 2 represents an equal distribution of affordability, which means that households in the lowest decile of income could afford to buy a house in the lowest house price decile without spending more than 4.5 times their annual income.

Figure 2: Housing affordability equality was greater in the north of England than in London and the south

Lorenz curve to show the affordability of purchasing a residential property at different levels of the income and house price distributions, England, FYE 2018



Source: Office for National Statistics – House price statistics for small areas, Living Costs and Food Survey

Notes:

1. This chart shows the Lorenz curve for the region with the highest (London) and lowest (North East) equality in house price and income deciles, as well as England overall.

2. Deciles refer to the boundaries at which the data is split into ten equal subsections when ranked from lowest to highest. For example, first decile refers to the 10th percentile, whilst the ninth decile refers to the 90th percentile.

3. The Gini Coefficient for England was 0.7, for North East was 0.2 and for London was 1

4. In this chart affordability equality refers to being able to afford to purchase a residential property at the given house price decile, without spending more than 4.5 times the disposable household income at the same income decile.

Figure 2 shows that England, the North East and London do not have equal affordability distributions. The same is also the case for all other regions. In England overall, a household whose income is in the third decile would not be able to afford to purchase a property at any point of the house price distribution without spending more than 4.5 times their annual income.

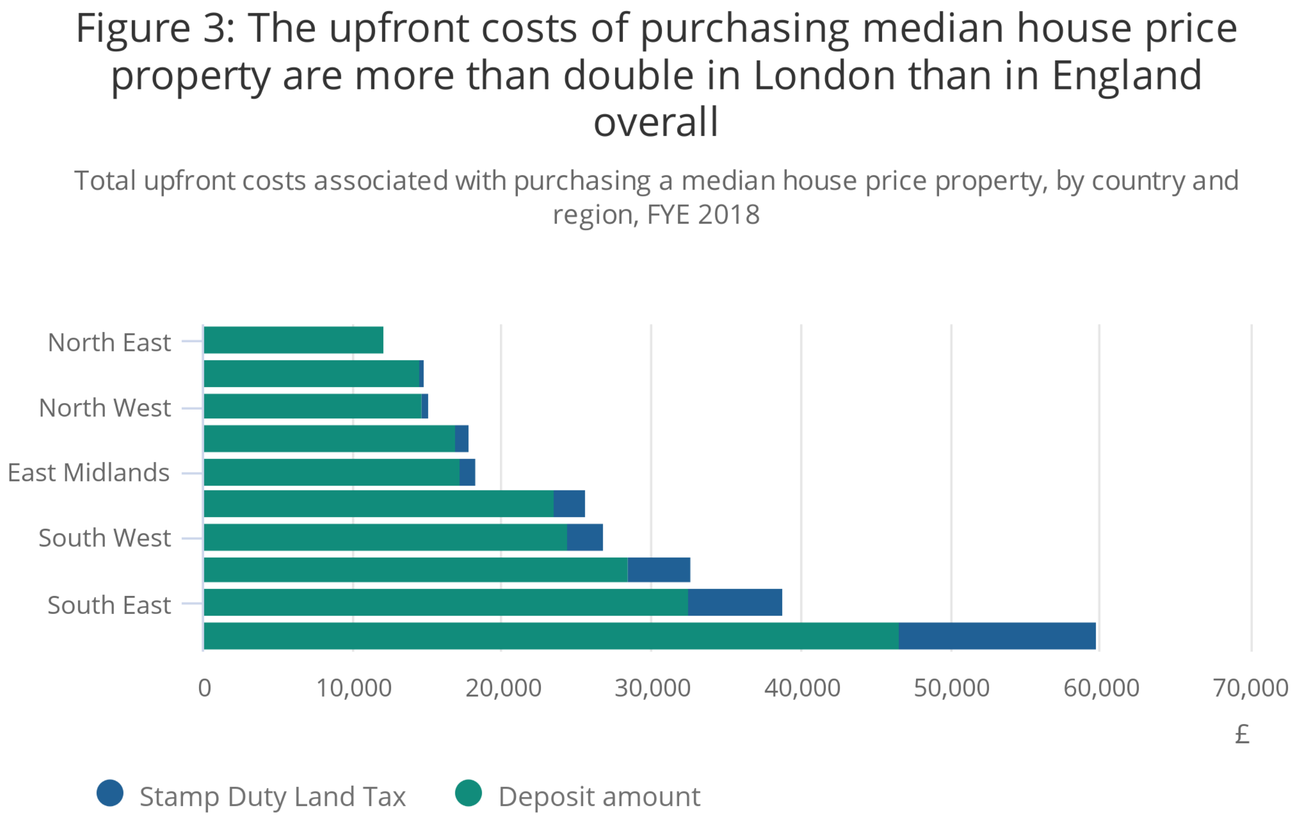
Affordability equality was lowest in London and highest in the North East. In London, a household in the ninth income decile was the lowest income that could afford a house price in the lowest decile without spending more than 4.5 times their annual income. Therefore, affordability equality was lowest in London.

Upfront costs of purchasing a residential property

When purchasing a residential property, there is usually a need for savings to afford the upfront costs, especially the deposit amount and Stamp Duty Land Tax (SDLT) in England. In this article, our focus is on purchasing a property with a 10% deposit, which is a common deposit size for many.

Figure 3: The upfront costs of purchasing median house price property are more than double in London than in England overall

Total upfront costs associated with purchasing a median house price property, by country and region, FYE 2018



Source: Source: Office for National Statistics – House price statistics for small areas, HM Revenue and Customs – Stamp Duty Land Tax rates

Notes:

1. Median house price refers to the 50th percentile of the median house prices by Lower layer Super Output Areas within a region.
2. The total upfront costs reflect a 10% deposit size plus Stamp Duty amount
3. Upfront costs in this chart include major upfront costs from deposit and Stamp Duty but does not cover other upfront costs such as conveyancing and costs associated with moving.
4. Stamp Duty rates applied are as at 31 March, and do not consider the discount for first-time buyers, higher rates for additional properties, or additional special rates such as for corporate bodies.

In FYE 2018, total savings of £59,825 would be required to afford a 10% deposit and stamp duty for a median house price in London, which was the most expensive region. In the North East, total savings required are nearly five times less than London, with a £12,200 deposit amount and no stamp duty required to buy a median house price property.

Figure 4 shows the number of years of income required to afford to buy a house at the median price for England and each English region, at varying levels of the income distribution.

Figure 4: Households whose income is in the lowest 10% could expect to spend more than two years of disposable income on upfront costs for a median house price purchase in London, the South East and the East of England

Years of income required to afford upfront costs for a median house price by income decile, country and region in England, financial year ending 2018

Data download

Notes

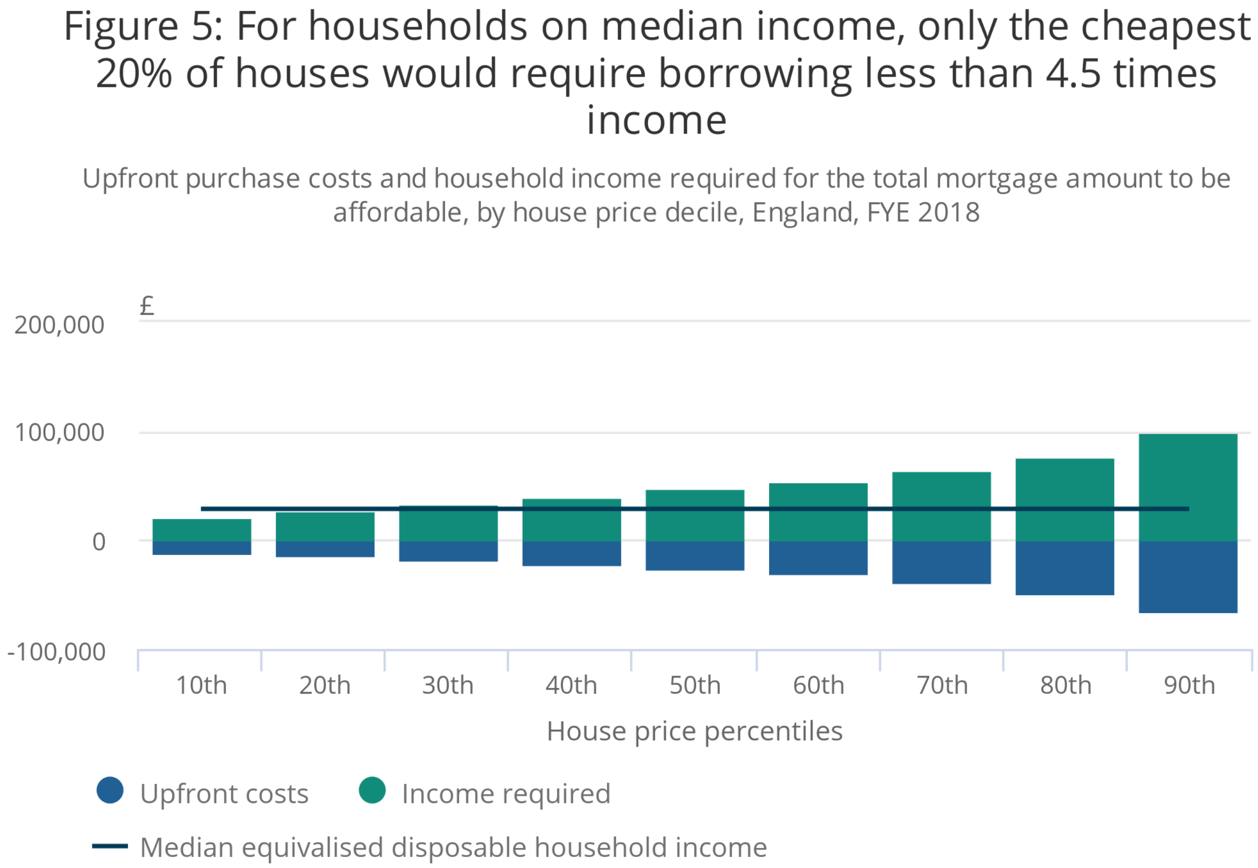
1. Median house price refers to the 50th percentile of the median house prices by Lower layer Super Output Areas within a region.
2. The points in the chart range from the highest income decile on the left (90th percentile), to the lowest decile on the right (10th percentile income).
3. The total upfront costs reflect a 10% deposit size + Stamp duty amount

In FYE 2018, households in England whose disposable income was in the lowest four income deciles would need to spend more than one year of income on the upfront costs of purchasing a median-priced property. For those with a median income, the number of years of income required to cover the upfront costs ranges from 0.5 years in the North East to 1.9 years in London.

To calculate the total mortgage amount, we deducted the deposit amount paid upfront from the house price. Generally, for the total mortgage amount to be considered affordable, it will be less than 4.5 times the household income. This is the amount that mortgage lenders will typically lend, however this is not always the case.

Figure 5: For households on median income, only the cheapest 20% of houses would require borrowing less than 4.5 times income

Upfront purchase costs and household income required for the total mortgage amount to be affordable, by house price decile, England, FYE 2018



Source: Office for National Statistics – House price statistics for small areas, Living Costs and Food Survey, HM Revenue and Customs – Stamp Duty Land Tax rates

Notes:

1. The total mortgage amount equals house price minus deposit amount, which in this chart is based on a 10% deposit size.
2. The total mortgage amount is considered affordable if it is less than or equal to the total household income multiplied by 4.5.
3. Typically, the total gross household income is considered in terms of mortgage lending. The median equivalised disposable household income level for England has been included on this chart as an indicator of affordability.

To afford a property above the third house price decile, there is a requirement for an income higher than the median for England, however there are likely to be regional differences. To afford a property in the ninth decile of house prices, an annual income over four times higher is required in comparison with the first decile. This demonstrates the variability in house prices across the country. Not only does a higher house price come with the requirement of a higher household income in order to apply for a mortgage, but larger upfront costs are also required.

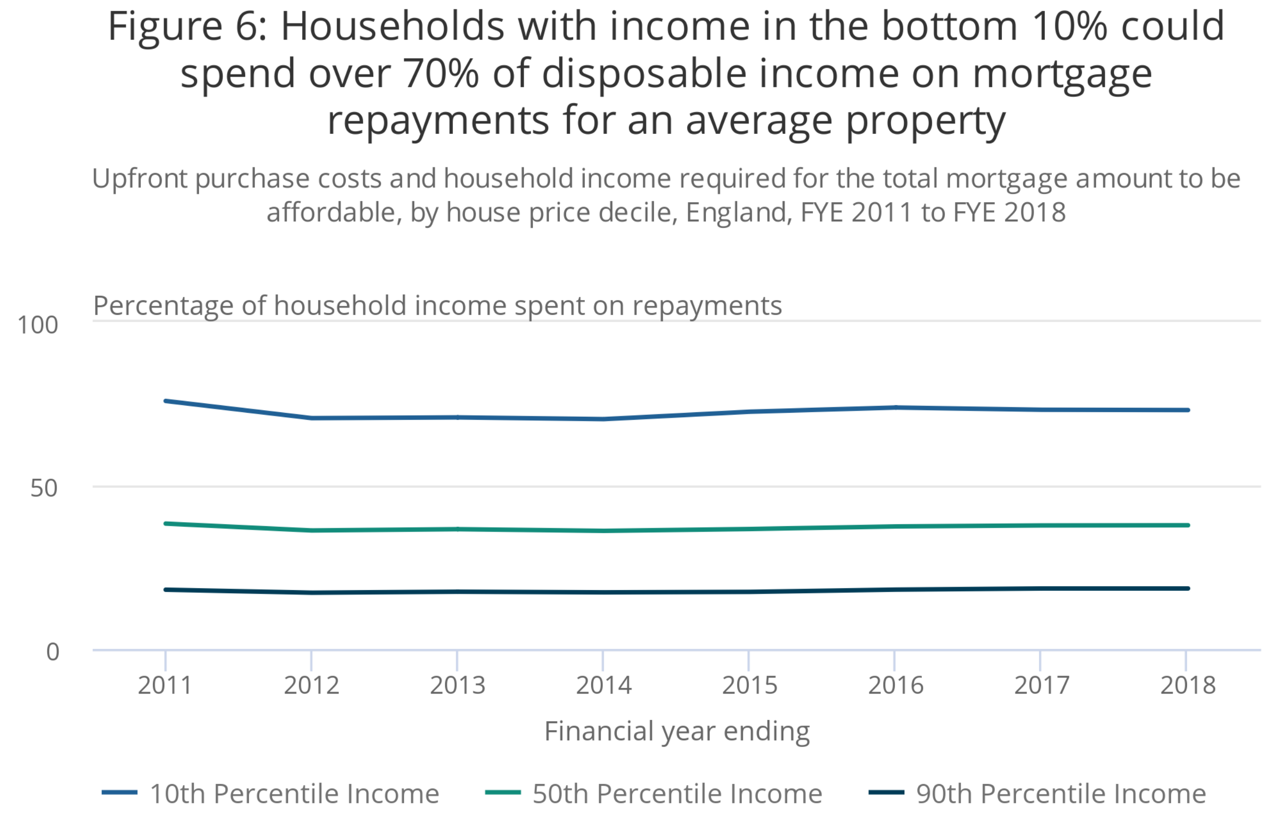
Mortgage repayment affordability

There are two elements of affordability that need to be considered when purchasing a property with a mortgage – the purchase affordability and the repayment affordability. This section explores the repayment affordability, which indicates the proportion of income that a household could expect to spend on monthly mortgage repayments.

Monthly mortgage repayments are determined by the total mortgage amount, interest rates and the mortgage term. Our estimates are calculated based on mortgages which are on a 25-year basis and use interest rates for fixed two-year mortgages. The monthly mortgage repayments are expressed as a percentage of total monthly disposable household income. Payments of less than 30% of monthly income are considered affordable for the purposes of this analysis.

Figure 6: Households with income in the bottom 10% could spend over 70% of disposable income on mortgage repayments for an average property

Upfront purchase costs and household income required for the total mortgage amount to be affordable, by house price decile, England, FYE 2011 to FYE 2018



Source: Source: Office for National Statistics – House price statistics for small areas, Living Costs and Food Survey, Bank of England – Interest and exchange rates data

Notes:

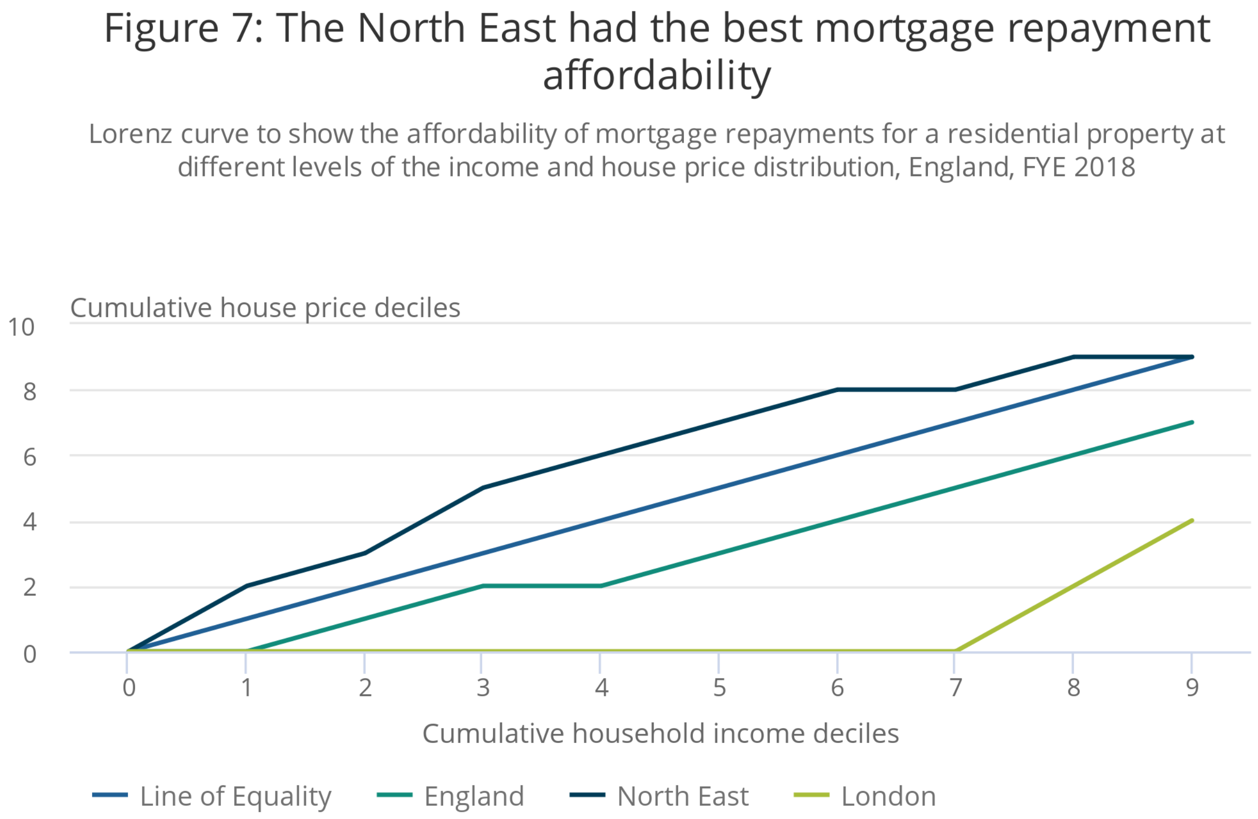
1. Monthly mortgage repayments are based on the total mortgage amount when a 10% deposit has been paid upfront
2. Our estimates are calculated based on mortgages which are on a 25-year basis and use interest rates for fixed two-year mortgages.
3. Median house price refers to the 50th percentile of the median house prices by Lower layer Super Output Areas within a region.

Figure 6 shows that for all three income deciles, the percentage of disposable household income spent on mortgage repayments remained relatively stable between FYE 2011 and FYE 2018. Both the first- and fifth-income deciles (10th and 50th percentile) had no percentages of less than 30% (therefore considered unaffordable) over the time series. However, households with lower incomes are less likely to become homeowners and so mortgage repayment affordability is most useful for those whose incomes are sufficiently high to get a mortgage to begin with.

To calculate the proportion of the house price distribution a potential buyer in each income decile could afford the monthly repayments, without spending more than 30% of their income, we can use a Lorenz Curve (Figure 7).

Figure 7: The North East had the best mortgage repayment affordability

Lorenz curve to show the affordability of mortgage repayments for a residential property at different levels of the income and house price distribution, England, FYE 2018



Source: Office for National Statistics – House price statistics for small areas, Living Costs and Food Survey, Bank of England – Interest and exchange rates data

Notes:

1. This chart shows the Lorenz curve for the region with the lowest equality (London), the region which was considered the most affordable by income decile (North East), as well as England.
2. Deciles refer to the boundaries at which the data are split into ten equal subsections when ranked from lowest to highest. For example, first decile refers to the 10th percentile, while the ninth decile refers to the 90th percentile.
3. The Gini Coefficient for England was 0.4, for North East was 0.3 and for London was 0.9.
4. Affordability refers to spending less than 30% of disposable household income on mortgage repayment.
5. Monthly mortgage repayments are based on the total mortgage amount when a 10% deposit has been paid upfront
6. Our estimates are calculated based on mortgages which are on a 25-year basis and use interest rates for fixed two-year mortgages.
7. On this chart the North East is not the only region with a Lorenz curve which falls above the line of equality, but North West and Yorkshire and The Humber also do for financial year ending 2018.

The line of equality in Figure 7 represents equality in that those in the lowest income decile could afford the mortgage repayments for a house price in the lowest decile. In England, a household in the lowest income decile would be the only decile where it would not be considered affordable for repayments for any house price decile.

A household in the 8th income decile in London would be the lowest income that could afford repayments in the house price distribution (2nd decile house price) without spending more than 30% of income. The North East, North West, and Yorkshire and The Humber all could generally afford a higher house price decile in comparison with the income decile they are in, without spending more than 30% of their income in FYE 2018.

Housing affordability for small areas

By looking at the affordability of purchasing a property for Middle layer Super Output Areas (MSOAs), it can help us understand what is happening at a local level, with more granular data. We divide median house prices by net household income (annualised mean equivalised before housing costs) to produce housing affordability ratios for the 7,201 MSOAs in England and Wales.

Figure 8 shows an interactive affordability calculator where you can enter your postcode to learn about your area's average property price, the annual household income required for a mortgage, the total savings required for upfront costs, and the ratio of house price to income. Assumptions about deposit size, price of property, property type and other associated costs are used in this calculator. These can be personalised to help tailor the results to your circumstances.

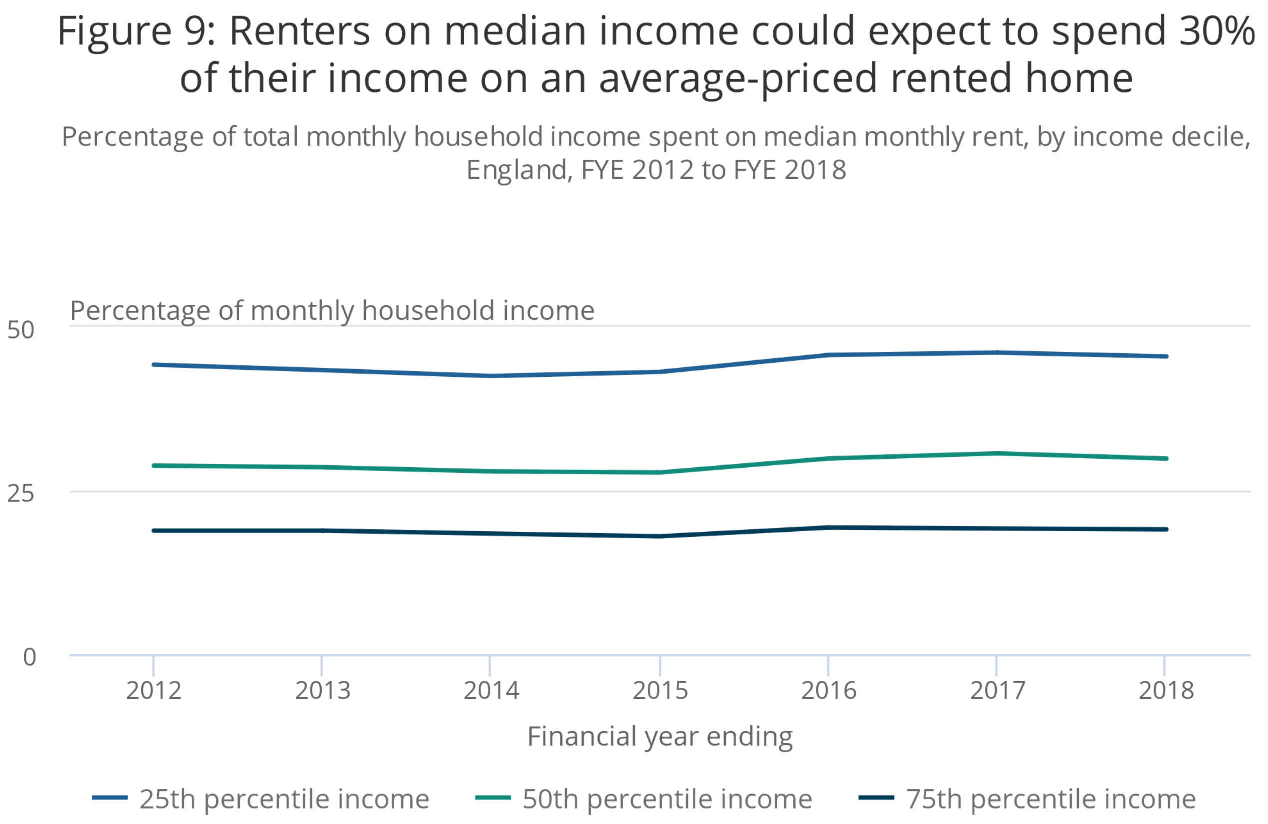
Figure 8: Housing affordability calculator

Private rental affordability

Nearly 20% of all dwellings were privately rented in 2018, so it is important to understand the affordability of the private rental sector as well as those purchasing a property. Rent prices can be expressed as a percentage of monthly income to provide an indicator of affordability.

Figure 9: Renters on median income could expect to spend 30% of their income on an average-priced rented home

Percentage of total monthly household income spent on median monthly rent, by income decile, England, FYE 2012 to FYE 2018



Source: Office for National Statistics – Family Resources Survey, Valuation Office Agency – Private rental market statistics

Notes:

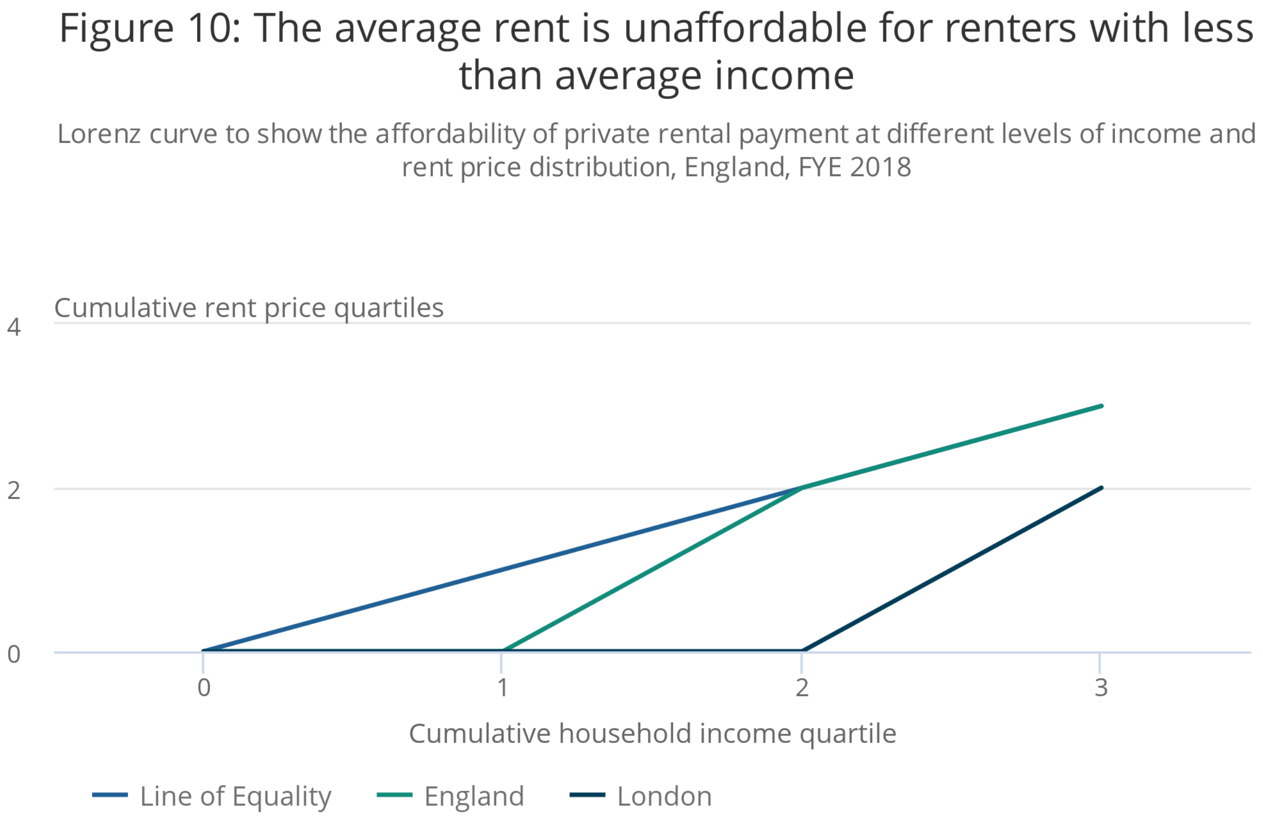
1. The total monthly household income refers to the gross household income of private renters only, not all tenures

For FYE 2018, a household with a median income in England could expect to spend 29.9% of their income on median monthly private rent. Households whose income was in the lowest quartile (25%) could expect to spend 45.5% of their income on private rent.

As with the purchase and mortgage repayment affordability, we can use a Lorenz Curve (Figure 10) to visualise the proportion of the rent price distribution a potential renter in each income quartile can afford the monthly repayments, without spending more than 30% of their income.

Figure 10: The average rent is unaffordable for renters with less than average income

Lorenz curve to show the affordability of private rental payment at different levels of income and rent price distribution, England, FYE 2018



Source: Office for National Statistics – Family Resources Survey, Valuation Office Agency – Private Rental Market Statistics

Notes:

1. This chart shows the Lorenz curve for the region with the lowest equality (London), as well as England.

2. Quartiles refer to the boundaries at which the data are split into four equal subsections when ranked from lowest to highest. For example, first quartile refers to the 25th percentile, while the third quartile refers to the 75th percentile.

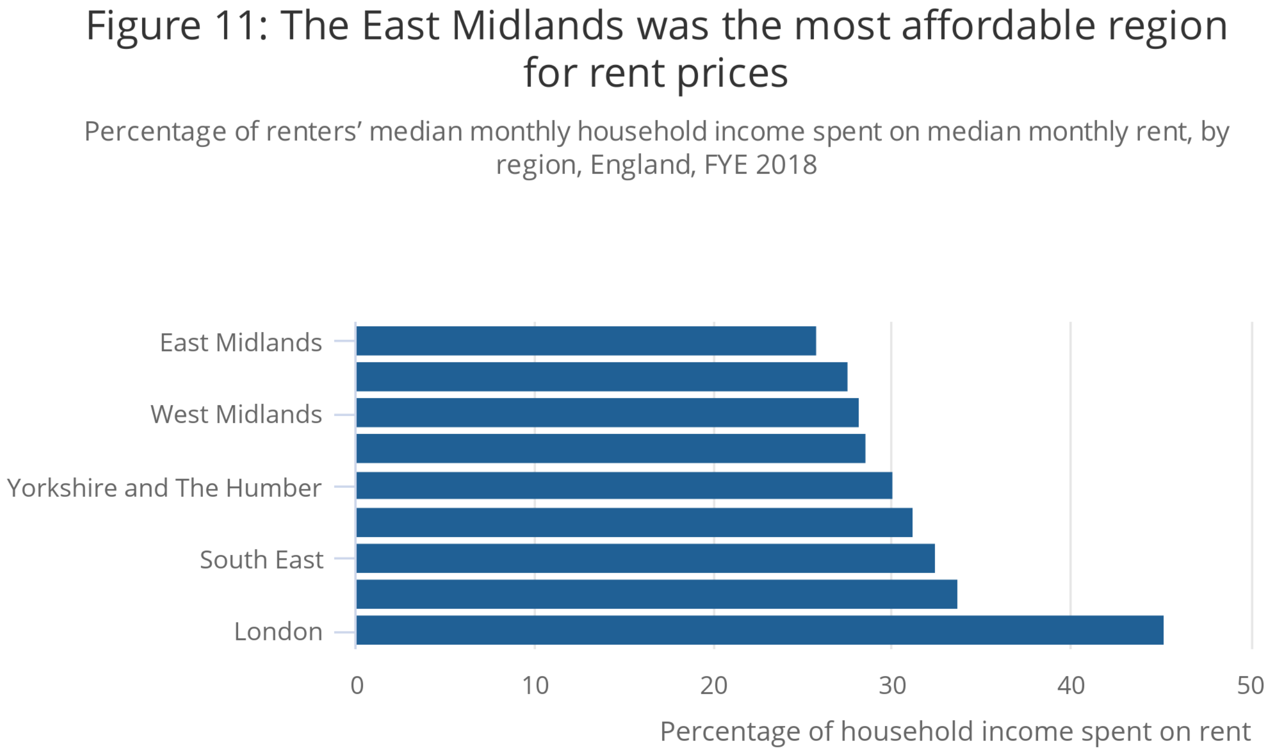
3. The Gini Coefficient for England was 0.2 and for London was 0.8. Four out of the nine regions had a Gini Coefficient of 0.2, which was the lowest (most equality).

4. The total monthly household income refers to the gross household income of private renters only, not all tenures.

An equal distribution of private rental affordability is demonstrated by the line of equality shown in Figure 10. There are no regions in England that find rent prices in the 25th percentile or above affordable, when in the lowest quartile of household income. In London, a household with a median household income would not be able to afford to rent a property at the lowest quartile of prices without spending more than 30% of their income on rent.

Figure 11: The East Midlands was the most affordable region for rent prices

Percentage of renters' median monthly household income spent on median monthly rent, by region, England, FYE 2018



Source: Office for National Statistics – Family Resources Survey, Valuation Office Agency – Private Rental Market Statistics

Notes:

1. The total monthly household income refers to the gross household income of private renters only, not all tenures.

2. We consider an area to have private rent that is affordable if they spend up to 30% of their monthly income on rent prices.

Figure 11 shows that renters with median household income could expect to spend between 26% (East Midlands) and 45% (London) of their income on renting an average-priced property in FYE 2018.

5 . Methodology summary

This article provides alternative estimates of housing affordability, which have been created to help understand aspects of housing affordability not covered in the official affordability estimates. In this section, the methods and data used to create the estimates are explained. This Research Output contains estimates at the regional and country level for England, whereas the official estimates are available down to the local authority district level.

Table 1: Alternative measures of affordability

Affordability measure	Statistics used	Data sources	Advantages
Purchase affordability: Ratio of house price to disposable household income deciles	House price deciles	House price statistics for small areas - Office for National Statistics (ONS)	Considers affordability of purchasing a home in relation to the varying household income and house price distributions.
	Annual equivalised disposable household income deciles	Living Costs and Food Survey - ONS	Increasing house prices may have different effects on households at varying levels of the income distribution, so this measures these differences
Upfront costs of purchasing a residential property	House price deciles	House Price Statistics for Small Areas - ONS	There are upfront costs which need to be considered when saving to purchase a property. By relating the upfront costs to household income, we can determine how many years' income are required to save for the upfront costs, based on a given household income decile. This reports the different number of years of income that could be required for households with different level of income
	Stamp Duty Land Tax (SDLT) rates	SDLT data - HM Revenue and Customs	
	Annual equivalised disposable household income deciles	Living Costs and Food Survey - ONS	
Mortgage repayment affordability	House price deciles	House Price Statistics for Small Areas – ONS	Once a property has been purchased, there are usually monthly repayments that need to be made.
	Average interest rates for loans secured on dwellings for two-year fixed term mortgages	Interest and exchange rates data – Bank of England	By expressing the monthly mortgage repayments as a percentage of monthly disposable household income, we can determine whether households in each income decile could expect to spend more than 30% of their income on a mortgage.
	Monthly equivalised disposable household income deciles	Living Costs and Food Survey - ONS	

Housing affordability for Small Areas	House prices	House price statistics for Small Areas – ONS	Producing affordability ratios at a local level provides more granular estimates.
	Annual equivalised net household income before housing costs	Income estimates for small areas - ONS	Our housing affordability calculator allows you to enter a postcode to find out information on housing affordability in your local area. These data are available for England and Wales.
Private rental affordability	Monthly rent price quartiles	Private Rental Market Summary statistics – Valuation Office Agency	As around one-fifth of all dwellings were privately rented in England, so it is useful to understand the affordability of monthly rental payments.
	Monthly total household income quartiles for private renters	Family Resources Survey - ONS	Expressing rental payments as a percentage of monthly income can highlight where households on different incomes could expect to spend more than 30% of their income on rent.

These alternative measures of housing affordability are produced from data on household income rather than the individual earnings data used in the official estimates. Household income data can be more useful for understanding affordability because it is likely that more than one individual in a household would be involved in purchasing a property.

There are also other sources of income available to some people rather than just earnings, and these sources of income are included in the income data but not in the earnings data. Because of data availability, English regions are the smallest geography that most of the alternative estimates can be produced for. These are estimates based mainly on survey data relating to 2018 as the latest available year. These estimates are subject to some degree of uncertainty.

Affordability measures on the purchase of a residential property are available between the financial year ending (FYE) 1999 and FYE 2018, whereas measures on private rental affordability are available for FYE 2012 to FYE 2018. As we want to understand the distribution of affordability, we look at deciles and quartiles in our data. These refer to the boundaries, whereby the data are separated into equal groups according to the distribution of values.

Purchase affordability: ratio of house price to disposable household income deciles

House prices are taken from the House price statistics for small areas (HPSSAs) produced by the Office for National Statistics (ONS). Deciles are calculated by producing percentiles of the median price paid for Lower Super Output Areas (LSOAs) within each region and refer to the year ending March. In this article, we refer to median house prices, which will be the 50th percentile LSOA median within a region.

Equivalised annual disposable household income deciles are produced from the Living Costs and Food Survey (LCF). Data refer to financial year, however three years' worth of data are pooled together to produce an estimate because of the sample size. This means that some income deciles have the same figure for some years.

To calculate the housing affordability ratios, we divide house prices by income. This means that a larger housing affordability ratio means that an area is less affordable, whereas a smaller ratio means that an area is more affordable.

To assess the extent of the house price distribution a household in each income decile could afford, we produce a Lorenz curve. A Lorenz curve shows graphically the distribution of equality for housing affordability. It shows what house price decile a household in each income decile could afford, without spending more than 4.5 times their annual disposable household income. For each country or region, a Gini coefficient is produced, which provides an indicator of the degree of inequality between zero and one, where a higher number reflects higher inequality.

Upfront costs of purchasing a residential property

When purchasing a residential property in England, there are upfront costs involved which include a deposit and Stamp Duty Land Tax (SDLT). The deposit size paid upfront can vary, but common percentages are 5%, 10% and 25% of the property value, which we provide estimates for in this release.

In this article our focus is on purchasing a property with a 10% deposit. The current and historical SDLT rates are provided by HM Revenue and Customs, which we use to work out the amount of stamp duty that would be paid as at 31 March each year. SDLT rates applied do not account for the discount for first-time buyers, higher rates for additional properties, or additional special rates such as for corporate bodies. There are additional upfront costs associated with purchasing a property such as conveyancing fees and essential furnishings, but we do not include these in our estimates.

We calculate the number of years of income which are required to cover the upfront costs, by dividing the upfront costs based on the house price decile and deposit size, by the annual disposable household income for the relevant decile.

Mortgage repayment affordability

The total mortgage amount depends on the house price, and the deposit amount paid upfront. To bring down the total mortgage amount, or decrease the term of the mortgage, a larger deposit is required. A lower deposit amount will need to be offset with higher mortgage repayments.

We calculate the total mortgage amount by taking our house price deciles and deducting different deposit sizes to give a total mortgage amount by deposit size. Typically, mortgage lenders offer around 4.5 times their total household income as a total mortgage amount. We calculate the annual household income required to purchase a residential property for each house price decile and deposit size, by dividing the total mortgage amount by 4.5.

From the total mortgage amount, we can calculate the monthly mortgage repayment amounts by using the following formula:

Monthly mortgage payment = P[r(1+r)^ n/((1+r)^n)-1)]

where P = total mortgage amount (principal loan amount)

r = monthly interest rate (annual rate divided by 12)

n = number of payments over loans lifetime

We use the average interest rates for loans secured on dwellings for two-year fixed term mortgages according to the Bank of England, and we use a 25-year mortgage term for our analysis.

To calculate monthly repayment affordability, we require monthly income deciles, which we calculate by dividing the annual equivalised monthly disposable household income from the LCF by 12. From these, we can calculate the percentage of equivalised monthly disposable household income that is spent on monthly mortgage repayments. We consider an area to have affordable mortgage repayments if they do not spend more than 30% of their monthly income on them.

Housing affordability for small areas

We produce housing affordability ratios for Middle layer Super Output Areas (MSOAs), which divide median house prices by annualised mean total household income. Median house prices are taken from the House price statistics for small areas (HPSSAs) produced by the ONS.

Annualised mean total household income is taken from the Small area model-based income estimates, which are produced by the ONS. House price data refer to the year ending March 2018, and the income data FYE 2018. We do not publish a time series for this data, as the income estimates cannot be compared over time, because of the model-based approach.

Private rental affordability

Private rent prices are taken from the Private rental market summary statistics (PRMS) which were produced by the Valuation Office Agency, but are now produced by the ONS. The data provide rent price quartiles (lower quartile, median and upper quartile). The rent prices are a summary of monthly rents recorded between 1 April and 31 March each year.

Total household income quartiles are calculated using data from the Family Resources Survey (FRS), which is conducted by the ONS. The income used for this measure refers to gross household income and is the income for private renters only. We filter the FRS to only include those who are privately renting a furnished or unfurnished property, rent-free, or squatting, to work out the income of private renters.

To calculate the affordability of private renting, we calculate the percentage of the total monthly household income that is spent on monthly rent. We consider an area to have private rent that is affordable if they do not spend more than 30% of their monthly income on rent prices.

6 . Feedback

We would like to receive feedback on this Research Output and the methodology used to produce these estimates, including how they might be improved and potential uses of the data. Please email your feedback to better.info@ons.gov.uk.

7 . Next steps

We will review feedback for these alternative measures of affordability to help determine whether to produce alternative measures on a regular basis in the future. Part of this work will explore if local-level versions of these measures could be produced.

In addition, we will work with producers of housing statistics across the UK to plan further and more-detailed analysis on different aspects of affordability. We will also investigate the possibility of expanding the analysis presented here to cover all countries of the UK, while continuing to produce the official measure of housing affordability in England and Wales.